

Free  
NFT  
inside

# NFT Gold Rush

The ultimate NFT handbook for beginners

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**Aurel George Proorocu**  
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# **Dedicated to**

*Wolter*

*Without whom trekking into the  
wilderness searching for gold was impossible*

# About the Authors

**Robert Joo** is a jurist, essayist, and public guest speaker with a New York (US) background in finance and accounting, and a Paris (France) background in fashion and the arts. He has private clients in the consulting business in the field of corporate governance, law, and finance. Having five years of Wall Street sales experience helped him conceive many fintech topics for this book.

**Aurel George Proorocu** has over 16 years of work experience in the IT and marketing fields by managing advanced technical skills with an entrepreneurial spirit and C-level experience.

He started his journey as a professional chess player at the age of 6, and in 2004, won the 'Romanian Chess Champion' title with his club team.

At the age of 16, George followed his entrepreneurial spirit and started his own ISP Company in Bucharest. The company was sold when he finished high school at the age of 18, having a maximum peak of 600 clients.

George then continued his professional and business journey in the IT field, working as a Network Engineer, Senior System Administrator, Product Manager, Technical Project Manager, Team-Leader, and IT Manager.

In 2011, he became a member of MENSA, and in 2012 George continued his studies with an MSc in International Management at "Institut Mines-Télécom Business School", ranked 22nd place in Business Schools worldwide. At the age of 27, he joined the Executive MBA class of IMT Business School as the youngest student ever to be enrolled in this program, having taken part in the courses at Stanford University (US) and Institute of Management Technology (India).

In 2016 George was included in the "100 Faces of Innovation" volume, an annual book about global innovators, published by the Financial Times and Nemira.

At this point, George is working for ING Bank, while also participates in events related to DevOps and Blockchain. He is on stage at some of the biggest IT Conferences in the world speaking on various IT topics.



**Stepan Krivosheev** is a representative of Generation Z who is a graduate business student at one of the Grande Ecoles located on the Rive Gauche in Paris, France. He has extensive experience in digital marketing, community management SEO and SEA, and is a social media communications expert.

Being the creative and marketing director of Gambit Club NFTs, an NFT project start-up initiated together with George two years ago, Stepan has invaluable experience of the decentralized world and will draw on that knowledge in the marketing segments of this book.

# About the Reviewer

**Akshay Bansal**, an Author and Entrepreneur, credited with chemical engineering and MBA. After finishing his post graduation, Akshay started his research on technology, economics, business, politics and society, nectar of which he gave in his book 'The Innovation Age.' He has founded several products like Heuro, PRfy.app and Doubt Buddy; as a passionate technocrat, he always looks for the problems which can be solved via technologies like artificial intelligence and blockchain, he has also launched his NFT 'Heuroverse.'

Akshay specialises in creating AI and marketing strategy for start-ups and companies to leverage advance trends and provide better value to their customers.

**'Entrepreneur is like a music conductor, who synchronises team, technology and business to provide the exponential solution for the society'**

*– Akshay Bansal*

# Acknowledgement

The NFT Guys would like to acknowledge everyone who made this book project possible, especially the BPB team who have been helpful and supportive throughout the process. We realized this hand book on NFTs in relatively short time, nine to ten months which was of the essence because this is such a rapidly evolving field and there surely will be updates to follow after this first copy get published. We hope it to be a very useful hand guide for those who seek to explore the beautiful yet complex world of NFTs.

As NFTs are a global phenomenon, it was also a global effort to create this book which stretched from working in various locations around the planet at the same time with people working and meeting up both physically and digitally, like digital nomads from hotel rooms, to homes, to being in lockdown, to living in cities and sitting in offices in places both exotic and unexpected. Brussels, Madrid, Paris, Luxembourg, Ljubljana, Bucharest, Mumbai, and New Delhi are just some of the names of places of the physical locations that are attached to the creation of this book. As such, this book will live forever suspended in cyberspace as a testament of today's time in 2023.

Of course, an acknowledgement would not be complete without the support of our loved ones, employers, and clients who throughout the many days and nights of working on it with three authors at the same time have allowed us our time to be dedicated to the completion thereof.

All NFT artworks that come in the form of a promotion with this book, were made and created by Alexandru Madalin Ghenea.

# Preface

This book is on the great NFT gold rush of 2017 – 2022, a period in human history when globally we discovered how NFTs can make us rich, creative, and the new grand industrialists of the 21st century. It purports to be an NFT handguide and a manual that you can take with you everywhere even should you become a digital nomad who, from the darkness of your small hotel room on your laptop, will still be able to create, trade or mint the latest projects in your quest to survive or make it big. It is therefore an important book not only to read, but also to have ready.

Of course this book cannot guarantee you any riches but it will certainly motivate you, inspire you, and make you aware of all the NFT possibilities out there. And those may be much farther reaching than that you initially would think or could imagine. The advice therefore is: read the book, and start somewhere smack in the middle of it, as it is designed so that you can open any particular chapter at whim and still come away with a great and important read on the topic at hand. Because NFTs are complex and actually more important than that you would imagine.

Therefore the title Gold Rush is aptly chosen, because if you do not get in now, in some years from now, you may have regrets. It is therefore to those who have purchased this book that this preface is addressed, those who with a certain sense of risk, mystique, and adventure decided to give it a try because they heard so much about NFTs – but did not understand what the hype was all about. It is to all those that this preface is addressed, those who still with a sense of wonder that usually only comes in childhood, approach this adult, brutal, and pitiless world of NFTs. Hoping to strike gold. But aye, this sense of pirate wonder lives deep in all of us.

The book for these reasons takes a practical approach as it is set up to read like a manual and a hand guide, it covers the beginning of NFTs and explains the tokenization process carefully, as it slowly fills you in with thorough understanding of all the legal and fintech possibilities that NFTs are. These first chapters are mandatory reading for those who want to go far and dig deep, and mint the best out of their pirate gold.

Then the book delves, literally, into the web and technology and you will be explained in several chapters how to set up your own collections of NFTs. It will be explained how crypto wallets and NFT platforms work and on a step by step basis you will learn to understand the technique and technology that it takes to become a prime time minter and trader of digital assets.

Finally the book will take a tour into the best way to do your marketing, sales, and promotion of NFTs. The various marketing platforms and various types of NFTs will pass the review and you will learn how best to position your digital NFT information assets in the current existing NFT markets, galleries, and other decentralized crypto hide outs.

This book is divided into **13 chapters**. It covers the following topics:

**Chapter 1: Introduction** - is an introductory and opening chapter which will cover the structure and objectives of the book and which is written in motivational style comparing the current NFT hype to an ancient gold rush. It will also introduce the three authors and why it is important that the three authors come from various different backgrounds and, especially, from three different generations.

**Chapter 2: NFT Ownership** - is about digital ownership by means of NFTs. First it will explore the tokenization process for NFTs so that you better come to understand how owning digital assets in cyberspace actually works. It is a key chapter and a first topic precisely because it gives you the basics as to what is the key importance of NFTs – that you can now privately own things on the web. This is going to cause a revolution and the more you read, the better you will become aware of it. It is for this reason that we start the book with a legal-tech chapter.

**Chapter 3: NFT Transactions** - expands on **Chapter 2**, and will develop further understanding of what type of property rights can actually be attached to NFTs. It will therefore speak of NFT transactions, the different transactions that become possible with NFTs. For that you must first understand why blockchain authentication is so important, and why both rarity and scarcity of NFTs are key components in trading NFTs.

**Chapter 4: NFT Smart Contracts** - delves into the importance of smart contracts and will explain why they function as the operational brain of NFTs. The tokenization process for NFTs is not complete without a full understanding of smart contracts and their endless possibilities. We give a

technical description from own experience on how smart contracts function. Special attention will be given to the self-executing principle that underlies smart contracts.

**[Chapter 5: NFT Tech tools](#)** - is the first real technology and technique chapter, where you will receive a better insight into what you have behind the scene on how NFTs work. This chapter connects the dots between what you already read in the book so far and the blockchain, tokens and wallets. Which are the NFT-friendly blockchains, what are they, how they work, what's the tech logic behind NFTs, and how much pay in terms of fees for each of the top blockchains.

**[Chapter 6: Technical skills for creating NFTs](#)** - will help you set your first own baby steps in helping you create your own NFT or NFT collection. This is where the magic happens, and we will see together what kind of NFTs you can create, and show you A-to-Z how you can actually create your first project. This chapter presents two separate options that you have, either by working alone just to test with minimum costs an idea or how you can assemble a team to make a more complex project.

**[Chapter 7: How to sell your NFT](#)** - is the chapter that finds you having in your “digital hands” the NFTs that you just created in [Chapter 6](#). What do you do next? How do you sell them? To whom, where, in which form, and most important how to do it in a safe way. This chapter will take you step-by-step through the most popular options that you have, paying special attention to the security aspect, since this area is still a bit like the old wild-west, full of dangers.

**[Chapter 8: The NFT Marketplace](#)** - is the first marketing chapter of the book, it explores what NFT collections are and what is their intrinsic importance in NFT marketing and promotion. We will discuss and analyze the most interesting and or the most popular NFT marketplaces and go through the features of every single one of them. This chapter will allow you to pick the right marketplace for your project or investment.

**[Chapter 9: NFT Collections](#)** - is one of the most important chapters of the book, it focuses on discovering the different kinds of NFTs that are present on the market at the moment of writing this book, this will allow you to envision what NFT you would want to create or invest in. Moreover this chapter gives a brief description of the most well know or interesting collections for every NFT type mentioned previously.

**Chapter 10: Marketing your NFTs** - is the last marketing chapter of the book, and it is the chapter which will give you the basic tools for NFT marketing and promotion, various ways of customer conversion are explored and the main promotional avenues are analyzed with scrutiny to help you pick the right one for your project.

**Chapter 11: NFT Risk and Security** - is a highly important chapter that we consciously saved for towards the end of the book as it discusses and introduces the various schemes, scams, and risk & fraud that the NFT world is subject to. This NFT handbook is not complete without it as this chapter may save your NFT project. Besides a risk assessment of the most important schemes that are out there it will attempt to give you the best possible advice on how to avoid issues and problems that come with the territory.

**Chapter 12: NFT Metaverse** - is by far the most far-reaching chapter of this book. If you should read anything in this book it should be this chapter, and even buying the book just to read this chapter would perhaps already change your ideas about the cyberspace and the internet forever: for here is where we introduce what we call web 4.0 and where we draw the pertinent conclusions for the NFT Gold Rush for now, for the past, and for the future. This chapter is also a joint effort of all three authors and it is where everything falls into place from the viewpoint of all three generations, and from the marketing, the fintech, and IT perspectives. In essence you will realize why there is a NFT Gold Rush going on with NFTs as a new asset class and why this not going to abate any time soon. Because simply put, NFTs allow you to create private ownership in cyberspace, and the result is the future colonization of cyberspace.

**Chapter 13: Staking your first NFT claim** - is a closing chapter which functions as a summary for the book, where the three authors bid their goodbyes, and where you dear reader can now actually join the NFT Gold Rush by claiming your own NFT (if you are one of the first 9,000 buyers of this book). In the form of a QR code the unique opportunity may exist in this chapter that you will be given an actual NFT as a Gold Rush promotion. So that you can practice directly and start immediately with a small NFT project and gain experience. Or just sell your NFT online!

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# CHAPTER 1

## Introduction

### Three generations, three perspectives, and one book—The NFT guys

This is a book with three perspectives on NFTs, which will give you the best possible handguide on how to create and sell and trade NFTs.

#### **First perspective**

The first perspective is from a legal and financial standpoint. There are three legal and fintech chapters; the first one will cover the concept of *ownership*, the second one on *transactions*, and a final fintech chapter on *smart contracts*. Those are, respectively, chapters two, three, and four of this book.

These first chapters will cover the fintech and legal angles of the NFT process and are the appropriate start for understanding what are NFTs. These chapters are a necessary read because if you want to create something for which you do not know the legal or financial consequences, you will be bound to sooner or later make mistakes. So, this is an essential insight if you want to comprehend NFTs.

Make no mistake. NFTs are real digital financial assets. And assets give added value to a business operation. If you do not own an asset, then you will have no rights. And then there will be neither revenues nor profits possible. Hence, it is best to begin this book firsthand by understanding the legal and financial angles of the NFT tokenization process.

The legal and financial chapters will be covered by *Robert*, from *Generation X*, who has long-time experience teaching finance and accounting in business schools and holds law degrees in both North America and Europe. It is the Generation X approach to NFTs. Profit. Law. Capital. Ownership. Trading.

#### **Second perspective**

The second generational *perspective* of the book is provided and written by George, from the *millennial generation*—with a solid background in technology and IT. George owns several NFT collections while running cybersecurity operations for a major firm. His vision and the data technology chapters are explained here. It is about blockchain, NFT IT, proof-of-stake versus proof-of-work concepts, and Ethereum wallets. The technical elements of creating and trading NFTs are discussed in three comprehensive chapters.

### **Third perspective**

Finally, and perhaps most importantly, there is the *third perspective*. It is presented here by *Stepan, Generation Z*, who will give explanations in chapters on different NFT marketplaces and social media marketing for NFTs and who will be talking about how to create your very own NFT rush and buzz. Because today it is Generation Z who is most up-to-date with the latest developments and possibilities. You will find his vision and his chapters introduced as follows.

For the purpose of the three different generational visions of the NFT topic combined, the three authors of this book are known as *The NFT Guys*. This book is a combined effort hoping to give you every possible angle that you may need in order to become successful in working with NFTs. It is supposed to be a handguide and manual to striking digital gold.

## **Structure**

In this introduction chapter, we will discuss the primary structure of the entire book; the topics are as follows:

- Gen X perspective
- Millennial perspective
- Gen Z perspective
- NFT fraud
- Metaverse
- One handbook: three generational visions

## **Objectives**

The objective of this chapter is to give a clear overview of the topics to be covered in the book and to introduce the three authors and their different backgrounds. Reading the chapter will allow you to pinpoint the chapter(s) that most fits your needs or interest or to find the author that you think most identifies with your particular NFT needs. In case you have legal or financial questions about NFTs that need to be answered, you may want to read Robert's three Gen X chapters. If you have marketing, marketplace, and social media questions regarding NFTs, you will best see fit to go with the three Gen Z chapters of Stepan. And of course—as mostly everyone will need to cover this sooner or later—if you are interested in the IT and data science aspects of NFTs, you best start with George's three chapters.

The ultimate objective of this chapter, however, is to prep you for what is coming next: a trip into the NFT Gold Rush wilderness. Preparation is key, and this book purports to be Gold Minters NFT handguide.

## **Gen X perspective : fintech and law**

Robert, as author, is introduced heretofore, whose primary job it is to completely cover the legal and fintech perspectives of NFTs ([Chapter 2, NFT Ownership](#), [Chapter 3, NFT Transactions](#), and [Chapter 4, Smart contracts](#)) from the Generation X perspective.

The core chapters for this first author are [Chapter 2, NFT Ownership](#), [Chapter 3, NFT Transactions](#), and [Chapter 4: Smart contracts](#), and Robert contributes heavily on [Chapter 11, NFT Risk and Security](#), as well as on [Chapter 12, the NFT Metaverse](#). These latter two chapters are joint author efforts.

Additionally Robert was responsible for writing the introduction and the epilogue of the book, whereas [Chapter 13, Claiming your First NFT](#), was a joint effort of the three authors together.

## **NFT millennial vision: the IT and data science perspective**

George is a millennial and an IT expert who has multiple years of experience in data science, so the core of this book is for him to relate. He is the one with NFT collections and the knowledge of how to create them, explain the minting process, and set things up with Ethereum wallets. He is the one who

can make your NFT happen. He will be doing three core chapters: [Chapter 5, NFT Data Science](#), [Chapter 6, the Technique of Creating NFTs](#), and [Chapter 7, the Technique of Selling NFTs](#). And he will also be heavily involved in [Chapter 11, NFT Risk & Security](#) as well as in [Chapter 12, the NFT Metaverse](#).

His vision for this book is dedicated to the people who want to better understand NFTs and use NFTs to create a new way of product marketing in the future. Taking this book you are reading as an example, where NFTs are added as freebies for the promotion. George believes that all the big companies in the future will use NFTs to market their products. He will explain what is called *Web 3.0* further in the book.

His first contribution is introducing the IT necessary in order to understand NFTs in [Chapter 5, NFT Data Science](#). The second core chapter by George gives a how-to guide about minting and the actual creation of NFT in [Chapter 4, the Technique of Creating NFTs](#). George's final chapter is more practical data science-related work, where he explains the IT techniques and skills needed on how to sell and trade NFTs ([Chapter 7, the Technique of Selling NFTs](#)).

## [Metaverse](#)

George, as a data science specialist, sees a special boom coming for NFTs in the metaverse, and he compares this development and change to the early social media beginnings of *Web 2.0* when first there was Myspace, full of shiny and glowing animations, which later was superseded by a more classic platform, Facebook.

In the early years of the new millennium, there was a technological transition period where *Web 1.0* changed into something bigger and grander called *Web 2.0*, and George believes the same process is now taking place with NFTs once they will fully hit the metaverse.

In fact, we at NFT Guys believe that we are now moving from *Web 3.0* to what NFT Guys likes to call *Web 4.0* – a new concept to be introduced in this very book for the first time – but more about that later, unless you wish to skip right ahead to [Chapter 12, The NFT Metaverse](#), the final topic chapter where you will find our vision of *Web 4.0* explained in detail.

We will here give you a teaser definition of web development progress here for starters, but you will have to read the book carefully to find out more:

- Web 1.0 information exchange
- Web 2.0 user exchange and user application, content creation
- Web 3.0 values exchange as a result of blockchain distributed ledger technology
- Web 4.0 private digital ownership and digital property rights



## [A book for beginners](#)

George thinks the book is not just for people who are interested in NFTs because they like all things new in technology and who like to learn the new skill of working with NFTs, but also for people who “*buy to flip*” (those who like to make a quick profit with trading in an entirely new asset class). For those who believe in investing in NFTs.

For marketers who like to learn new marketing techniques. For NFT beginners. For specialists who like to get new ideas. For those who may want a copyright on their creative work. For those who want royalties for creative work. For those who like to create digital collections.

Indeed, his vision is that—as we saw ten years ago with cryptocurrency and ICOs—that right now, there is a great window of opportunity to get into NFTs, for we are in the middle of a great NFT Gold Rush. May the trek from Klondike in Alaska to the Yukon finally begin. But not without a foundation of knowledge in the technology that you need in order to mint your first NFT.

The NFT markets have not found a real footing yet. There is a lot of volatility. It will take time. Right now, we are witnessing the beginning of unregulated NFT marketplaces. It is free for all. Like any other new market with a new asset class (in this case, digital assets), such trading always starts off as an unregulated market with prices that sky rocket and are very volatile. And everyone realizes that if you do not get in now, you may lose. Large gains and large winnings abound. Large losses. High risks. High returns. Security breaches and copycats, and scammers if you do not watch out. And lots of creative investments. It is a massive Gold Rush.



*Figure 1.1: Getting supplied, organized, and ready for the Gold Rush [↓](#)*

Eventually, such new markets will evolve and find sure footing, and prices will become more realistic. This is how it happened with the first markets for cryptos, with the first ICOs. It is also how it happened with the great tulip bulb mania in the 17<sup>th</sup> century. Or when new gold was discovered, like in the Yukon in 1896. It is how it happens with all markets that first get started. Whenever a new asset class is discovered, this Gold Rush phenomenon repeats in history perhaps a few times every hundred years. Cochineal red dye in the 16<sup>th</sup> century would be another good example. Or today's Cobalt mines used for Lithium batteries are located in the South East Congo. But today, we discuss NFTs as the latest new asset class. We will be romancing the digital stone!

Hence, this handbook.

## **NFT technology: an IT view (Chapter 5)**

In this chapter, George will explain the following topics from the technological perspective:

- Introduction to blockchain and how it is used to create NFTs
- The importance of *Proof of Stake* versus *Proof of Work* concepts in the cost of creating NFTs
- How to set up your NFT wallet on a platform
- What fees (*gas fees*) do you need to pay or not pay in the creation or trading process
- And why Ethereum is used mostly as the underlying crypto

## Minting NFTs: IT view (Chapter 6)

This is where the minting and tokenization process is explained from a tech perspective. Minting for NFTs is what is what is called mining for cryptos. The tokens must come from somewhere, so how you create them in a virtual digital space is the topic of this chapter. How does this process work?

You will learn the details of how NFT tokens are created in this chapter.

- Why are certain *gas fees* or payments necessary in order to set up your NFT wallet?
- What is the fee for a transaction?
- Why does it cost something to mint or mine something?

## **Selling NFTs: an IT view (Chapter 7)**

The technological aspects of the minting process of NFT collections and collectibles will be introduced by George. But also, the idea of cross-selling: that you can use not one but multiple NFT marketplaces at the same time for your NFT as long as they are all based on the same crypto, Ethereum. George will then discuss the technique of setting pricing and auctioning strategies on different platforms.

*“You too, can NFT!”*

(NFT quote George)

## **NFT vision: the Gen Z perspective**

This book is a how-to guide to help people navigate a difficult subject and a new topic which by now is a well-known hidden secret, and it helps people to start their journey in investing, collecting, and creating their NFTs. It is simply not okay to use someone else’s work in your NFT; in fact, someone else may have a copyright or a claim on it, in which case there could be legal consequences. Gen Z is very conscious of this. And on the blockchain, one will always be able to prove a claim of originality of creative work. The following vision is from the Generation Z perspective, which is here given by Stepan.

Stepan is a Generation Z expert in Digital Marketing who has been working with George on the *Santa.cloud* and *Gambit Chess Club* NFT collections that they created.

Stepan believes that NFTs can compensate artists and creators and provide a certain form of remuneration by allowing them to take royalties for their work.

Gen Z likes to give power back to the people, and NFTs offer an opportunity of peer to peer democratization of the arts and creative works; this generation likes to make art and creative work available to all, and by doing it peer-to-peer through the blockchain, it allows one to own art and own your creative works, so that we can say frankly that what we see here is a democratization of the art industry. And everything is then subsequently monetized, another Gen Z characteristic.

Thus, today people can own small creations or sell the ownership of their own artworks. In the past, people had to rent a gallery, know the museum director, know a musical producer, or a record label. But now, this is no longer necessary as we can skip all the middlemen and go directly peer-to-peer and person-to-person by means of NFTs on the blockchain. *This is a direct challenge to the vested interests of the old art, music, fashion, and entertainment order.* It is the movement and the revolution of the next generation.

Art, music, fashion, and design all become ownable, sellable, and tradable for Gen Z, even in the smallest units. Recently, a 30-second music loop sold for 26,000 \$. As long as creating new content is original, all is possible.

However, if in the NFT creation process, you choose to copy someone else's work or perhaps create a pastiche (a composition of different copies of different works that belong to others), you could very well run into copyright trouble because you are using something which is not your own work, is not original, and therefore the work has no creative merit or artistic value.

Stepan is also responsible for three different chapters, the first one in which he will describe the different NFT marketplaces that are out there ([Chapter 8, the NFT Marketplace](#)).

Please know that throughout all the chapters of the book, we follow with the **goldrush comparison** explaining the title of this book.

Stepan's follow-up core chapter is where he introduces what kinds and types of NFTs you will be able to find and which collections of NFTs we all ought to know ([Chapter 9, NFT Collections](#)). Stepan's final chapter is on the importance of NFT in marketing and branding today ([Chapter 10, The Marketing Perspective of NFTs](#)).

Finally Stepan contributes also on [Chapter 13, Claiming your First NFT](#), which is a collaborative effort of all three authors.

Please be advised that throughout the book all three authors have read, edited, and revised all chapters of the book and that wherever expert advice was necessary they have consulted each other frequently. In this sense the book truly is a collaborative effort.

## [The NFT Marketplace: a Gen Z view \(Chapter 8\)](#)

The first chapter by Stepan is about the different marketplaces where you can buy and sell your NFTs. He will discuss the pros and cons of many markets. He will also cover which markets you may want to stay away from and explain the function of each NFT market. Today there are hundreds of NFT markets, and Stepan will take a guided tour through the most important ones. What type of market best fits your NFT is the question to which here you can find an answer.

Stepan believes there will be an eventual *collapse* of the overall NFT market. Too many people want a piece of the golden pie which leads to the creation of a bubble. History repeats itself with every new asset class discovered. And eventually, new markets may get regulated.



*Figure 1.2: Selling your freshly minted NFTs (1899, the Klondike Gold Rush): for a VERY high price [2](#)*

## [The NFT gold rush](#)

Before we go on with the Gen Z vision, here, we introduce the very NFT Gold Rush that this book discusses. The NFT Guys believe that Klondike

1898 is a very apt comparison to today's Gold Rush with NFTs since most of the Gold Rush in that time only lasted three years: from 1896 to 1899, whereas the great NFT Gold Rush is now from 2019 to 2022.

*Young man, young woman—or ye endowed with the spirit of adventure—you too can join the NFT gold rush: if you have the right project, if you know the value of your creative project, if you have a good creative project team, if you have a project paper, if you know how to create visibility for your NFTs, and if you know the value of creative collaborations. You too, can NFT, and the NFT Guys are here to help you succeed.*

*No one comes back from Klondike or Dawson Creek all alone. You need a team. You need to be prepared. And digital gold will be waiting for you. Young people, do not hesitate! Pick up your pick ax, your shovel, and your gold pans, and start minting away; start putting your creative content online, buy, trade, and sell, and create smart contracts. Go peer to peer. Run the blockchain transactions. In your own crypto wallet. Create your own tokens. Make them into collections. And let them become currencies. Golden currencies.*

*Like Bored Apes, Cyberpunks, or the Gambit Club that we worked on ourselves. Retain your copyrights if you want to, or sell the copyrights and keep the ownership. For this is the great NFT Gold Rush of 2022. Your time is now. Your creative moment has come. And if you do not climb the snow-peaked mountains of the Yukon now, you will have lost this moment in time. Others will get rich and claim the fame. And even if you do not strike it rich, then at least you were there. At least you will have gained the spirit of raw adventure. During the great NFT Gold Rush.*

So bring out some musical content, some loops, some sounds, beats, or kicks, some digital art GIFs, some self-created digital artworks, or your new IRL sneaker collection that you were able to digitalize. Bring out your collectibles. You can now own it all. Market it, Sell it, and Trade it because you created and then tokenized it. All your creativity can now bear fruits as financial instruments are attached to it so that new assets are created.





*Figure 1.3: The marketplace: How and where to negotiate a good price for your precious gold.  
Dawson City, Yukon, Canada 1899<sup>2</sup>*

## [NFT Collections: a Gen Z view \(Chapter 9\)](#)

In this chapter, Stepan will introduce NFT collections. Explain why collections are most important if you want to be successful in the NFT Gold Rush and how to create such collections from a marketing and promotion perspective.

What makes such collections so appealing?

Well, they need uniformity of format. They need a certain rarity, an economic scarcity, which they have because each NFT token is unique, that is what it means: *non-fungible*. There is only a single one of these tokens, and your NFT has perfect provenance in the ledgers of the blockchain, and therefore, real authenticity. There is no *double-spending* (same crypto being spent twice) possible. There is a perfect record of each transaction. The uniqueness is then embedded in the very code that sits in your crypto wallet. And it is all yours. Just like that gold you find in the Yukon.

You see, one of the great things in Canada, even today and not just in 1898 still, is that you can *stake your own claim* of land. Much of the land in Canada is not owned, and the way you make a claim is by simply putting a stake into the ground.

Imagine this madness. You are walking through the mountains, and you find a little gold. So you put a stake in the ground with a hammer. The land now belongs to you, but you have to go back and register the coordinates of the land. You do this **first before anyone else**, and you will own that land. And so it is with NFTs today. If you are the first to create a collection, you will own the copyrights.

So many copycats out there. Oh no! Only the creators of original works will stand and will be able to sue copycats for copyright infringement. The blockchain does not lie, so you will have a perfect record that you were there *first* to stake your claim. It is full authenticity and perfect provenance.

This is the *secret of ownership for creative works*, which the blockchain has made possible. It is what moves us today toward *Web 4.0*, a private ownership-based web beyond the metaverse. All creative works can now be owned. And many will become collections. Had Vincent van Gogh or his brother Theo known about NFTs, then the famous sunflower artist would have not died in poverty, alone, miserable, and mad.

NFTs are the salvation of artists and all those who have creative works such as Design, Art, Fashion, Music, and Poetry. But your creation must be original. It must be unique. You claim your stake by putting your work up for sale on one of the Ethereum-based NFT platforms. The moment your creation hits the blockchain, you are staking your claim. And you will have the *title* once it gets sold or traded upon the first transaction. Thus, you will have proof in the blockchain forever of the existence of your one unique NFT.

But make sure you are there first, the first one to claim your stake. Just like on that virgin piece of land in the Yukon.

And once the title is obtained, copycats can be held for ransom. And thus, you may turn a profit in the end if your work is much appreciated. And understand that variety of your collection is the most important thing. The variety in backgrounds and colors of your collection. The variety in appearances. The artistic element.

That famous *Andy Warhol* collection of *Campbell's Soup* being is a textbook example:



Figure 1.4: Andy Warhol's famous Campbell Soup Collection <sup>4</sup>

Did the artist create something new by repeating similar images of the same brand product many times? Whatever the answer to this interesting question, the fact is that this primary example of the first POP ART is how most NFT collections are created these days. The repetition of the same thing in the variety of a collection where each item is slightly different in tone, character, and meaning. Unique tokens become collectibles as each individual item can be owned and transferred separately.

Here in Warhol Art, the first pop artist, you can see the endless variety of the same can. The artist first started doing this with portraits of Marilyn Monroe and Elvis Presley. That was then dubbed “*modern art*” in the seventies. They called it “*pop art*”, and that was new at the time. The endless, mindless industrial repetition of the same iconic image in just slightly different shades, forms, or colors. How boring could it be? Making memes from nothing.

Yet, NFTs are a progression on the same pop art theme with the notable exception that in our self-obsessed world of social media—the *me* universe—we can now *own* each item, sell it, make a profit, and keep the copyrights and demand royalties. You see, there is a reason why NFTs are so popular as digital assets today.

Campbell’s Soup cans, remember those. For it is the perfect example of the perfect (NFT) collection. Some individual items are rare indeed. It is all branding, after all. For all cans look the same. But people crave for that one can, which just looks just a little different, or for that can which just looks the same—but which will be signed by *Andy Warhol*—himself. The man is the brand and the product at the same time. The artist becomes the product.

So now we have the mindless repetition of *Bored Apes* or *Cryptokitties*, the mindless repetition of *NBA Top Shots*, and the mindless repetition of some musical loops or tunes. Mindless repetition is ever broken down into smaller ownable, sellable intervals. Own it or sell it. It is the perfect conception in the age of *me*.

And so, Gen Z may advise also you to accessorize your collections. To create PFPs (Check glossary in [Chapter 9, NFT Collections](#)) into icons that smoke. Icons that smile. Icons that laugh. Memes that are moody. Icons with earrings. Icons with strange purple or punk hairdos. Here one is creating one’s own iconography. A digital iconography.

Or perhaps you want an iconography of highly collectible IRL sneakers, which are put into digital images making the sneakers tradable when you buy the NFT. So they can stay in the store. All these things are possible with NFTs and coded smart contracts.

Hey, this is fashion and trend in its rawest digital form. You are making the trend. You are setting the trend. Create an iconic collection of something creative and put it up for sale on an NFT platform. The meme becomes you. You are the product. And now you are part of the Great NFT Gold Rush.

## Marketing and branding of NFTs: a Gen Z view (Chapter 10)

Stepan's third chapter is about how to organize a (social media) *marketing strategy* for your NFTs. Which platform to choose? What social media to engage? How to make a promotional or advertising strategy for your NFT, or how influencer marketing plays a role in selling or trading NFTs? And finally, how to tie in certain collaborations in your NFT project.

This chapter is the NFT marketing & branding HOW TO guide.

*“Trust your team, and create trust in the NFT project. Create a community.”*

(NFT quote Stepan)

So, we have now silently moved to NFT branding here, from NFT marketing. Because NFTs are about building an image, an icon, or a meme. And to give a textbook example of how a sense of community can develop around a brand name, look no further than, for instance, Harley Davidson (*like-minded* people flocking to motorcycle clubs), Louis-Vuitton/Supreme limited collections (*like-minded* people standing and waiting on line to buy their favorite luxury streetwear), Gucci sneakers/Gucci baseball caps, they all have one thing in common: they attract *like-minded* peoples. People who want the same thing out of life. They form one community. One club.

This is the power of branding and the power of the community principle, which also applies to NFTs, and who better to explain this to you than our Gen Z digital media expert Stepan: how to brand your NFT collection today.

## **Risk analysis and NFT security (Chapter 11)**

This book will not be complete without [\*Chapter 11, NFT Risk & Security\*](#), which is on NFT Risk & Fraud. As a cyber security expert George is, of course, very apt to write this chapter, but he will do so with the help of Stepan and Robert. We will list the different types of NFT fraud and the risks you may come to expect. An important point, of course, is how to identify NFT fraud and to do a thorough risk analysis on creating or buying NFTs. This is a vital chapter for a beginner in the NFT space.

The core of the chapter is going to explore how to distinguish a genuine project from a knockoff and which steps to take in case the NFT you launched is being copied by someone else. We are going to explore when to inform your NFT community of NFT security risks and how to identify NFT fraud. It then becomes important to contact the marketplace where the offending NFTs are located in order to get fraudulent copies of your work removed.

Thus, we will be evaluating all the risks involved for entering the NFT marketplace. This book will help with NFT security and hopes to give you a small security roadmap for the whitepaper belonging to your NFT project so that copycats or scammers, or others who like to steal or take away from your NFT projects can be reduced to a minimum. This chapter tackles how to reduce the risks of scamming. And how to increase NFT security.

## [The NFT metaverse \(Chapter 12\)](#)

The last in the book will be on the development of NFTs in the metaverse. The three NFT Guys will explain together how the metaverse is developing today and how NFTs are playing a major role in the process ([Chapter 12, the NFT Metaverse](#)).

This is the key final chapter of the book, where we will introduce a metaverse conception that will be decentralized and based on blockchain like Web 3.0, but where private digital ownership becomes possible as the driving force of ownership-based digital communities.

The concept of “legalverse” will be explained here, and we will see how Web 3.0 blockchain-based applications by the use of NFT will be used to develop an expanded ownership version of the metaverse, which we like to call web 4.0. This metaverse, by allowing private ownership through NFTs, will become accessible to all, and the real effect will be a democratization of cyberspace.

By the end of this book, we are thus predicting an eventual shift in cyberspace where NFTs will come to play a very important transactional role. As NFTs will start to function like the legal title. For the blockchain allows for not only the exchange of information but also for the private exchange of *value*.

In other words, you will no longer need the centralized platforms of the big tech companies, but through decentralization and private ownership, a full colonization of cyberspace will become possible for all of us willing to put in the time, work, and effort to mint, mine, and create NFTs. You will have your own privately guarded cyber community where you can keep the possessions that you personally own and where you can buy or trade things. Or, otherwise, develop your land in cyberspace.

This is the development from *Web 3.0* (decentralized and user-based) leading to *Web 4.0* (ownership-based legalverse where users become owners). What we are witnessing is the privatization of cyberspace.

The results of this final analysis may be very surprising to some as we will introduce what we call *Web 4.0*: a metaverse based upon private ownership and decentralization. It is by far the most exciting chapter in this book, which will lead you to unexpected conclusions.



## One handbook: Three visions

This chapter closes by comparing the three different generational visions of the three authors—*The NFT Guys*—within the scope of the eleven different topic chapters of this single book which functions as a how-to manual facilitating understanding, creation, and selling of non-fungible tokens.

Generation X has always looked for gold in the financial markets but is little familiar with the digital world. But trading and business operations come naturally to this generation. And they will seek an opportunity looking for risk. And the risk is where NFTs are at. The production factor of choice of Generation X is capital, with a capital C—Capital. Information is only a source of investment. This is *Web 1.0* in technobabble.

The Millennials are the IT and IoT generation. They know the importance of technology and know how to use it best to their advantage. Their gold is not in the ground or in the financial markets. No, their gold is information based; they have learned to use information as one of the production factors. Land, labor, and capital are three production factors in classic economics. Add to that information as a production factor, and you will have created the *Web 2.0* generation of the Millennials. This is a user-based universe that goes online in order to share and exchange.

But of course, we save Generation Z for last because they are best suited of all to take full advantage of the digital Gold Rush that has come with the arrival of NFTs, for this is generation *Web 3.0*, where users not only share information on social media—as users only but where they actually create their own private corners on the internet and in cyberspace—by owning digital goods. Because blockchain makes this possible. Only Generation Z realizes the full potential of the NFT Gold Rush. They will be first to mine, mint, and sell the digital gold to which they feel actually entitled.

Please carefully note the structure of this book, which is set up as a manual or a simple handguide. It is meant to give you the NFT gold-digging tools necessary for you to mint your first NFT and get a head start on it before the NFT bubble comes crashing down, which eventually it will.

There are eleven topic chapters in the book (excluding this introductory chapter and a thirteenth chapter which is a goodbye and epilogue) in the following order: first comes the three legal and fintech chapters, as discussed by Robert:

- NFT Ownership ([Chapter 2](#))
- NFT Transactions ([Chapter 3](#))
- Smart contracts ([Chapter 4](#))

Followed by three chapters which are **data science and technology-related chapters**, as discussed by George:

- NFT Data Science ([Chapter 5](#))
- Minting NFTs ([Chapter 6](#))
- Selling or Buying NFTs ([Chapter 7](#))

We think that the tech chapters will create the most reader interest; however, it was necessary to start with the Fintech part because, without that basic understanding, you will not realize why you are dealing with digital financial information assets when you own NFTs. After all, all code relating to NFTs and their smart contracts sits in the blockchain ledgers. The ledgers and the contracts come before the content and the technology.

Then, of course, it was only logical to end the structure of this handbook with *chapters on marketing and the NFT marketplace*, and those are discussed by Stepan from the Gen Z perspective as follows:

- The NFT Marketplace ([Chapter 8](#))
- NFT Collections ([Chapter 9](#))
- NFT Marketing ([Chapter 10](#))

Then, follows a single chapter on *NFT risk analysis and security* discussed by all three NFT Guys. It is the obvious chapter not to discuss at the beginning of the handbook:

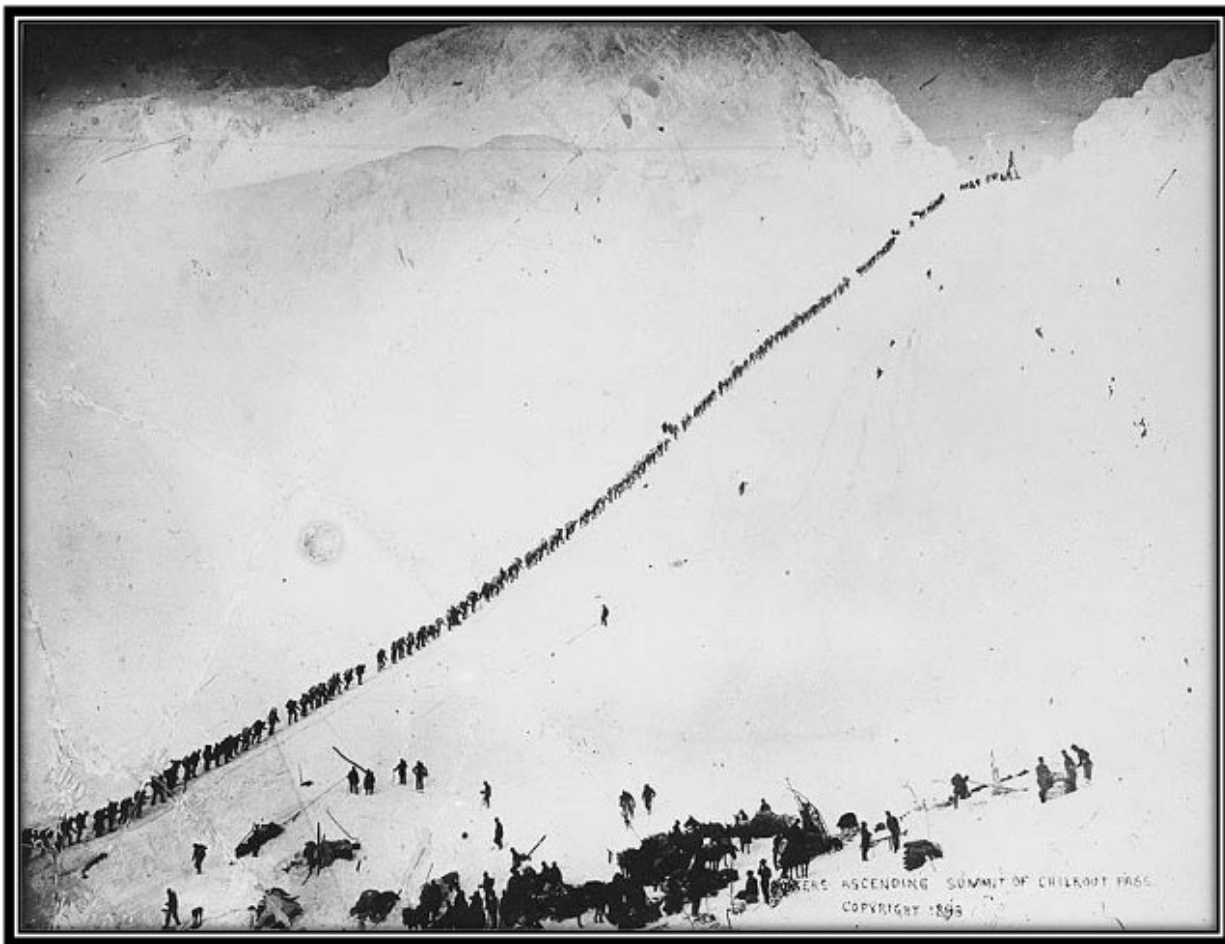
- NFT Risk and Security ([Chapter 11](#))

And the book finishes with *the key bonus chapter on the NFT Metaverse*, where all three authors contribute:

- The NFT Metaverse ([Chapter 12](#))

So now is the time to take out your best set of sharpened digital tools and equipment and your spirit of adventure so that together with the help of our manual, you can safely set out on the perilous but interesting voyage and journey of the Great NFT Gold Rush of 2023.

We hope this handbook and how-to guide will be instrumental when minting, publishing, buying, trading, and selling NFTs.



*Figure 1.5: Chilkoot Pass Trail, trek to the Yukon wilderness from Klondike, where gold was found in 1896 (photo 1898) [2](#)*

## Conclusion

In this introductory chapter, we ask you to join the NFT Gold Rush, and we promise to write you a book that is going to come in handy and practical in your quest. That is why we are writing the book from three different generational perspectives, Gen X, Gen Z, and Millennials, with each generation known for having its own specialty.

Gen Z covered the social media marketing and trending, and selling side of NFTs, whereas the tech development and minting side of NFTs is covered by the millennial vision. In the end, Generation X was responsible for giving

you the legal and fintech instructions that are equally important to be able to deliver a complete NFT manual overview.

Thus, we hope this will be a useful NFT handbook, guide, and manual for starters, pros, and all other interested persons in NFTs alike.

## **Post Scriptum**

There is an NFT giveaway at the **end** of the book on one of the last pages inside [Chapter 13, Claiming your First NFT](#) where 9,000 quality NFTs will be created especially for the first adventurous purchasers of this book. The process on how to obtain them is further explained inside a special section of the goodbye chapter on one of the last pages of the book.

The authors are attaching their own minted NFTs to this book for you as a giveaway for the first 9,000 buyers. Each single NFT attached created and minted by *NFT Guys*, is unique, all yours and yours alone, and most importantly, is tradable in one or more of the NFT marketplaces that use Ethereum. The NFTs are created by a Graphic Artist on our team whose credentials you will find in the acknowledgment.

Your promotional NFT QR code you will be able to find in the last chapter of this book and you will have to *carefully follow the step by step process explained in the section* in order to obtain one.

These NFTs are a surprise waiting for you as a token of appreciation by the authors of this book. It means you can start selling your first NFT right away, and this serves as a practical exercise to learn more about NFTs, and at the same time as a good practice to see how NFT value is created in the market.

As NFT Guys retains 1,000 NFTs themselves we will put 100 NFTs in the market to kick things off and so as to improve market making. A total of 10,000 NFTs were created for this project and **none more** will be created ever afterward. Which NFTs are rare, very rare, and super rare, and which collections you can create with them will be explained in the final chapter of this book.

Once in possession of your token, you will now have ownership in the form of a real NFT, and *NFT Guys* are happy that, in this way, you become part of the creative process that makes this book on NFTs a veritable part of the great NFT Gold Rush of 2023.

Signed: *NFT Guys*

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<sup>2</sup> [Wikimedia Commons \(public domain or commons license\)](#).

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# CHAPTER 2

## NFT Ownership

In this chapter, we will follow an introduction to the legal and financial aspects of NFTs in general to give you a strong foundation in understanding what makes NFTs possible. Besides the tokenization process, to which you will find a short introduction, the most important thing to understand is that blockchain and cryptocurrency make it possible for NFTs to be held as digital information assets and can, therefore, be traded, purchased, and sold on NFT markets as private property. By the end of the chapter, you will come to realize that this is indeed quite revolutionary and that the possibility of ownership of NFTs will open a whole new gambit to what can only be the creation of an entirely new asset class in terms of fintech in cyberspace. The opportunities and consequences of this new development are far-reaching because cyberspace itself can now be colonized by you and your friends if you know how to use the right tools and stake a claim for your own pieces of private digital ownership. This book purports to give you these tools while this chapter gives you the necessary legal and fintech background. Welcome to the NFT Gold Rush.

### Structure

In this chapter, we will discuss the following topics:

- Introduction to NFT ownership
- History
- Tokenization
- Digital ownership
- Physical NFTs (IRLs)
- Provenance
- Property rights
- NFT property rights

- Possession
- Transfer
- Copyrights
- Licensing
- Creative Commons
- Legalverse
- NFT legal cases

## Objectives

In this chapter, we will explain the process of NFT tokenization so that a better insight can be acquired into how it is possible to own digital assets by means of NFTs. We then explain digital ownership as a legal concept and analyze the legal basis of NFT ownership.

Briefly, we will show you how *IRLs (glossary, 1)* and NFTs can go hand in hand. It is important to realize that NFTs attach not only to the digital but also to the analog.

Furthermore, before reading the remainder of this book, it is important as well to understand how the blockchain verification and authentication process is necessary to create the perfect provenance and authentication for NFTs to become considered as digital asset.

You will then come to comprehend why the essence of NFT innovation is a new possibility of the creation of digital property rights (*Web 4.0 (glossary, 8)*), and we will give several examples of such rights, like copyright, licensing, and the right to freely enjoy and transfer what you own. In extenso, we will briefly explain how Creative Commons use is an interesting exception to such property rights.

Finally, you will come to realize that with the coming of NFTs, the metaverse, there is a trend that is moving toward the creation of what is called a “*legalverse*” (*glossary, 9*). A place where laws abide in digital space so that the development of private digital property becomes possible. To illustrate this point, we will mention some recent global court cases on NFTs and property rights.

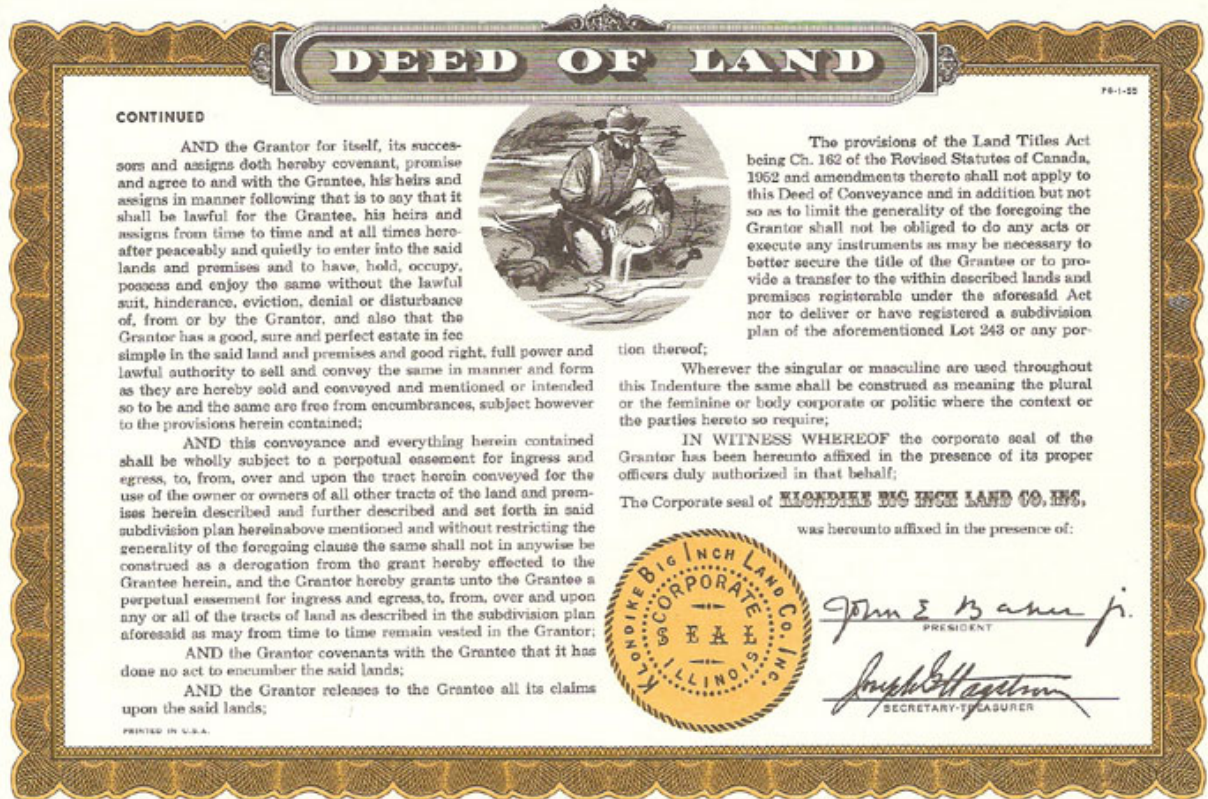


Figure 2.1: Proof of (NFT) land ownership: post Gold Rush Deed <sup>1</sup>

## Introduction to NFT ownership

We start this interesting story of NFTs with a chapter on ownership for good reasons. This is what explains how you too can make your claims in the digital world. And how you can own digital assets as your own property.

Nevertheless, if you want to know more about the IT behind NFTs or more about NFT marketing, feel free to skip forward in this book at random and go straight to the right pages you are looking for, as the book is written chapter by chapter to function as a manual and a practical hand guide to address the NFT issues you most urgently need a good solution for.

But first, we will discuss NFT ownership, for it is here where lies a unique and novel opportunity that will lead to immense new developments yet to come, as well as an opportunity for you to join the NFT Gold Rush. Today is the first time you too can stake your claim *privately* in the metaverse and can actually own things in the form of digital assets.



It is, therefore, important in this chapter to describe how virtual ownership functions so that you may come to understand how it is possible to stake your digital claims in the metaverse.

Before we begin, we must first state here that the regulatory environment on NFTs from country to country is not yet sorted. And that we are in the beginning stages of a worldwide legal consensus about the status of NFTs. This type of legal limbo is not unusual when a new type of asset class hits the scene.

For instance, when the first *STOs* (*glossary, 5*) or *ICOs* (*glossary, 6*) were offered a few years back, there was no regulatory environment; this is because fintech precedes the markets. Once the markets are developed, the regulations and rules will eventually kick in. This is how it usually goes. You will not see regulators make rules for technology that does not yet exist; that is not the way the world works. So, markets with a new asset class will be allowed to thrive for a while and then will be observed before regulation, laws, and rules eventually kick in.

We like, therefore, to make a disclaimer here on the legalities and regulations for NFTs described in this book. We will describe the NFTs to the best of our knowledge and interpretation under the current state of technology, law, regulation, and finance. For our analysis, we will apply, by and large, general principles of common law, but you need to know that these are just the general legal principles applied to fintech, and they have not been completely tested in the courts nor introduced by lawmakers in the form of regulation. But that is eventually going to happen. It is inevitable. In fact, it is the reason for this NFT Gold Rush because people want to get into the market before the market is “owned” and/or regulated.

Knowing about the general legal principles that apply to the fintech that constitutes NFTs is a major advantage that you will have over your competitors. You will be ahead of the game. And hence the following chapter.

Here is an example of such a legal debate that is still open to interpretation. There are those who argue that the *IPFS* (*glossary, 7*) content files attached to *non-fungible tokens (NFTs)* (*glossary, 2*) do not automatically transfer in ownership when an NFT sales transaction takes place because—they say—the content files attached to the token are almost always hosted on a separate server. In other words, these content files are not coded inside the blockchain

token in itself, so it is argued that only ownership of the token transfers but not the ownership of the content file when an NFT transaction is made. Some also argue that the ownership of the content file (in contrast to the token) does not exist. Most people say that additional instructions about transfers must first be coded into the *on-chain* (*glossary, 8*) smart contract regarding the content file that guides the token before the content can be considered part of the full token package.

A heated legal debate can then ensue in such matters, which will involve incomprehensible innovative technology, obscure legal concepts, and the latest fintech while things will remain in limbo. Until a court of law eventually decides on such a case (we have added three court decisions to this chapter, two of which establish NFTs as having property rights).

For the example of the previous question, as authors of this book, we believe the content files to be a part of the whole NFT package and that the ownership of the linked content file transfers with the transfer of the NFT itself (even without additional instructions, but more about this question later), but the example serves to explain that only this type of argumentation goes way beyond the scope of this book.

Eventually, such matters will be sorted out in courts and by regulators. So, when we write [Chapter 2, Ownership](#) and [Chapter 3, Transactions](#) of this book, we will go by the general consensus of principles of common law under the current situation at the time of publication of this book.

## [History](#)

Indeed, in the old days, from whence the expression “staking a claim” derives, one would take a wooden stake and a hammer and hammer the stake firmly into the virgin land to claim a piece of land. This is how much the new world was developed in the 17<sup>th</sup> century by means of private property rights under common law. But while this “staking of your claim” gives you practical *possession* of the land, you would not yet own the land as property because, with the possession of the land, you will also need a *title* (*glossary, 11*) to the land before it is legally yours. Under common law, you need both *title* (*glossary, 11*) and *possession* (*glossary, 12*) to prove ownership.

Back in the day, you could obtain the land title with local authorities, which would have been very far away in the case of the Yukon or Alaska, where you would have to convince the authorities of your endeavors and the fact

that you took possession of the land. They would then record this in their books and give you a title to the land. They liked people to develop land and take responsibility for it to claim taxes. But notice in this example that today with NFTs, the public registry is in the blockchain. Available to all, accessible to all, and verifiable to all.

Yes, this is a long introduction, but a very practical one because it will help you understand how ownership of NFTs can be created in the blockchain while content files attached to blockchain locations can now be claimed as yours as a part of the package. Under instructions of the *on-chain* smart contracts attached. Hence this chapter.

Indeed, if you look carefully at the picture of the preceding old deed of land, you will see the following words “... *as may be necessary to better secure the title ...*”, which means that without title, there is no ownership, which as the equivalent for NFTs means that if you want to secure your *title* (*glossary, 11*) in order to claim ownership, you will first need to learn *how to tokenize* (*glossary, 13*) *your NFT before you actually mint it*, but more about that you will find later in the chapter.

This is the way you can obtain a title for your newly minted NFT property, and thus, stake your digital claim. Others will simply not have the same claim on the same content file. This digital work is now yours alone. It is your belonging. And others must release their claims because you were there first to establish both *title* in the blockchain and *possession* in your crypto wallet. Refer to [figure 2.1](#) of the land deed, where it is mentioned “... *releases ... all its claims upon the said lands ...*”. The digital gold is yours.

## **Tokenization**

For the creation of digital goods and assets, you will need a crypto token. NFTs are non-fungible, unique tokens. So, this chapter will discuss tokenization in order for you to better understand how important this process is from a *Fintech* (*glossary, 14*) and legal perspective. The power here is that your NFT becomes eligible to be a *digital financial asset* (*glossary, 15*) through the process of tokenization. An NFT is a digital asset as it sits as a token in your electronic crypto wallet with its own unique identifier, a URI code, so that it can be transferred. Meanwhile, there is another URI code, and the token code, that sits in the blockchain where your NFT location is found. These two codes are linked, whereas one code refers to the title, and

the other refers to the possession of the NFT. Together, they can prove ownership. But read on carefully in this chapter, for the full story is rather complex.

The most important thing to understand here is that the blockchain functions as a ledger, a moveable spreadsheet. Moving from block to block, transaction by transaction. So, to first *mint* (*glossary, 16*) (called *mining* when you are dealing with cryptocurrency) and tokenize an NFT, you must start by making an entry on a distributed decentralized ledger spreadsheet on the blockchain. This entry takes a signature as well as a timestamp, which creates the NFT.

If we want to extract a token from deep in the electronic universe, digging for digital gold, we first need to get it rolling through the process of what is called tokenization. The objective is to mint and mine the token from the deep of the Web through a process of tokenization by putting an entry on the blockchain ledgers impregnating the blockchain with your NFT creation in the form of a smart contract (*on chain*) while a content file is linked (*off chain* (*glossary, 17*)) so that the NFT can be put into your electronic wallet as a package on an NFT market platform from where you can trade it. The more you deal with these concepts, the more you will see how it works. The NFT token is created once you first publish your freshly minted works on the blockchain at the moment when you first pay for it.

Tokenization is done *on-chain*. This is on the blockchain, which makes value transactions possible because blockchain is decentralized distributed ledger technology. The blockchain is a ledger spreadsheet on which transactions are recorded in blocks of computer code with timestamps for each block and entry. This process allows electronic digital accounting for full authentication and verification. Each transaction that takes place representing a future digital asset will be recorded in perfect fashion in the form of a new string of unique code. But this super ledger cannot be tampered with because not only is it under the cryptographic protocol but to hack each block on the chain would simply take too much energy and computer power. It cannot be done.

Each event in the *chain of custody* (*glossary, 18*) of the NFT becomes a new block and is updated simultaneously worldwide (the process of updating the crypto wallets worldwide takes a lot of electronic labor and energy) because no one can interfere with such ledgers. It allows us to create non-fungible

tokens which are unique and can be claimed as property. But more about that later. The tokens are not just a representation of the NFT but hold the *title* to the ownership thereof.

The result of the tokenization process is an authenticated ledger of perfect provenance of what you have created. You are now skipping the clearinghouse, the bank, the accountants, and the regulators, as the accounting function will be embedded into the NFT and become a part of the creation itself. This is quite revolutionary but consider that such distributed public decentralized peer-to-peer ledgers are far more bulletproof than if all these data were held on file somewhere in the basement of your local Town Hall—whether that be in the form of ancient paper files or modern servers. Though the blockchain does allow perfect accounting functions, better than any town hall, accountant, bank, or clearinghouse could manage. That is some power to have, as blockchain allows encrypted value transactions across the world. Everybody can see the transactions and the moves that have been adopted to create an NFT in the publicly distributed decentralized blockchain ledger. For each change, there is a timestamp, as well as a new electronic signature.

Such a created token can then be assigned different uses and properties by means of adding, as discussed in detail in [Chapter 4, Smart Contracts \(glossary, 19\)](#). It is the smart contract that enforces the rules of the transactions you will be making with the NFT, what it contains, what you can do with your token, and which rights will be attached. A smart contract can be interacted with; it is the agent or driver of your token and may send out commands or instructions like “mint” or “transfer”. Smart contracts are still *on-chain*. They are indeed “smart”. Any events (like the mint) or transactions (transfer, sale, buy, and so on) recorded on the ledger are then distributed far and wide in a decentralized fashion, which means that the blockchain recording is transparent and forms a public record. These are still operations on the blockchain, in other words, *on-chain*.

Most NFTs sit on the Ethereum blockchain (*Ethereum (glossary, 20)* is a *cryptocurrency (glossary, 21)*) because with Ethereum as a cryptocurrency, unlike, for instance, with Bitcoin, you can program different things into the blockchain. The ETH protocols will see to that. One particular protocol for Ethereum is called ERC-721, another one is ERC-20, and the third one is ERC-1155, and these are the code protocols that are frequently used to create an NFT smart contract.

So far, you have understood the first part of the tokenization formality of NFTs, bravo, and for now, you have created yourself a real location on the Ethereum blockchain, and you realize that on this blockchain, values can be exchanged because now you have access to the blockchain ledgers from block to block, and from transaction to the transaction to come.

So now that you have this unique space on *Web 3.0 (glossary, 22)* from where you can operate (token + smart contract), you will also need to include *a text or content file* that sits in a server somewhere and link it directly to the created non-fungible token so that the NFT is not only a unique token but also takes on real form, shape, sound, and color.

Please realize that digital NFT content, in the case of traditional Digital Art NFTs, is located *off-chain* on separate servers in what is called the *IPFS (glossary, 24)* file system. To be put on the blockchain, it is way too much content to write into a smart contract, and doing so would take too much time effort, money, and electric energy. The NFT content files in the IPFS file system are directly linked to the token that is created; however, NFTs can also link data that are outside of the smart contract.

There will therefore be several different *URIs (glossary, 23)* involved, which you will have to learn to juggle at the same time.

- One is the token URI, which gives you the operational location on the blockchain linked to the smart contract, from where values can be exchanged.
- Another will be the content URI which sits in some server in the form of an IPFS file but which is linked directly to your Blockchain location.
- Others would be an Owner URI and the Transaction Hash. But more about this is in the technical chapters of this book.

Remember that on-chain operations are highly labor and energy intensive because everything is verified, counted, checked, and authenticated on every block through every link of the chain of the distributed ledger. It is, therefore, important to have the ability to store and link content *off-chain* with separate *IPFS (glossary, 24) files* so that the basic functions of your NFT are taking place on the blockchain while the content itself sits safely somewhere in a server. You will have created two things before even getting started, one is the token (including the smart contract), and the other is the content, whereas both are linked to each other in the NFT. It is one package.

## Digital ownership

The legal concept of ownership is key to understanding this book about NFTs because, without access to property rights, one cannot own digital financial assets. We aim to show that, indeed, NFTs make ownership of digital assets possible. Here, we will be talking about property rights established by NFTs and their inherent derivative rights:

- Copyright
- the right to transfer what you own
- And royalty and licensing fees (a royalty and a licensing fee are the same things except that royalty is recurring and is based upon usage; the licensing fee is a one-time deal)

So, what is the legal basis of ownership in general?

In law school under common law, one may learn that in order to establish ownership, in general, you need two things: the *title* as well as the *possession* of a good if you want to establish ownership of something. Ownership is legal possession, and in order to prove it is legal, you will need, well, a title.

Imagine you buy a Ferrari. To prove it is yours to the bank, in case you want to use it as a guarantee to obtain a loan, you will need both the car keys (possession) as well as the title to the vehicle. In this case, you have the proof of ownership of the vehicle, and the bank can go verify the title registration at the town hall while they know you also have possession of the car because you show them the keys with the little horse.

Applying this simple analysis to NFTs *possession* would be the access key/code of the electronic crypto wallet of where your NFT is sitting. It proves possession of the NFT. More complex is to prove you also have the title, but we think it can be done in this chapter.

The *title* of the NFT would be the encrypted authenticated certificate that sits in the ledger spreadsheet of the public record of the NFT that is registered on the blockchain. The key word here is the registration of the unique non-fungible token on the blockchain ledgers. The title is the proof of token registration on the blockchain that you have in the form of the token ID, which includes the smart contract as well as the proof that the content file of the NFT is linked to it (usually sitting on a different server).

The blockchain ledgers do the rest, and this system keeps much better public records than your local town hall. You now have both title and possession of an NFT and can own it freely as a digital asset. Bingo!

For example, the digital artwork of an NFT itself is a content file that is attached separately to the token by *IPFS (glossary, 24)* file, as we mentioned before. Thus, by making use of blockchain and cryptocurrency, the *value* of this work can be the following:

- Owned
- Transferred
- Attached with a copyright
- And/or a royalty/licensing fee

However, it is important to note that stipulations of the specific rights to be transferred *have to be clearly and explicitly mentioned (coded) within the NFT smart contracts* for such rights to be automatically transferred with the token to the next owner.

There is a lot of legal debate about this in the NFT community. How and when copyrights actually transfer with the ownership of the NFTs. Because it is possible that all you are getting sometimes is just a license when you think you purchase an NFT.

We think at NFT Guys that, eventually, courts and regulations will set standards and answer such legal questions about NFTs in the future. For now, *it is best to assume that all rights to be transferred with the sale of an NFT should be explicitly and clearly stated in the smart contract*. Remember that smart contracts are *on-chain*, so such records become an immutable part of the token and part of the public record.

In short, the authenticity of an NFT is certified and publicly recorded. This way, we can create the ownership of digital assets. A digital certificate sitting in the blockchain becomes the proof of authentication of the title of digital goods, and thus digital (financial) assets can be created. What is created here is, in fact, an entirely *new asset class (glossary, 25)* that makes ownership of digital assets a possibility.

The provenance of such digital goods is clear and transparent as we move from block to block from transaction to transaction every time the newly minted asset (with cryptocurrency, the process of tokenization creation is



called *mining* (*glossary*, 26) and with NFTs, it is called *minting* (*glossary*, 27)) is changing hands or is transferred—from the ledgers, spreadsheet to spreadsheet in the blockchain. Our crypto wallets will see to it and prove this.

Thus, ownership of digital goods can be established.

## **Physical NFTs (aka IRLs)**

Today, thanks to NFTs, it is possible to acquire physical goods by keeping proof of digital ownership of the physical good in a crypto wallet in the form of an NFT. In the world of NFTs, we call such proof of ownership a physical/digital hybrid, an *IRL*—an *in real-life* good. These are Physical NFTs. IRLs can be considered as a new type of asset that merges the physical with the digital. The possibilities for this innovation will be far-reaching.

The number one example, of course, is physical art to which NFTs can be attached. Most people will be aware of this possibility. This not only allows such an NFT for fractionalization of the artwork (it can be sold in pieces), but it specifically allows the artist to retain the whole or part of the copyright after selling on the title to the work. As ownership of a physical painting, in most cases, will be well established through the traditional chain of custody and provenance, digitalizing the work and creating an NFT on it will make authentication easier.

The logistical problem here, which we do not have with digital art, is the original authentication when creating the NFT on the physical art (asset). The question is how to verify with certainty the first time that such an NFT hits the blockchain that it is indeed linked to the real-life work of art. Indeed, there is somewhat of a legal limbo here, but now it is possible in the smart contract of the NFT to encode the history of the painting, the life of the original artist, information about the owner, and anything else that would identify this painting as real, original, and without claims. The painting may be digitally scanned with its imperfections embedded in the form of source code that is then entered into the smart contract and, eventually, into the blockchain.

For a work of real art, NFTs may need this type of evidentiary legal affirmation for authentication. One could even imagine having a lawyer or notary present when going through these motions. This should suffice for

certification and digitalization of the physical (art) asset from a legal perspective, and then once the NFT hits the blockchain with an electronic signature and a token, it will be the NFT that authenticates future events and transactions happening in the life of the painting.

This opens up manifold possibilities because the smart contract is open to many instructions, specifically when it comes to the transfer of certain rights that come with ownership. In the past, it was always an issue that once an artist sold a painting, they could no longer claim it back for a museum show, but that problem has now been solved with Physical NFTs. Also, the middle markets and galleries will suffer because most artists (or designers and other creators) will be able to create their own promotions with the help of Physical NFTs. The key here is to manage the first authentication when going from physical to digital. The fractionalization of art is another advantage that Physical NFTs offer but more about that in a later chapter.

Another example of IRLs is collectible sneakers. This is a very big market, and today both Nike and Adidas are competing in the creation of collectible sneakers (physical goods) that are attached by NFTs. You may want to check out the *Nike CryptoKicks* collection as an example.

The first authentication of such collectibles will be done by the manufacturers themselves, who will describe carefully who designed this sneaker, what kind of materials were used, why these sneakers are so special and collectible, and if perhaps a celebrity has endorsed them. All such identifying characteristics will then be recorded and documented carefully. Alongside, sound, image, and text will be added to the smart contract that enters the blockchain so that a first provenance by the manufacturer is signed and created.

This, in fact, is nothing less than the famous “*appellation contrôlée*” you would find on French wine bottles, meaning that the age, location, and quality of the wine are guaranteed. By getting a digital certification of the creation process, you can stamp your product or creation not with XO, VSOP, XXO, and the *marque* of a great *chateau* but by attaching a simple NFT that will go “live” on the blockchain so that perfect provenance, forever, is established.

Indeed, it is not a surprise that some of the famous cognac makers and players in the luxury goods industry are today the first to use NFTs attached

to their products because real authentication as proof of quality has always been a sign of exclusivity and perfection.

This process works for all collectible goods and rare items on the condition that they are original and not fake. An added advantage of the physical good non-fungible unique tokenization process is that once IRL goods are created, they will no longer have to exchange hands to change ownership. For now, ownership can simply be transferred by sending a key in a crypto wallet.

So, if an NFT is attached to a physical good, you can leave this IRL with the merchant or the original collector while the ownership is transferred to the blockchain. This can save on insurance or transportation costs. No need to still go pick up your collector sneakers at the store because now you can leave them in the store for everyone to see on display. You may as well just carry the NFT around instead. You can show this NFT, which will include a glamorous photo of your sneakers, to your friends while your proof of purchase remains in your crypto wallet together with the NFT, which is highly secured, highly exclusive, and very private.

It is, therefore, an understatement to say that we are currently witnessing many interesting possibilities as a result of the development of this physical/hybrid NFT opportunity.

Here is a bizarre example: there are artworks out there that have embedded in their NFT that the NFT may be destroyed once a physical sale takes the place of the artwork while, at the same time, they are giving the next owner a choice to destroy the physical artwork while the NFT remains. So, if you are the new owner, you can choose. This creation/destruction conundrum is supposed to enhance the exclusivity of the artwork. We do not know, but such types of conditions are sitting in the smart contract.

That may be one bizarre example, but it is not a surprise at all that the vanguard of such developments with the experimentation of physical/digital goods are in the art world and the luxury and fashion industries. Nevertheless, because of its potential, the physical/digital hybrid NFT asset class is bound to go mainstream, and to a certain extent, it already is. We will read about this more in future chapters.

## **Provenance**

Because the blockchain keeps a public ledger that perfectly records every transaction while linking content files of the NFT as an attachment, the authentication process, which is elementary to creating and establishing ownership, is generally guaranteed as full proof. Perfect provenance and chain of custody of digital goods or IRLs can therefore be easily established. This facilitates the establishment of *property rights* and financial transactions with NFTs.

A legal weak point, however, in this equation is where the IPFS file gets linked to the token and the smart contract, which are both *on chain*, whereas the content itself sits somewhere in a server *off chain*. There are people who are challenging this construction because what would happen if that outside server were not maintained well or if the owner of that server decided to erase the file? These are legitimate questions.

As blockchain is all about accounting, verification, authentication, and value exchanges, this complaint makes sense even though it would only apply to digital NFTs. Not all NFTs, however, are about digital art and art alone.

In addition, it should be mentioned here that it would be possible to encode even the larger content files of an NFT on the blockchain, but the fact is, this takes too much time and energy. This is the reason it is not done in most cases. It is not to say that a real title is still established for such a token. The minted token is unique and sits on the blockchain, and thus, provides a title also for the content that is linked to it by the smart contract, despite the fact that most of the actual digital content sits in a separate file on a server that is *off-chain*.

With an analogy, to establish ownership of a Ferrari, you do not have to keep the Ferrari itself in your own garage, and it would be even stranger to park it at the Town Hall, where you registered the vehicle. The title of this car would still exist as long as it is registered properly. In this example, the location of the Ferrari, which is not parked at home, is a metaphor for the NFT content file, which is not sitting on the blockchain but on the IPFS file systems.

Critics of NFTs have a point when they say that the weakest link of NFTs is that NFT content is hosted on servers outside the blockchain (because of the technical vulnerabilities of not being on the decentralized blockchain), but for the purposes of this book, we believe that such a critique does not

invalidate ownership rights possible for NFTs but is rather just a potential technical security problem, which eventually will be solved.

For as long as your Ferrari sits safely parked in a garage somewhere while you hold the keys and the title, and registration, what is the problem?

This is a market issue and not a legal issue.

Traditionally, authentication was always a major issue in the artworld where the provenance of a work of art could be mysterious and lost in obscurity as well as in time as items frequently would get stolen, copied, faked, or gifted to more than one person at the same time. Many different people could then put a claim (legitimately or not) on the work (a tax, a lien, a debt, and a report of theft), but with NFTs today as digital art or IRL, the establishment of who is the real original owner or creator, and who are the rightful successors, is no longer the problem.

There is only one public transaction record that sits in the ledger spreadsheets in the chain of blocks, in each block, in the blockchain, so that the full ownership of NFTs can perfectly be established. The blockchain-based digitally decentralized ledger record does not lie and cannot be changed. It is self-authenticating and *self-executing* (*glossary*, 28).

In the beginning, when an NFT is first minted, there will be an electronic signature, and the (artist) signature will not change throughout the life of the digital good or IRL. Everyone can research the origin of the creation on the blockchain (there are websites for this). Here you will see the original owners, the creators, those who minted, the first block transaction hash, the content files, the smart contracts, and every subsequent transaction hash. This will be there forever. It is better than keeping the proof of your Ferrari at the Town Hall.

Thus, digital assets or IRLs can be traded at ease and with the peace of mind that no one else can break or intervene in the *chain of custody* of your property. New markets will develop as a result of these unique and secure features of provenance and authentication that NFTs allow. New types of hybrid digital/physical products will be the result of blockchain-based transactions involving NFTs.

## **Property rights**

Ownership grants certain rights.

In fact, did you know that in most country's constitutions or founding documents, private property rights are considered the basis of fundamental freedoms of being a citizen of that country?

You may take it for granted that you can “own” something, but throughout history, there have been societies where ownership of some or all things was simply outlawed for one reason or the other. Or where ownership of certain goods was only a privilege belonging to a certain class of people. Not everyone was allowed to have assets or belongings.

It is only in the latter half of the 18<sup>th</sup> century that ownership of goods became something to be considered for everyone, something as a basic right for all citizens. This is a recent development. Thus, the right to own something—a private property right—is one of the fundamental freedoms that most societies and countries offer today. The right to private property is a *natural right* (*glossary*, 29) protected by most countries for all citizens—and even for foreigners. So, let us all make use of this right on the web and in the metaverse.

Thus, today, you too can join in the digital gold rush thanks to NFTs. Since it is NFTs that will allow you to claim your stake in the digital world, which fully explains why they are so popular today. Alone and independently, you too can now start owning the metaverse as well as the world wide web. The real development of digital private property rights has begun; hence, we call this book NFT Gold Rush.

## [NFT property rights](#)

The following are the most important NFT property rights:

- The right to freely enjoy, hold, and accumulate your digital property, the right to own it, is called *ownership*
- The right to freely gift, sell, or *transfer* your digital property
- *Copyright* (*glossary*, 30), the right to claim protection from others copying your digital property (as long as yours is an original creation)
- *License* (*glossary*, 31), the right to license your digital property for a *royalty* (*glossary*, 32) fee so that others may use it

Be careful with this preceding list, as these rights are inherent to a property right in general, but as mentioned earlier, it is highly important *to spell out*

*such rights clearly and explicitly in the smart contract that guides the token sitting in the blockchain.*

What you see here in the list is the basis of ownership right in the real world, but in order to establish **Intellectual Property (IP)** in the digital world, each right in all its detail and with all necessary specifications must first be entered spelled out and coded into the smart contract *on-chain*.

It is even possible that such a smart contract may then derogate from the basics of property rights listed previously in one form or another, as smart contracts for an NFT may vary. For instance, the smart contract may hold an indication that the copyright remains with the original owner even upon the transfer and sale of the digital good.

Yet, because of the perfect provenance that comes with blockchain authentication, it will be possible to establish private property rights in the digital world with NFTs in general. This is our conclusion from studying this matter for a long time. We believe that eventually, there will be a regulatory environment for NFTs and that countries will adapt their laws and regulations to the new IT realities of *Web 4.0* that makes private ownership through NFTs possible and that creates a new financial asset class.

In addition, the crypto protocols keep getting better, and it is thus not unforeseeable that the remaining content that sits *off-chain* today may eventually also end up on the blockchain. This, more than anything else, will keep the critics away because once something sits on the blockchain, nobody can deny the perfect provenance of the super ledgers. Who can argue with perfect public accounting?

The collection of property rights related to the establishment of NFTs as property after minting will be coded in the ledgers on the spreadsheets that flow through each block of the blockchain with each separate transaction, and in the same way that cryptocurrency through blockchain transactions makes a banking clearing house no longer necessary, the perfect public records in the blockchain for NFTs make public registration of digital ownership and digital assets as a new asset class possible without having to go to Town Hall.

## [Ownership](#)

Funny enough, this is what people love most in property rights, the right to say that something is yours and yours alone. It is funny because you are not

making any money with it; you are just holding and enjoying your NFT. But that is fine, of course. This is your precious for which you fought so hard.

The Sorare website, which has football, basketball, and baseball NFTs advertises with this simple NFT principle of ownership: “Own your game” is their slogan. Yes, you can now prove that you own that game moment. And show your possession to others as well as the title to your NFT.

## **Transfer**

Clearly, the ability to freely transfer or sell what you own should be part of your property rights package as well. The thing is, there are some major caveats to this depending on what type of NFT platform you are on, as many platforms only give you a user’s license rather than full and unencumbered ownership. To find out about such things, you must most definitely read the fine print of the NFT platforms that you are dealing with, and it will be stated somewhere in the white paper or the explanations of exactly what you are buying or minting yourself into. If you are on an openly traded NFT marketplace, chances are you have the full right to sell and pass on or even gift whatever you have minted yourself or purchased, but this handbook advises you to carefully do your research first so that you will know the precise consequences of your transactions that are taking place on the blockchain. Do not assume you can start selling your digital possessions on other platforms unless this is clearly indicated in the manuals that the platform provides. The same thing goes for trading because not every platform is a marketplace, and some platforms just allow you to “own”, whereas all they are giving you is a user’s license which can only be exchanged on the platform itself. Such platforms will usually have their own cryptocurrency and will not be linked with one of the major cryptocurrencies like Ethereum.

## **Copyright**

Copyright is another right inherent to basic property rights, but in the case of NFTs, do not take this for granted that just because you own an NFT, you now will also have the copyright to the work or creation into perpetuity. In the ideal case, it may be so, but since much of such legal matters must still be litigated worldwide in the various court systems before some final conclusions are reached, for now, you must assume that the copyright is only



yours if the smart contracts belonging to the NFT token explicitly and clearly state this.

The thing is that many different types of smart contracts exist, as many as there are protocols and codes out there, so this makes for the interesting possibility that copyrights can be sold on, kept, divided, or even partially established depending on the work that was created. For all we know, you could own the blue or black lines on a certain design or the pink squares on a famous painting—and the copyright thereof. It so happens that in the NFT world, the original owners like to sell on their work while retaining their copyright which means that they are really just licensing the work for use. So be super careful and read the smart contracts or ask first before you buy or invest, as you really want to make sure to which extent the copyright belongs to you after a sale. In most cases, the *commercial use rights* (*glossary*, 33) will not be granted to you, but hey, all contracts are negotiable, so perhaps they can change the smart contract, which is difficult but not impossible.

## Licensing

*Royalty* payments, as mentioned in *property rights*, are the result of licensing of a creation or a work. They are recurring payments depending on the use right that was granted. If it is a one-time fee, you call it a licensing fee.

Often, when buying a license, you will have to make the distinction between licensing for *personal use* and licensing for *commercial use*. The procedures and outcomes are quite different. Beware when buying NFTs because such details will be in the smart contract, and if they are not specifically stipulated, you will not know if you are dealing with a licensing, user, or royalty fee.

Also, when you are licensing, you are not really selling. You are not transferring ALL the ownership rights. You may just be licensing someone else to use something you have created.

The textbook example here is that in the NBA Top Shot NFT universe, what you are buying is a license for personal use. If you really owned those NBA game moments, you could make millions selling them yourself for use on TV.

In general, for the transfer of digital art, the fast-developing NFT industry is currently setting standard royalty fees of 10% on each new transaction, a

recurring fee that falls back to the original owner. Such fees, we believe, have the potential to be excessive, and from a market perspective, over time, we think such digital art markets will find a different footing when it comes to price.

Of course, such market-related issues are taking place in the quick developing NFT markets in an open regulatory environment where few laws still exist. So, we will have to wait and see what the courts say once someone decides to go to court challenging such royalties.

So please be careful what you get yourself into when buying NFTs and be prepared to understand all the legal perimeters that you sign up to by smart contract before purchasing an NFT, especially when it comes to copyright and licensing fees because the legal vacillations and uncertainties will exist for many years to come.

## [Creative Commons](#)

A Creative Commons license for NFTs for the use of IP is an interesting exception to the private commercial use of your property rights established by tokenization of your NFTs. By granting such a public license to everyone to freely use your NFT creations (by encoding such a license in the smart contract so that it can be read in the blockchain ledgers) you will lose direct commercial control over the creative part of your NFT project, however do not underestimate the power of such a move: because it makes for perfect open creative source sharing which is great for building NFT communities. Creative commons means that the copyright belongs to no one or everyone at once. You will still own your NFT but just without a copyright. The license you are extending on the NFT – for free – is granted to all.

## [Legalverse](#)

You must realize by now that NFTs are a legal innovation that comes with many new possibilities and that the development that we are witnessing here is the formation and establishment of what in IT and Fintech have come to call the *legalverse*. Not the metaverse, but the *legalverse*: a new body of legal precepts and concepts that comes with the digitalization of common law and the new possibilities that may perchance arise from it.

Legalverse Landscape	Token	Use	Right I	Right II	Right III
Digital Asset					
Digital Art NFT	NFT	Digital Art, PFPs	Ownership / Title	Copyright	License
Real Art NFT	IRL	Real Art	Ownership / Title	Copyright	Loans / Escrow
Music NFT	NFT	Entertainment	Ownership	Copyright	Royalty
Virtual Land	NFT	Gaming	Digital Ownership	Transfer	
Real Estate	NFT	Real Estate Industry	Deed / Title	Certification	Security
Digital Wearables NFT	NFT	Online Fashion / Gaming	Ownership	Transfer	
Real Wearables NFT	IRL	High Fashion	Ownership	Authentication	Privacy
Certificate NFT	NFT	University Diplomas	Digital Security	Authentication	Privacy
Access NFT	NFT	Concerts, Shows, Ball Games	Title	Privilege	Privacy
Product NFT	IRL	Luxury Products	Ownership	Authentication	Warranty
Merch NFT	IRL	Merchandise Goods	Ownership / Title	Official License	
Collectible NFT	NFT	Sports Game Time, PFPs	Ownership	User License	

*Figure 2.2: A visualization of the NFT Legalverse Landscape (shaded orange part of the ledger)*

## [NFT legal cases](#)

Here are examples of three legal cases that go right to the core of the questions that this book proposes to answer. We could give you more examples but suffice it to say that the legal and regulatory environment on NFTs is rapidly developing but not settled yet. It will take years for the dust to settle down on all of this. In fact, this is one of the reasons we wrote this book, so you have a better idea of what is going on and can feel more confident joining the NFT Gold Rush.

**Legal Issue 1:** Tarantino versus Miramax: who has the right to mint an NFT?

NFTs on the uncut scenes of the movie screenplay of the film Pulp Fiction (1994) were published by Tarantino, the movie director, and Miramax, the producers, asked the court to block this in November of 2021 after the NFTs had already been auctioned off for several million. The movie contract had covered the copyright of the movie itself but granted the filmmaker several exceptions on copyright infringement, but only the screenplay writing was covered by a separate agreement. NFTs were issued on the screenplay only. The case was settled amongst the parties after Miramax sued for copyright infringement.

**Legal Issue 2:** Stolen NFTs are considered property according to the English High Court

The English High Court earlier in 2022 recognized NFTs as property. Judge Pelling QC of the High Court backed a claim of an English subject who

could prove that her NFTs were stolen by two anonymous accounts on *Opensea*. The judge said that there is a “*realistically arguable case that (NFTs) are to be treated as property.*”.

In addition, the judge said that the court had jurisdiction over the matter because the claimant whose NFTs were stolen on *Opensea* lived in England. The judge said that crypto assets “*are to be treated as located at the place where the owner of them is domiciled.*”

And finally mentioned, there “*is no reason ... to treat non-fungible tokens in any other way.*”

**Legal Issue 3:** Singapore High Court rules NFTs are to be considered property

This is a case from October 2022. Justice Lee Seiu Kin ruled that NFT meets the legal requirements for the property. The judge said NFTs are distinguishable from other similar assets and have an owner who can be recognized by third parties. This was a case about the prevention of the sale of a Bored Ape.

**Legal Flash Update:** At the time of publication of this book the IRS (the US tax authority) has officially recognized NFTs as digital assets for accounting purposes, more information you will be able to read in the last chapter of this book.

## Conclusion

When private property rights were first conceived as individual natural rights, nobody could have foreseen the possibilities that would have with the rise of blockchain. Blockchain allows not only for an exchange of information but also an exchange of *values*. Therefore, new forms of authentication for transactions would become possible. Even ownership in the digital world would become possible because the title can, thus, be established, and indeed, today, all the *smart contracts* attached to the NFTs will see to this.

In brief, NFTs make it possible today to sell and exchange digitalized crypto tokens separately from the digital asset itself. Thus, by creating a perfectly authenticated digital title in the blockchain for digital goods and IRLs—while maintaining possession of the good in your crypto wallet—a new chapter in the history of private property rights will be written.

Let us all join the digital Gold Rush.

In the upcoming chapter, now that we have discussed the basics of tokenization and NFT ownership, we will see what types of transactions with NFTs are actually made possible. It will surprise the reader because of the legalverse and the new fintech currently developing around NFTs that new types of unexpected NFTs will have become possible.

## Glossary

1. *IRL*: In real-life good (as opposed to digital good).
2. *NFT*: Non-fungible unique tokens.
3. *Title*: Legal rights by a person under law as the result of the possession of an asset.
4. *Possession*: The second element of legal ownership (*after the title*).
5. *STO*: Security Token Offering (security tokens).
6. *ICO*: Initial Coin Offering (cryptocurrency tokens).
7. *IPFS*: Distributed system for storing and accessing content files.
8. *On chain*: On the blockchain.
9. *Web 4.0*: A movement in the metaverse with a direction toward value exchanges based on the blockchain, which eventually will create a “*legalverse*”, and which has an additional feature over *Web 3.0* that private ownership can be granted.
10. *Legalverse*: An innovative extension of laws, rules, and new legal concepts because of the new possibilities that the combination of metaverse (information exchange) and the blockchain (value exchange) make possible for the exchange of goods and the various transactions derived from it.
11. *Title*: In law, to own something, you will need the title to it, which is usually a document, but digitally this legal requirement can be satisfied by having an NFT on the blockchain since this gives perfect record and provenance.
12. *Possession*: Is the second element of ownership, which you can prove digitally with NFT by having the NFT sit in your own crypto wallet in the form of a string of alphanumeric characters as a code.

13. *Tokenization*: The minting process, creating a token that will be sitting on the blockchain.
14. *Fintech*: Financial technology, a field of study that includes knowledge of cryptocurrencies and blockchain transactions, amongst others.
15. *Digital financial asset*: An accounting value derived from digital content and digital operations which can be added to a balance sheet because it fulfills the legal and financial requirements to be called an asset.
16. *Mint*: To mint is the term used for the tokenization of NFTs and releasing them on the blockchain.
17. *Off chain*: Off the blockchain, in separate servers.
18. *Chain of custody*: Chronology of ownership every time there is a transfer (in this case, taking place digitally per every new transaction on the blockchain).
19. *Smart contracts*: Simple self-executing legal contracts attached to NFTS (a guaranty, a warranty, insurance, and a ticket entry) that make it possible to extend digital property rights into newly developing directions.
20. *Ethereum*: A major cryptocurrency with a protocol that makes the writing of smart contracts possible, and hence, is very good for creating NFTs (it would be very difficult on Bitcoin).
21. *Cryptocurrency*: Digital decentralized currency.
22. *Web 3.0*: Decentralized distributed ledger blockchain technology makes possible value transactions on the internet, which will change the Web from a user-based facility to a place where real private transactions have become possible.
23. *URI*: Uniform Resource Identifier is a code by which internet resources are identified
24. *IPFS*: Inter-planetary File System is used to store NFT content off-chain as going on-chain would be much too energy and labor-intensive, so it is a place to store NFT content, and the file is directly linked to the NFT smart contracts.
25. *Asset class*: A group of comparable financial instruments.

26. *Mining*: Minting but then for cryptocurrency, the process of tokenization for fungible crypto.
27. *Minting*: Mining but for NFTs, the process of tokenization of an NFT; see 16 for further definition.
28. *Self-executing*: This refers to standard smart contracts that become part of NFTs upon tokenization and which are triggered by a certain “event” (let us say a sale) which then executes the coded contract
29. *Natural rights*: As opposed to legal rights, which are given by law, natural rights belong to you even if there are no laws (for instance, “the right to life”).
30. *Copyright*: The exclusive but assignable legal right, given to a creator or his assignee for a fixed number of years, to print, publish, perform, film, or record literary, artistic, or musical material.
31. *Licensing*: A one-time agreed to user fee (for a digital work or creation).
32. *Royalty*: A recurring payment to an owner for the ongoing use of property or assets (for a digital work or creation).
33. *Commercial use rights*: The right not only to own or use something but also to make commercial use of it and to exploit what you have purchased for yourself.

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<sup>1</sup> Deed of land from the area of the Klondike Gold Rush still selling many years later (source courtesy Wikipedia public domain).

# CHAPTER 3

## NFT Transactions

In this chapter, we will look at the financial side of things and touch upon the legal aspect of NFTs. NFTs are digital assets on the balance sheet, whether IRL or digital.

This chapter is a continuation of [Chapter 1, Introduction](#), where the legal and ownership angles of NFT are discussed. We start here by once again talking about NFT ownership, but this time, with regards to deeds. We will use the traditional legal (land) deed to show you a metaphor that will be very useful in understanding how transactions come to pass with the help of NFTs. You will also notice that it will answer what we call the “big question” that is always on everyone’s mind, namely, why should you actually want to own NFTs as a digital asset if you can easily access the NFT content online and just copy it. For now, the images of most digital art NFTs can be found ubiquitously on the Web.

For many people, this is really the big question, but once you realize that blockchain allows for values exchange (*Web 3.0*) ([glossary, 1](#)) and not just information exchange like simple internet itself (*Web 1.0*) ([glossary, 2](#)), a thing will become more clear: because we will explain how blockchain allows you to construct a form of private ownership in the form of NFTs on the Web, which was traditionally only built for the purpose of sharing information.

This chapter ventures out into why both scarcity and rarity are necessary elements in NFTs to make them palatable to the markets. We will also learn about how financial transactions with digital assets become possible, so we can cover the topics of investing in NFTs or fundraising with NFTs.

*Fractionalization* ([glossary, 3](#)) of NFTs as a digital asset is another topic that will be covered in our chapter.

Eventually, you will notice that this chapter slowly starts moving away from the *legalverse* ([glossary, 4](#)) and into the realm of fintech. Yet, these are related because both ownership and financial transactions with digital assets



have become possible because of the exchange of values on a blockchain, for which the tokens need smart contracts.

In this chapter, we will study a bit of the recent history of NFTs to give you a broader background. We will also list some of the major types of transactions that can be accomplished with NFTs today. Mind you, this will not be an exhaustive list, but it will mention some of the principal transactions that become possible with NFTs (or IRLs).

## Structure

In this chapter, we will discuss the following topics:

- A very frequently asked question
- Digital deeds
  - Staking claims
  - Authenticity and provenance
  - Deed transfer
  - Title
  - Property rights
  - Ownership
  - Digital gold
- Scarcity and market making
- Rarity
- History
- Fractionalization
- NFT transactions
  - NFT as property
  - Fractionalized sales
  - NFT Escrow
  - Warranty/guarantee
  - Currency
  - Investment

- Sponsorship
- Fundraising
- Collectibles

## Objectives

The objective of this chapter is to make the readers more comfortable with the type of NFT transactions that are possible in *Web 3.0 (glossary, 1)* and to familiarize the reader further with NFTs as a concept of digital ownership. After reading this chapter, you will be able to understand why you would actually want to own an NFT.

## A very frequently asked question

There are three major elements that defined the Gold Rush in Klondike in 1898, which also define NFTs today, are Ownership, Authenticity, and Scarcity.

If you cannot own the land or claim it, you may as well not start digging gold on the land. The same goes for NFTs because why go through the immense trouble of *minting (glossary, 5)*, which can be a quite arduous process if you cannot own your NFT gold. This analogy holds up.

The same goes for authenticity because this is nothing but a verification procedure to make sure it is all real. Since you are operating on the blockchain, the *super ledgers (glossary, 6)* will always record each event and transaction with a public record of this. It makes it nice to own an NFT or a gold mining piece of land for which you have been given a title or a deed. The claim has been both staked and granted and is 100% verifiable.

The third element here is scarcity and is an important one. Because gold is a scarce commodity, once you dig it up, you will always be able to sell it and strike it rich. Mining gold or minting for NFTs thus has the same *Modus operandi (MO) (glossary, 7)*. You are looking and digging for something rare, maybe even super rare, so that you can sell it in the markets. How such a scarcity is achieved for NFTs will be introduced in this chapter with the help of some examples from the art world. If your content is unique and original, and you know how to sell it by limited edition, chances are your NFTs will turn into gold. But more about this later.



Figure 3.1: Proof of (NFT) land ownership: Reverse Side [1](#)

There is one particular question that is frequently asked about NFTs and which is always on everyone's mind, and it goes like this: if (free) copies of digital art (or other digital assets) can be found all over the internet and the Web, then why would anyone want to "own" digital assets?

To be phrased in another way: if we can find digital art posted everywhere and if under the legal *doctrine of "fair use"* (*glossary*, 8), the work is in the public domain, and you can still use the image for certain purposes, why would you want to "own" digital assets at all?

## [Digital deeds](#)

We are answering the preceding question carefully explained in a seven-step process:

## [Staking claims](#)

It is now possible to stake claims of full digital ownership.

NFTs make this possible because NFTs can grant a *legal title* (*glossary, 9*) (encoded in the blockchain spreadsheets) as well as make possession possible (the encrypted code in your crypto wallet for the NFT). Under common law, both elements (possession + title) are necessary to establish a property right (see [Chapter 2, Ownership](#), for a more detailed explanation).

## **Authenticity and provenance**

Authenticity and provenance of a digital asset (as noticed in [Chapter 2, Ownership](#)) are now guaranteed on the blockchain.

It means you can now prove and verify the claim of digital ownership that you made publicly.

## **Deed transfer**

NFTs are transferable by electronic “*deed*” (*glossary, 10*).

You saw an example of a deed for a piece of land during the Klondike Gold Rush in [figure 3.1](#). The title shows us who is the holder of a piece of property; in law, it is called a deed, which is recorded as the transfer or the sale of a piece of land. On some simpler types of sales, the title and deed are one in all, and the transfer is simply recorded on the title itself. The deed and title come together. But perusing a traditional deed is an excellent metaphor to understand better on what happens during the sale of an NFT. Consider the following written on the deed at the top of this chapter:

*“for good and valuable consideration now paid by grantee to grantor does grant, bargain, sell, alien, enfeoff, release, remise, convey and confirm unto grantee, his heirs, and his assigns forever an estate in fee simple ...”*

Such a grant also applies to NFTs today when you sell them. Or does it?

As an example, we will consider the freshly minted creative NFT that you have tokenized on the blockchain. You are now the owner of this NFT, which means that you also must have a blockchain-registered title to the property. Because you created and minted it, you can own it because, in addition to the token, you also actually possess the NFT, as you can see it coded nicely in your crypto wallet.

Let us say that now you wish to transfer this piece of digital property to someone else on another NFT platform; what happens in the transaction that

follows, as you receive cryptocurrency from the buyer for the transfer of the property, is the cryptographic recording of an electronic deed of the transfer transaction as an event on the blockchain ledger.

You are thereby granting, remitting, conveying, bargaining, and confirming new ownership but possibly not releasing and remitting all your previous rights as perhaps in the smart contract it is stated that you are only selling, but without licensing commercial use and just for personal use, and perhaps by retaining the copyright. There is a deed of transfer here, but some rights are being retained and not granted with the transfer.

The title, an original certificate of ownership in the form of a token ID, will have officially transferred from the buyer (with smart contracts attached to regulate royalties or copyrights) to the seller and is now documented in the blockchain ledger spreadsheet like such a deed. The unique *transaction hash (glossary, 11)* for the event will publicly record all the information.

For every single NFT, the blockchain records the entire transaction and event record and makes it publicly accessible. In other words, what needs to be understood is that an NFT is not just a work of digital art but is also a living legal document and a part of the *legalverse (glossary, 4)*; like the deed mentioned here is a legal document.

Critics will argue that because such a living legal document and token, despite being on-chain, is only attached to a simple content file somewhere stored on a server *off-chain (glossary, 12)*, such a deed is not valid under law, but the fact remains that without the certificate token attached to the content, the content file would not have the same value.

Imagine you are in the 17<sup>th</sup> century and getting a letter from the King granting you the right of an easement to a nice, wooded property that allows you to walk across a certain old piece of land where nobody else would be allowed (old limited right called an “easement”). Such a title is delivered to you by appointment of your majesty the King, on parchment, with a seal and a signature. Nobody else can use it but you because your name is on it. Does this mean nobody will ever traverse the road, never to go fishing in the stream? No, but they will all be trespassers.

In this example, the tokenized access to your NFT content file (the link to the file is *on chain (glossary, 14)* and encoded in the token itself) is like the access to the mountain stream to go fishing. Only you legally possess it. Because the King owns the woods, you are the only one with the legitimate

key to this content. Let us now look at the seven-step process toward full NFT ownership in more detail.

## Title

Your NFT has a *title* (*glossary, 9*), which is a certificate of the first ownership, whereas once it is sold, the certificate of the recording of the transfer of the ownership can be considered as a *deed* (*glossary, 10*).

The blockchain authenticates the minting with an electronic signature (upon first publishing the NFT), and thus, grants the title. Blockchain tokenization makes the authentication of the transfer of this NFT ownership in the form of what we could consider to be a digital deed.

The reason we are using the legal metaphors here is to show you that, indeed, ownership of NFT tokens can follow in the footsteps of the same principles as are already well established for regular physical property so that you can become more familiar with your tokens as a form of property.

## Property rights

As related prior in [Chapter 2, Ownership](#), in our gold rush metaphor for NFTs, staking your claim by driving a real stake into the virgin grounds in the Yukon would be considered “possession” (your crypto wallet NFT code), whereas obtaining a “title” to the land you claimed (the code in the blockchain ledger that confirms the minting) would be the government certificate issued (or in the case previously the deed itself from Klondike Big Inch Land Company who already owned it) that would give you the mining concession.

Now, you will have the necessary land deed that allows you to mine gold. Or to mint NFTs because you tokenize, and everything is recorded. In other words, the importance of these examples is that *you need to first establish your NFT property rights before starting the hunt for digital gold*. The legal metaphors enhance our understanding of how NFTs operate.

Once you have the proof and evidence of the transfer of land by deed, you are now ready to own the gold you find there. The gold in this metaphor in the NFT content is that you have established a property right. You can freely mint NFTs and sell them, which will allow you to claim copyright, the right to sell your NFTs, and license them out for royalty fees.

Be careful because, as mentioned in [Chapter 2, Ownership](#), copyright and licensing rights should be strictly encoded into the smart contract so that they appear *on-chain*. The property rights will not transfer automatically upon an *on-chain* sales event but will need to be guaranteed and spelled out in the attached smart contract. There are different versions and possibilities for copyrights and licenses possible in smart contracts.

You do not want to purchase an NFT, thinking you can use it for commercial purposes when all the NFT does is give you the right for personal use. Likewise, NFTs can be transferred with or without the right to copyright, with partial copyright, or with the right to copyright, where the original owner receives a part of the use fee on each subsequent commercial use. Such different possibilities are legion, and it all depends on the *on-chain* smart contracts that are part of your NFT.

## Ownership

Since NFTs are in the *legalverse* ([glossary, 4](#)), it makes the transfer of ownership of digital art possible.

Blockchain, tokenization, authentication, provenance, title, possession, deed, and transfer of property. All these things are necessary. The last thing we are concerned with here is the payment in actual cryptocurrency, which in the case of NFTs, is usually Ethereum. What we are interested in is not the actual sale but what happens on the blockchain because it is always *an exchange of values*, as this is *Web 3.0* ([glossary, 1](#)).

Please understand that the blockchain allows us to exchange *value*, whereas the internet itself only allows us to exchange *information*. NFTs, hence, will make private ownership (and thereby also more privacy) of digital information possible. For each sales transaction of an NFT, there is some kind of electronic deed that is coded in the ledger that is hiding in the spreadsheets on the blockchain publicly available to all.

The blockchain is the great hall of records that makes owning digital content possible.

## Digital gold

Finding and striking digital gold relies on full digital ownership.

So that your NFT may be transferred as property (an exchange of digital asset value from one person to another)—and not just as internet content (information exchange)—full digital ownership is possible. This way *only you* can exercise ownership rights over the created work. The creative work is now yours alone since you have the proof of the original creation in your hands in the form of your minted NFT.

In other words, you can now legally claim digital content information for yourself in the form of digital property.

What is happening here from a legal and financial perspective is that an entirely new *asset class* (*glossary, 14*) and a new type of asset are currently being created. Therefore, everyone is hammering and digging away at it like gold, as it has now become possible to own and sell digital (financial) assets and goods. This is where this chapter really begins, with NFT transactions in the metaverse.

## [Scarcity and market making](#)

One unique financial feature of NFTs is, of course, that because they are unique (non-fungible), they create scarcity in the market. Therefore, there is a market and a price for them (once ownership is established). But notice that if NFTs could not be owned, to begin with, how would it be impossible to trade them. It is because of these features that different NFT markets have been developed. The nature of NFTs makes it possible for such marketplaces to exist. We can now be trading unique pieces of digital code (with the content file attached) *on chain*. We can create a marketplace. Our creations, digital or not (IRLs), can be tokenized and now enter the virtual marketplace:

The following is an example of a limited variety of different marketplaces for existing NFTs:

- Digital artwork and galleries
- Music, sound bites, sound kicks, and loops
- Event tickets
- Digital wearables, virtual fashion, and design
- Gaming, game skins, and other in-game items
- Sport game moments



- Video snippets
- Digital land
- Trading cards
- Collectibles
- Memes

Please note that in every marketplace previously mentioned, ownership of the NFT is key. In previous years, many platforms had made it possible to purchase in-game items or art, but that was happening on centralized servers where the platform, game, or application itself was granting you a temporary license to use things on their platform. Today with NFTs, where decentralized blockchain technology gives you the ability to mint, own, and trade, it is a huge game changer.

With NFTs today, you can now actually own the item yourself in full or in part, and you can dispose them at will in the marketplace, and in many cases (see later chapters in this book), you can take them *off-platform* (*glossary, 15*) because they are sitting on the ETH blockchain. This is a big development because now a real open marketplace can start to exist for digital goods and digital assets. A new *asset class* has arrived. It is NFT trading and is not regulated *yet* upon the publishing of this book. So, all join the Gold Rush!

## Rarity

For an NFT to be truly scarce, it needs not only a unique token but the content in the NFT also needs to be rare and original. Please distinguish the uniqueness (and scarcity) of the token from the rarity of the content of the NFT because these are two different things.

A recent lawsuit accuses the seller of a rare *Pepe NFT* to simultaneously giving away another 46 copies of the same artwork right after the auction after the buyer paid half a million dollars. The seller was accused (and maybe rightfully so) of thereby devaluing the artwork. The problem, in this case, was that the original 100 practically identical pieces of this Rare Pepe were minted. A so-called limited edition.

So, this particular token was not as scarce as was originally believed or perhaps advertised. It is one thing for only one person to receive the title and

URI code that proves your ownership, but indeed it is quite another to then have 99 other pieces of similar code and content that virtually give you the same result. The Rare Pepe, in this case, was, therefore, not so rare at all, and it serves us as a great example of why ownership and uniqueness of NFTs would allow for great trading in digital art. That is—if also the content files are unique and original creations. Unique token plus original content for great NFTs make.

Perhaps we could say that it was Andy Warhol in the sixties who first started playing and toying with the idea of making new creations out of—hold your breath—*original copies* (*glossary, 16*) when he created his infamous *Campbell's Soup* (1962) work of art. In this seminal work of modern art, you will see a collection of cans of Campbell's Soup lined up, all looking frighteningly similar (see the image in [figure 1.5](#) in [Chapter 1, Introduction](#)) despite every can being slightly different with a different taste marked on the label. Each can be, in fact, a different type of soup, and there is one that is “very rare”, and the label has an additional label run through gold color, which says that it is “new”.

This is a fantastic example to compare to NFTs today, 60 years later, because we see similar minted collections where all collectibles are rare, but some are either very rare or even super rare. Add to this that Andy Warhol subversively and deliberately broke the original copyright and trademark of “*Campbell's Soup*” (the brand owner), thereby gaining notoriety and attention, and you will realize how much this type of artwork resembles today's digital art in the form of NFTs. Only art can do this type of avant-garde experimentation with different concepts at the same time and call it “modern art”. In this sense, all the NFT artwork collections are most definitely an originally “copied” products of our day and time. Nothing is original, that is, as long as it is different and new.



*Figure 3.2: Web 3.0—Andy Warhol (NFT photo)—master of the original copy [2](#)*

Moral of the story: When creating unique and scarce digital assets, try to be as original as possible so that rarity and super rarity can be achieved. But not

without first creating a collection of one kind or the other. In our examples, note that all soup cans were slightly different in the artwork, whereas in the court case about the *Rare Pepe* (*glossary, 17*), there were 99 others that were identical. Andy Warhol's example from the art world should teach you that it is not good business to make identical copies and that it is best to distinguish carefully between uniqueness (of the token), scarcity (in the markets), and rarity (of the NFT).

You will need a combination of all three to succeed with your NFT Gold Rush.

## History

It serves the discussion on NFT transactions well to first give a brief historic overview of NFTs:

- Buying things in the digital world starts on centralized servers with video games where you can purchase in-game assets to upgrade operations in-game in the early 2000s (*Second Life 2003*).
- The first real NFT dates back to 2014 when artist *Kevin McCoy* traded an NFT called "Quantum". But it is done on the Bitcoin chain, and Bitcoin is not the right type of crypto protocol to trade or create NFTs with.
- In 2015, **Ethereum (ETH)** came out as a blockchain-based cryptocurrency, and its protocols allow much more liberty, which makes it easier to start creating NFTs and smart contracts. Distributed ledger technology will make NFTs now possible.
- In 2016 you see the first *Rare Pepes* traded on a platform called Counterparty, which is a platform still based on Bitcoin.
- At the beginning of 2017, the *Rare Pepes* make the definite and final shift to the Ethereum protocol. This is really the moment where NFTs will start taking off. Benchmark.
- Around that same time in 2017, you will then see peer-to-peer decentralization with the beginning of the first real digital NFT marketplace for *CryptoKitties* (*glossary, 18*) and *CyberPunks* (*glossary, 19*).

- Different NFT marketplaces started popping up in 2018 because you could then claim digital art for yourself; a large movement toward a marketplace for digital items begins as ownership of NFTs becomes possible.
- In 2019, NBA Top Shot launched allowed in-game licensing for the personal use of their famous “game moments”. They used their own cryptocurrency, and you cannot take your “property” off the site to sell it somewhere else or even use it for commercial purposes. This is a limited form of ownership, but it heralds NFT’s global acceptance.

The rest of the story you probably know, but it is important to know how fast this development occurred and that today in a five-year period of time, NFT markets have become ubiquitous because of all the ownership and financial transaction possibilities. Digital financial assets can now be bought, sold, created, pitched, leveraged, loaned, borrowed, displayed, gifted, and so on. In the future, all the different options for these hot properties will probably lead to some type of financial (if not legal) regulation. It is a Gold Rush, alright.

The trend worldwide is toward open marketplaces and not toward closed centralized servers that only grant a license for personal use. Especially since 2020, when for two years, much of the world population was sitting inside their homes in lockdown where they had plenty of time to mint, trade, and sell NFTs on newly developed open market platforms—and write books about it.

Please notice that the underlying crypto of the most effective open NFT markets has been Ethereum (with three different protocols ERC-20, ERC-721, and ERC-1155) because it makes creating and minting NFTs effective while at the same time, you can easily attach smart contracts and link content files. Nevertheless, many platforms have created their own cryptocurrency on blockchain to offer NFT services. If you create your own crypto token, you may make it more easily adjustable to all the features that NFTs need, as the Ethereum protocol itself was first created and written as one for currencies.

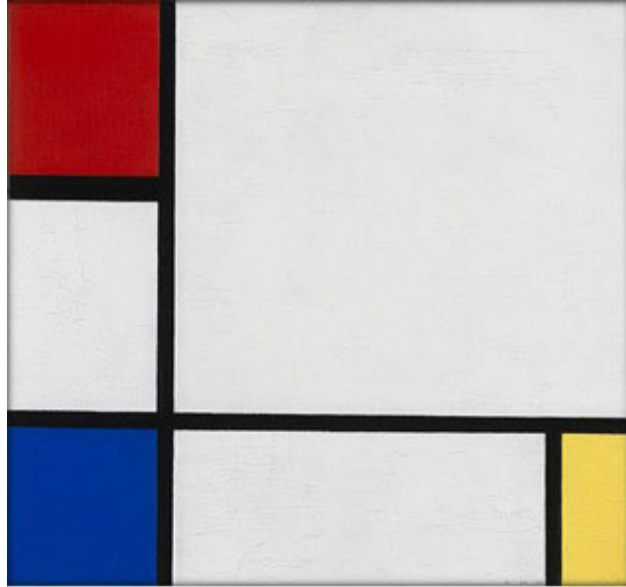


*Figure 3.3: Cyberpunk #3100 originally from June 23, 2017 [3](#)*

## **Fractionalization**

One of the interesting legal and fintech features of NFTs that one should not underestimate and that needs to be mentioned here is the fact that NFTs allow for the fractionalization of both digital assets and IRLs. In other words, the smart contracts written into the blockchain allow for only the partial selling and trading of creative work. You can now break up your digital asset into many smaller parts and sell each part individually.

In the same way, you can buy shares in a company today, and it is now possible to collect and own the different parts of a famous piece of art (IRL). Let us say a Mondrian painting is fractionalized by NFTs (IRL) into 25 parts, each one granting partial ownership of the original painting (plus copyright for commercial use). If this is the composition in Red, Yellow, and Blue printed here, then perhaps you could purchase all the different parts that pertain to the blue part of the painting, collect those, and thereby gain the commercial use of that typical distinct color and style. Who knows, it will make you rich!



*Figure 3.4: Web 3.0—owning the blue part of a Mondrian only [4](#)*

Fractionalization allows investors, sponsors, and speculators to participate in owning the digital asset, or in the case of our example, an IRL. People who would otherwise not be able to afford real expensive artwork, a precious collectible, or a work of high design can now participate in owning something precious. If companies can do it by handing out shares on corporate ownership, why not do the same with precious objects, antiques, and art. The potential of this development is far-reaching indeed.

## [NFT transactions](#)

Here, we will now introduce the different forms, uses, and applications that your NFT may have in the current state of technology, law, finance, and commerce. It is an important list, so please read it carefully; by no means is this list exhaustive, as this is a developing field of innovation.

## [NFT as property](#)

NFTs are digital goods, digital assets (or IRLs) that can be owned as property, as we discussed at length before. Because of the ownership rights, they can also be sold and licensed. Which means you can obtain a royalty fee for someone using your NFT. Still, through smart contracts, you can decide either to retain or to sell the copyright. But much of this has been

discussed in [Chapter 2, Ownership](#), and we have seen that this led to the development of NFT marketplace platforms.

## **Fractionalized sales**

As we have discussed in the preceding paragraphs, NFTs allow for fractionalization, which makes a whole new series of types of transactions possible.

## **NFT Escrow**

In an NFT *escrow account* (*glossary, 20*), you can trade or pawn NFTs, use them as collateral for a loan, or even use them directly as a form of currency doing transactions for goods or services. All this is possible within the scope of a smart contract escrow account. The NFT escrow accounts make lending, pawning, trading, and collateralizing NFTs possible. You will be able to make major purchases with NFTs this way or perhaps use your NFT to obtain a loan. The transactions possible here are legion: lending, collateralizing, pawning, and trading off-platform (the NFT is not held on an NFT platform but within an NFT escrow account).

## **Warranty/guarantee**

NFTs as a form of certification clearly made for an ideal lifetime or short-term product/service warranty/guarantee. It is very simple to tokenize the warranty or guarantee (and perhaps even insurance) as a contract in the form of a smart contract and then attach this to a product in the form of an IRL or as an NFT as a part of a digital service contract. Because the warranty or guarantee sits on the blockchain, it will easily follow the provenance of the life of the product (IRL) or service or that you may wish to attach in the form of an NFT. This market seems little developed at this time but may be an excellent idea for entrepreneurs who wish to develop it in the near future because much of the warranty/guarantee business has always been about proper certifications and solid documentation.

## **Currency**



Well, before there were NFTs, there were—cryptos. They have been around since 2008, so they have a jump start on their NFT cousins by ten years. And they are well developed at that time in internet history. However, as we have previously described, the internet is moving from a user and content-based development (*Web 2.0*) rapidly to a place in cyberspace where value exchanges (and even property) also have become possible as a result of blockchain technology (*Web 3.0*). Web 3.0 involves cryptocurrency. As of late, there is a movement toward a *legalverse* now that we have NFTs.

However, have you ever considered that one could *use NFTs themselves as a currency* and start using them as a means of payment. Today, we can start using unique non-fungible tokens as a payment mechanism. Of course, you could hold them in escrow and, that way, use them as a means of payment, but why not swap your most recent *Bored Ape* for someone's yacht directly peer-to-peer.

Again, this can be done in the NFT escrow account. Yet, NFT-based payment services will probably become a part of the future. An NFT itself, and in its own right, has all the hallmarks of a currency. They are unique, have value, and can be used as a means of payment. In addition, they have a single certified identifier. This covers all the elements of what is considered traditional money. The drawback would be the stability of the NFT price in the markets.

## [Investment](#)

NFTs are a new asset class and thus form a new way to invest. But are they valuable, and how to measure their value?

Investors like full authentication and proof of provenance that NFTs make possible. Also, the value of the asset in the market can quite easily be gauged and measured on different NFT platforms where the market price—and all the previous transaction prices—are nicely listed. Nevertheless, there are several pitfalls to NFT investment that one would need to consider. You will be able to read more about it in [Chapter 11, \*NFT Risk and Fraud\*](#), on risk assessments later in this book.

Another point is regulation because eventually, most asset classes when they are used for speculation, may face a regulatory environment. We saw this with **Initial coin offerings (ICOs)** (*glossary, 22*), which at one point were very popular but were later forced to securitize as part of being a new asset

class. Security is a tradable financial instrument and is subject to regulation. It becomes a part of regulated financial markets.

However, why digital art would have to be securitized is anyone's guess! Andy Warhol does not approve, and neither does the NFT creator artist *Beeple*. So, for now, NFTs are free of any regulations, and one should take advantage of NFTs as a proper investment vehicle.

The problem with financial speculation is that regulation is often necessary when real market value can no longer be guaranteed because people start buying and selling not because there is a real need and interest but because of usury and graft. But like for real art, the purpose of digital art is usually the art itself (*l'art pour l'art*) and not investment or speculation. For now, investing in digital art NFTs will prevent you from running into market regulation. We do not predict regulators coming after Bored Apes held in storage any time soon, as the markets are currently skewed and wild enough as is.

## Sponsorship

If you create something that is yours, it is your creation. If you have something collectible, or if there are special moments or experiences to be shared, it works too. But always use an original creation, an original work, an original collection, or an original experience before you put an NFT on it. One cannot claim the things that belong to another. Despite Andy Warhol's odd advice to make something original out of copies (which is quite possible without being pastiche).

With NFTs, people can own either the whole or a part (fractionalization) of your creative work, your experiences, or your collectibles; it will become possible for others to sponsor you or the things you have created.

With the help of NFTs, people can now own and partake in your life or project with or without the right to copyright or license. Of course, you keep those for yourself.

Needless to say, NFTs are an excellent way to allow sponsorship of, for instance, struggling artists. You can create a work of art, fractionalize it and put an NFT on each of the pieces. You then add a smart contract on the NFT saying you keep the copyrights for yourself but will sell off the ownership in

small bits and pieces. In return, your sponsors receive a piece of art or a new piece of art whenever you have the time to create something for them.

## Fundraising

This type of sponsorship example, as described in point seven, is not limited to struggling artists and students, of course, but could easily apply to the ability to organize fundraisers for a *sports club* that sells off game moments of exciting games or images and sounds of the matches are played, together with Merch and ticket NFTs.

For both the Sports Club as well as the Church examples, the NFTs can indeed be made both rare, scarce, unique, tradable, and collectible. Therefore, they can be sold to raise funds or ask for different forms of sponsorship that will support the organization. The examples here are legion. NFTs are the ultimate fundraiser option. Fundraisers for the local church or temple who will learn how to create Merch NFTs (IRLs, see later chapters) or how to place NFTs on antique collectibles (IRLs). Why not put NFTs on the annual Christmas service in the form of digital Photo NFTs to simply ask for a church contribution. All this is possible.

Charities, foundations, NGOs, sports clubs, associations, and even political parties can all start using NFTs. All you need to do is start with a set of collectibles and offer their ownership to your members, clients, staff, sponsors, or other stakeholders. And voilà, there you have it, they too will be joining the Gold Rush.

## Collectibles

There are many more NFT transactions possible. This is not an exhaustive list, but we do want to mention that for many types of transactions to be effective with NFTs, you are best off creating or minting what are called collections or limited editions. This has something to do with market making.

Compare it to a jewelry collection. If you are creating one single piece, then you may or may not sell it eventually, but if you create a series, a collection, or a limited edition, then people get interested and want to know more.

This was Andy Warhol's insight, as we discussed previously, but if you can do this with NFT collections or limited editions, it will starkly influence the

market you are making for your creation and handsomely influence the price once you have some items in the collection that differ slightly from the others. People like to be a part of a collection by buying one or more items precious items. In fact, Tiffany's recently offered a limited edition of NFT-inspired jewelry. It sold out in twenty minutes and raised 12.5 million dollars.

So, when creating or minting NFTs, remember that the best chance you must hit markets is to have collections that include scarce original items with different grades of rarity. Create a collection or limited edition that everyone wants and that everyone talks about. Your collection may become the talk of the town.

## Conclusion

This chapter discussed NFT transactions from a legal, financial, and marketing perspective. It serves as a further introduction to later chapters in the book, which will discuss in more detail, and in technical details, what NFTs are out there, and in which markets they are operating. You will have learned the legal and financial technology background of NFTs by now.

In the upcoming chapter on smart contracts, you will read about the final piece of the puzzle in an understanding of how NFTs operate before we introduce you to the world of IT and the big wide world of the further metaverse in which people are buying and selling NFTs. Thus, far and no further NFTs as a digital (financial information) asset. The Gold Rush has begun!

## Glossary

1. *Web 3.0*: A blockchain-based decentralized internet where value transaction is made possible
2. *Web 1.0*: A simple 101 information exchange-based Web that allows for content creation
3. *Fractionalization*: The dividing of digital (art) assets into many different parts, each part as its own NFT
4. *Legalverse*: Digital legal space that exists because blockchain makes value exchange and authentication in cyberspace possible

5. *Minting*: The process of NFT tokenization
6. *Super ledger*: The transparent blockchain records which perfectly register and authenticate for each event taking place
7. *Modus Operandi*: Latin for “the way it works”
8. *Fair Use Doctrine*: A highly important concept under Common Law which is an exception to copyright when, for instance, the use of content is allowed if for educational purposes and not commercial purposes
9. *Title*: A proof of public registration necessary to own something
10. *Deed*: A proof of legal transfer of a title to a property
11. *Transaction hash*: A string code you receive when transferring NFTs
12. *Off-chain*: Off the blockchain
13. *On-chain*: On the blockchain
14. *Asset class*: Fintech term indicating a group of tradable financial instruments or securities that can be valued as an asset on the balance sheet
15. *Off-platform*: The ability to take your NFT from one platform to the other; hence, *off-platform*
16. *Original copy*: (sic)
17. *Rare Pepe*: Refers to Pepe the Frog NFTs, one of the earliest NFTs in existence
18. *CryptoKitties*: Very early digital art NFT type featuring a collection of kittens
19. *CyberPunks*: Famous early digital art collectible NFT type
20. *Escrow account*: Account held by a neutral third party rather than by yourself
21. *Web 2.0*: A user and content-based internet
22. *ICO*: Initial Public Coin Offering (offering and releasing cryptocurrency on the market)

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<sup>1</sup> Reverse side of a Klondike, Yukon Dawson Creek Land Deed from 1955, many years after the Gold Rush this local land is still selling, and it is an example of the power of ownership (courtesy Wikipedia public domain).

- 2 The iconic Andy Warhol (in the form of a photo NFT that is for sale), master modern artist before his time, who first realized that copying things could be both profitable as well as “original” (courtesy fair and educational use).
- 3 Cyberpunks were some of the first NFTs out there, and this one is now considered to be worth more than US\$ 7 million, whereas it was initially claimed for less than US\$ 100 (fair and educational use courtesy).
- 4 This Mondrian is from 1927, and its abstraction seems to lend itself perfectly to the business of fractionalized ownership of artwork—new transactions are born.

## CHAPTER 4

# NFT Smart Contracts

In the previous chapter, we first introduced the tokenization process on the blockchain and explained why the legal and fintech angles of NFTs have the power to make NFTs into digital assets, which is something that would be impossible without the brain and operations manual of the token which is anchored in what is called a smart contract. Do not imagine this resembling a standard physical legal contract in which specific words and put together carefully so that together they may come to constitute a legal transaction, demand, claim, title, or agreement, but rather imagine different strings of operational code telling your token what to do, what not to do, and when or when not to do it, in the form of “*if not A then B, and when B, then (not) C*”, and so on.

Such contracts are based on certain trigger events. And the beauty of coding such events before recording (rather than writing them down in words, like, for instance, this book) makes that many different types of contractual agreements can be merged into one. The classic example of this is an NFT that combines both the option of purchase of merchandise and allowing you to select seating tickets into a ballgame stadium while at the same time offering you the digital ownership of certain game moments. Try to write *all that* with legal mumbo jumbo into words on a piece of paper into one single contract printed on the back of a ticket. It is not possible. But by coding your NFTs properly, it is. Voilà, there you go!

### Structure

In this chapter, we will discuss the following topics:

- Positioning of NFT smart contracts
- IT perspective
- Steps of a smart contract
- Self-execution

- Contract changes
- Benefits
- Types of NFTs

## Objectives

The main objective of this chapter is to make you understand the importance and characteristics of smart contracts. At first, it may seem a little confusing, but by the end of the chapter, you will have a stronger and clearer grasp of smart contracts, even though much research remains to be done. Please understand that *smart contracts* are still a rapidly developing topic in the vanguard of where technology crosses the fields of finance, law, marketing, and general economics, if not culture, and that, therefore, much of it remains in the proof-of-concept stage. This means more work and understanding of the matter is yet to be worked on, some of which you may want to do for yourself beyond the scope of our NFT handbook.

Besides giving a small historical overview of how and why smart contracts have developed; therefore, we like to give you the best possible introduction to what a smart contract is from our direct practical experience of working with them. This, in the form of a practical IT example, will give you different phases and steps needed to create and establish a smart contract. Once that is done, we cannot skip over the self-executing because it explains why they are so useful as a part of an NFT.

This chapter ends by giving a list of the benefits of smart contracts and a long list of the types of smart contracts creating NFTs that are out there at this moment. But this is not an exhaustive list. There is a good reason for covering the understanding of smart contracts at the beginning of our book because, for further reading of the technical and marketing chapters, it will be very helpful if you first understand how NFTs are regarded from a Fintech perspective.



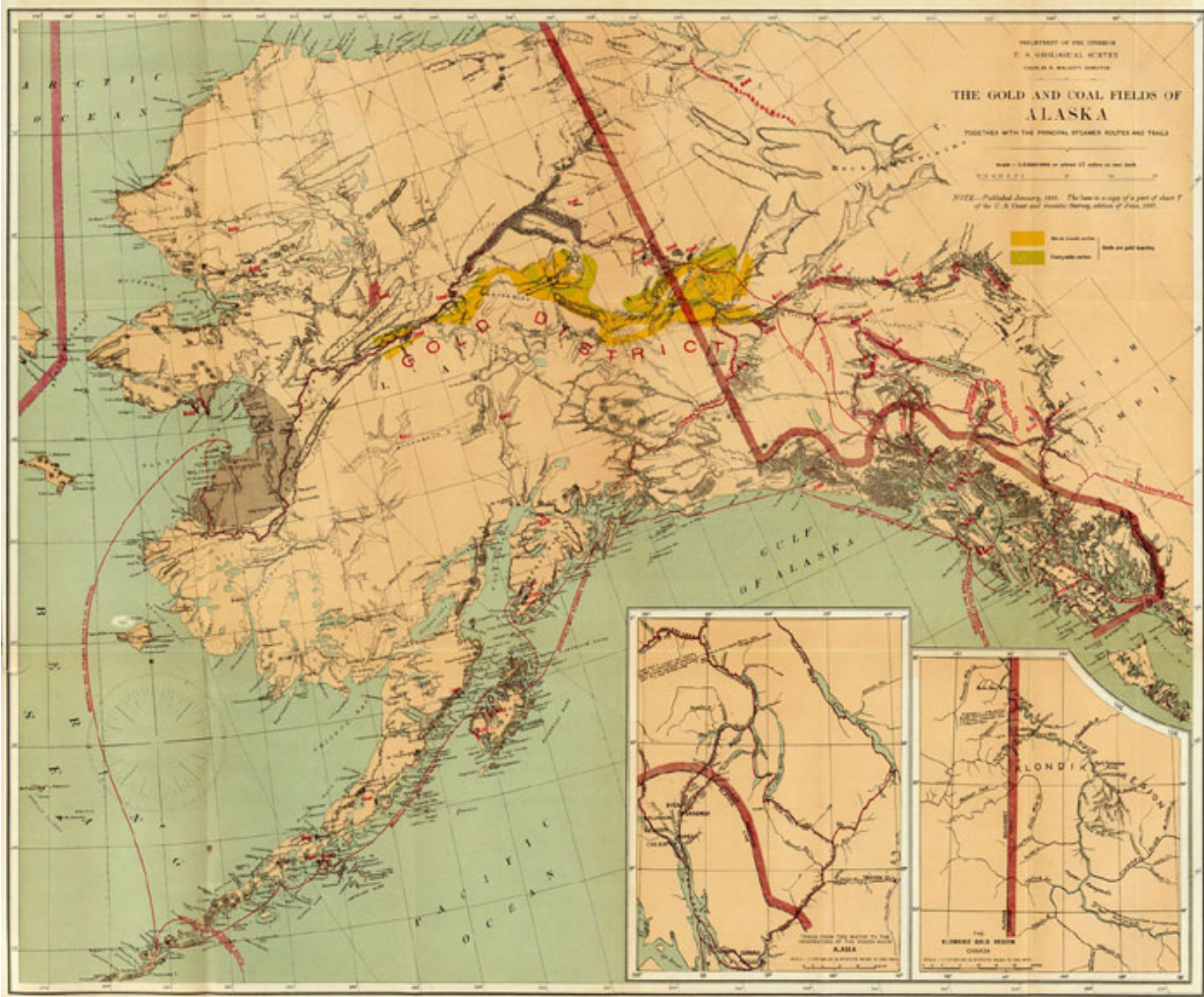


Figure 4.1: Map of the Goldfields from 1898 [L](#)

## [Positioning of smart contracts](#)

Once you have tokenized and have your non-fungible token sitting on the blockchain with a content file with your creation linked to the crypto location, you will be ready to attach what is called a *smart contract* (*Glossary, 1*) which is going to instruct your NFT what to do and what not to do. Now that you have established an NFT as a digital asset in your electronic wallet, mined your digital gold from the ground, and minted it to perfect, you must decide what are the functions of your token, and the smart contract is the operations manual that is going to tell you that.

Well, it is the *self-executing* smart contract that is responsible. There is not only a digital information asset in the token, but indeed an NFT is much

more, as this token is also established to include a series of *self-executing* (*Glossary, 2*) smart contracts with coded instructions to your digital asset NFT. The smart contract is the brain of your NFT and rules your asset from inside the token. It tells the token how to behave and what to do.

For instance, the smart contract will see to the proper execution and direction of the content of the NFT. This smart contract is a *self-executing* string of codes that tells your NFT what to do and is attached to it. It is the “agent” or the “driver” of the NFT but not the content itself. The content itself is a separate file that is stored *off-chain* (*Glossary, 3*). By contrast, *on-chain* (*Glossary, 4*) is the value of the NFT stored in the token itself. Because it is on the blockchain, the NFT is allowed to exchange values independently and peer-to-peer with what the smart contract decides, dictates, instructs, or executes.

In order to get a better grasp on this process, it is important to know more precisely how such a smart contract is put into place and what exactly it does. Therefore, the first part of this chapter will aim to cover the smart contract from a practical IT perspective.

The introduction of the topic will then be followed by a list of different types of smart contracts that are currently out there, and it may be then that you will realize there exists a very large variety of NFTs that become possible because of smart contracts. Mind you, it was only a few years ago, from the time of the publication of this book, that the first Ethereum protocols made it possible for the smart contract to adequately write self-executing code into NFTs. The natural progress since here is impressive because:

- First, there is the internet, where you can *exchange information* in the form of **Web 1.0** (*Glossary, 5*) starting around the year 1990.
- The **Web 2.0** (*Glossary, 6*) *user-generated content* became possible, which is a process that started around 2001, and this is when logically social media first started developing.
- Subsequently, in the year 2008, the blockchain then awakened the Kraken (a metaphor for the deep sea monster that is Bitcoin), released from the deep of the Web, which allows an *exchange of values* (**Web 3.0.1** [*Glossary, 7*]) because it involves blockchain technology and which from inception starts functioning as a new method of peer-to-peer payments.

- But much more is possible because that event was followed by the development of Ethereum in the year 2015, which allows the additional coding of certain protocols added into the cryptocurrency written in the form of smart contracts, which brings the possibility for such code to go *on-chain*.
- In the years 2016 and 2017, NFT marketplaces started developing for the first time, and we like to call this **Web 3.0.2** [Glossary, 8]). It was the beginning of what some call the *legalverse* (Glossary, 9) today.
- Smart contracts instructing NFTs what to do now started evolving in many ways: digital art NFTs, NFT product certificates, NFT diploma certificates, Real Estate NFTs, *merch NFTs* (Glossary, 10), and so on et ad infinitum.
- Digital private ownership and IRL ownership now become facilitated through the use of NFTs to the point that privately owned and decentralized NFT communities are created online (**Web 4.0** [Glossary, 11]), which moves digital development away from centralized servers held by companies and governments towards decentralized and a fully privately held ownership. This is the point we have reached at present.
- But, let us speculate about the future because all the elements are there to make *private wealth creation in cyberspace* (**Web 5.0** [Glossary, 12]) in the metaverse now possible.

We will witness the unexpected return of the Venetian *Fondo* (Glossary, 13) (that classic Italian family fund that goes back to the time of the renaissance), which will allow all people to build *digital dynastic wealth* through the ownership of property in the metaverse.

Once free and unencumbered ownership of digital assets and IRLs is guaranteed, such a development will become inevitable, and the democratization of the internet will be complete.

Welcome to the NFT Gold Rush. A world of digital contracts, ownership, and privately held digital assets.

## [IT perspective—smart contracts](#)

Smart contracts are a feature that makes the blockchain programmable. For example, the Ethereum blockchain supports smart contracts, but the original Bitcoin blockchain did not support them until the upgrade in 2021. A smart

contract is a piece of code that resides on the blockchain and executes a program when all preconditions stipulated in the smart contract are met. Smart contracts are used to automate the execution of a blockchain-related agreement and to guarantee that the expected outcome will be generated without any extra involvement of intermediaries.

When we are talking about NFTs, smart contracts are used to define the minting process as well as identify the nature of future transactions. This is the place where you can define certain key elements, such as the number of NFTs in the collection, the minting price, how many NFTs one wallet can mint, and so on. Copyrights, transfer fees, licensing fees, royalties, and many other accessory features are also encoded into smart contracts. Thus, depending on the type of smart contract agreement, certain contractual features will be encoded.

For a practical example, as we can see in the following figure reflecting our own project called **Gambit Chess Club (GCC)** (*Glossary, 14*), within the smart contract, we have the cost per one NFT minted as being 0.025 Ethereum, a maximum supply of 10K NFTs, and the maximum amount of items that can be minted by one wallet as being five. Those are some simple features, but they must be put in the smart contract.

Contract Name:	GambitChessClub	Optimization Enabled:	Yes with 1000 runs
Compiler Version	v0.8.4+commit.c7e474f2	Other Settings:	default evmVersion

Contract Source Code (Solidity Standard Json-Input format)

File 1 of 15 : GambitChessClub.sol

```
20
21 string public baseURI;
22 string public baseExtension = ".json";
23 uint256 public cost = 0.025 ether;
24 uint256 public constant maxSupply = 10032; //10000
25 uint8 private constant maxMintAmount = 5; // 5 - max number of items that can be minted
26 string public _contractURI;
27 address proxyRegistryAddress;
28
29 constructor(
30     string memory _name,
31     string memory _symbol,
32     string memory _initBaseURI,
33     string memory _cURI,
34     address _proxyRegistryAddress
```

**Figure 4.2:** "Gambit Chess Club (GCC)" smart contract on the Ethereum blockchain<sup>2</sup>

But how do smart contracts function inside the NFTs?

To understand it better, let us take a concrete example from the Ethereum blockchain. As a basis, we have the smart contract called GCC (*Glossary, 14*), and as an example, we take that we want to mint one NFT from this

location. This is the place on the blockchain where we created our collection of NFTs, which are 3D chess board pieces.

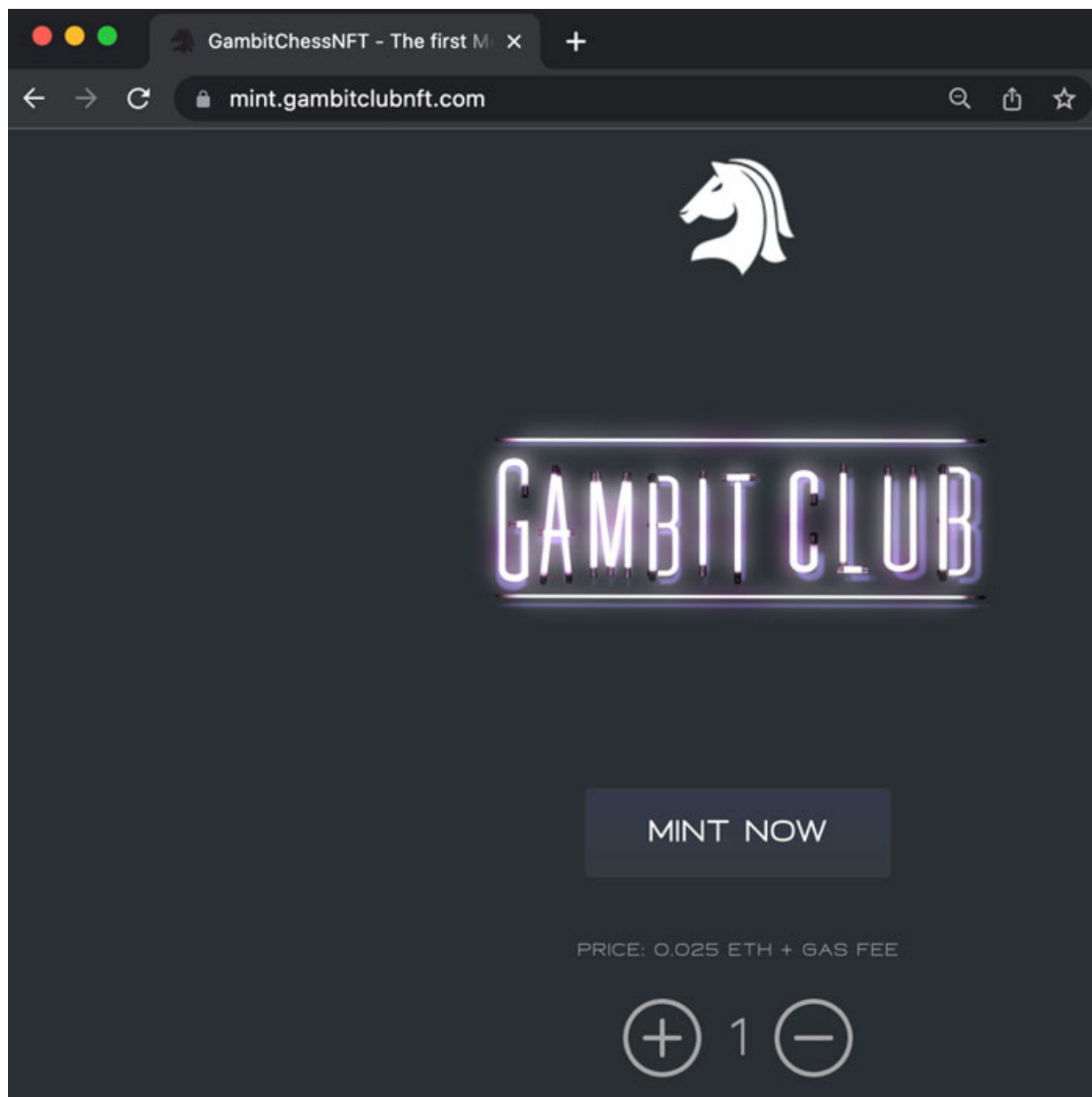
For most projects, one will first create a minting page where people may go and connect with your wallet and then further mint one or more NFTs (based on certain defined rules). This is like the Gold Rush mining location of the parcel of land for which you were granted ownership, where you are allowed to mine (mint NFT analogy) for gold.

Once you are on the minting page (example in the following figure), you connect with your wallet, which should have a minimum amount of Ethereum cryptocurrency (the price of the NFTs that you want to mint, plus the *gas fee* (*Glossary, 15*) associated with this sale—in our case 0.025 + around 0.006 gas fee, so a total of 0.031 Ethereum). You simply click on the **mint now** button on the minting page and will be prompted to confirm the transaction.

After this, an amount of Ethereum will be taken from your wallet, and an NFT token will be minted (your digital gold), which returns to the wallet from which the transaction was made. In other words, in return for the Ethereum you just spent, you receive an actual NFT token in your wallet. This is the gold you mined (minted).

Well, that is magic!

What made this transaction at all possible is the brain of the smart contract that sits *on-chain* inside the token location, waiting to be triggered by a certain “event” so that it can self-execute. That trigger moment came when you started the minting process and because the creative content (the 3D chess piece in our example) had been attached on a prior occasion *off-chain* but was directed fully tokenized *on-chain* in the form of a smart contract telling the content file what to do. All it took was this event (the minting transaction), and *voilà*, you have a real NFT sitting in your wallet instead of your Ethereum, which you now own and can sell according to the rules established by the smart contract.

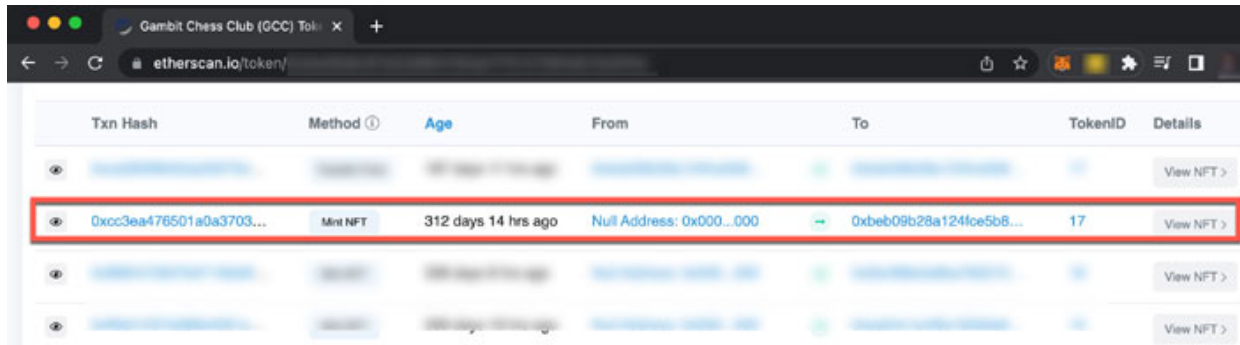


**Figure 4.3:** Minting page for “Gambit Chess Club (GCC)” [3](#)

Once the transaction is completed, you will be able to see the token in your wallet by either checking it directly on an NFT marketplace like *Opensea.io* or by checking your wallet with an Ethereum blockchain explorer like *etherscan.io*. The transaction is then recorded like the one in the following figure as an ERC-721 token transaction, where one of the GCC NFTs was minted by someone.

An Ethereum protocol (*ERC-721*) (*Glossary, 15*) was used to facilitate the NFT transaction, and this same protocol allowed for a smart contract to be

written into the token. The smart contract is the brain of the token. Upon the trigger event, the smart contract self-executed the transaction, so the non-fungible token plus the content file attached were transferred to your wallet.



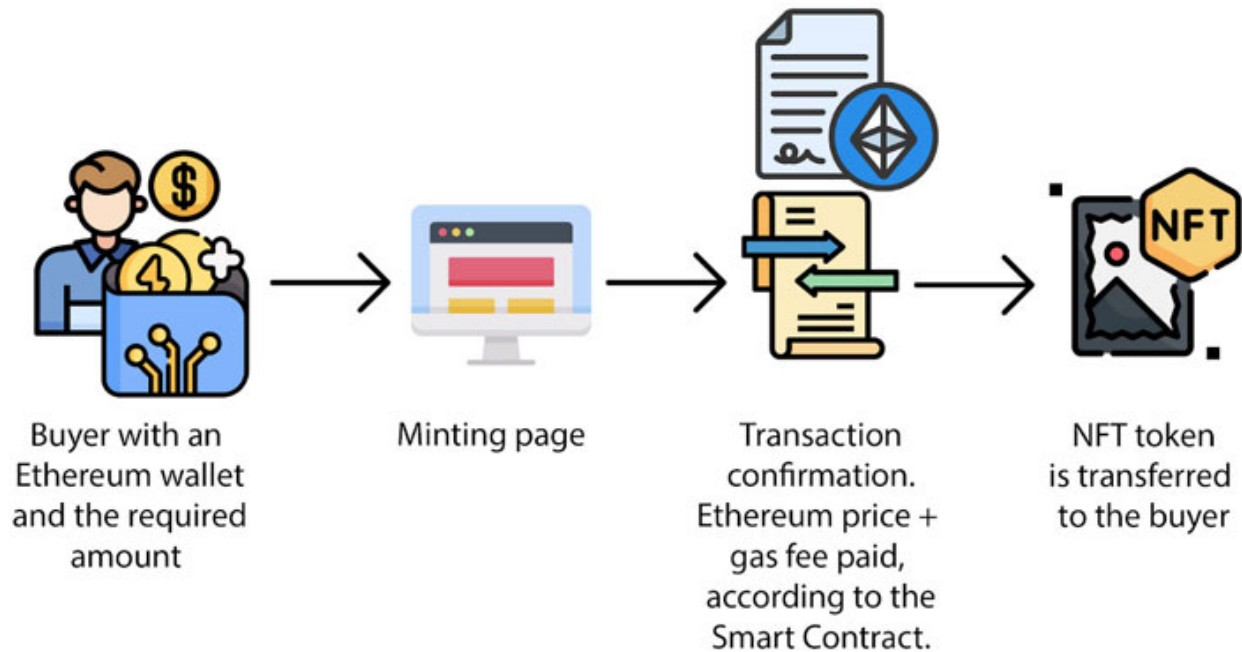
Txn Hash	Method	Age	From	To	TokenID	Details
0xcc3ea476501a0a3703...	Mint NFT	312 days 14 hrs ago	Null Address: 0x000...000	0xbeb09b28a124ce5b8...	17	View NFT >

*Figure 4.4: Minting transaction for one of the Gambit Chess Club (GCC) NFTs [4](#)*

The following steps include the practical steps performed:

- Buyer has an Ethereum wallet with the required amount to mint one NFT and pays for the gas fee associated with the transaction
- Buyer goes to a minting page where one confirms the transaction, and the price and gas fee will be paid
- According to what was pre-defined and programmed in the tokenized Ethereum smart contract, the minting event self-executes the contract
- As a final step, after the NFT token has been minted into the wallet, it will be transferred, and a transaction will take place

## Smart contracts



*Figure 4.5: Steps performed in order to mint an NFT via an Ethereum smart contract [5](#)*

### The steps of a smart contract

From the preceding example, what can be learned about the different phases of a smart contract? This is how to set up your smart contract:

- **Legal phase:** A contract or agreement between two parties is reached or, as in most cases, well-defined in advance
- **Coding phase:** The agreement is made “smart”, which means it is digitally encoded
- **Token phase:** The new smart contract code gets attached to the non-fungible unique token (NFT) sitting in a certain blockchain location
- **Event phase:** Upon certain specific dates, times, or with the onset of certain events, the contract gives or receives instructions and functions as an agent for the NFT and may tell the content files attached to the token what to do or what not to do
- **Execution phase:** The contract (the process code) self-executes, and the public unchangeable records in the blockchain are, thus, updated, as



all ledgers worldwide get updated at the same time as perfect provenance follows the token

- **Settlement phase:** All users and interested parties, including regulators, can verify what happened as all is now part of the public record ledgers

## Self-execution

It must become clear to the reader by now that the magic occurs the moment there is an event that activates a smart contract which then reads the situation and subsequently digitally executes what needs to be done on the blockchain as per the pre-coded and pre-defined written instructions, with a content file linked and attached usually sitting *off-chain*.

But how does the self-execution of a contract function on the blockchain?

Once a transaction occurs—the event, there is an acceptance in the form of an electronic signature which activates the underlying token smart contract. Since there are coded instructions with a trigger mechanism hiding in the ledger spreadsheet on the blockchain, it means that a series of actions in the general form of *if Y then Z, and if not X then Y*, and so on will automatically execute, that is, self-execute. Because we are dealing with distributed public ledger technology, this means these actions are not just done in one location but everywhere throughout the distributed ledgers.

No, because of what is called *consensus algorithms* (*Glossary, 16*), the same smart contracts are activated everywhere *on-chain* at the same time.

In other words, such strings of code that trigger certain agreements are already sitting in similar templates across the World Wide Web (*www.*) in the public ledger of the blockchain. A sales contract in one country is very similar to those in other countries because we all can easily agree on what a simple sale constitutes and what are the basic elements of a (sales) contract. To put that in code and make it available to everyone publicly is not such a difficult task, not on the blockchain. In fact, it circumvents the issue of having to write in a (legal) language other than code, and therefore, makes it acceptable to all.

Everyone, regardless of language, may now be able to agree on the terms of such a coded contract because it is written in code and not in a certain language. At the same time, everyone can also agree to use blockchain

technology to access it. As there is only one such technology, you may see the immense value of this. If you think about the fact that such agreements transcend cultures, languages, lawyers, accountants, and your local Town Hall. Simply put, computer code is universal, and anything recorded on blockchain will be there forever.

## Contract changes

If changes to the smart contracts are nevertheless proposed, these will be verified instantaneously across the blockchain. This is why blockchain technology is so labor and energy intensive. Since the changes to such agreements are made *on-chain*, you will no longer need an application (let alone lawyers) to verify such contracts. There is no more need to read the changes of every single contract because blockchain was precisely created to be full-proof verification and certification of value exchanges in real-time.

In short, the smart contract templates are the same everywhere, and if changes are made, the blockchain itself will do the update.

Once an event happens, everything will be recorded in the public ledgers with an updated timestamp and electronic signature, and the status of your contract can be instantly ascertained with the click of the mouse. Your freshly minted NFT that is published has now become part of the electronic universe or has just been sold, as directed by smart contracts integrated into the token.

In general, under common law, for a contract to be legal and binding, there are generally five elements necessary:

- Offer (did someone offer to sell you an NFT)
- Acceptance (did you accept to buy the NFT)
- Consideration (for the transaction to be complete, it is necessary that in return for what is transferred, there is some form of payment in the form of something valuable [Ethereum in this case])
- Intention (did both the parties intend to buy and sell and make this contract)
- Capacity (you must be of legal age, for instance, or a company or organization that can legally make contracts)

From this simple legal definition and the practical examples previously given, by now, it should be clear to you that most simple, smart contracts will have the ability to *self-execute* and can be verified by means of tokenization with the help of blockchain technology.

For more complex contracts, however, like the writing and creation of a corporate charter, you will still need a lawyer, an accountant, or a notary. Not all types of contracts or agreements lend themselves to simple self-execution because it will be very difficult to write the code appropriately and accordingly confirm general legal principles for the complex contract.

However, contracts that can be written in process code for simple transactions are expected to be legally acceptable everywhere sooner. As they are already accepted in many places across the planet. And because basic elements of contracts, in general, are implemented while being completely transparent and verifiable, we believe simple, smart contracts will stand, that NFTs will stand and will be upheld in courts across the globe, and that self-execution will become a byword for many if not most types of transactions we are familiar with in the real world, but which are now going digital.

## **Benefits of using smart contracts**

There are various benefits of using smart contracts as follows:

- Speed
- No interruptions
- Accuracy and precision
- Decentralization
- Peer-to-peer
- Autonomy and independence
- Contract change updates
- Fully transparent
- Public record
- Public ledger
- Self-executing
- Cost-effective

- Impersonal
- Impartiality
- Cross-cultural
- Language independent
- Widely accepted
- Full proof and provenance

## **Different types of smart contract**

Smart contracts make different types of NFTs possible. The following provides a non-exhaustive list and serves as a general guideline to the reader of a selection of existing possibilities.

- Special privileges
- VIP access
- Entry or access ticket: ball games, movies, concert, museum, and fashion shows
- Merch contracts (IRL)
- Sale/copyright of sport game moments, concert moments, fashion moments
- Sale/copyright of audio loops, kicks, and soundbites
- Sale/copyright of video moments and snippets
- Sale of artwork or design
- Employment arrangements
- Payment arrangements
- Certifications
- Diplomas
- Authentication of products
- Sales coupons
- Digital or IRL collectibles
- Limited editions
- Real Estate transactions
- Trading

- Supply chain (authentication of assets)
- Insurance
- Guarantees
- Warrants
- Licensing

## Conclusion

These various smart functions of smart contracts and the smart processes that come with them mean an incredible added value to the NFT as a digital asset. It means that an NFT is not just a content file (as some people say), which can just be copied, but that the added value of NFT ownership lies in the fact that you have a token on the blockchain which has perfect provenance and by which you can assert all types of new transactions while integrating these functions of value exchanges with the exchange of information that first became possible with the inception of the internet.

Ponder that for a moment and join the NFT Gold Rush.

For it means that the metaverse/internet will mean to become much more than just an information exchange where big data is in control and that we are currently moving away from *Web 2.0* to *Web 4.0* at warp speed because private ownership and legal transactions are now becoming possible in Web 3.0.

There is a flux between the information exchange of Web 1.0 and Web 2.0 and the value exchange possibilities that came with the inception of the blockchain when Bitcoin was first released. One such possibility is called an NFT. This means that today because NFT ownership was the next development, a *legalverse* is rapidly developing, and private digital ownership will become an integral part of our future.

All this innovation starts with simple ownership and contract deliberations in-process code. As long as the unique tokens can be coded differently with smart contracts, the possibilities here will be endless.

## Glossary

1. *Smart contract*: On-chain code sitting in a token instructing the token what to do or what not to do

2. *Self-executing*: A series of actions triggered by a certain event through a smart contract, thereby “executing” the contract
3. *Off-chain*: not on the blockchain
4. *On-chain*: on the blockchain
5. *Web 1.0*: The internet, an exchange of information
6. *Web 2.0*: User-created content becomes possible by exchanging information
7. *Web 3.0.1*: Blockchain arrives and makes possible an exchange of values (as opposed to just information)
8. *Web 3.0.2*: Arrival of NFTs, and thereby the possibility of digital ownership and digital assets
9. *Legalverse*: The idea that internet and blockchain technology has a rather large effect also on what happens in law and legal process, technology is starting to effect the way people interacted legally
10. *Merch NFTs*: Originally game or concert merchandise (IRL), which is tagged by NFTs so that it becomes part of a package deal with your tickets and perhaps some digital moments of the event
11. *Web 4.0*: The integration of digital forms of private ownership into the metaverse
12. *Web 5.0*: Full peer-to-peer private wealth creation becomes possible in the metaverse, which will make both bankings as well as many government functions obsolete
13. *Fondo*: A family fund (originally, all Italian families had one, it is a financial concept dating back to the renaissance)
14. *Gambit Chess Club (GCC)*: Our own NFT project
15. *ERC-721*: Ethereum protocol frequently used to create NFTs
16. *Consensus algorithm*: In this case, similar contract process code is publicly distributed everywhere by blockchain technology (for example, the simple sales contract everyone agrees to)

## **Frequently asked questions**

1. **What is the function of a smart contract in a non-fungible token?**

It is a written process code *on-chain* instructing and directing an NFT on what to do and what not to do. It defines the NFT and functions as its brain.

## 2. **Why is it important a smart contract is on-chain?**

The token is not complete without the smart contract because value exchange could not take place through the blockchain without the tokens being to read what to do or what not to do.

## 3. **What does it mean that a smart contract is self-executing?**

It is an automation of the basic contractual principles of certain transactions, which will be performed based on a certain trigger event that activates the contract. And executes it.

## 4. **Is a smart contract actually legally binding?**

Since they are almost universally accepted, at this point, we would argue a positive answer to this question also because the simpler smart contracts hold all the basic universally accepted principles of regular legal contracts.

However, disclaimer here because even though we see more and more NFTs being tested by the courts of various countries, it is going to take years and years before the full *legalverse* will have fully been reviewed and tested by the actual legal world. The last word on this is not yet spoken.

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<sup>1</sup> Alaska Goldfields Map 1898 (courtesy US Library of Congress, public domain).

<sup>2</sup> Gambit Club smart contract code (screenshot).

<sup>3</sup> Minting page Gambit Club (screenshot).

<sup>4</sup> Minting transaction ledger (screenshot).

<sup>5</sup> Steps of the minting process by smart contract, diagram by NFT guys.

# CHAPTER 5

## NFT Tech Tools

Let us imagine we are back in 1898. You have heard about this new gold rush and have decided to try your luck. During your journey, you have managed to get different information about where gold is to be found and how some people were trying to mine it. But now that you have just arrived in Klondike, what should you do? What tools do you need, how do you use them, how does this whole gold mining process work, and what should you look for?

Well, you are in luck! We will help you. Welcome to the tool shop!

Here, you will find all the right “tools” and an explanation of how to use them.

In this chapter, we will understand what is a *blockchain* protocol and an NFT *token* and how they are connected. We will further see what are the most common types of blockchain for NFTs and then dive further into what is a wallet, how you create one, and what kind of fees you are going to pay for creating and trading NFTs on different blockchains.





*Figure 5.1: Minting NFTS in 2022: Gold miners during the great gold rush in Bonanza Creek, Yukon, 1896 [1](#)*

The comparison here is that the underground is the digital virtual world and that, just like today, back in those days, you had to understand how the mining process works, what tools you need, and how to use them.

## Structure

In this chapter, we will discuss the following topics:

- Blockchain as a basis for NFT
- Connecting to Blockchain: Wallet, Crypto, and Tokens
  - Wallets
  - Perfect Provenance: PoW (1) versus PoS (2)
  - Cryptocurrency
  - Non-fungible versus Fungible
- NFT tokenization

- Tokens I
- Tokens II
- Most common NFT blockchain protocols
  - Ethereum
  - Solana (SOL)
  - Polygon (Matic)
  - Tezos
  - Binance Smart Chain (BSC)
- Fees
- NFT wallets
- Tools

## Objectives

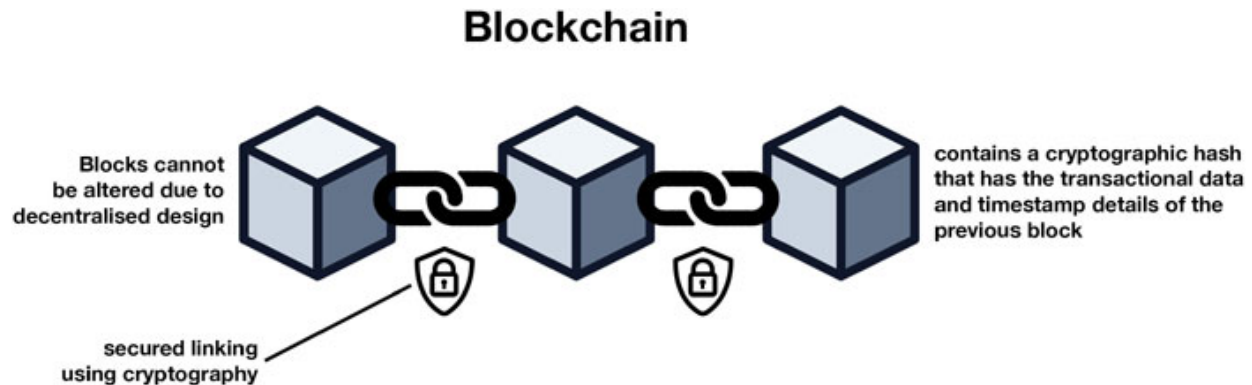
After reading this chapter, you will be able to understand how the blockchain, wallets, and cryptocurrencies are connected with NFTs, but also what is the difference between a Fungible and a Non-Fungible Token. You will be able to explain which are the most used blockchains for NFTs, and you will be able to decide what blockchain fits better for your upcoming projects.

## Blockchain as a basis for NFT

To put it in simple words, imagine the blockchain as a pile of blocks (each block represents a new recording in the electronic ledger) that are connected together. The structure is designed in such a way that each of the blocks contains *a cryptographic hash with the transactional data and timestamp details of the previous block recorded in an electronic spreadsheet*. This secured linking between the blocks is realized by using Cryptography. Due to the fact that each block contains information about the previous one, this whole structure forms a “chain” because each new block will reinforce the one before.

This makes blockchain technology very attractive from a security standpoint because, in order to modify a piece of data that was already recorded, you

can only do that by altering all subsequent blocks, which is impossible.



*Figure 5.2: Blockchain technology and the main advantages of using it <sup>2</sup>*

Now, we have blocks that are forming a chain, but how is the data being written in this secured environment?

The idea behind blockchain technology is to achieve a decentralized environment. This means, unlike centralized digital environments (for example: Amazon, E-bay, Alibaba, and Second Life), whose infrastructure will have servers and accounts with administrative rights over the whole environment, the decentralized approach is designed to use a peer-to-peer network of nodes where, based on a specially designed protocol, the network of nodes will communicate and validate new blocks together.

Each of these nodes contains a copy of the blockchain so that this massive database replication between nodes maintains the quality of the data. Due to the decentralized approach, there is no “single point of truth”, and all the nodes have the same level of trust; there is no node better than another.

Because the information is stored on a peer-to-peer network, it increases the security level compared to a classic centrally designed system, where if you have the right permissions, you will be able to alter any data. This makes it almost impossible to have a **single point of failure (SPOF)** (3) that may be exploited by potential attackers.

## [Connecting to blockchain: wallet, crypto, and tokens](#)

In order to operate transactions, you will need a **wallet**, which will be discussed later in the chapter after you learn what **cryptocurrencies** are and

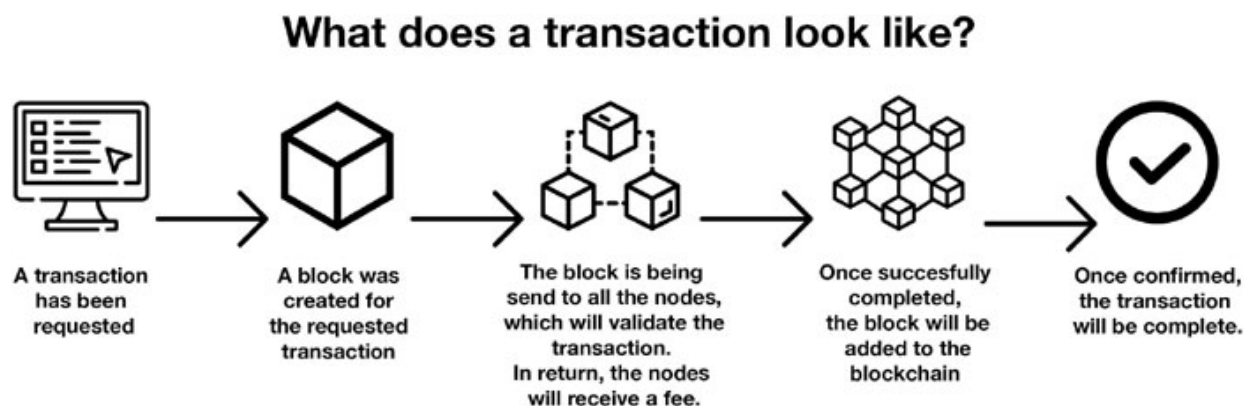
how all the dots connect among blockchains, cryptocurrencies, wallets, and NFT **tokens**. This transaction also involves what is called a **smart contract**.

## Wallets

The wallet is usually a set of strings (a string is a code type used to represent text) formed as a private key (a very long random set of strings) and a public key. Your private key is generated by using a cryptography algorithm. In a nutshell, you can make the analogy with your bank account; your main account number (that you give to someone to transfer money) is the public address, whereas the private address is the password that you use to connect to your bank's account.

To create or trade NFTs, you will first need a wallet. Imagine this as your own private safe where you keep all your most valuable, unique possessions, like "Mona Lisa".

These wallets are different based on the blockchains you are using. You can see the path of a transaction illustrated in [figure 5.3](#):



*Figure 5.3: The path of a transaction, from request to completion <sup>3</sup>*

## Perfect provenance: PoW versus PoS

The blockchain protocol uses a timestamping scheme to write changes every time there is a new transaction in the ledger coded in the blockchain. Two of the most common blockchain protocol timestamping methods are called proof-of-work and proof-of-stake.

The **proof-of-work (PoW)** protocol is a method in which proof is generated that a specific operation has been executed, which became well-known once it was introduced into the Bitcoin project (aka the first blockchain), where

Bitcoin miners with their hardware devices were calculating blocks in order to mine new Bitcoin blocks. The success rate of the miners here is given by the computational power that they have in their device; the higher the power, the higher chance of mining new blocks. PoW is one of the most secure consensus mechanisms and allows for perfect provenance.

## Proof-of-work (PoW) vs Proof-of-stake PoS



### Proof-of-work (PoW)

Block mining is determined by the computing power of the miners, and rewards are given to the miners that solve each block.

#### PROs

- Tested and reliable
- Secure consensus mechanisms

#### CONs

- Expensive costs (hardware, electricity, etc.)
- Expensive fees
- Not eco-friendly



### Proof-of-stake PoS

Mining ability is determined by how many coins the miner/validator has staked in the associated wallet. The miner gets paid via network fees.

#### PROs

- Reduced infrastructure costs
- Low fees
- Eco-friendly

#### CONs

- Not tested enough
- Centralization risk due to large holders

*Figure 5.4: Proof-of-work versus Proof-of-Stake ±*

The **proof-of-stake (PoS)** protocol uses a different concept. Instead of using complex hardware equipment to calculate and validate blocks, it uses a set of validators that do not require a lot of computing power but requires the owners to have a specific minimum amount of the associated cryptocurrency blocked in their wallet in order to run the validator. This drastically reduces the costs per transaction because you do not need large amounts of (electric) power that consumes a lot of energy.

However, we must note that PoS models have not been tested enough on elaborate blockchains, and it makes the concept vulnerable to a large percentage of shareholders that can use their power to take control of the network because the people with more coins can update the rules.

The difference between using a PoS chain versus a PoW chain has two effects on NFTs. Since PoW takes much more energy, PoS is considered cleaner, so new cryptos for NFT have adopted this protocol even though it is less secure. Second, because PoS is a lesser energy-intensive solution, the gas fees for NFTs that run on such time stamp protocols have dropped accordingly. Fees are lower for NFTs built with cryptos that are not Ethereum or otherwise PoW-based cryptocurrency.

## Cryptocurrency

We can say that cryptocurrency is a digital means of payment, a measure of account, and a store of (un)certain value that is designed to work in a decentralized electronic environment so that it is not (*for now*) dependent on any centralized authority or server.

Cryptocurrencies rely on blockchain technology to achieve the goals for which they were designed. As we saw earlier, all records are stored in a decentralized digital ledger that secures transactions and the creation of new coins. The most popular ones at this point are Bitcoin, Ethereum, Tether, BNB (Binance), and so on, but for NFT platforms, specialized NFT crypto blockchain protocols, like Polygon, have been created.

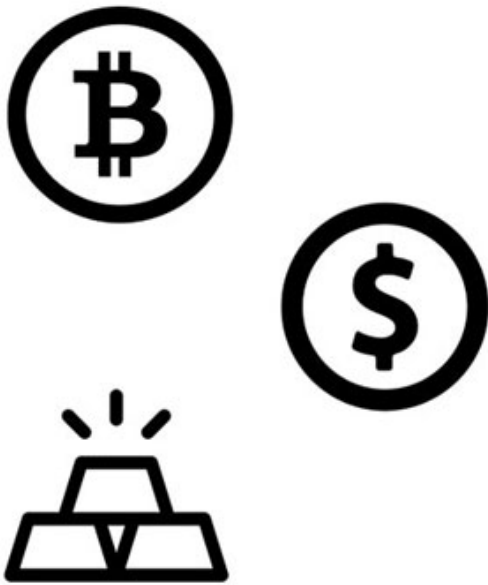
Cryptos are necessary to operate or create non-fungible tokens, first, because they are like the token itself, digital. This is your digital connection which links your wallet to your token so that financial transactions can be executed. Second, and more importantly, cryptocurrency is also decentralized. In other words, it allows for peer-to-peer transactions. For tokens to be decentralized, you will need to do your token transactions by means of cryptocurrency.

## Non-fungible versus fungible

As the name states, the NFTs are *non-fungible* tokens. This means that an NFT is a digital asset that cannot be interchanged for another of the same kind.

To make the comparison with fungible items, we can take a look at the US Dollar: I can, for example, lend my friend 100 US Dollars for a few days, and when my friend pays me back, I do not really care if they do not give back the same 100 banknotes, or if they would give me five banknotes of 20 US Dollars each. This makes the US Dollar a fungible asset.

## Fungible assets



## Non-Fungible assets



Figure 5.5: Different examples of fungible and non-fungible items [5](#)

## [NFT tokenization](#)

From a technical standpoint, if we give a definition, *an NFT is a unique token that resides on a specific blockchain*. To fully understand this, we will make an analogy with the famous “Mona Lisa”. The painting is unique, but you could have one that looks exactly the same at home. However, you will not own the original piece of art because it is displayed in the Louvre museum in Paris. In a nutshell, this is what an NFT token is, a unique piece that the network knows is assigned to a certain wallet.

## [Tokens I](#)

One of the first questions that pop up when you are explaining NFTs is whether the NFT token is the same as a cryptocurrency. This happens especially when you are talking about both being on the same blockchain, like in our example as follows, Ethereum. The answer is no; they are not the same despite running on the same cryptocurrency, and as we saw earlier,

there is a clear difference between non-fungible and fungible tokens. And to understand the difference, you must know what smart contracts are.

## **Smart contract**

To make it simple, *a smart contract is a piece of code with instructions that runs on the Ethereum (or other) blockchain protocol*, which is located at a specific address on the network. For this protocol, we could consider smart contracts as a type of Ethereum account that has its own balance and can operate different transactions. To deploy such a smart contract, fees are also involved based on the size of the code, which will be paid in the native cryptocurrency, ETH (4).

Once deployed, other accounts (and thus, new code with new instructions) can interact with the smart contract by recording new transactions that execute a certain function that was predefined in the original smart contract. This is where the difference between a fungible and a non-fungible token is made. All interactions with the smart contract become irreversible.

## **Tokens II**

Now that we know what a smart contract is, let us get back to see the difference between an NFT token and a cryptocurrency token. In order to achieve that, we will first need to create a smart contract, but the process (and code) is going to be different:

- **NFT smart contract**

The main characteristic is that in the smart contract, each separate token is defined as unique and not divisible (non-fungible). Since NFT tokens are created on the Ethereum (or other) blockchain protocol, they are trackable in the public ledger that is recorded in the blockchain. This means that an NFT can only have one owner at a time, and this can be verified. Ownership is managed via a unique token ID and metadata (the smart contract) that no other token can replicate, making it unique.

The Ethereum standard (protocols) for NFTs are ERC721 and ERC-1155. This code explains how to build an NFT on the Ethereum blockchain. ERC721 and ERC-1155 are coded to introduce how smart



contracts operate. It calculates that when you transfer a token, you will need both the address of the smart contract, as well as the token ID.

- **Crypto smart contract**

The most common coding standard used for Ethereum-based cryptocurrency created on the blockchain is ERC-20, which introduces a standard for fungible tokens. It basically creates financial fungible assets in a similar fashion to the code in Bitcoin, Litecoin, and other cryptocurrencies. This standard, like with ERC 721, then introduces a smart contract just for cryptocurrency.

Ethereum is just one example of such a cryptocurrency. As we saw earlier, being fungible makes each token exactly the same as another token. The crypto smart contract will define the token. For example, an ERC-20 token acts just like the main Ethereum cryptocurrency, meaning that one token will always have the same value as all the other tokens, so it can be divisible into smaller chunks.

## The difference between fungible and non-fungible tokens

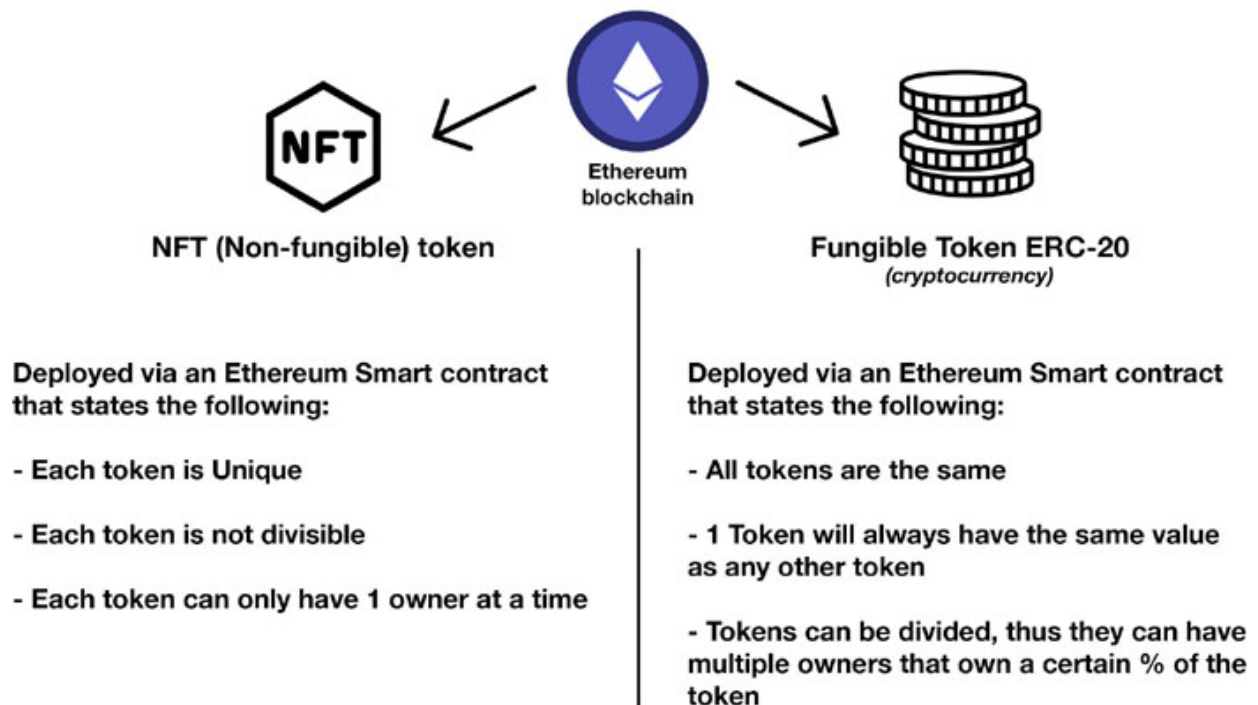


Figure 5.6: Difference between fungible and non-fungible tokens [6](#)

## Most common NFT blockchain protocols

Blockchain protocol can have its own well-adjusted code in cryptocurrency, so when a transaction is made to get the ownership of an NFT, you will need to pay a certain price for it in the cryptocurrency for the specific blockchain in which it resides. The price can also be zero in case of airdrops or giveaways, and in some cases, you may need to pay a certain *gas fee* for the transaction (that comes on top of the price).

### NFT-friendly Blockchains & Minting steps

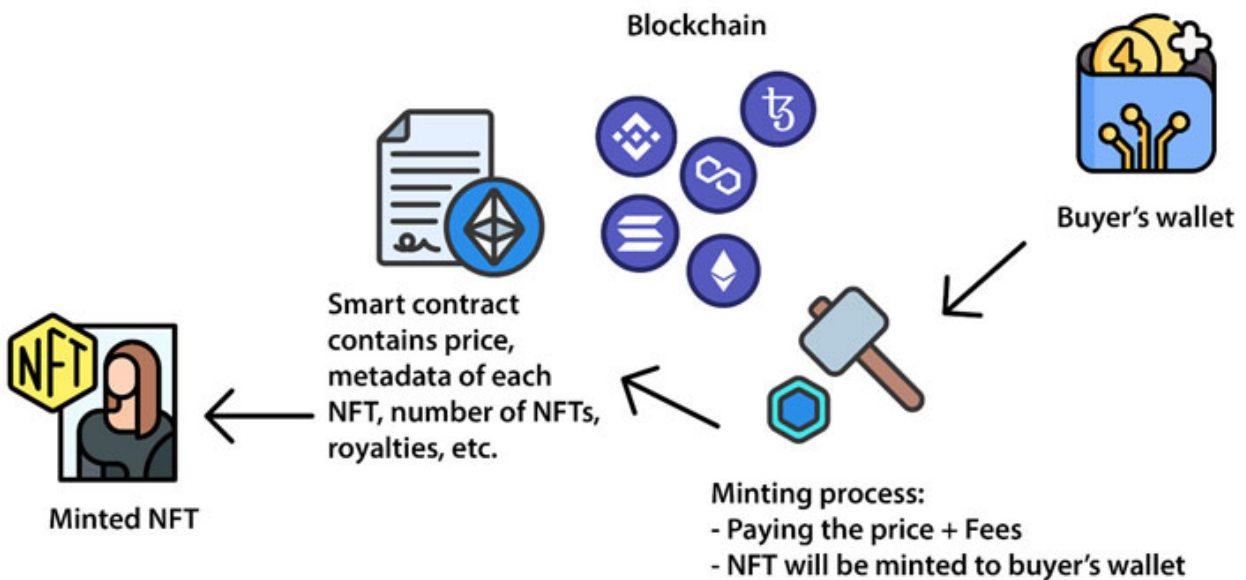


Figure 5.7: NFT-friendly blockchains and the minting steps <sup>2</sup>

Here is a list of the main blockchain protocols used in the creation and minting of NFTs.

## Ethereum

This is by far the most popular blockchain coin for NFTs, and since it was used extensively, it is also considered to be the safest and most developed. The most famous NFT tokens were created there, such as *CryptoPunks* (Glossary, 5), *CryptoKitties* (Glossary, 6), the *Bored Ape Yacht Club* (BAYC) (Glossary, 7), and many more. Most of the largest NFT marketplaces started with Ethereum as their first main blockchain, and at this

point, most of them still have the largest volumes on the NFTs based on the Ethereum blockchain.

However, Ethereum used to be the most expensive in terms of fees due to the fact that for each transaction made on the Ethereum blockchain, you need to pay a *gas fee* that is quite high. This can increase not only the cost but also the valuation of a project.

In order to solve the fee issues, the Ethereum blockchain migrated from **Proof-of-work (PoW)** to **Proof-of-Stake (PoS)**. This will basically mean that these expensive gas fees were heavily reduced and buying an NFT, which is on an Ethereum blockchain, become substantially cheaper. To give an estimation, the fees were reduced from around 26\$ to around 0.69\$.

With this upgrade, Ethereum will most likely experience a boost in the usage of its blockchain to include the segment of lower-cost NFTs, where other blockchains with close-to-zero fees are dominating the niche market.

Each of these blockchains has different Pros and Cons. When it comes to picking the right blockchain for your next project, you should keep it under consideration.

## Pros

- Most popular and used blockchain for NFT projects
- NFT whales are investing large amounts in Ethereum-based projects
- The large community of developers. They can fix issues, develop new features, and so on

## Cons

- Fees are still quite high, even after the upgrade to **Proof-of-stake (PoS)**
- Big competition in different areas of NFTs, which makes it difficult for new small players

## Solana (SOL)

This is a blockchain coin that was launched in 2020 and is based on a newer concept of **Proof of History (PoH)**. It managed to attract many followers, step by step, and this made Solana one of the top 10 cryptocurrencies in the

world. Proof of History is based on the ability to check the passage of time between two events.

In the past months, Solana grew more and more popular in the NFT ecosystem, and at the end of May 2022, it made the headlines by managing to generate the highest NFT sales volume during a 24 hour span, overthrowing Ethereum.

There has been an exponential increase in sales volume and more importance of NFT projects based on this coin. This is partially due to the lower gas fees because in order to mint an NFT on Solana, you will only pay around 1\$.

- One of the main (knock-off from Bored Ape) projects now on Solana is *Degen Ape Academy*, which has a current market valuation of over 500 million \$.
- Another recent (knock-off) project is the *Trippin' Ape Tribe* which is a 10,000 NFT community-first PFP (profile picture) collection that managed to generate over 14 million \$ at the initial mint.
- Yet a third knock-off project is *Solana Monkey Business*, which represents pixelated monkeys that grant owners different benefits, along with an innovative future on-chain voting system.

The pros and cons of *Solana* are as follows:

### Pros

- Very low fees (close to zero)
- Fast and scalable design
- Excellent marketing team
- Great to test ideas with almost zero costs

### Cons

- Since the FTX exchange was a big investor in *Solana*, its bankruptcy temporarily affected *Solana*
- Many copycat projects of *Ethereum* projects are making investors more cautious before investing

## Polygon (Matic)

This network was designed to solve the scalability and usability issues that were pressing the crypto world while also trying to leverage the existing ecosystems. It was created as a side-chain scaling solution for existing platforms.

Polygon was among the first popular alternatives to Ethereum on Opensea, the biggest NFT marketplace. Combined with fees that are almost 0\$, it quickly became the preferred way for artists that do not have a big budget to launch their NFT art.

In the beginning, there were some issues with the transactions that often failed, but step by step, they started fixing the problems with the protocol, and if they continue doing a good job, we clearly see Polygon as a top three in the upcoming years within the NFT ecosystem.

When it comes to projects, Polygon attracted many new artists, and in the upcoming years, marketplaces with Polygon will increase in popularity and will slowly grow the value of the work while staying with the blockchain protocol that made them famous.

Projects on Polygon:

- *The Martians: Metaverse*, which has a total volume of around 3.5 million \$. For this project, they created 5,000 NFTs, and their holders can participate in exclusive events like raffles and community events, but also tickets for early access to the Metaverse game that they are building. The game is designed to be a Mars colony where you can construct houses and buildings.
- Another interesting project is *Genesis Kosmos*. This 8,300 NFT collection was created for the Ethlas game, and it can be used within its metaverse. The NFT tokens are used in their game to access and unlock exclusive features.

Polygon has various pros and cons that are as follows:

### Pros

- One of the first Blockchains on the Opensea NFT Marketplace
- Very low fees (close-to-zero)

- Great to test ideas with almost zero costs

## Cons

- Due to the close-to-zero costs, there are many copycats of the famous NFT collections
- Still missing big projects and large-scale investors, but it is slowly getting there

## Tezos

D. Tezos is one of the new joiners at the top of the NFT blockchain coins. It is designed to be a decentralized open-source blockchain that can make **peer-to-peer (P2P)** transactions like Ethereum while deploying smart contracts. The linked cryptocurrency is Tez (having the symbol XTZ). As of its current status, it is one of the first and longest-running **proof-of-stake (PoS)** protocols.

One of the main features that make Tezos one of the main NFT blockchain protocols is the fees, which go as low as around 0.2\$ for a transaction while it also has a very low cost for publishing a smart contract (which costs only a few US dollars, which is 100 X lower than the Ethereum competitor).

- *Tezzardz* has a volume of over 3.5 million \$. This collection of 4,200 NFTs has been drawn by hand. What makes this project interesting is that it was designed to be pure art, and there is not any special utility attached to its NFT tokens.
- Another interesting project on Tezos blockchain is *Dogami*, which is a so-called “Petaverse” with 300+ virtual breeds that each have unique traits. It has a volume of over 2.8 million \$.

Projects on Tezos are quite different compared to the popular ones that we see on the other blockchain coin. If you have a disruptive idea, it may be a good option to launch your project on Tezos.

There are various pros and cons of using Tezos are as follows:

## Pros

- One of the alternatives to the Ethereum blockchain

- Excellent NFT collaborations with brands like Redbull
- Scalable and Energy-Efficient Algorithm
- Opportunity for smaller projects to enter a blockchain with less competition

## Cons

- Low volume

## Binance smart chain (BSC)

It is the newest blockchain on the list and was created by the leading Fintech cryptocurrency exchange, Binance. It is designed as a community-driven, open-sourced, and decentralized ecosystem, having the Binance Coin as the blockchain gas token that “fuels” transactions.

Compared to the previous Binance Chain, the new BSC is boosting smart contract compatibility with the **Ethereum Virtual Machine (EVM)**. The EVM is a computation engine that acts as a decentralized computer that completes all types of tasks on the blockchain, including Ethereum blockchain execution and smart contract deployment. The design goal was to leave the high throughput (*glossary*) of the previous Binance Chain while adding advanced smart contracts.

- The first Binance marketplace project is *PancakeSwap* which is probably the most popular NFT marketplace on the BSC. This is a platform (not an NFT) that allows you to buy and sell exclusive NFTs at prices that go up to around half a million dollars per single NFT. What makes this platform popular is that it allows different ways to earn crypto by stacking, predicting, and participating in *lotteries*.
- Another interesting project is *Battle Pets*. This is an interesting example of combining NFTs and gaming, as it allows you to have a tradeable fluffy pet that you use to fight others while stacking different rewards in cryptocurrency.

You need to keep in mind the following pros and cons of BSC:

## Pros

- Developed by Binance, the top cryptocurrency exchange
- Big marketing budgets
- NFT collaborations with big brands and superstars like Cristiano Ronaldo
- Opportunity for smaller projects to enter a high-visibility blockchain with less competition
- A serious competitor of Ethereum for the NFT blockchain supremacy

## Cons

- Associated with an Exchange, and due to the FTX bankruptcy, large investors are temporarily extra cautious

## Fees

Before we start, we need to understand what kind of fees are involved if, for example, you would like to buy a 20\$ Ethereum NFT on a marketplace like Opensea.

These fees are paid by the seller, and some amount is paid by the buyer and is used by the blockchain to operate the transaction, by the marketplace (Opensea in our example) to cover the platform cost (infrastructure, security, employees, and so on), and by the creators to automatically get a fair chunk of any future sale. This is to avoid initially selling your art for a few dollars, and then the same art pieces being resold for millions.

Let us see this through an example: You are a new artist in the NFT space, and you created 1,000 NFT collection that was initially sold at 0.02 ETH/each. However, due to the amazing art that you created, your NFTs caught the eye of some influencers that see a lot of potential in your work, and they started promoting you. Next, you have interviews, your art is bought by celebrities, and you are invited to take part in exclusive NFT events. All this exposure attracts a lot of attention, and the floor price of your initial collection explodes from 0.02 ETH to over 20 ETH per NFT.

In a normal world, if you were a painter, you would not get any percentage of any future resale of your art, but with NFTs, you will automatically get a certain percentage that you have stipulated for your collection for every time the work gets sold again.



The marketplace and creator fees are paid by the seller, and in our example on Opensea, this is a percentage paid from the total sale price and is deducted from the amount that the seller receives.

### What fees are the sellers and buyers paying?

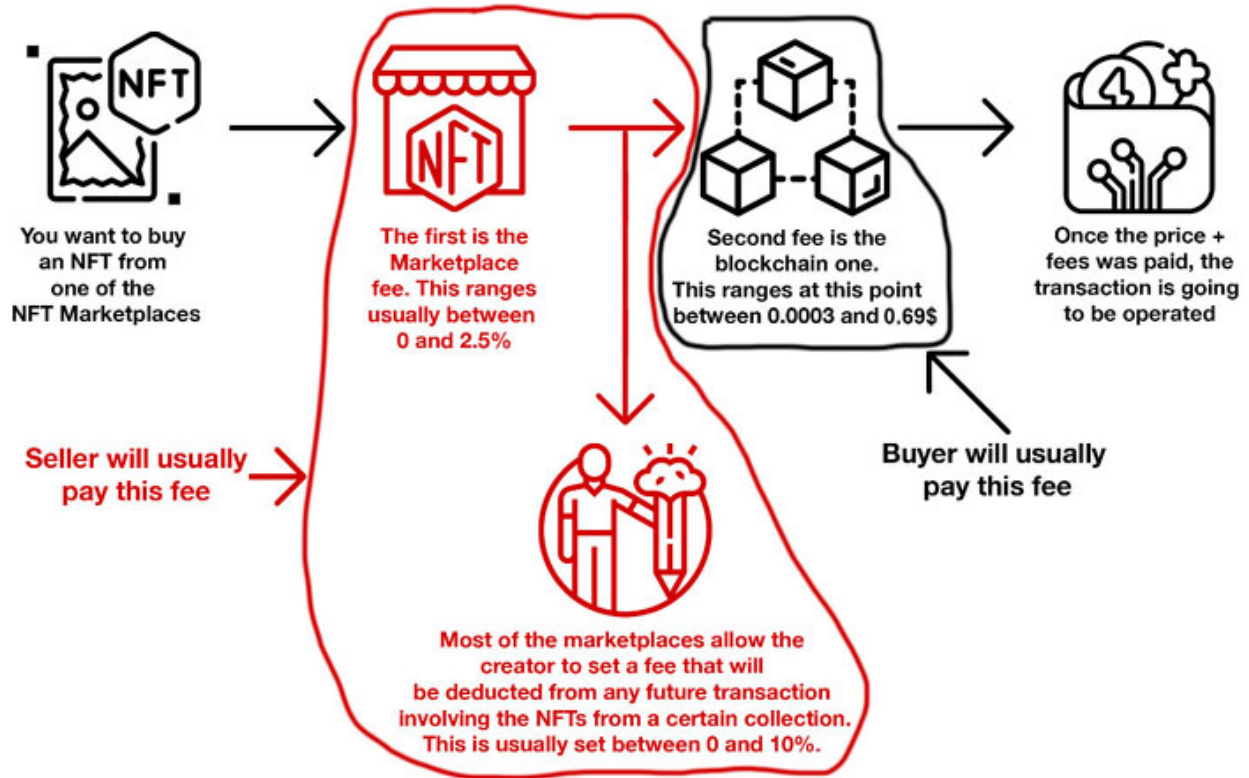
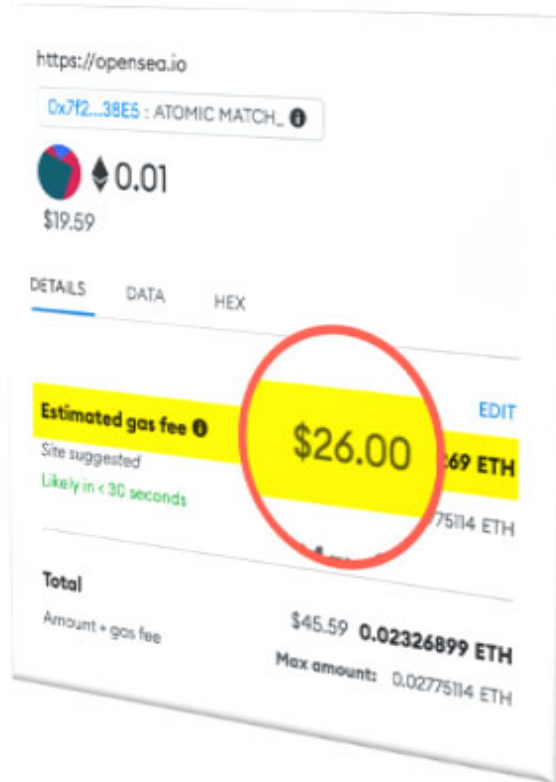


Figure 5.8: Certain fees involved in buying or selling an NFT <sup>8</sup>

The buyer will pay the blockchain transaction fee, and if we are talking about Ethereum, like in our example, these fees are called *gas fees*, and this term is now widely used to describe the fee that you need to pay for the transaction of the NFT token from one wallet to another.

You will have an example of a transaction for an Ethereum NFT that had the value of 20\$, and the gas fee to operate the transaction used to be 26\$ before Ethereum made the upgrade from **Proof-of-work (PoW)** to **Proof-of-stake (PoS)**. This incredibly high gas fee price used to be one of the big cons of the Ethereum blockchain, but at this point, fees were reduced to around 0.69\$ per transaction, which makes it closer to its competitors, as we are going to see in the comparison transaction fee table as follows:



**Figure 5.9:** For a 20\$ NFT, a buyer used to pay a 26\$ gas fee before the Ethereum blockchain switched from Proof-of-work (PoW) to Proof-of-stake (PoS). After the migration, the estimated fee is around 0.69\$ <sup>2</sup>

Now that we understand what fees are involved, let us see what are the figures if we compare the gas fee of Ethereum with other blockchain coins. Please note that these are estimated average prices as of today, and the values in the following table are used just as examples to see the difference in fees:

Blockchain	Ethereum	Solana	Polygon (Matic)	Tezos	Binance
NFT sale fee	0.69\$	0.00022\$	0.0079\$	0.2\$	0.00032\$

**Table 5.1:** Average fee for a transaction as of buying an NFT for each blockchain protocol discussed

## [NFT wallets](#)

In order to create or trade NFTs, you will need a wallet. Imagine this as being your own private safe where you keep all your most valuable, unique possessions, like a potential “Mona Lisa”. Your wallet lets you make diverse

operations, such as reading the balance, making transactions, and connecting to various applications.

Wallets are different based on the blockchain that you are using, and even if there are some aggregating platforms that will gather multiple wallets under one, it is better if you keep them separate and create wallets for the blockchains that you use.

Here are the wallets for the tokens we discussed previously:

- **Ethereum wallet**

This is by far the most popular wallet. It is usually composed of a public address (that you can send, for example, to someone that should transfer you some Ethereum coins or an Ethereum NFT) and a private key.

If you would like to create one, the most convenient way is to get one that has also a browser extension, like Metamask or Coinbase wallet.

- **Solana**

Solana has a simple process to generate a wallet. You need to go to [www.sollet.io](http://www.sollet.io) and create one. During the generation steps, you will get a 24-word seed phrase that you need to keep safe.

To make the whole wallet experience more friendly, you can go to [www.phantom.app](http://www.phantom.app), which makes it easier to access, buy, transfer, swap, and collect tokens and NFTs on the Solana blockchain.

- **Polygon**

For Polygon, you can also use a Metamask wallet which needs to be configured via the Polygon website.

- **Tezos**

The procedure for opening a wallet is quite simple via their official website [www.tezos.com](http://www.tezos.com). The wallet will be very similar to others, having a 24-word seed phrase that you need to keep safe.

- **Binance**

Binance also made things simple so that you can open a Binance Chain Wallet via their official website [binance.org](http://binance.org). The wallet also offers a browser extension, and it is easy and safe to use.

## Tools

As the NFT market is becoming more and more developed, we are also getting better and better tools that can help us when it comes to investments or even in estimating how big is the market for one of your upcoming projects.

The following is a list of some of these tools that are available at this point and what you can use them for:

- **Icy.tools:** This platform provides real-time market insights for NFT collections on the Ethereum blockchain. They offer various data on trending collections, discovering new projects, and checking the minting calendar for upcoming launches. The platform has some free features, but for the premium version, they provide real-time trading information that can help you automatize your trades.
- **Nftdropsalendar.com:** This platform provides one of the most updated and relevant NFT drop calendars for new projects, as well as NFT giveaways and NFT whitelists for upcoming collections.
- **Rarity.tools:** It is a very useful tool that is used for examining NFT collections based on their traits in order for you to see which ones are the best investment.
- **Moby.gg:** It is one of the icy.tools competitors that provides real-time feeds for mints and sales, but also wallet and popular mint alerts, on top of other features such as historical data, live graphs, rankings, and so on.
- **Oxalus.io:** It is a special NFT Aggregator that enables users to gain maximum profits at the lowest costs by aggregating NFT collections and providing play-to-earn games. They are currently supporting Binance BNB, but they are planning to extend in the upcoming future.

## Conclusion

We hope that this chapter gave you the basic tools and fundamentals to further continue your “gold rush” journey. In order to dig, you will need a shovel, which is your smart contract; you will need a pick axe which is the right cryptocurrency; you will need your gold pan, which is your crypto

wallet; and, of course, you will need the blockchain which is the river where the gold is flowing or the earth where the NFT gold is running in veins.

In this section, we presented the basics, from understanding what blockchain protocol is to understanding wallets and the differences between NFT tokens and cryptocurrencies.

In the upcoming chapters, we will understand how we can create our first NFT(s) and how we can sell them to get the well-deserved chunk of gold!

## Frequently asked questions

### 1. Which is the best blockchain for my future NFT collection?

**Answer:** Ethereum blockchain offers the biggest ecosystem of NFTs and, at this point, is the preferred one, but there are many PROs and opportunities also for the other NFT-friendly blockchains such as Solana, Polygon (Matic), Tezos, Binance, and so on.

### 2. I want to start an NFT project with almost zero \$ budget; which blockchain should I use?

**Answer:** To keep the costs to minimum, the best options are Polygon (Matic) and Solana.

### 3. I want to invest in NFTs; which tool should I use?

**Answer:** The best ratio for cost/features is offered by Moby.gg, but if you have some extra budget, you can check also Icy.tools.

## Glossary

1. *PoW*: **Proof-of-work (PoW)** is a decentralized consensus mechanism in which one party proves to others that a certain part of a specific computational effort was expended.
2. *PoS*: **Proof-of-stake (PoS)** is a consensus mechanism for blockchains in which validators that hold the associated cryptocurrency are calculating the transactions.
3. *SPOF*: A Single point of failure is a component of a system that, should it fail, renders the system inoperable as a whole.
4. *ETH*: Shortcut for Ethereum cryptocurrency.

5. *CryptoPunks*: It is an NFT collection on the Ethereum blockchain. The project was launched in June 2017 by the Larva Labs studio.
6. *CryptoKitties*: It is an NFT collection and a blockchain game on Ethereum developed by Canadian studio Dapper Labs.
7. *Bored Ape Yacht Club (BAYC)*: It is an NFT collection on the Ethereum blockchain. The parent company of BAYC is Yuga Labs.

- 
- [1](#) Underground work, Bonanza Creek | From the Klondyke Souvenir published by H. J. Goetzman in 1901 (photograph in public domain, more than 100 years old)
  - [2](#) Blockchain technology and the main advantages of using it, diagram by NFT guys.
  - [3](#) The path of a transaction, from request to completion, diagram by NFT guys.
  - [4](#) Proof-of-work versus Proof-of-Stake, diagram by NFT guys.
  - [5](#) Different examples of fungible and non-fungible items, diagram by NFT guys.
  - [6](#) Difference between fungible and non-fungible tokens, diagram by NFT guys.
  - [7](#) NFT-friendly blockchains and the minting steps, diagram by NFT guys.
  - [8](#) Certain fees involved in buying or selling an NFT, diagram by NFT guys.
  - [9](#) Estimated gas fee before the Ethereum migration to Proof-of-stake (screenshot).

## CHAPTER 6

# Technical Skills for Creating NFTs

In this chapter, we will no longer make the parallel with the “Gold Rush” because unlike back in the Yukon wilderness, now you can create your own digital gold. In this chapter, we will understand how to create NFTs based on our needs, skills, and expectations. We will evaluate different types of NFTs to be created, how they can be made and how to position the new NFT product.

We will first see what types of NFTs exist and then a step-by-step process on how you can create them. We will divide NFT production projects into different categories: personal, collections, team, or group, and finally, corporate projects. We will end this chapter with some real-life examples from an NFT project we created ourselves.

### Structure

In this chapter, we will discuss the following topics:

- Creating an NFT
- Creating an individual NFT project
  - Content
  - The NFT individual project
  - Creating your own unique NFT
- Creating NFT collections
  - Website/social media
  - Minting (glossary)
  - Wallet
  - Testing
  - Launch date
  - Costs
- The NFT team project
  - Creating a team
  - Leadership
  - Percentages and other incentives

- Budget
- Motivation
- Networking
- Corporate-level NFT production
- Products, Merchandise, and NFTs
  - Entering the VeVe marketplace
- Our own project examples
- Events

## Objectives

After reading this chapter, you will be able to understand how you can create a new NFT on Marketplaces like *Opensea (glossary, 1)* while understanding what are the steps that you should keep in mind when you are planning to launch a new NFT project. We will cover different perspectives that will help you understand these steps if you plan to launch a new project alone, if you want to build a team, or if you are working for an Enterprise where you would like to introduce NFTs.

## Types of NFT

As of today, there exist different types of NFTs in the form of pictures, videos, audio, video/audio to 3D models that are ready to be integrated into the metaverse (we will talk about this in one of the upcoming chapters). Then, there are IRLs.

We are really excited about this topic because as NFT adoption increases worldwide, we will experience a new type of art and commerce that we cannot even imagine at this point. There is a lot of creativity in the NFT ecosystem where there are NFTs that are partially digital and partially IRL (in-real-life) (*glossary, 2*), and now there are NFTs where an artist created an IRL object that is digitalized and where then the physical art is subsequently destroyed so that the NFT remains the only content that still exists, and the list goes on.

In the upcoming months and years, you will see new types of art popping up, and maybe you, your friends, or your company may come up with the next “photo”, “video” visual, and/or “audio” experience—in the form of an NFT.

At this point, the most important NFT variants are the following:

- **2D**: This can be a real photo, an edited one, or a drawn one. The most popular 2D NFTs are the **profile picture (PFPS)** type, like the famous CryptoPunks or Bored Apes (Yacht Club).



- **3D generated model:** This format is trending right now because of the metaverse integration, which requires items to be in 3D in order to have a full experience. The downside of this format is that it adds a few layers of complexity when you are creating a large collection.
- **Audio:** Many artists are already launching some of their new work as NFTs, and we estimate that this part of the NFT ecosystem is in the very beginning stages; in the upcoming months/years, we will see more and more artists NFT-ing their work. This can include songs, loops, beats, rhythm, voice recordings, sound kicks, ambient recordings, or sound bites.
- **Animation:** Another popular format for NFTs is the simple animations/animated images that usually come under the .GIF format. This format is usually used to animate 2D images in order to make them more visually attractive.
- **Video:** Many creators are publishing special videos such as pieces of iconic movies, shows, very rare footage, or videos taken in unique places. We also see this segment expanding in the upcoming years because, for example, in order to simplify the complexity of a 3D collection, many creators are generating a recorded video of the 3D model (*like a video of a 3D model that is rotating*).
- **IRLs:** In-real-life objects either come with an NFT attached as the identical digital copy in the form of an NFT or are partially an IRL object and partially digitalized in the form of an NFT. Brands like Reebok and Nike are already working with different studios or developed internal NFT marketing teams in order to experiment with mixing IRLs and NFTs.
- **Merchandise NFTs:** An example would be the case of event access tickets that are available in the form of physical IRL tickets, which further have an NFT embedded in them. These NFTs, through the smart contract, give you the right to purchase or get certain merchandise for the event. This is the segment that we believe is really going to take off in the upcoming period.

## [Creating an NFT](#)

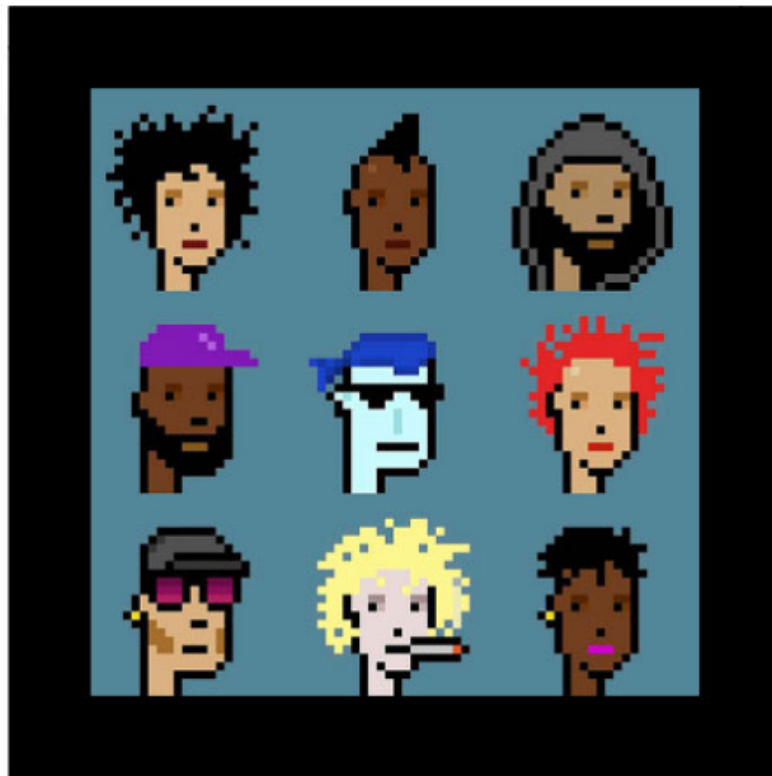
There is no direct answer to this question, and in order to address it, we need to take a step back. In the beginning, you need to decide how you position yourself in this new exciting ecosystem. If you want to be a creator, an investor, or just casually follow the new art, like reading a niche magazine.

If you want to create NFTs, we need first to figure out what kind of NFT you would like to make. This is first based on your skills (do not worry if you do not know any video or image editing), time, and the money you want to invest. If you do not have any clue, I suggest you complete reading this book, and if you are still not inspired, spend some hours on an NFT marketplace and check random projects in order to see what may be the best fit for you.

If, in the end, you decide to make, for example, a **Profile Picture (PPF)** NFT collection of 10,000 NFTs and you do not have any design skills, but you know what it should look like, then you have the following two options:

1. You invest your time in learning how you can do it. In today’s world, there are many free options to take video courses to learn different types of image editing software like Photoshop (paid) or GIMP (open source).

If you take it from zero, you will probably need around 500 hours to get to the level necessary for drawing an NFT similar to one of the Cryptopunks.



*Figure 6.1: Example of the Cryptopunks NFTs [↓](#)*

Please note that, of course, these 500 hours will not transform you into a “Claude Monet” (*glossary*, 3) of the NFT world and that this will just give you the skills needed for the job. Some people are natively gifted for certain activities, and others need to work more to get there.

However, if you have the time, the NFT guys would always suggest you learn new skills since we are true believers in the continuous learning mindset and in gaining new skills.

2. You invest money. As we saw earlier in the first point, it is not so complicated to get new digital skills in this day and age when many freelancers can help you with almost anything, from drawing a piece of art to editing videos or designing

3D models. Some of the most popular platforms for this type of activity are Fiverr and Upwork.

## **Example**

For example, let us say that you would like to create a similar NFT collection like CryptoPunks, but with Bees.

You start by doing some research on similar projects and define what you would expect to have in terms of design, colors, accessories, and so on. Once you are clear on what you want and you have communicated with the freelancer, then you should schedule some regular meetings in which you follow up on what he/she is creating for you in order to adapt the project as it goes and correct them based on your expectations, without waiting for the designer to create 10,000 items for you, just to realize that you do not like them.

In other words, you are going to create an NFT project team before creating your NFT.

Another important point here is that before you start investing, you should write down the total costs that you would expect and maybe take them step by step. For example, you may want to first design 10 NFTs, check them with your friends or your followers on social media, get feedback, adapt if needed, and then continue or spin to another project if the created NFT gets negative feedback.

## **Creating an individual NFT project**

This is probably where most of our readers will find themselves, so we will try to provide extended information based partially on some of the projects that the NFT guys have created ourselves in the past. Here, we see two possible scenarios, one is if you are working alone on this new exciting project, and the other one is if you are working with a group of people.

From previous projects and from experience working in the NFT ecosystem, we have learned that there are two categories. Many people that we know, especially engineers, wanted to create an NFT collection just for fun, in order to see the whole process, especially from the technical perspective, but some other groups of people that we know that are mostly existing artists or with a developed artistic side, they wanted to enter the NFT ecosystem in order to take their art to the new level and to make revenue from their artwork.

If you want to create a collection just for fun, or if you are a struggling artist trying to make it, in either case, we would suggest keeping the costs closest to zero because your main goal is probably to see the process from A to Z and not go for high revenue from the project. To achieve that, we recommend the Polygon blockchain since, via *Opensea.io*, the costs of creating and listing NFTs are close to zero.

Here is how to begin:

## Content

First of all, you will need some content for your NFT. If it is just for testing purposes, the content can be anything, but keep in mind that you will need a copyright for the materials you are uploading. It can be a simple drawing of even a one-pixel photo that you did or a 3D model. You can create the model if you have the skills or different NFT collection generators that randomly create a different type of content for you can be used. (This is the way to go if you want to upload a large number of NFTs.)

However, just keep in mind that if you go for the preceding close-to-zero budget example option, you will need to do the upload of each NFT manually on *Opensea.io* and if you have a 10,000 NFT collection, which will take a while. Our recommendation for this testing purpose collection is to keep the number low to 10 NFTs.

Now, in case you have 10 images drawn, the next thing you do is to head over to *opensea.io*, create a *metamask.io* account (or any other digital wallet option that is compatible with their platform) and then create a Polygon blockchain collection and start uploading your test NFTs for free. Once this is done, you can even transfer them to your friends or put them up for sale. These steps are quite intuitive on *Opensea.io*, but if you get stuck somewhere along the way, a simple google search should clarify your issue.

## **The NFT individual project**

Here is what can be done if you are *an existing or aspiring artist* trying to take your art to the next level.

If you do not have a budget for your individual NFT project, you should follow the close-to-zero investment example we gave earlier and just replace the random NFT content with the art you create. This is where the technical part stops, and you will further need to promote the project on different channels, an area that will be fully explained in our upcoming marketing chapter.

However, if you have some budget to invest in your project, we would suggest you to **do your own research (DYOR)** (*glossary, 4*) on similar projects in order to understand what kind of revenue range you may expect and how other NFT projects promote themselves and what was the trigger that made them so successful.

If you see a high ROI (*glossary, 5*) possibility, we recommend you publish your NFTs on the Ethereum blockchain and pay for the different services or perhaps gather a group of friends, as we are going to see further along in this chapter.

For your individual NFT project, we suggest, as an example, the following steps can be taken when creating your first NFT:

1. Create a crypto wallet

2. Go to your favorite NFT platform
3. Log in with your wallet
4. Create a collection so you can add an NFT to it
5. Upload content (test version)
6. Create a test collection
7. Upload content (real version)
8. Validation
9. Ready to go to market and trade

Here is an exercise example for you to follow.

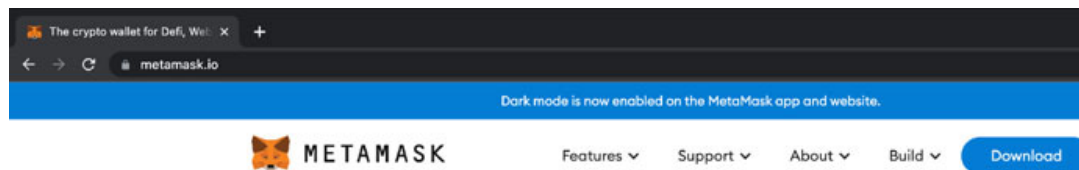
## [Creating your own unique NFT](#)

In this exercise, we will go through a step-by-step tutorial on how you can create your first NFT. This NFT will be formed of an image that we are going to upload on the *Opensea.io* marketplace on the Polygon blockchain (to keep the costs to almost zero).

**Requirements:** We have created this tutorial for Windows and Mac devices.

Now, let us go to work by following these steps:

1. Create an Ethereum Wallet (skip to Step #2 if you already have one)
  - a. Go to *metamask.io*. The Web page can be seen in the following screenshot:



*Figure 6.2: Metamask website [2](#)*

- b. Download the Metamask application and create a new wallet.
    - c. `<!>` As we explained in the previous chapter, keep the 24-word seed phrase in a secret place, and do not share it with anyone. Who has this phrase that can access your wallet?
2. Go to *opensea.io*. Footnote 3 shows the Web page:

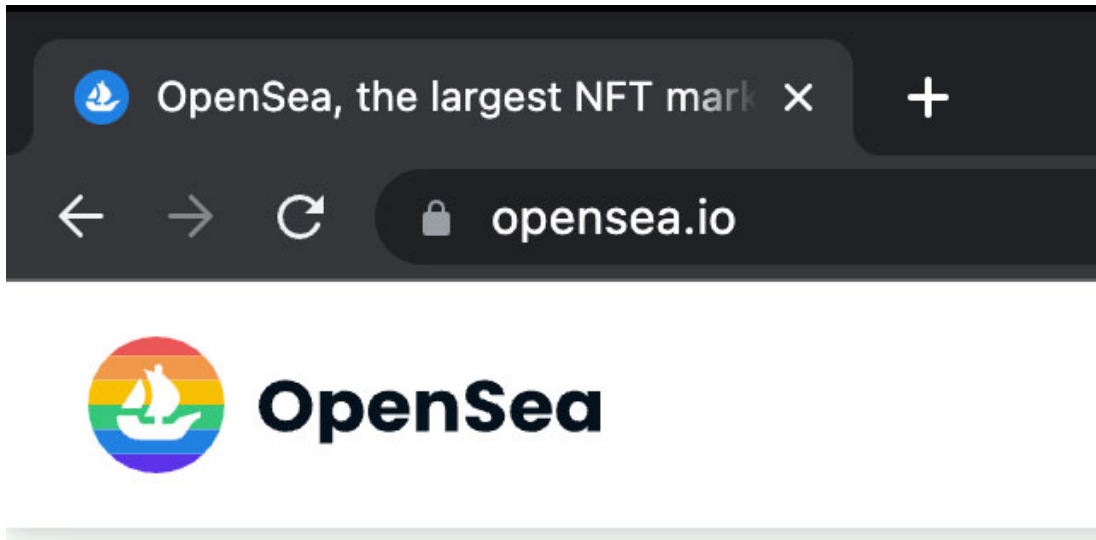


Figure 6.3: Opensea marketplace [3](#)

3. Log in with your Metamask wallet.

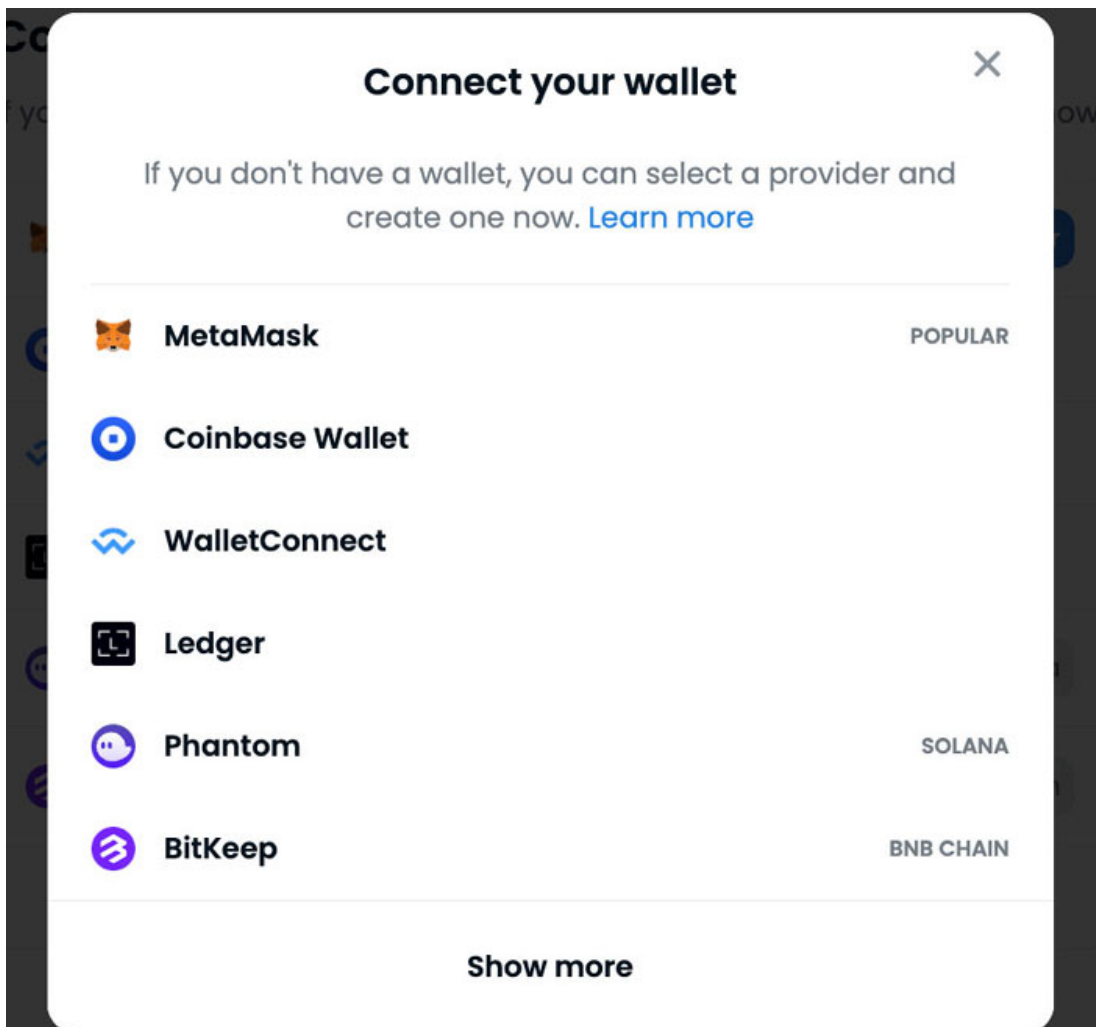


Figure 6.4: Connecting your wallet to OpenSea marketplace [4](#)

4. Once logged in, we will create our first collection and add one NFT to it.

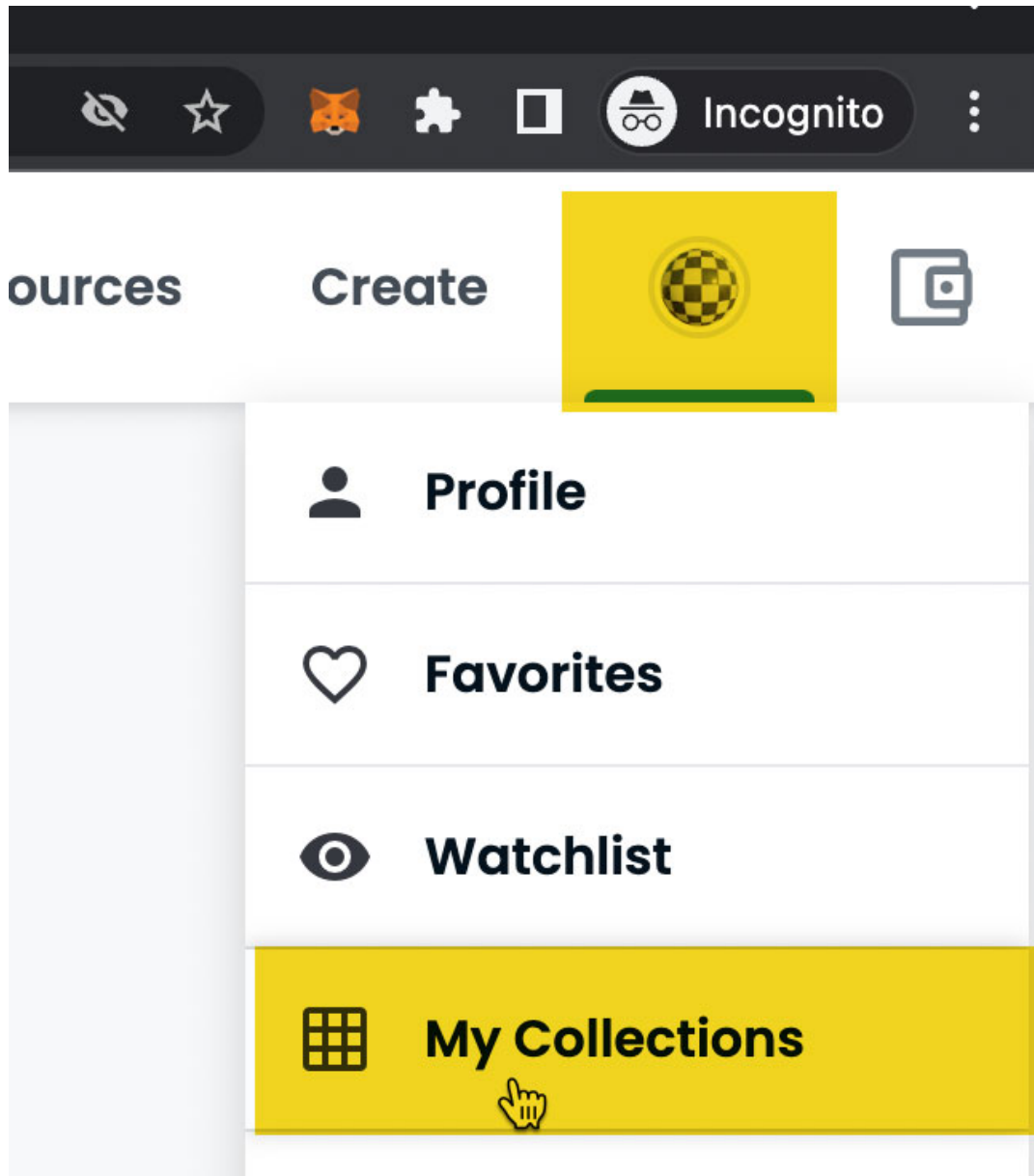
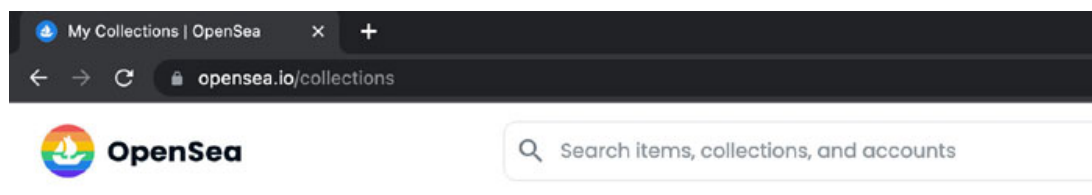


Figure 6.5: OpenSea collections from your account [5](#)

5. Next, we click on **Create a collection**.



# My Collections

Create, curate, and manage collections of unique NFTs to share and sell. ⓘ



*Figure 6.6: OpenSea—create a new collection [6](#)*

Now, you will receive a popup from Metamask to sign for this request. Sign and go to the next step.

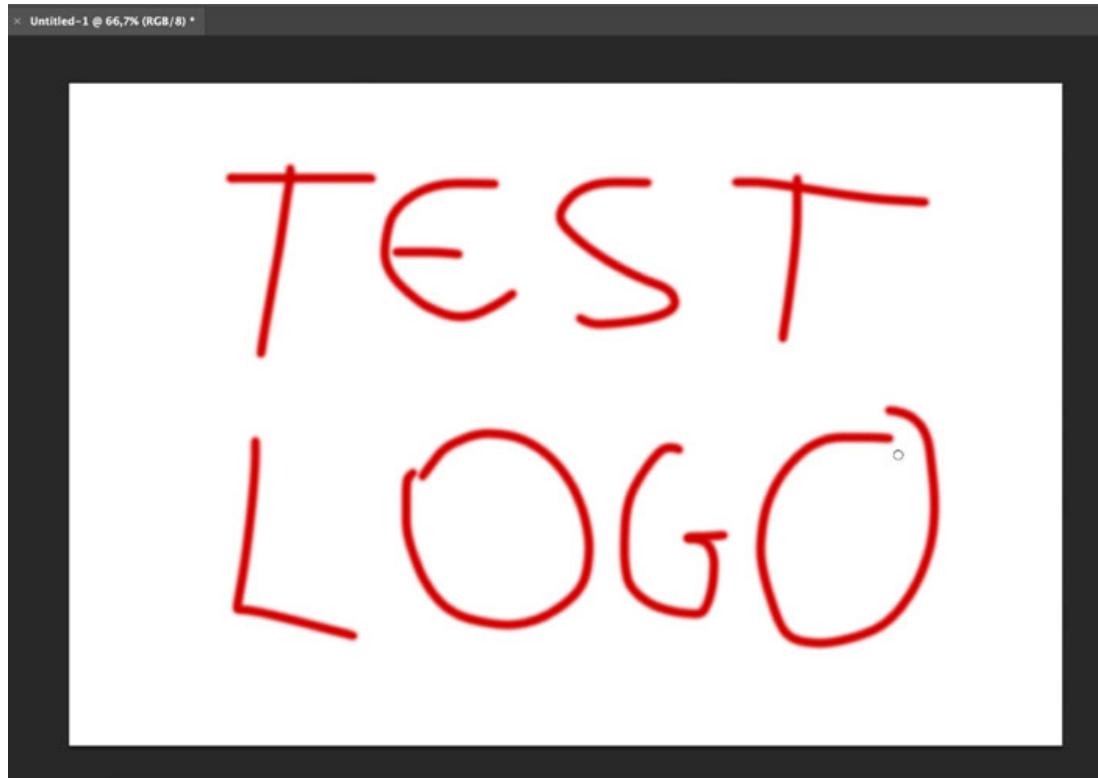
6. We will only fill in the mandatory fields for the new collection.

a. We select an image for the collection.

Please note that everything that you upload on OpenSea should be original work or creation for which you have a Copyright.

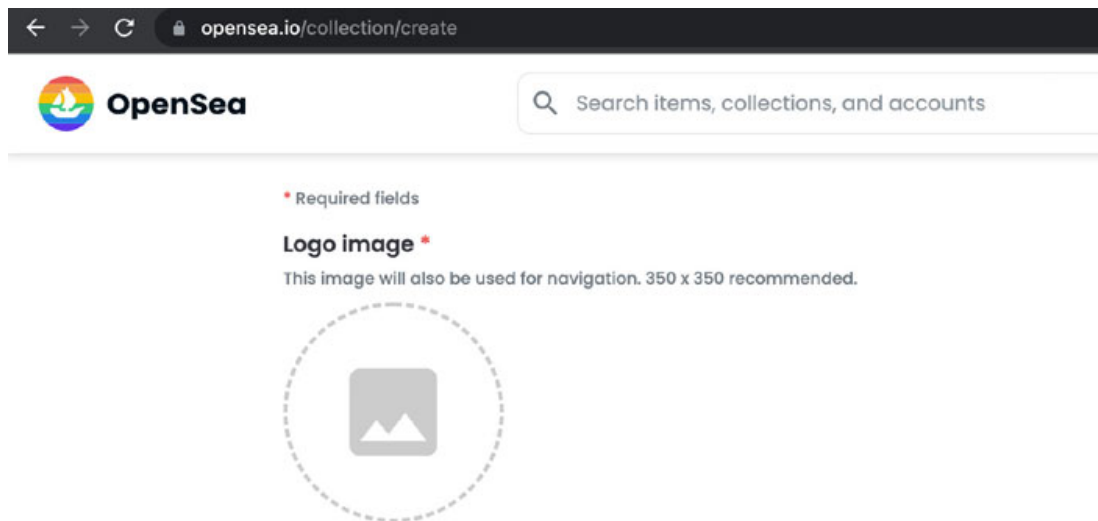
In order to create an image, if you do not have something created, we will open Paint (if you are on Windows), or if you are on Mac, you can download GIMP (that is an open-source image editor). Once you install it (if it is the case) and open the image editor, we will draw a simple image and save it as .PNG or .JPG.





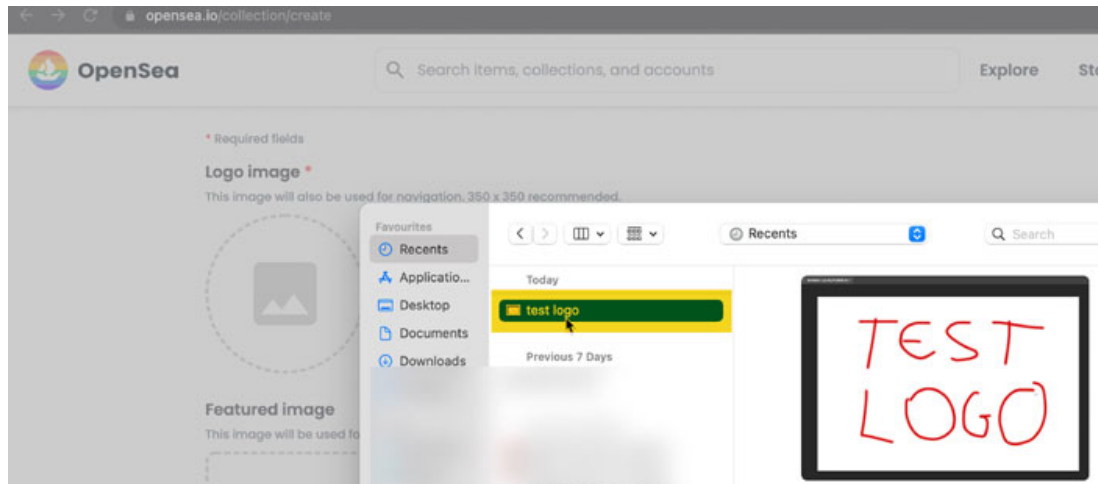
*Figure 6.7: Test image example [7](#)*

7. Once you have the image, we will go back to the OpenSea form and click on the Logo image.



*Figure 6.8: Uploading the logo image [8](#)*

8. We select the image from the PC/Mac:



*Figure 6.9: Selecting the test image we created [2](#)*

- a. Now, we are continuing with the form.
- b. We select a name—please note that this needs to be unique on the OpenSea platform.

### Name \*

Test Collection MyName|

✓ This name is available.

*Figure 6.10: Giving a name to your collection [10](#)*

- c. We will then select the “Polygon” blockchain—in order to have 0 fees

### Blockchain

Select the blockchain where you'd like new items from this collection to be added by default. ⓘ



Ethereum



**Polygon**

A high-speed, gas-free blockchain that works with Ethereum



**Klaytn**

A global blockchain platform



**Solana**

A high-speed, low-cost, sustainable blockchain

A high-speed, low-cost, sustainable blockchain.

*Figure 6.11: Selecting the blockchain for the new collection [11](#)*

d. We can now click on **Create**.

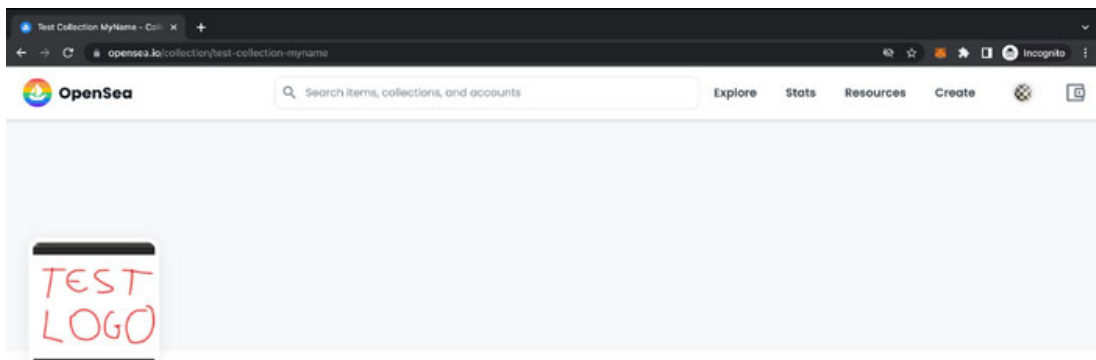
## Explicit & sensitive content

Set this collection as explicit and sensitive content ⓘ



*Figure 6.12: Creating the collection [12](#)*

9. Now that our collection is created, we will add a new item.





*Figure 6.13: Add a new NFT item [13](#)*

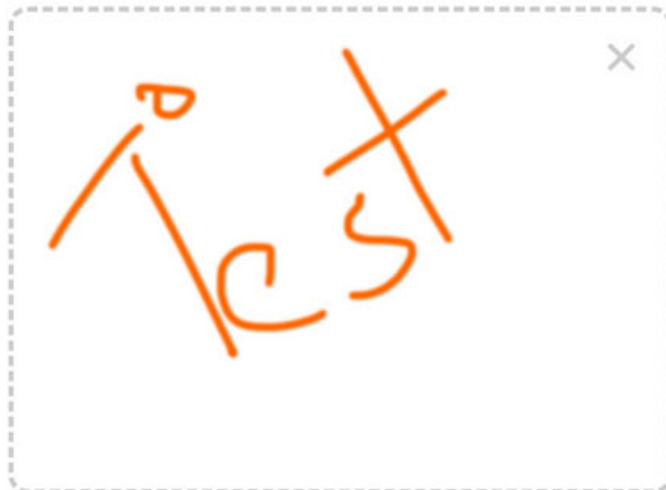
10. Once the form is open, we will upload the same image we created as a Test Logo.

## Create New Item

\* Required fields

### Image, Video, Audio, or 3D Model \*

File types supported: JPG, PNG, GIF, SVG, MP4, WEBM, MP3, WAV, OGG, GLB, GLTF. Max size: 100 MB



*Figure 6.14: Creating a new item [14](#)*

a. We will then set a test name:

**Name \***

*Figure 6.15: Enter the name [15](#)*

- b. Furthermore, we add a test description and select the collection we created (if it is not already selected):

**Description**

The description will be included on the item's detail page underneath its image. [Markdown](#) syntax is supported.

**Collection**

This is the collection where your item will appear. ⓘ


*Figure 6.16: Entering the description [16](#)*

- c. Next, we set how many NFTs are being created with this image. For example purposes, we will set this to 1.
- You also need to check if the “Blockchain” is set to Polygon, and then you can click on **Create**.

**Supply**  
The number of items that can be minted. No gas cost to you! ⓘ

1

**Blockchain**

 Polygon

**Freeze metadata** ⓘ

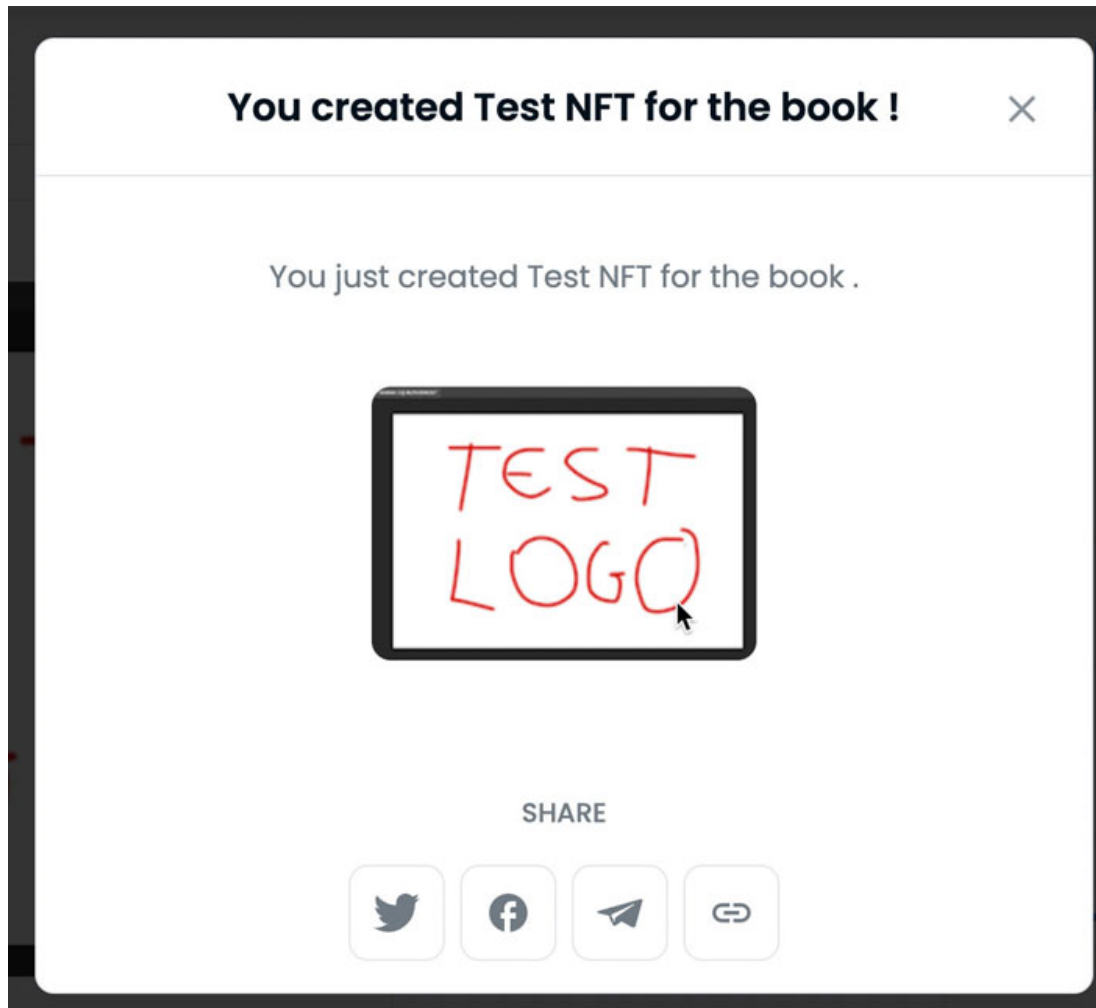
Freezing your metadata will allow you to permanently lock and store all of this item's content in decentralized file storage.

To freeze your metadata, you must create your item first.

**Create**

*Figure 6.17: Selecting the supply and blockchain [17](#)*

11. Once the process is completed, you should receive a success message as shown in the following figure:



*Figure 6.18: The Test NFT was successfully created [18](#)*

Congratulations on your first created NFT!

## **[Creating NFT collections](#)**

If you would like to pay, we suggest the following steps to create an Ethereum-based collection of NFTs:

1. Once you know the type of art that you want to create as an NFT, you will need to see how you can create a full collection of 3,000–10,000 items. Based on our experience, we would recommend a 10K collection.
2. In order to achieve this, you will need a sort of automatization, and the easiest one is in 2D (*if we talk about 3D, things get more complex*). 2D collections like CryptoPunks are created by sketching a base model set of artwork and then, depending on the base type, start drawing and sketching different sets of

accessories (glasses, earrings, and cigars) and facial features (eyes, ears, hair-do, and goatee).

3. Once this is done, a script can generate an X number of Y images that are basically a random mix of the base + accessories + parts. If you do not have the editing skill to achieve this, you will need to go to some of the platforms that can help you with this and are specialized in generating collections, or you will need to hire a freelancer to help you with it.

## Website/social media

You need to create a website, social media account, and logo so that you can market your newly created collection. We will not enter into details here because it will be covered in [Chapter 11, \*NFT Risk and Security\*](#) when we will discuss about Marketing. The most successful projects have impeccable designs as they are paying extra attention to details that we consider to be a part of the secret recipe to success.

## Minting

In order to sell the full collection, you need to create a website with a minting script behind it that will basically allow your buyers to mint a random NFT directly from your official website. They can do so by connecting it with their wallet via a browser extension (*Metamask.io* is the most popular one), who will then pay the minting price (*glossary, 6*) that you ask for plus the gas fee (*glossary, 7*).

In general terms, when you open the minting process, buyers will come to your website and mint an NFT that will be created directly in their Ethereum wallet. The buyer will be able to see directly what they have received when they are using an Ethereum-based marketplace (like Opensea). This is where people are entering the Gold Rush experience.

Setting up a minting script is a more advanced topic that should best be handled with a qualified IT engineer present.

## Wallet

Nevertheless, you will have to create a new **crypto wallet** (as seen in [Chapter 6, \*NFT Tech\*](#), or in our exercise on how to create your NFT) and further write an Ethereum smart contract (if you are doing it yourself, you need to be careful here because you will pay a fee to publish the smart contract on the Ethereum blockchain based on how large the initial code is).

If this cost is over 0.25 ETH for a 10K collection of NFTs, then you should revise the code. In the initial smart contract release, you need to define the cost per NFT and the traits for each NFT, and where the content is hosted.



Second, you will need to upload your NFT content (image, photo, video, and artwork) somewhere, and for this, you will need an **InterPlanetary File System (IPFS)** hosting (*glossary, 8*) like, for example, Pinata.cloud, the most popular one.

IPFS is a protocol and peer-to-peer network for storing and sharing data in a distributed file system.

The third step is to make your own minting page, and for that, it would be recommended to use a VPS server; as for some of the steps before, you will need a specialized engineer to help with that or to spend time understanding how you can do it yourself.

## Testing

Before you go to production, everything should then be tested in the Ethereum test net so that you can solve any possible issues that may otherwise directly kill your project. If, for example, something does not work well and people do not receive what they expect, then this will have a critical impact on your project.

Please note that, for example, it will also not be possible to transfer other NFTs to your customers who did not receive what they expected (as the result of issues) because, for each transfer in the Ethereum network, you will pay a gas fee (26 US\$ as of today).

## Launch date

Finally, you will need to set a launch date and do promotions on social media, as we mentioned earlier, but we will discuss different marketing strategies and “growth hacks” that you can do in the upcoming [Chapter 11, \*NFT Risk and Security\*](#) when we will discuss about marketing.

## Costs

Each of these points, from the smart contract creation to the website and marketing, will have a monetary cost associated with them, and if there are several people working on your project, you may have to come up with a percentage cut for everyone involved. Or get capital for your project in advance.

Based on our experience, in order to reduce the number of possible losses, you should try to first check if someone in your network might already have some of the necessary skills and is willing to join your project for a chunk of the pie.

## The NFT team project

Here is the scenario where you manage to *gather a group of friends* to join in your exciting NFT project.

In terms of the step-by-step procedure, we already detailed it in part before, but when you gather a group of people to work on a project, there are many challenges that you need to take into consideration.

For our “Gambit Chess Club” ([www.gambitclubnft.com](http://www.gambitclubnft.com)) project, the NFT guys gathered eight people that were all having full-time jobs, and in your case, it may probably be more or less the same. From the experience of the project, we drafted the following *set of best practices* that will help you increase your chances of selling and trading your NFTs:

## Creating a team

If you want to involve all the required team player profiles, you should gather people with the following skills, ordered here by both cost and importance to the project:

- **Designer/artist** is going to design all the elements that are going to be included in your NFTs. To create hype around the designer, you can also contact multiple artists that will each make a set of X NFTs so that when you launch, you have a base of fans formed from the sum of the social networks of all artists involved.
- **Blockchain engineer(s)** have the ability to cover the Ethereum smart contract and the minting process.
- **Developer(s)** are able to help with the collection generation and the back-end of the website.
- **Community manager(s)** runs the social media part. There are two different social media sites that we identified as important.
  - First is *Discord*, which for the people that are not familiar with it, is an instant messaging platform that is designed to help you stay close to your friends and communities. Here, your community manager(s) should be able to properly manage the technical side of the Discord server creation and be able to deploy Discord bots that will help you automatize the interaction and how you engage the people that are joining your server—it is a key element of success.
  - Second, we have *Twitter*, which is also critical, and some famous projects were selling really well due to their Twitter page.
- An *adviser or expert* should be from the area or theme that you are targeting with your project. For example, in our case, we created a Chess related project, and we had a former World Youth Chess Champion joining our core team.

## Leadership

You should have a team leader from the beginning. If the crew is mostly formed of engineers, you can follow a tech company approach by having the person in the lead in the form of a “Product Manager” that oversees the tasks in the backlog and timelines.

The leader plays another crucial role because, together with the Community Manager, they will need to contact and get some partnerships with relevant companies or people from the NFT market segment you are targeting.

## **Percentages and other incentives**

Make it clear from the beginning how much each team member is getting and what is expected from each person.

## **Budget**

You need to make it clear from the beginning if you have extra costs (overhead) and how these are going to be covered. If there is an equal split of shares, then all costs that arise before the project should be split equally based on the share percentage of each team member. Thus, the team should spend some time, in the beginning, to put on paper all possible costs and make an estimation because, in some cases, some of your team members may not be able to pay that X amount. This should be explained to all when they join the project.

## **Motivation**

This is a hard one with which we struggled in our own project.

Our issue here is that everyone had permanent jobs and/or studies, so it was quite difficult to have a common mood because each one had different issues and good or bad days at their main place of activity. We saw that having a good structure in place helps so that each person knew what he/she had to do and what was the expected output and deadline.

## **Networking**

We found it practical to just show the project to anyone who was interested and get feedback from them. This can be done with your close friends and family at the beginning, and we found that you should not limit yourself to only one age range, domain, and so on. It is, for instance, very important to see also what different generations have to say about an NFT project and take from their feedback the relevant parts.

Please note that this book is written by three people that are each part of a different generation, and this makes a big difference since each of these generations will identify

themselves with different parts of the NFT world, and this strategy can easily be applied to your own NFT project.

After tapping our own personal network, we can subsequently go to social media to promote the project.

## **Corporate-level NFT production**

The advantage of people working in a company is that perhaps we already have colleagues with complementary skills for launching an NFT collection or enough budget to hire some professional freelancers to help with the missing pieces.

We can safely predict in this book that in the future of Marketing 2.0, there will be NFT specialists in all marketing/finance departments of relevant corporations (that have qualifying digital or IRL products), as well as in sports clubs, museums, theatres, and cultural institutions (*an official NFT with the Eiffel tower would probably write history*). NFTs will be ubiquitous in commerce and culture, opening up new opportunities throughout the business landscape.

Similar examples are already present on the market, and we believe that in the upcoming years, we will experience an exponential increase in NFT projects at the company level.

## **Products, merchandise, and NFTs**

As we explained earlier, there is unlimited potential for products and merchandise to tie in with NFT and smart contracts, and we already see some important NFT projects on the market.

For example, Coca-Cola made different partnerships and published their NFTs on a Marketplace called VeVe. This adds to other brands that have already created NFTs on this platform, such as Disney, Marvel, DreamWorks, Universal, WB, Givenchy, United States Postal Service, DC comics, CartoonNetwork, and Pixar.

For such major players, the NFT area is being fully explored—they have joined the Gold Rush—and they have already digitalized and NFT-ed some of their most famous artworks, characters, or logos. Some special NFTs became so popular that they were trading with 1,000X of their initial value, for example, a 3D gold statue of Walt Disney and Mickey Mouse that has become an icon on the Veve marketplace.

## **Entering the VeVe marketplace**

In order to see how the VeVe marketplace works, we will now see how we can install it and get NFTs from their platform. We will also show what an account looks like when you have many NFTs already bought. The Veve application is available on the web, and for mobile, on iOS and Android.

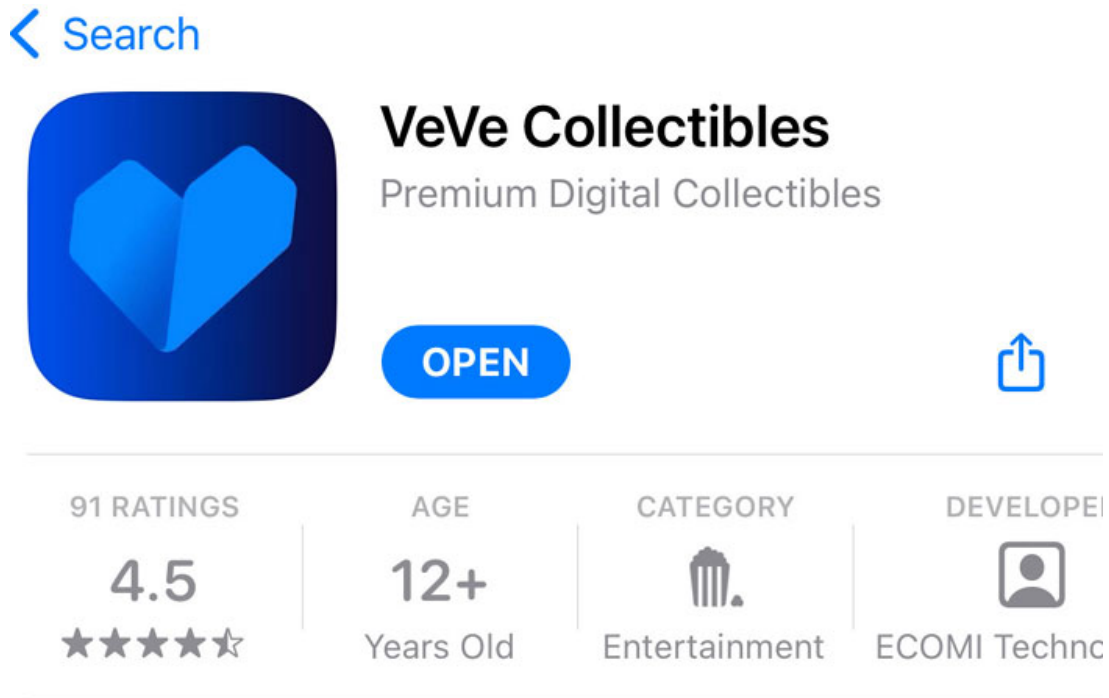


Figure 6.19: The VeVe collectibles application on iOS <sup>19</sup>

1. Once you download the application, you need to create an account.
2. Once you are logged in, you can start a search for your different types of NFTs to gauge the possible market positioning for your corporate NFT.

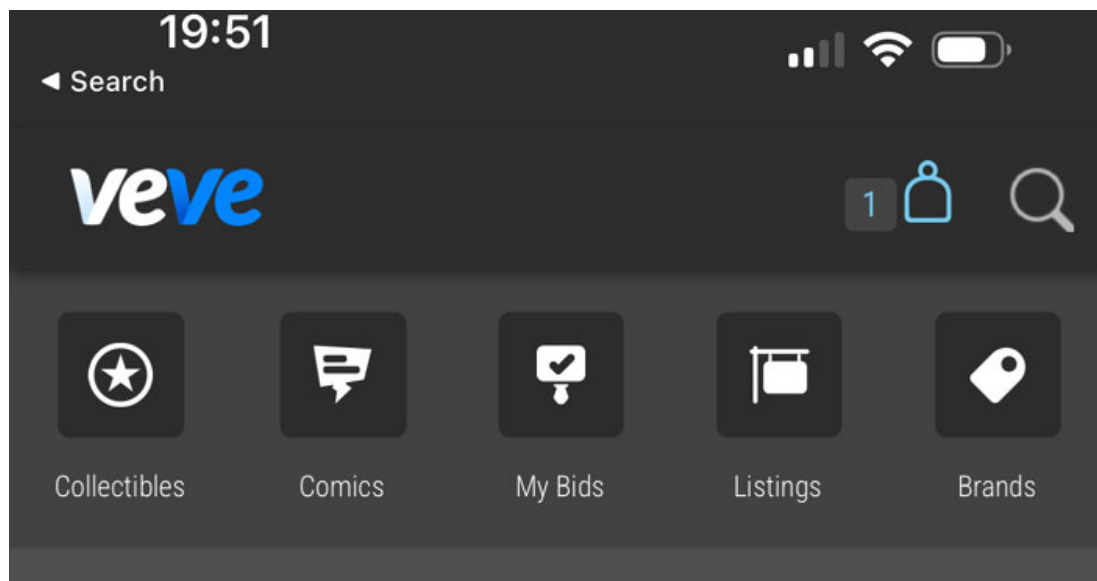


Figure 6.20: The VeVe account <sup>20</sup>

3. This is what an account looks like (you see two Marvel universe characters and one animated NFT).

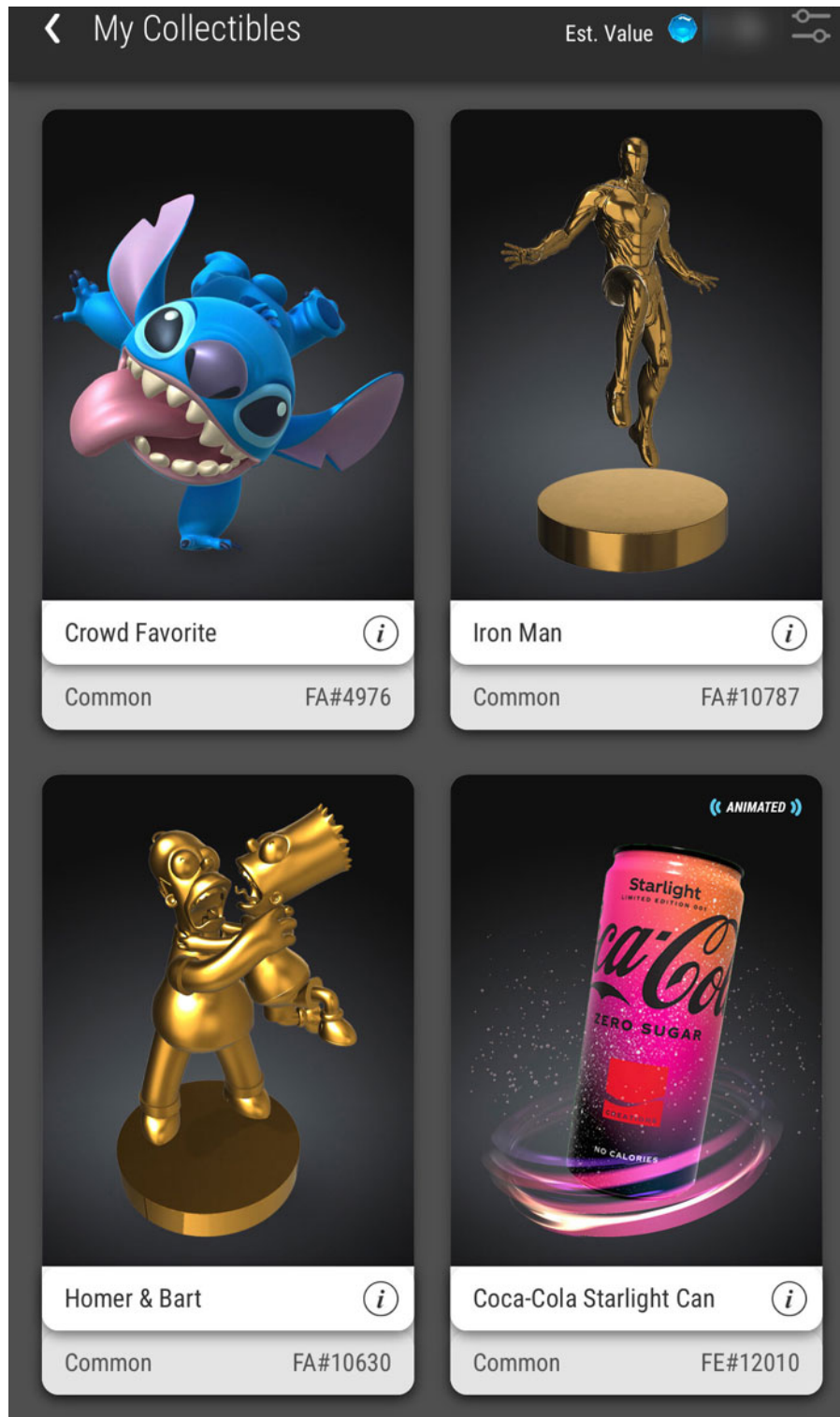


Figure 6.21: The VeVe account overview and NFT examples [21](#)

4. To enter this market with your corporate logo.

## **Our own project example**

As an example of one of our projects, under the “Gambit Chess Club”, we created a special 3D chess set for a Chess Federation because they wanted to have a unique NFT set in which each piece (pawns, knights, rooks, bishops, king, and queen) is signed by different personalities that influenced the Chess ecosystem.



*Figure 6.22: Example of 3D NFT created for the Romanian Chess Federation [22](#)*

To start, first, you will have to identify what is a possible NFT project within your field, and this can be a product, either new or already famous from the past (*to give you*



*an example, Veve is digitalizing and publishing famous iconic comic books even from the 60s). In other words, whatever is chosen must be somehow “collectible”.*

Once you have identified the project, you should increase the level of NFT knowledge within your field. Discuss with the management or HR how to organize an NFT workshop to explain what NFTs are. You can use our book as a base for your small event, and as we are going to see in the following section, we can learn to create a simple NFT for the occasion.

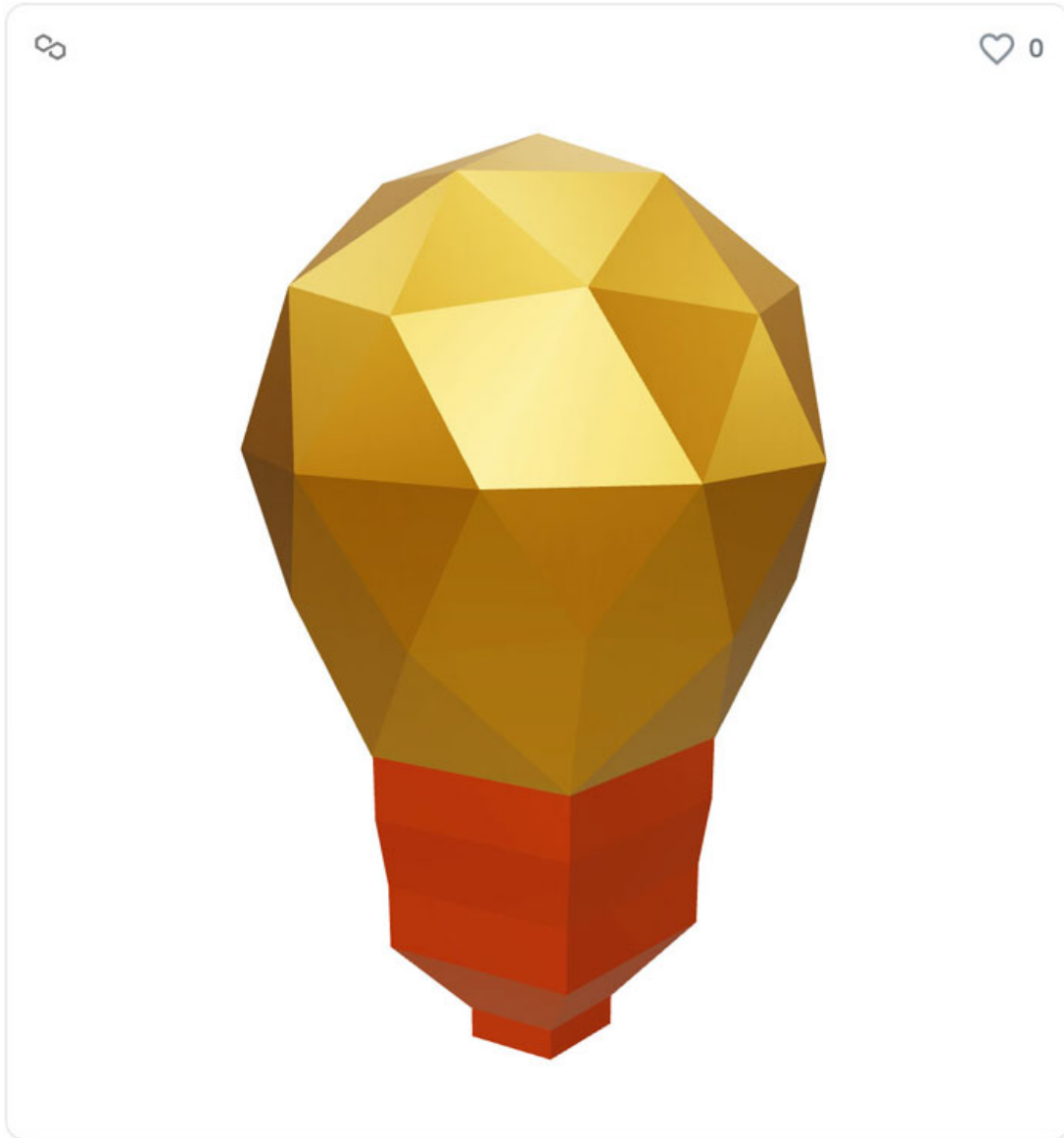
Once the level of understanding is a bit higher, you can then move further and create a presentation for your team with your idea, including examples and explaining the possible **Return of investment (ROI)** for the NFT launch. In order to gather data regarding possible revenues and marketing campaign costs, check other brands/companies that have already launched something similar, even if it is not exactly the same thing that you want to create.

## Events

When it comes to events or launch presentations, people are always eager to join if you bring innovation, a special gift for attending the event, or a special prize for winners (*if you are organizing a hackathon or any type of competition-like event*).

Here is an example of working with a team organizing an internal event that was designed to be a one-day workshop on innovative topics.

Knowing that innovation and NFTs go hand in hand, we created a collaboration with co-workers who helped with designing a 3D model (following photo) for an NFT in two editions. An NFT was created for all the participants in the event, and a “golden” edition set was created just for the winning team during the competition at the event, minted individually for all the participants and winners.



*Figure 6.23: Example of a “Golden” 3D NFT created for a corporate event [23](#)*

Here follows a step-by-step of the creation process, which will take you, by and large, through the same steps as in *Exercise 1* in this chapter. You will be able to test your knowledge application of the topic for the chapter:

1. Before the event starts, print out some pages that contain information about the following:
  - a. What NFTs are
  - b. How you can create a wallet (if you do not have one)
  - c. How to claim your NFT via a QR code that takes you to a form

2. A colleague expert designs the 3D model (see preceding picture) and exports it in a GLB format.

For this step, you can use a picture of the event logo or any other digital piece that you may have. Please note that you need to have the copyright of the material you are uploading as an NFT. Or just simply create it yourself.

3. When it comes to corporate events, if you will be using your company's logo or any other branded materials, you should first get the okay from your marketing team.

From here, we are following up on the steps that we detailed earlier in our step-by-step tutorial on how to create your first NFT.

4. Go to *opensea.io* and create a new wallet (via *metamask.io*).
5. Create a new collection on the Polygon blockchain (close to zero fees for the creation and NFT transfer).
6. Create a new NFT item and upload the 3D model (GLB format) as content and create a preview image for it. If you are uploading a 3D piece, you also need to have an image to be displayed because it is not automatically generated from the 3D model. However, if you are uploading an image, you can use the same.
7. Add some properties for the NFT, such as Name, Description, and some special traits used to give rarity to an item (for example, you have a collection of 10,000 NFTs, but only 1% are made out of diamond texture).
8. Once the event is finished and people send their wallet information via the form, make the transfer directly from *opensea.io* with 0\$ costs (since transfers within the Polygon network on *opensea.io* are free—at this point).

## Conclusion

We hope that this chapter and our examples gave you an understanding of how you can create your first individual NFT or NFT collection and how to apply technical NFT skills and competencies at the individual, team project, or company level.

In the upcoming chapter, we will see how we can put this NFT up for sale.

## Glossary

1. *Opensea*: Opensea.io is the biggest NFT marketplace.
2. *IRL (in-real-life)*: Refers to a real object that you can feel in real life, as opposite to digital objects.
3. *Claude Monet* : He (Nov 14, 1840–Dec 5, 1926) was a French painter and founder of impressionist painting.

4. **Do your own research (DYOR)** : A common acronym used in the crypto space, which refers to doing your own research before investing in a project.
5. **Return of investment (ROI)** : The calculation of the value of an investment versus its cost.
6. **Minting price** : The initial price paid when the NFT is created/mined
7. **Gas fee** : The fee that is paid for a blockchain creation. Ex: when an NFT is minted or transferred.
8. **InterPlanetary File System (IPFS)** : An *off-chain* protocol and file-sharing P2P (peer-to-peer) network for storing data.

## Frequently asked question

### 1. **What is the most important technical skill for creating NFTs?**

This is one of the questions that we hear very often, and unfortunately, there is no simple answer to it. When it comes to NFT projects, in terms of technical skills, probably the most valuable is developer knowledge of the blockchain on which you are planning to create your NFT collection. For example, if you have the know-how on how to create a smart contract on the Ethereum blockchain, you will be able to quickly understand how to build your project and further connect the remaining dots like the creation of your minting page, and so on.

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<sup>1</sup> Cryptopunks NFTs image, public domain—created by Larva Labs.

<sup>2</sup> Screenshot from Metamask.io website, public domain.

<sup>3</sup> Screenshot from opensea.io website, public domain.

<sup>4</sup> Screenshot from opensea.io website, public domain.

<sup>5</sup> Screenshot from opensea.io website, public domain.

<sup>6</sup> Screenshot from opensea.io website, public domain.

<sup>7</sup> Image created by NFT Guys.

<sup>8</sup> Screenshot from opensea.io website, public domain.

<sup>9</sup> Screenshot from opensea.io website, public domain.

<sup>10</sup> Screenshot from opensea.io website, public domain.

<sup>11</sup> Screenshot from opensea.io website, public domain.

<sup>12</sup> Screenshot from opensea.io website, public domain.

<sup>13</sup> Screenshot from opensea.io website, public domain.

<sup>14</sup> Screenshot from opensea.io website, public domain.

<sup>15</sup> Screenshot from opensea.io website, public domain.

<sup>16</sup> Screenshot from opensea.io website, public domain.

<sup>17</sup> Screenshot from opensea.io website, public domain.

- [18](#) Screenshot from opensea.io website, public domain.
- [19](#) Screenshot from iOS App store, public domain.
- [20](#) Screenshot from Veve application iOS, public domain.
- [21](#) Screenshot from Veve application iOS, personal public profile.
- [22](#) “GambitClub NFT” image, public domain.
- [23](#) “Innovation day” NFT image, public domain.

## CHAPTER 7

# How to Sell Your NFT

Now, let us get back to 1898. You followed all the steps, you had a little bit of luck, and you struck gold! But now that you have all those gold nuggets in your bag, you have a new challenge ahead! What do you do next, and where and how do you sell them? What are your pricing strategies? What is the fair price? How do you avoid getting scammed in the selling process by bad people? We will develop upon all these questions in this chapter.

In the following figure, you can see how the mined gold was arranged and presented back in the day, and in this chapter, we are going show you how you can sell and showcase your NFTs to reach the gold pile.



*Figure 7.1: How to set up your own trading company in the wilderness [↓](#)*

## Structure

In this chapter, we will cover the following topics:

- Selling your NFTs on an NFT marketplace
  - Fixed price
    - *Opensea (glossary, 1)*
    - *Rarible (glossary, 2)*
    - *Binance (glossary, 3)*
  - Auction
    - Opensea
    - Rarible
    - Binance
- Selling NFTs on your own minting webpage
- Cyber Security
  - Keeping your security key
  - Copycat collections
  - Copycat website
  - Other security measures

## **Objectives**

After reading this chapter, you will be able to understand how and where you can sell your NFTs. You will understand what your options are when you are going via a Marketplace, but also when you are doing your own minting Web page. In the second part, you will understand what you should keep an eye out for in terms of security, from copycat collections to how you can keep your security key safe and other safety measures.

Like during the gold rush, whether it is selling the gold you mined or the NFTs you just minted, there are multiple ways you can do it.

## **Selling your NFTs on an NFT marketplace**

This is the example we gave earlier in [\*Chapter 6, Technical Skills for Creating NFTs\*](#), when we published an NFT on *Opensea (glossary, 1)*. Here, we will explain the next steps on how you can actually put it up for sale.

There are following two different market price strategies that we are going to underline in a different market:

- Fixed price
- Auction

## Fixed Price

In a *fixed price market price strategy (glossary, 4)*, an amount is set as fixed, and the first buyer who can pay it will receive your NFT. Part of this price is composed of the fee that the marketplace is taking, and another percentage will go to the original author in the form of *royalties (glossary, 4)*. There is no bidding war in this strategy.

## Opensea

When an NFT is put up for sale on the *Opensea* marketplace, *fixed price selling (glossary, 5)* is the most popular since auctions have the downside that buyers will have the amount they bid blocked for a certain period. On the sell side, this is a simple system that allows you to set the amount you would like to ask for your NFT from the beginning of the NFT creation process without spending too much time checking what happens in the marketplace.

As a downside, if your NFT is in high demand, people who *buy-to-flip (glossary, 6)* your NFTs may be purchased at your low initial price, just so the NFTs gets sold with a higher value in the upcoming period.

This type of sale also gives you the option to reserve your NFT for a potential buyer. This comes in handy when you are, for example, an artist who already has some preferred buyers or if you designed a special NFT for a certain person. If the preferred buyer does not buy it during a certain period, then it will automatically become publicly available for everyone.

**Reserve for specific buyer**



This item can be purchased as soon as it's listed

0xf45a189...



**Figure 7.2:** *The special option “Reserve for specific buyer” is available for fixed-price sell*

Among the available options, the fixed price is quite simple and intuitive. It allows us to set the price we would like to get as a seller and the date range during which our NFT will be up for sale. In the following figure, you can see an NFT published in a collection created on the *Polygon blockchain* (*glossary*, 7):

## Choose a type of sale

**Fixed price**   
The item is listed at the price you set.

**Timed auction**   
The item is listed for auction. [Learn More](#)

## Set a price ⓘ

**Floor**  
0.025 ETH

Amount ETH ▼

## Set duration

28 days ▼

## More options ▼

Figure 7.3: Image of a fixed price example on Opensea

Now that we have seen how the fixed price process looks on Opensea let us check two other popular marketplaces.

## Rarible

This marketplace has a similar structure to *Opensea*. When creating an NFT, you have the option to opt for a fixed price. In the following figure, you can see NFT published in a collection created on the Polygon blockchain:

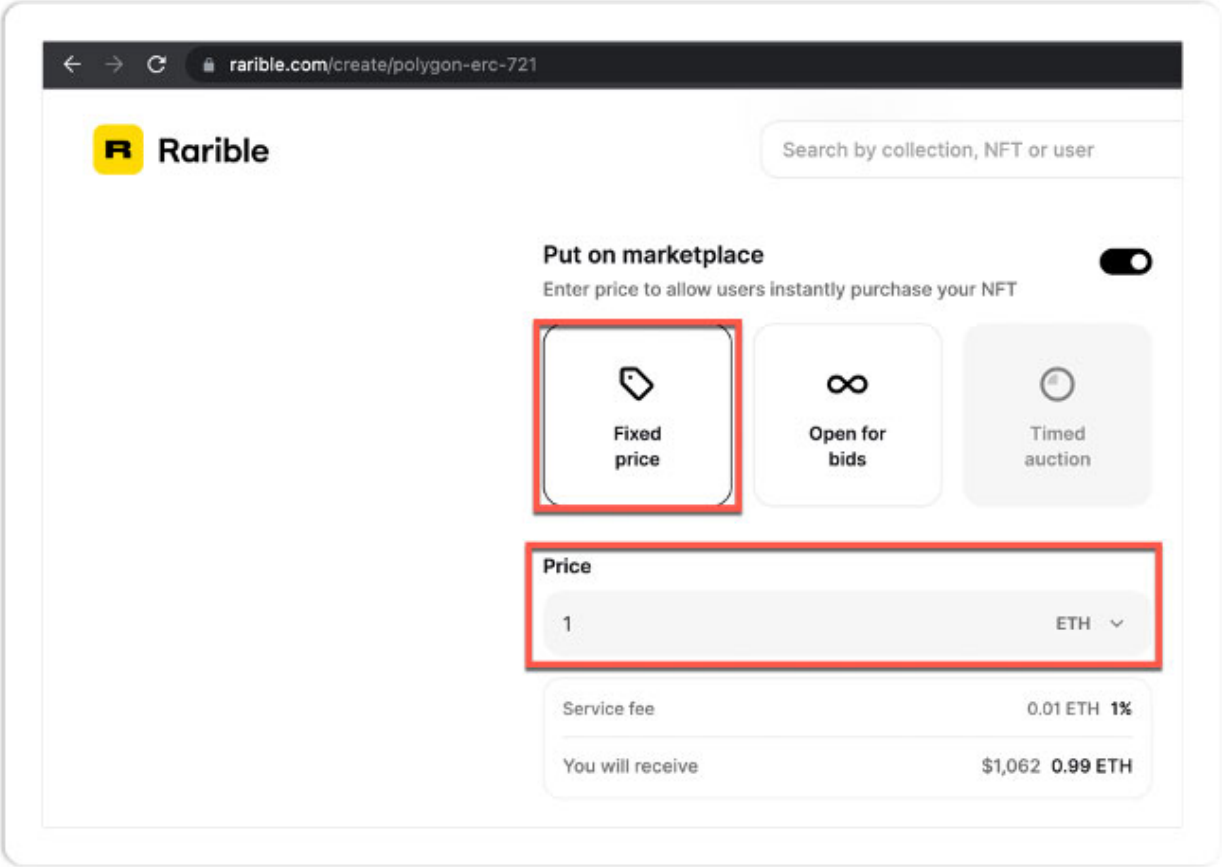


Figure 7.4: A fixed price example on Rarible.com

## Binance

Binance also offers a similar experience when creating a new NFT, having the fixed price together with some additional options specifying when the item will be listed while being transparent regarding the *royalty* (*glossary*,8) and platform fees. In the following figure, you can see NFT published in a collection created on the Binance blockchain:

Select your sell method \*

Set Price Highest Bid

Set Price \* BNB

Royalty Fee \*

2 BNB

1% of the total fee will be paid to the original creator/ beneficiary as a Royalty payment.

Platform Fee \*

2 BNB

1% of the total sale will be paid to Binance as a Platform fee.

Starts in \*

List immediately Custom List Time

Expiration Date \*

2022 / 02 / 21 00 : 00

Figure 7.5: Image of a fixed price example on Binance.com

## Auction

With a minimum bid amount and different options regarding duration and acceptance criteria, this sales strategy allows us to set the starting price, the minimum amount for which you are willing to sell.

You can also configure the method by the following:

- **Selling to the highest bidder:** This means that the highest amount when the auction ends will win unless it does not meet the minimum sale amount that you set.
- **Sell with a declining price:** This is a *Dutch Auction strategy (glossary, 9)* where you have an initial price that decreases to a lower amount in a certain time. This is useful when you do not know exactly how the market is reacting, so you set a high price that will go lower until you see where potential buyers are going to go for your NFT.

## Opensea

This strategy is also called a “timed auction”, when you can either sell to the highest bidder or opt for the *Dutch Auction (glossary, 9)*. It is, therefore, important that you list the duration (*the timing*) of your auction first and finally mention the reserved price (*the minimum price for which you are willing to sell your NFT*). The following figure is an example of an NFT that is published in a collection that was created on the Ethereum blockchain:

## Choose a type of sale

### Fixed price

The item is listed at the price you set.



### Timed auction

The item is listed for auction. [Learn More](#)



## Choose a method



### Sell to highest bidder

The highest bid wins at the end.



### Sell with declining price

The price falls until someone purchases the item.



## Set a price

**Floor**

0.025 ETH

## Starting price

Amount

ETH

## Set duration

 7 days



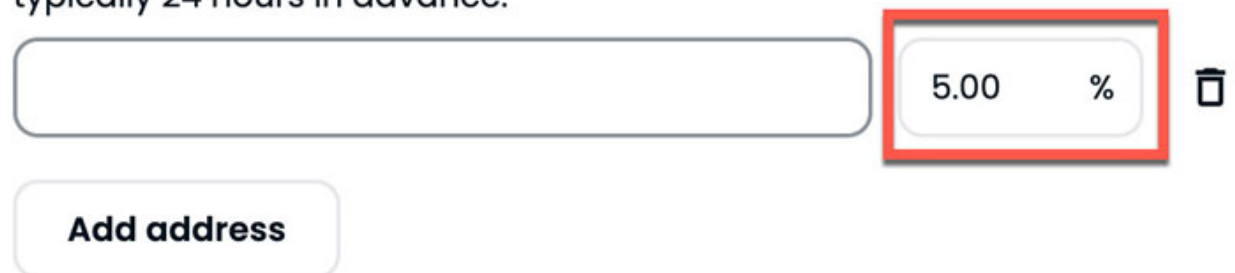
*Figure 7.6: Auction price example on Opensea*

The auction strategy of selling might be the best if your NFT is trending and the initial price you expected surged a few times in a short period of time. This makes the people interested in buying and flipping may get it at a low price. However, please note that this type of sale is not popular on platforms that run on the Ethereum blockchain, and unless your NFT is trending, people will not bid for it.

Another point that you need to keep in mind when you are selling your NFT is that you can define resale royalties for the original creator. On most platforms, this entry allows you to set a percentage (that is usually between 0% and 10%), which you are going to receive for any upcoming resale of the NFTs you created. This option will be specified under the collection that you created, and all the NFTs within that collection will inherit this. You can see the following figure to understand what a *creator earnings page* (*glossary, 10*) looks like:

### Creator earnings

Earn a percentage of the sale price every time one of your items is sold. You'll also need to enable creator earnings directly on other marketplaces typically 24 hours in advance.



The image shows a user interface for setting creator earnings. It features a large, empty rounded rectangular input field on the left. To its right is a smaller rounded rectangular input field containing the text '5.00 %'. A red rectangular box highlights this smaller input field. To the right of the '5.00 %' field is a trash can icon. Below these input fields is a button with the text 'Add address'.

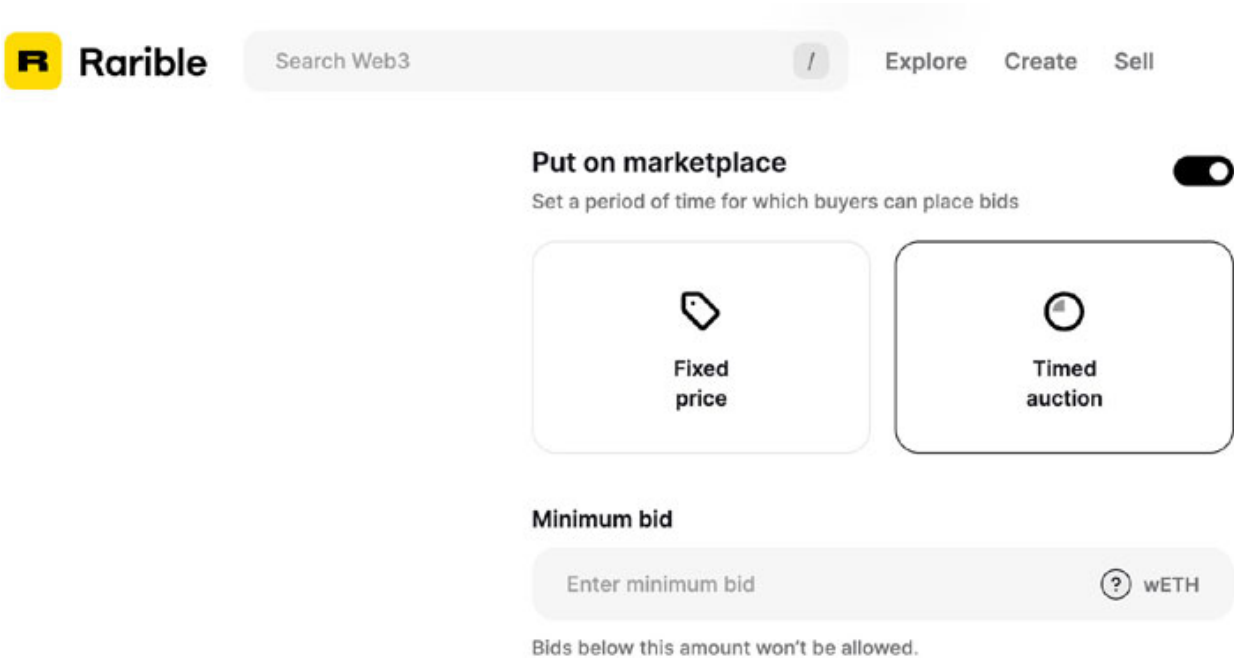
*Figure 7.7: Creator earnings (a.k.a royalties) when creating/editing a collection on the Opensea platform*

Now that we have seen what the auction process looks like on *Opensea*, let us check two other popular marketplaces.

## [Rarible](#)

Like *Opensea*, *Rarible.com* has similar auction options when publishing an NFT. However, for the Polygon blockchain, when it comes to auctions, you only have the *open for bids option* (*glossary, 11*), which allows others to bid for your NFT, but without having any special features. An NFT published in

a collection created on the Polygon blockchain can be seen in the following figure:



*Figure 7.8: Image of a fixed price example on Rarible*

A “timed auction” option is available when you are publishing an NFT on *Rarible* with the Ethereum blockchain. This allows some advanced options. Here, you can set the *minimum bid* (*glossary, 12*) amount, the auction *starting date* (*glossary, 13*), and for how long it will run. NFT published in a collection created on the Ethereum blockchain can be seen in the following figure:

**Note: Since there are more gas fees for Ethereum than on Polygon, it proves that the crypto you use makes a difference in the features that you get when you sell your NFT.**



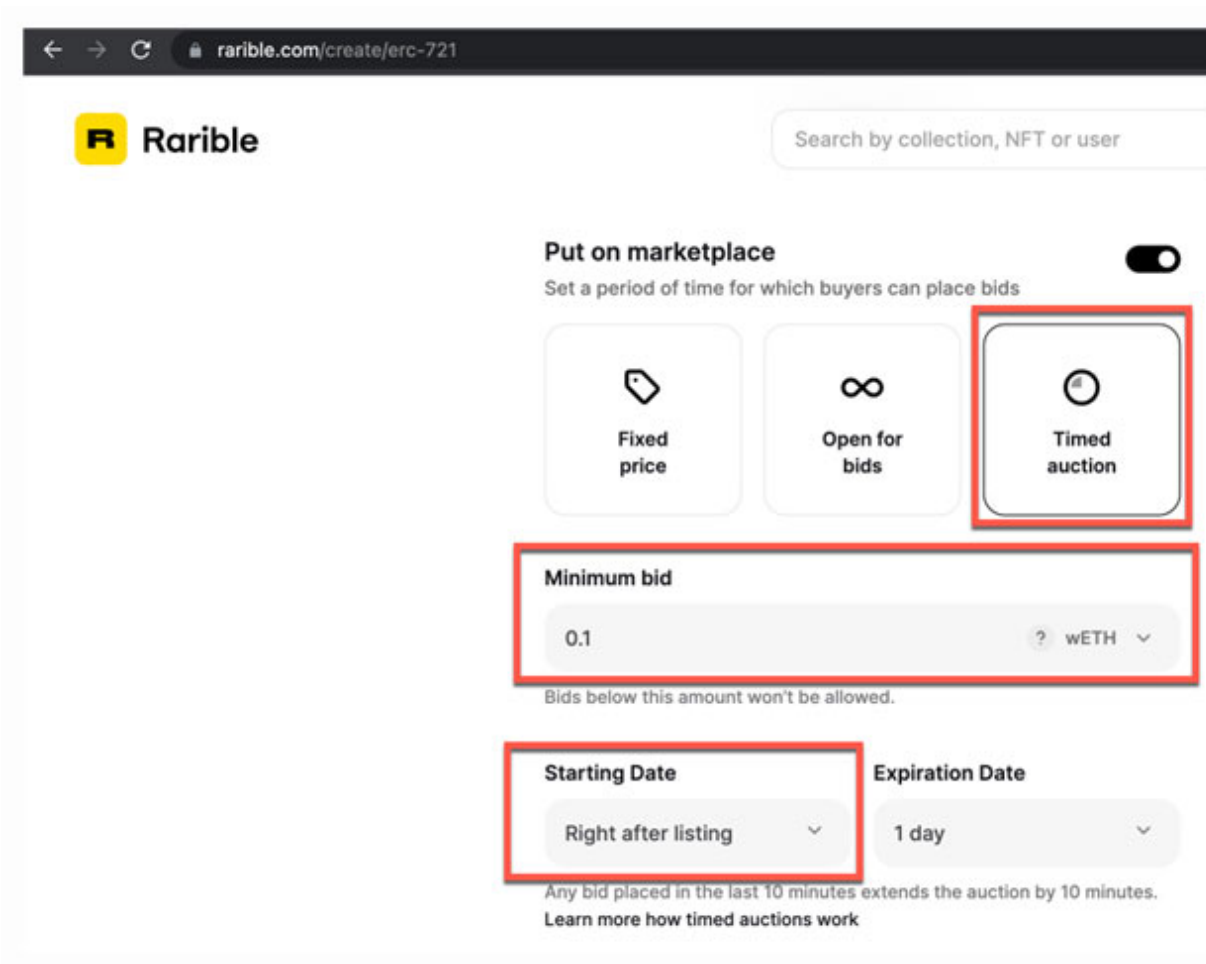


Figure 7.9: Image of an auction example on Rarible

## [Binance](#)

*Binance* also offers an auction option under the name of the *highest bid* (*glossary, 14*) when you are setting up your selling and pricing method. This mode offers some advanced options, from the *minimum bid* (*glossary, 15*) to a *buyout price* (*glossary, 16*) that allows a buyer to buy the NFT immediately if that set value is paid.

What is quite interesting is that they also offer a *minimum markup* (*glossary, 17*) option that allows you to set the minimum percentage amount between bids. This means that if the initial price is 5 *BNB* (*glossary, 18*) and you set this at 10%, the next bid can be a minimum of 5.5 *BNB* (*glossary, 18*) (0.5 is 10% from the initial price). This helps you avoid having the bidders make very small bids to win the auction.

As on the other platforms, *Binance* also offers a flexible starting point for your auction and expiration date. An NFT published in a collection created on the *Binance* blockchain can be seen in the following figure:

Select your sell method \*

Set Price Highest Bid

Minimum Bid \*

BNB

Buyout Price

BNB

Buyers can close the deal directly at this price.

Royalty Fee \*

2%

NFT royalty fees are payments to compensate the original NFT creators with a percentage of the sale price.

Platform Fee \*

2%

Binance NFT platform service fee.

Minimum Markup \*

5% 10% 20%

When the bidder's bid is allowed to be greater than the minimum price increase. If it is less than the minimum price increase, the bid cannot be made.

Auction List Time \*

List immediately Custom List Time

Expiration Date \*

2022 - 02 - 21 00 : 00

*Figure 7.10: Image of an auction price example on Binance.com*

## **Selling NFTs on your own minting webpage**

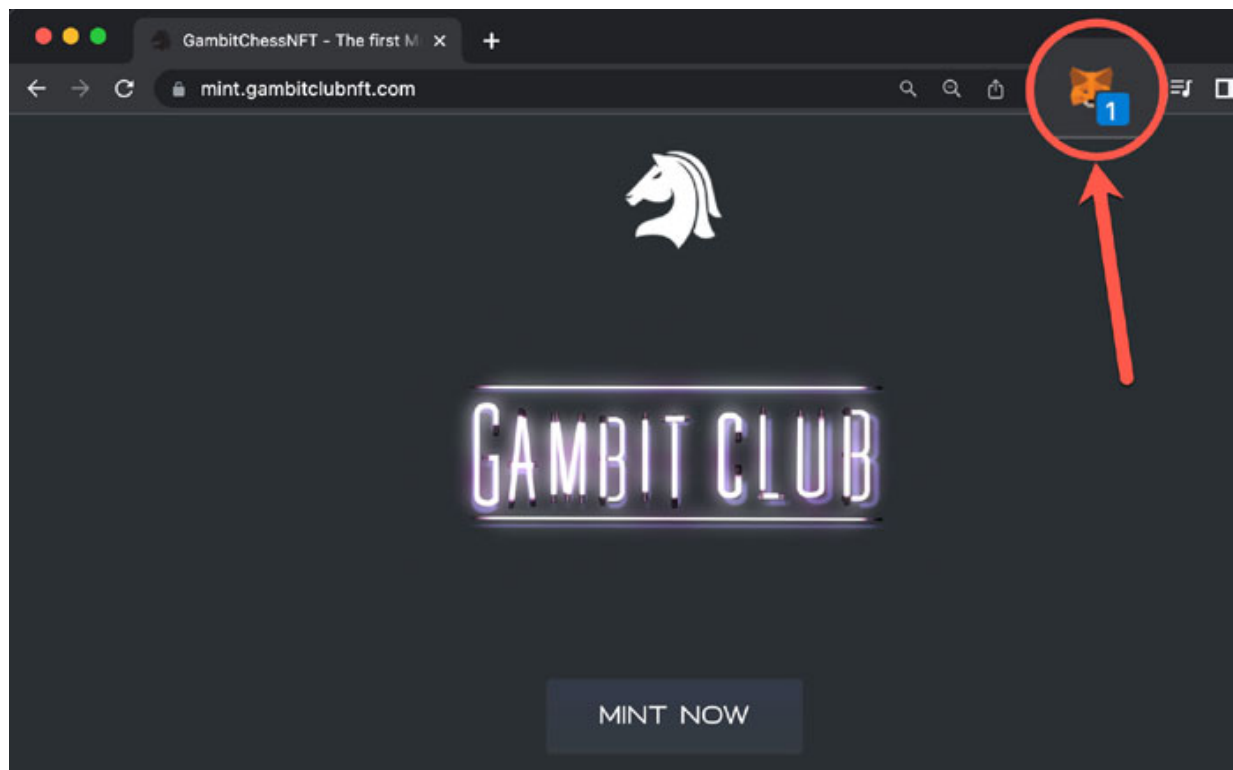
This is an advanced method of creating your own minting page to launch a new Ethereum-based collection (as was detailed in the previous chapter), for which you will need two different sets of technical skills: the ability to deploy a smart contract and the creation of the frontend/backend for a minting page.

Once you are through that phase, you can move further with the actual sale. In this part, we will discuss in detail how you can set the price. In [Chapter 10, \*The Marketing Perspective of NFTs\*](#), you will get some tips and tricks on how you can make your project known and increase your chances of selling most of your digital gold.

The selling via a minting page is designed for the launch of new projects that usually have between 3,000 and 10,000 NFTs where buyers will come *to your website*, connect with their own wallet (usually via a browser extension like Metamask), and then mint one or multiple NFTs for which they pay your price + gas fee(s).

When it comes to the actual sale, the price of the NFTs in the minting phase, as shown in [figure 7.10](#), is going to be defined in the Ethereum smart contract. The price can be modified by the NFT creator by updating the initial smart contract, but for that update, a special gas fee will be paid.

Most projects will have a certain pricing strategy for their sale; for example, the first 2,000 NFTs will come at a special price, whereas the next 4,000 will be double, and the last 4,000 will cost triple. This is a strategy that incentivizes early buyers, which is helpful because getting many early sales is a part of the secret sauce of NFT success, as we will see later in [Chapter 10, \*The Marketing Perspective of NFTs\*](#).



**Figure 7.11:** An example minting page of the Gambit Club platform, where people that are connected with the Metamask wallet extension can mint one of our Chess NFTs

In this case, as shown in the preceding figure, people will pay the price we defined in the Ethereum smart contract of 0.025 *ETH* (*glossary, 19*) + the gas fee.

The advantage of going via a minting page from a selling perspective is that your project will pop up on price monitoring tools (example: <https://icy.tools>), where the big investors are monitoring the market, and in some cases, projects will automatically sell out if they reach a certain sale amount during the minting phase because automated scripts of investors will mint the remaining NFTs in order to either buy to flip or to investment, depending on the project.

In short, when you are doing a *minting page sale* (*glossary, 20*), here are your top tips:

- Set a price strategy that incentivizes the early buyers (let us say the first 1,000 people will get it at 0.02 *ETH*).
- Create a *whitelist* (*glossary, 21*) with 1,000 slots so that the first 1,000 people that register on your whitelist will be able to buy one of the NFTs at an amazing early price. For the remaining number of NFTs,

you can set different price levels; let us say for the next 4,000 people can buy them at 0.05 ETH, and the last 5,000 are at 0.1 ETH.

- The IT engineer(s) that created your smart contract can implement such strategies.
- Before the go-live date, *test everything!*  
Make sure that you have *scalable infrastructure* (*glossary, 22*) for your IT, and people will be able to mint your NFT, even if they might have a few thousand buyers simultaneously on your minting page.  
This includes testing that you have enough resources on the machines that are running your minting page and that you have enough bandwidth, and the scripts can support a large number of simultaneous connections.
- Last, but not least, discuss your project with colleagues, friends, and family and ask them to buy some NFTs when the sale starts. This is one of the triggers that may lead your project to sell out.

## Cyber Security

Another important part of selling your NFTs is knowing how to stay safe and protect yourself and your digital assets because you may be targeted by various scam attempts or other cyber-attacks. We are now going to underline the main aspects that you should be aware of from a cybersecurity standpoint. For further reference and study on NFT risks and fraud we refer here to [Chapter 11](#) of this book, *NFT Risk and Security*.

### Keeping your security key

The main wallet that is connected to the smart contract should have the security key/secret passphrase put in a safe place. Avoid having more than 1–2 people that have access to it. We often see projects where this is shared with the whole team. This increases the chances of a “*disgruntled*” team member attack or an involuntary event where one of your team members discloses this information to a scammer.

### Copycat collections

It is not uncommon to find projects with a similar name as yours that take your pictures, logo, and project details to create a scam collection on the platform you are launching in order to trick people that search for your project directly to their marketplaces.

What you can do here is, report it immediately to the support teams on all channels of the NFT marketplace on which your project is launching.

### [Copycat websites](#)

It happens that for well-known projects, scammers create similar minting website(s) that use your name, your design, and so on.

For example, let us say your project is called “Santa Cloud” and your main website is [www.santa.cloud](http://www.santa.cloud) (*one real project we worked on*); scammers will create a website called [www.santa1.cloud](http://www.santa1.cloud) (*similar yet different in order to fool people*) and will advertise the fake link on your social media like Discord (*Glossary, 24*) or Twitter to potential buyers.

Unfortunately, it is quite complicated to take down a scam website in a short period, so the best option you have is to inform your followers on all your social media channels (such as *Discord, Twitter*, and so on) that the [santa1.cloud](http://santa1.cloud) website is a scam, and they will lose their money if they send anything there.

### [Other security measures](#)

Based on our Cybersecurity background, we compiled a list of items that you should pay attention to when you are launching a new NFT collection. Depending on the size of your project, pick the ones that are relevant to your case:

- *Multi-factor authentication (MFA)* (*glossary, 23*). For all the platforms that you are using, activate all the MFA options you have (these are password, SMS code, authenticator application code, e-mail code, app authorization, and so on). It may be a little annoying and will take a few extra seconds to authenticate, but every extra layer of authentication makes it harder for potential hackers to breach your account.
- **E-mail (s)**: Instruct all your team members never to click on links that you receive by e-mail. If you are not sure about the legitimacy of the

link, try to check it with one of the online platforms for “URL safety check”, like using [www.urlvoid.com](http://www.urlvoid.com).

- **Tools:** Depending on the size of your project, you will need different tools, starting with an e-mail, and file-sharing system and going further to possibly a project/backlog management tool. When it comes to the e-mail system, we recommend going to the big cloud providers so that you will have, by default, a quite advanced anti-spam system. You will pay a few extra dollars compared to the default mail servers that you may get from your hosting company, but based on our experience, it is a good investment.
- **Phone number(s):** Since you are going to have some crucial accounts for your project, you will need to add at least one phone number when you are creating those accounts and for further *MFA (glossary, 23)* purposes. What we recommend here is to have a separate phone number for these critical accounts and not use, for example, your public phone number that you may display on your website or in other public places.
- **Social engineering scams:** It may be hard to believe, but advanced social engineering is leading the top of biggest scams in terms of stolen amounts. This can be a mix of phone calls, scam e-mails, personal information gathering, and even direct interaction. In other words—classic spying.

To protect your project from this, you should instruct your team members not to share any personal information on social media in public mode (*this can be location, when going to holidays, and so on*) and pay extra attention when they receive phone calls or e-mails so as to not disclose any personal details, even if it may look like that they are being contacted by local authorities or other important people. Always double-check if a person is a person who they are claiming to represent.

## **Conclusion**

If we were back in 1898, we could say that in this chapter, you have learned what are the different ways to sell a piece of gold that you just mined have in your hands!



Thus, in this chapter, we explained the two different ways you can sell NFTs (Fixed Price vs Auction) as well as introduced the options for selling that you have available on different marketplaces by comparing the three main NFT exchanges called Opensea, Rarible, and Binance.

For these platforms, we reviewed the difference between a *fixed-price sale* versus *an auction*.

We further covered how you can sell your NFTs via *your own minting page* and highlighting the costs and other procedures are needed to make this selling method work.

Finally, we explained how to keep your selling methods safe from a cybersecurity perspective to reduce the risk of being scammed, so that now you know how and where to safely sell your digital gold!

## Glossary

1. *Opensea*: An NFT marketplace headquartered in New York City.
2. *Rarible*: An NFT marketplace headquartered in Wilmington.
3. *Binance*: A cryptocurrency exchange that is the largest exchange in the world in terms of the daily trading volume of cryptocurrencies. They also created an NFT marketplace under the Binance brand.
4. *Fixed price market strategy*: Price of the NFT on the platform exchange is fixed and invariable
5. *Fixed price selling*: see glossary 4
6. *Buy-to-flip*: People are buying just to sell at a higher price to make a profit, that is, investing or speculating
7. *Polygon blockchain*: A blockchain network that was formerly known as Matic Network, is a decentralized platform that allows developers to build and deploy scalable applications on a blockchain. Polygon aims to provide an alternative to Ethereum, the most widely used blockchain for decentralized applications (dApps). It offers faster transaction speed and lower fees than Ethereum, which makes it attractive for developers who want to build dApps that can handle a high volume of transactions.
8. *Royalty*: A recurring licensing fee generated from the use of Digital Art (NFTs) by a person other than the owner. NFT royalties are typically

paid to the creator of the NFT whenever the token is resold or used in some way.

9. *Dutch auction strategy*: Selling your NFT at a declining price strategy: a Dutch auction, also known as a descending price auction, is a type of auction in which the price of an item starts at a high level and then gradually decreases over time. Bidders are able to place a bid at any point during the auction, but the person who places the bid at the lowest price at which the item is sold wins the auction. This differs from a traditional auction, in which the price starts low and increases as bidders place higher and higher bids.
10. *Creator earnings page*: NFT platform page that calculates royalties and licensing fees; a percentage of the amount of a re-sale that will be directly transferred to the original creator's wallet.
11. *Open for bids option*: Pricing option that allows open offers on the market for your NFT that is currently up for sale
12. *Minimum bid*: The lowest bid that will be accepted for an NFT that is up for auction
13. *Starting date*: Date and time that bidding opens in a timed auction
14. *Highest bid*: The highest bid submitted for an NFT that is up for auction
15. *Minimum bid*: See glossary 12
16. *Buyout price*: Strike price option on Binance where a fixed price at which an NFT can be purchased outright may be used to bypass the bidding process.
17. *Minimum markup*: A Binance pricing option allowing you to set a certain percentage between different bids
18. *BNB coin / Binance coin*: The native cryptocurrency of the Binance platform created to be used as a utility token on the Binance exchange which has a number of uses within the Binance ecosystem. One of the primary uses of BNB is to pay transaction fees on the Binance exchange. Users can choose to pay their fees in BNB, which often results in lower fees compared to using other cryptocurrencies. BNB can also be used to vote on platform decisions and to access exclusive features on the Binance platform.
19. *ETH* : Acronym of the Ethereum crypto on blockchain

20. *Minting page sale* : Not an auction or fixed price sale on existing platforms but selling NFTs on your own platform. Refers to a sale that was done on your own minting page. Your project will have a minting page if you are creating a smart contract, which further allows users to mint NFTs from your collection by connecting with their wallet to your minting page and paying the requested price + gas fees.
21. *Whitelist* : List of early birds on your minting page who will receive a first-time buyer discount on purchasing an NFT. Refers to the whitelist of an NFT project, which means that a number of NFTs are reserved for the people that are registered on the Whitelist. To get a slot on the whitelist, you usually need to perform a series of tasks, like sharing the project on social media or bringing some friends over to the main pages.
22. *Scalable infrastructure* : Power of an IT system that accommodates changes in workflow and storage demands
23. *MFA / Multi-factor authentication* : A security feature that requires users to provide multiple forms of authentication to access a system or service. The goal of MFA is to make it more difficult for unauthorized users to access a system by requiring multiple pieces of evidence to confirm the user's identity. There are several types of authentication factors that can be used in MFA. The most common types are something the user knows (such as a password or PIN), something the user has (such as a security token or smartphone), and something the user is (such as a fingerprint or facial recognition). By requiring multiple factors, MFA makes it much harder for an attacker to gain access to a system, even if they have one piece of information, such as a password.
24. *Discord* : A communication platform that many NFT creators and collectors use to connect and share information.

## [Frequently asked questions](#)

### **1. How can I sell my NFTs fast?**

There is no magic answer to this question. However, there is a mix of different actions that will drastically increase your chances when it comes to selling your NFTs.

First of all, when it comes to creating a new collection, you should always ask yourself first why would someone buy your NFTs and even if you would buy one of the NFTs from the collection you are creating.

In the past months/year, the direction has gone toward “utility”, as it also happened within the Cryptocurrency world after the 2016–2017 boom. As we saw, this is also the direction of big projects that are created by corporations like Starbucks, where the value of their tokens comes from the rewards that the NFT owners receive.

With this in mind, first, you should answer the “Why?” question and brainstorm this with your project’s team members, or if you are alone, ask your friends or start posting even a question on Reddit. Once you refine this, move to the next step and further define your project. The most important here, after you design your NFTs and benefits for the holders, are your social media presence and how you attract people interested in your project (mostly on *Twitter* and *Discord* (*glossary*, 24)).

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<sup>1</sup> Klondike Trading Co. Store, courtesy public archives, University of Alaska at Fairbanks.

## CHAPTER 8

### The NFT Market Place

**D**ear reader, we have now reached the marketing chapters of this book, where we will discuss the details of how NFTs can be effectively marketed using various channels. For that, we will have to first describe the NFT marketplace of today.



*Figure 8.1: An open-air—decentralized—Grocery Store in Dawson City, Yukon, during the Klondike Gold Rush of 1898*

This research for this chapter is compiled using a vast amount of experience gained through years of digital marketing, **Social Media Consulting (SMC)** (*glossary, 1*), Google ads, and SEO, as well as extensive insight gained while

being a part of various NFT/metaverse projects. And this experience will be shared with you in this chapter.

In this chapter, we will introduce you to the world of NFT marketing. First, we will talk about various NFT marketplaces that exist, what are their pros and cons, which ones you should avoid, and which ones are best used for what type of NFT.

## **Structure**

In this chapter, we will cover the following topics:

- What is an NFT marketplace?
  - Crypto protocol
  - Centralized versus decentralized
  - Community
  - Payments
- Main NFT marketplaces
  - OpenSea
  - Rarible
  - Binance NFT
  - SuperRare
  - SoRare

## **Objectives**

After reading this chapter, you will be able to understand what an NFT marketplace is and what are the pros and cons of entering one. You will be able to select the right marketplace for your project or investment needs and gain a better understanding of the importance of NFT marketplaces in the NFT ecosystem.

## **What is an NFT marketplace?**

In the previous three tech chapters, we entered the NFT marketplace directly to show you how to set up and trade your NFTs directly, but that still leaves

the question unanswered of which marketplace would be best suited for your particular project. And that is a marketing and sales question. And to answer that question, we will first have to define and find out what exactly an NFT marketplace is. We will have to learn how to distinguish between the different marketplaces if we want to be best able to select the best possible place for our NFTs and NFT projects.

For instance, you must have heard all over the internet: “*Opensea* this... or “*Rarible* that...”. Maybe, you even downloaded these apps or visited the websites but are still having trouble understanding what exactly such NFT marketplaces are, not knowing how they function, or not knowing how to use them.

Well, an NFT marketplace is much less complicated than it seems; it is:

*An internet platform where, by using your crypto wallet, you can create, sell, and buy NFTs.*

Such platforms are *decentralized* (*glossary, 2*), meaning they function by using a peer-to-peer network based on blockchain technology. This makes an NFT marketplace different from a traditional marketplace like Amazon in which purchases can be made—because that is just a **user interface (UI)** (*glossary, 3*), a storefront, or a gallery. In other words, Amazon is centralized, whereas an NFT market platform is decentralized as it functions with blockchain.

The NFT market platforms enter the blockchain and display all the non-hidden collections at the same time worldwide while every transaction happens in the electronic wallets of the people involved. The marketplace does not store any image or information, but it is the blockchain-based token that pulls the image from *IPFS* (*glossary, 4*) content files. The NFT is then subsequently minted and placed. Thereafter, it can be found on all platforms worldwide since the marketplaces scan the blockchain universally.

So far, the technical explanation, and here, we will give you four different ways in which one marketplace can be distinguished from the next. This is not an exhaustive list of characteristics but a limited one.

## [Crypto protocol](#)

What distinguishes one marketplace from the other is not just going to be based on the content files but on the nature of the blockchain, and that will

depend on the type of cryptocurrency used. Because each different crypto uses its own protocol, and each protocol makes certain things possible when you are dealing with NFTs. You must, therefore, very carefully choose what type of crypto is being used on the platform that you are selecting.

For instance, if you select the WAX platform, it has its very own crypto protocol created just for NFTs to function very well. This may save you tremendously in gas fees and time and other things when using this platform, but we encourage you to carefully read each platform's *whitepaper* (*glossary*, 5) before entering a platform, so you will know precisely what advantages or disadvantages the particular cryptocurrency that is used to enter the blockchain possesses. We cannot stress the importance of this enough.

If you are on an Ethereum-based blockchain, for instance, you will be able to, more easily, sell your NFTs on different platforms because Ethereum has the most universally accepted protocols in place that are being used for NFTs. Mind you, the Ethereum protocol too, was created not for NFTs but to function as a cryptocurrency itself. But it operates much better for NFTs than Bitcoin, on which NFTs barely function at all; therefore, the Ethereum protocols proved very valuable for the creation of NFTs. This has something to do with how the smart contracts are being attached to the NFT on the blockchain, and if you are interested in learning more about this arcane matter, we suggest you purchase a book on coding protocols.

Suffice it to say that each functioning protocol where cryptocurrency is being used has its very own particularities on what is possible and that, therefore, you must carefully explore before entering the NFT marketplace what type of functions you want your smart contract to have. Comparing marketplaces step by step is the most logical way of going through this process, and that is precisely what we are going to do in the remainder of this chapter.

Each NFT marketplace has its own features depending on the protocols/crypto used.

## **Centralized versus decentralized**

The term centralized/decentralized revolves around the location of the servers. Who owns the server, and who controls the flow of information. This is huge in how NFT markets are able to operate. So as, a second point



of order in how to select an NFT marketplace is to first find out to which extent the market you are targeting is decentralized. This can have big implications for what is possible and what is not.

Many marketplaces want to retain control, so despite allowing you to buy and trade stuff on their platform, in the end, you will not really own anything *per se*, as they are just licensing you a right to use a digital piece of real estate.

Such platforms that use licensing sports game moments, for instance, there you may only be able to trade on this platform and this platform alone. Such platforms will have their very own crypto protocol and not Ethereum, which means that beyond this platform, your “purchase” will not go anywhere.

A completely decentralized platform will not have such inhibitions. There you will have the ability to own the copyrights to your work and perhaps even the commercial use rights for your creation. But try to get that from NBA Top Shot, and it will prove impossible because they only give you a “user’s license”. No, you cannot sell your LeBron James Top Shot moment to Coca-Cola and make a million dollars. NBA Top Shot retains centralized control despite using blockchain-based crypto to be able to grant you a user’s license.

You must, therefore, carefully look for each platform to which extent the platform is either centrally planned or decentralized and distributed on the blockchain. If not, you are going to be stuck with in-house trading only with things you will never really own yourself. If you want to have the copyrights on your work all to yourself rather than just a user’s license, then let us find the right NFT marketplace first.

## [Community](#)

Marketplaces hold enormous value in the marketing plan of your NFT and should not be taken as a given. Choosing the right platform at the beginning can make or break your NFT project. It is therefore important to choose the right one. This way, you can operate directly on the platform that most fits your needs.

However, perhaps the most important characteristic that you find in a specialized marketplace that distinguishes it from others is perhaps the sense of community that it brings to you and the people who will buy or collect

your NFTs. Baseball card collectors are different people from postal stamp collectors. Both groups are collectors of sorts, but they have strong characteristics that distinguish them from one another. It is, therefore, especially important to select the NFT platform that fits and matches the needs of your NFT collection and your NFT community.

It is for this reason that here, we are going to give you numerous examples of existing NFT marketplaces and their different features and communities so that you may get a first taste of where you think your own NFTs may best belong. But like any good digital gold prospector would know, of course, always carefully do your own research as well.

## Payments

NFT platforms can also be distinguished by payment type. For most, you will need a crypto wallet, but that is not always the case. Some NFT marketplaces (like Binance, for instance) will accept direct credit card deposits that way, and you can start trading NFTs even without an NFT wallet.

## Main marketplaces

We will introduce the five most popular NFT marketplaces that will allow you to get started in the NFT space. Pros and cons are discussed, as well as some interesting things to note and general information about each marketplace.

Mind you, and this is not an exhaustive review list of NFT marketplaces. There are many others that you should explore for yourself. One notable marketplace we are skipping here is *NBA Top Shot*, but it was mentioned briefly here in the preceding paragraphs.

## Opensea

*Opensea* was founded on 20 December 2017, just after the launch of the *CryptoKitties*, by software engineers. They saw merit in the possibility of owning your own *digital assets* (*glossary*, 6) and wanted to create a platform to simplify that process for end users. [Figure 8.2](#) shows the user interface of Opensea:

COLLECTION	FLOOR PRICE	VOLUME	COLLECTION	FLOOR PRICE	VOLUME
1  Kiyoshi's Seeds Project	0.09 ETH	494 ETH	6  Chungos	0.03 ETH	72 ETH
2  10KTF Stockroom	0.08 ETH	531 ETH	7  64 BIT SPECTRUM	0.03 ETH	26 ETH
3  The Memes by 5529	0.33 ETH	239 ETH	8  Kitsu Mintu	< 0.01 ETH	24 ETH
4  Createra Genesis Land	0.80 ETH	152 ETH	9  d56k DISKs	0.02 ETH	24 ETH
5  10KTF	0.31 ETH	135 ETH	10  Jungle Class   NFT for Survivor	< 0.01 ETH	18 ETH

*Figure 8.2: Opensea platform UI*

*Opensea* is one of the most well-known platforms. One can even say that if you have heard of NFTs, *Opensea* must not have gone unheard. Since five years (remember the great gold rush only lasted three to four years), it is one of the oldest NFT marketplaces and accepts over 150 different payment tokens, although the one that is used most commonly is Ethereum. Their main benefit is the simplicity of use and a large number of active users. To begin selling/buying browsing, it suffices to create a free account by linking your wallet to it. With this, you are off to the Yukon wilderness of the *Opensea* gold rush in minutes.

Open Sea is the definition of a generalist platform, and they sell NFTs of all kinds, which may be one of the reasons why they are as big as they are; it is a great platform to start off when you do not know exactly what you are looking for.

The following are the advantages of using *Opensea*:

- The large diversity of people using it. Being the most popular platform, there is a lot of demand for fresh projects being launched. That gives us a bigger potential market to capture and a higher potential profit.
- The simplicity of use and setup. Part of the success of *Opensea* is, of course, its (comparatively to other platforms) simplicity to use. They are leaders in UI, and this has arguably made it one of the easier-to-use platforms. It is a good place to start for a beginner in NFTs.

- *Polygon*. One of the currencies available on the platform is Polygon. It is a *gas-free* (*glossary, 7*) currency that allows creators with no Ethereum on their accounts to launch an NFT project. This gives a big upper hand to *Opensea*. Gas fees are the costs linked to minting, transferring, and buying NFTs.
- Opensea has a feature that allows you to post your NFT directly on their platform even before the token is tokenized on the blockchain. Only after the NFT gets sold to another user, it becomes minted and available on other platforms. That is how *platform exclusivity* (*glossary,8*) is achieved.
- *Ethereum*. Because Opensea has Ethereum protocols, you will be able to trade NFTs that you bought on their other platforms.

The following are the disadvantages of *Opensea*:

- **Stability issues**: Because of the high demand, *Opensea* often has issues with transactions halting or stopping because of high demand or problems with the general stability of their website. It is getting better day by day, but still, some issues remain.
- **Fraud**: Because of the massive number of users on the platform, not everything can be moderated by the *Opensea* team, which leads to a certain number of fraudulent products appearing. Some are unoriginal projects, some are knock-offs, and some are just copycats. The app also found a good number of scammers. You must be careful on all NFT platforms, but especially on such large ones as *Opensea*.
- **Needle in a haystack**: Because of the very high number of projects popping up on Opensea, you can get lost in the crowd quickly. If you plan to launch on *Opensea*, make sure that your project is original and innovative; otherwise, you risk quickly being forgotten.
- **Ethereum**: Most projects on *Opensea* still run on the Ethereum blockchain, which presents *gas fee* issues. They remain high, so price your NFTs and save up to invest accordingly (transactions on the Ethereum-based blockchain cost between 50\$ and 100\$).

Opensea conclusion: *Opensea* is a great platform to start on; it is a simple platform for beginners. It offers a good number of currencies besides Ethereum and a large variety of NFTs. Beware of scammers or getting lost at sea.

## Rarible

*Rarible* is the second most popular NFT marketplace active now. *Rarible* as we know it today was created in 2020, at the beginning of the current NFT gold rush; the main factor that makes it different from other NFT marketplaces is the fact that they are completely community owned.



*Figure 8.3: Rarible logo*

*Rarible* uses three crypto-blockchain protocols, Ethereum, Tezos, and Flow. Tezos is an art-tailored blockchain with low gas fees, and Flow is a “*proof-of-stake*” (*glossary, 9*) crypto, which allows you to pay nearly no gas fees. As mentioned before, *Rarible* is fully community owned and led, and this is done using its own *governance token* (*glossary, 10*) called RARI. With that token, you are allowed to vote for changes to *Rarible* that you would want to see. This, in simpler terms, is like a small seat on the board of the shareholder meeting of *Rarible* (owning a token as an asset with a stake in the company compared to holding shares). The price of the token is extremely volatile, so approach trading using it, like all cryptos, with caution.

*Rarible* is also a generalist platform, but it is more targeted at Art NFTs; it is the best platform for beginner and advanced NFT art collectors to start on.

The following are the advantages of *Rarible*:

- The widespread use of gas-less cryptocurrencies on the platform. Although the platform does sell a large amount in Ethereum, Flow, and Tezos are big selling points for *Rarible* because it allows people that are new to NFT and cryptos to start investing with less capital, and therefore, lower risk.
- This is an *art-centered NFT marketplace*, which means if you are interested in art, you will be able to easily find an NFT that suits you.

- They are a community-owned platform, and people that use it daily have control over it; thus, changes are made for the end user because they are the decision-makers. This makes the platform extremely user-friendly.
- You get a RARI governing token when you sell or buy an NFT on the platform.
- For artists especially, the platform is much more moderated, and therefore, more secure than, for example, *Opensea*, as Rarible has a strict verification process. You can report if your work has been compromised by fraud.

The following are the disadvantages of using *Rarible*:

- *Rarible* works with a lot of big brands, and the platform tends to be filled with them, and this means that, at many times, if you are launching a smaller project or searching to invest in a smaller project, it can be quite hard to find something.
- You cannot withdraw or add funds without a crypto wallet. This means that if you sell or buy something, you will have to create a wallet to receive or send your funds. On some other platforms, you can directly use your credit card or other traditional purchasing means to add or withdraw funds from your account.
- They charge 2.5% both to the seller and buyer, meaning that both parties in the transaction are responsible for paying the transaction fee on every purchase through *Rarible*.

In conclusion, *Rarible* is a great secure platform for digital artworks, with an innovative governance token management process. It is tailored for the art community and offers low-gas and *low-carbon footprint blockchain* (*glossary, 11*) options. This platform is perfect for both beginners and advanced users.

## **Binance NFT**

*Binance* was first launched in 2021, and just like *Opensea*, *Binance* is one of the biggest, if not the biggest NFT platform currently on the market. It is known for a very low commission on its sales/purchases, that is, only 1%. *Binance* operates on its own token network called BNB or on Ethereum.

Originally *Binance* was a crypto exchange Fintech market, and only recently, at the beginning of the NFT Gold Rush, they have started to expand to include NFTs.

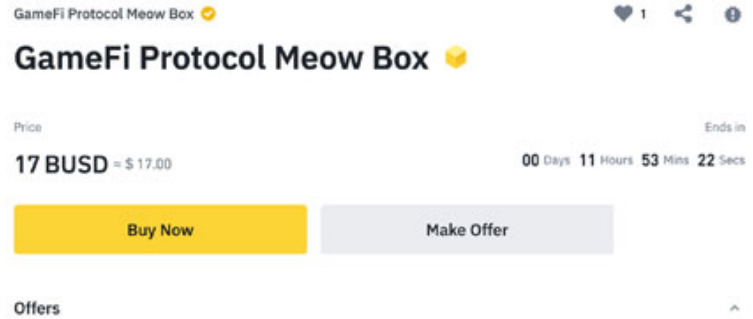


*Figure 8.4: Binance logo*

Binance is a generalist platform, just like the open sea; on Binance, you will be able to find all kinds of NFTs, just like on the OpenSea.

On the *Binance* platform, you will be able to not only scour the NFT market but also buy tickets to events or try your luck in opening 3D mystery NFT boxes with NFTs (a mystery box is a randomized purchase where you do not get to choose what NFT you buy).

*Binance* is very appealing to beginners because it has an extremely easy, wallet-free way of depositing and withdrawing funds. On *Binance*, you can use a wire transfer or credit card to pay for your NFT or to collect revenue, unlike other platforms where you must use crypto wallets.



*Figure 8.5: Mystery box on Binance example*

The following are the advantages of Binance:

- **Very large marketplace:** Binance being so large allows it to have some leverage, meaning that it can quite easily host some interesting exclusive projects for you to invest in; furthermore, your project has the potential to be discovered by more people.
- **Security:** The NFT marketplace being the daughter company of the Binance Crypto Exchange, have experience in running a decentralized platform; therefore, they are considered quite secure.
- **Low commission:** The one percent commission fee is much lower than the industry standard and is quite attractive for the average buyer.
- **Simplicity in depositing and retrieving your money:** Especially for beginners in the cryptos/NFTs, the ability to transfer money simply using your credit card or a wire transfer is a massive advantage. In other words, you do not need a *crypto wallet (glossary, 12)*.
- Ability to purchase NFT tickets to events like concerts and mystery boxes. Binance is one of the first platforms to offer events and mystery boxes as well as one of the biggest ones to do so.

The following are the disadvantages of Binance:

- **Large platform:** Just like with *OpenSea*, Binance suffers from an oversaturation problem. With such high amounts of people on the platform, it is easy to get lost at sea, among other projects.
- **Not enough artist support:** It is generally considered that Binance is not the most artist-friendly platform, meaning that people who create



artistic NFTs can have trouble getting recognition on the Binance NFT marketplace.

- **Young:** The marketplace being relatively young means that it did not have enough time to reach its full potential; it still did not have the time to collect really sought-after and rare NFTs.

In conclusion, Binance is a very big platform that can provide you with a lot of opportunities, but be careful; it being so massive may be a drawback for you in the beginning. Also, beware that if you are creating art NFTs or looking to invest in them, Binance probably should not be your first choice. Remember that Binance was a Fintech platform first before it also became an NFT platform.

## SuperRare

*SuperRare* is the most exclusive NFT platform that is presented on this list. It was founded in 2018 and was the most successful gallery-style NFT platform. The main distinction from their competition is the fact that all the NFTs displayed for sale on their platform are rigorously curated by the staff. It is rumored that only 1% of all applicants that wished to be featured on this exclusive platform get accepted to be displayed. Hence, the name *SuperRare*.

## SuperRare

*Figure 8.6: SuperRare logo*

But now the story is changing; in the middle of 2021, *SuperRare* introduced its own token—the RARE. Just like *Rarible*, *SuperRare* introduced a *governance token* (*glossary, 10*). The *SuperRare* team is giving the reins to the community. But purchase fees are higher than the competition by nearly three percent. They do not offer any no-gas fee options either.

Art is the main selling point of *SuperRare*, and art (both individual and collection based) is what you will find there. It is a great platform for a person truly passionate about art and will have some money to spend.

The following are the advantages of *SuperRare*:

- **Exclusivity:** The main selling point of *SuperRare* is that they are the opposite of other popular NFT marketplaces. They pride themselves on the fact that they are pushing back against the “useless” Pop Art NFT trends. They pride themselves on the fact that they sell and promote real art.
- **Safety:** The platform being so small and exclusive, the chance of being scammed (although, of course, still possible) is low. Beginners can feel safe and trust every post on the platform.
- **IRL (glossary,13) implications:** In partnership with other art communities, *SuperRare* worked and sold some IRL products on the platform during recent national art weeks (paintings and other works of art).

The following are the disadvantages of *SuperRare*:

- **High exclusivity:** As a result of being so exclusive, SuperRare does not have a large number of people on it, which means less people will be exposed to your NFT. Furthermore, prices can be quite high on the platform.
- **Not beginner friendly:** Due to it being so specialized, only certain NFTs are available. It can be complicated for a beginner to figure out what is best for them and which NFT to invest in.
- **High fees:** *SuperRare*, compared to the competition, has high sales and purchase fees, which stand at almost 3 %.

In conclusion, *SuperRare* is a great platform for a more advanced user who is interested in purchasing more exclusive, strictly real art projects. It is one of the safest platforms due to its high moderation. Something to be aware of is that this does house very expensive items; thus, it might not be perfect for the first-time investor.

## [Sorare](#)

*Sorare* is an interesting virtual trading card and game platform that specializes in football (soccer), MLB, and NBA. It mostly sells player cards from different football clubs (from all over the world. At the time of writing

this book, they have 245 well-known clubs present on their platform, and by their words, more are added every day.



*Figure 8.7: Sorare logo*

What is interesting about this platform is that they are not only a marketplace but also a fantasy football club where you can create your lineups of player. You can also compete on scoreboards with others. It is a truly exciting project for football, basketball, baseball, and NFT fans around the globe.

It is a direct competitor, of course, in the world of virtual trading card platforms with NBA Top Shot. It is interesting to see baseball competing against both football (soccer) and baseball combined. One of the key selling points of *Sorare* is that they use Ethereum; that way, you are the legitimate owner of the items that you purchase, and therefore, you can sell them on other platforms that use the Ethereum blockchain, like *OpenSea*, for example. Therefore, *Sorare* is so different from NBA Top Shots; NBA Top Shot NFTs are locked inside their marketplace. They sell players from the different clubs they are partnered with and give you the ability to create your own club.

The following are the advantages of Sorare:

- **Originality:** The concept of *Sorare* in the NFT space is extremely unique and cannot be found in other places (when talking about football/soccer). This will give you the first-mover advantage.
- **Fun:** This is the first platform mentioned on which you can play if you are a fan of NFTs and football/soccer (or baseball). This platform will be not only a way to make money but also a great way to pass some time.
- **Safety:** *Sorare* is considered quite safe by the community due to its limited NFTs that are only released and traded on its platform.
- **Payment flexibility:** You can easily use both crypto and traditional payment forms on their platform.

The following are the disadvantages of Sorare:

- It is a niche market. On *Sorare*, you only have the ability to trade football cards, NBA cards, and MLB cards. No other items are tradable.
- Not as large as other platforms.

In conclusion, while being an extremely exciting opportunity for people that are interested in football (soccer) or baseball, it is safe to say that this platform is a community-based recreational game-style platform and not a large trading platform on which you can make big amounts of money.

Here it can be good for a beginner looking to get their first taste of the NFT markets in a fun and exciting way, granted, of course, that you are interested in football or baseball.

## Conclusion

Choosing the right platform to begin exploring the decentralized wilderness is not easy; it takes time and effort and can be quite overwhelming, especially for a beginner.

We have mentioned four different ways in the way one marketplace can be distinguished from the other, and the main difference is in technical features in operations because of the type of cryptocurrency that underlies the blockchain. This makes things possible for the platform. But also important is the type of community that is being targeted by the platform, whether that be art or sports or music, or something else, or if it is an NFT trading platform open to all. Then there is centralized versus decentralized as an important factor when choosing the best possible platform. Finally, make sure you understand all the different payment options involved, as well as the user interface, as these selections can also make a big difference.

The best advice we could give you here is that much depends on making your selections on the project that you are planning to create/invest in. Using the pros and cons drafted previously, you can compare your potential investment or creation and make a personal decision for the different marketplaces hereby presented: which platform has the features that you require and makes the most financial sense to you and/or your team. For other NFT platforms, you will then know how to do your own research.

Just like in the Klondike gold prospectors' Gold Rush, you will need to analyze very carefully all the risks involved in your digital gold project. You will have to prepare yourself and get all the right tools. You will also require the right team and people to get involved, and you need, of course, the capital. It all takes work and dedication before you set out on a great adventure. You will need to make sure that your content is original, of course. Simultaneously, you will have to be ready if others try to steal your creations.

So, start here with our review of just a few marketplaces out there. These marketplaces in the gold rush metaphor are the grounds or the rivers in which you will be panning or digging for gold. And, of course, this is the key to your success.

## Key points

- For a beginner who wants to find as many possible adopters as possible for their collector item style NFT (*PFPs (glossary, 14)*, for example), we would hands down recommend *Opensea*.
- If you are looking to sell artistic NFTs and plan to sell your creations for a moderate to low amount, we would recommend *Rarible*, where your clients would be able to take advantage of low gas fee blockchains and a safe environment.
- For more exclusive art based NFTs, we recommend trying to get on to *SuperRare*. There, you will find the right clientele that will be excited to purchase your unique NFT in security.
- If you are looking for low commissions and a simple NFT marketplace that is easy to use and explore, look no further than *Binance*, it is a great, secure platform for a beginner to start off.
- Last but not the least, if you are here to have fun and not only to make money, and you are interested in football (soccer) or baseball as a community, your best bet would be *Sorare*.
- NFT marketplace of your own research.

The success of the digital gold rush adventure depends on yourself, your team, your network, and your preparation.

## **Exercise: Your own NFT marketplace**

Now that we have presented the major platforms, we would love for you to practice on your own, so we pose you this question: using the traits of all the preceding platforms and your imagination, come up with a specific NFT platform, explain its *unique selling point* (*glossary, 15*) and describe it on this page (name, brand, what crypto it will use, who will be on it, who will not, advantages, disadvantages, and so on).

Are you ready?

## **Frequently asked questions**

### **1. What is the best marketplace for you to use?**

There is no conclusive answer. It depends on what you are looking for, either from an investment point of view or from a creator's point of view. You can make use of all the pros and cons mentioned in this chapter to come to your own conclusion that will be solely dependent on your case. Or do your own research, which is part of the preparation that this chapter purports to lay out as an example.

### **2. Will my NFTs be on more than one marketplace?**

It depends on the way you will mint your NFTs and on the crypto protocols that the platform is using. If you mint directly on the blockchain and do not upload NFT on a marketplace, then the moment someone mints the NFT, it can be discovered on other platforms because remember, most marketplaces are UI that gives you a “window” on the blockchain.

### **3. Which marketplace would be considered the safest?**

We cannot give a direct answer to this question, as you will discover in more detail in [chapter 12](#); there are many risks that are involved in the NFT/Crypto world; a general rule of thumb would be to be especially prudent on high volume platforms and always double-check the supplier of the NFT that you are purchasing from because a fake supplier can easily pretend to be the “real deal”.

### **4. Why is it so important to pick the right marketplace?**

A marketplace will allow you to connect with the right demographic that you are searching to buy or sell a particular product, and it will

allow you to reach your customer more efficiently; furthermore, some might have functions that others do not that might be vital to your project.

## Glossary

1. *SMC*: Social Media Consulting is a popular job these days for people with extensive knowledge and expertise in the social media landscape.
2. *Decentralized*: A blockchain-based platform not run from a central corporate server but peer-to-peer on the Web.
3. *User interface*: The outer image of a website or application (imagine Instagram without any pictures, people, or text—that is a UI).
4. *IPFS*: Interplanetary file system, a protocol designed to deal with decentralized servers allowing content files to be distributed as it would take way too much energy to put each piece of content on the blockchain itself.
5. *Whitepaper*: A long and dreary technical paper that explains how something functions or works going into operation detail.
6. *Digital asset*: A new asset class of property that can be obtained online by gaining a title on the blockchain.
7. *Gas free*: No network payments are necessary to create or trade and transfer your NFT.
8. *Platform exclusivity*: When an NFT can only be found on one platform.
9. *Proof of stake*: It is a crypto mechanism that allows a mass reduction of the energy needed to secure validation.
10. *Governance token*: It is a token that allows you to vote on changes in something (Tokens of marketplaces, for example, allow you to vote on the general direction of that marketplace.)
11. *Low carbon footprint blockchain*: Blockchain network that uses a reduced amount of energy in comparison to others, thus, producing less carbon emissions.
12. *Crypto wallet*: It is a virtual decentralized wallet that allows you to store cryptocurrency.

13. *IRL*: In real life, when referring to NFTs, it means an asset, both digital and physical.
14. *PFPs*: Profile picture NFTs.
15. *USP*: Unique Selling Point, the part of your creation or product that makes it different from others and that, therefore, adds value.



## CHAPTER 9

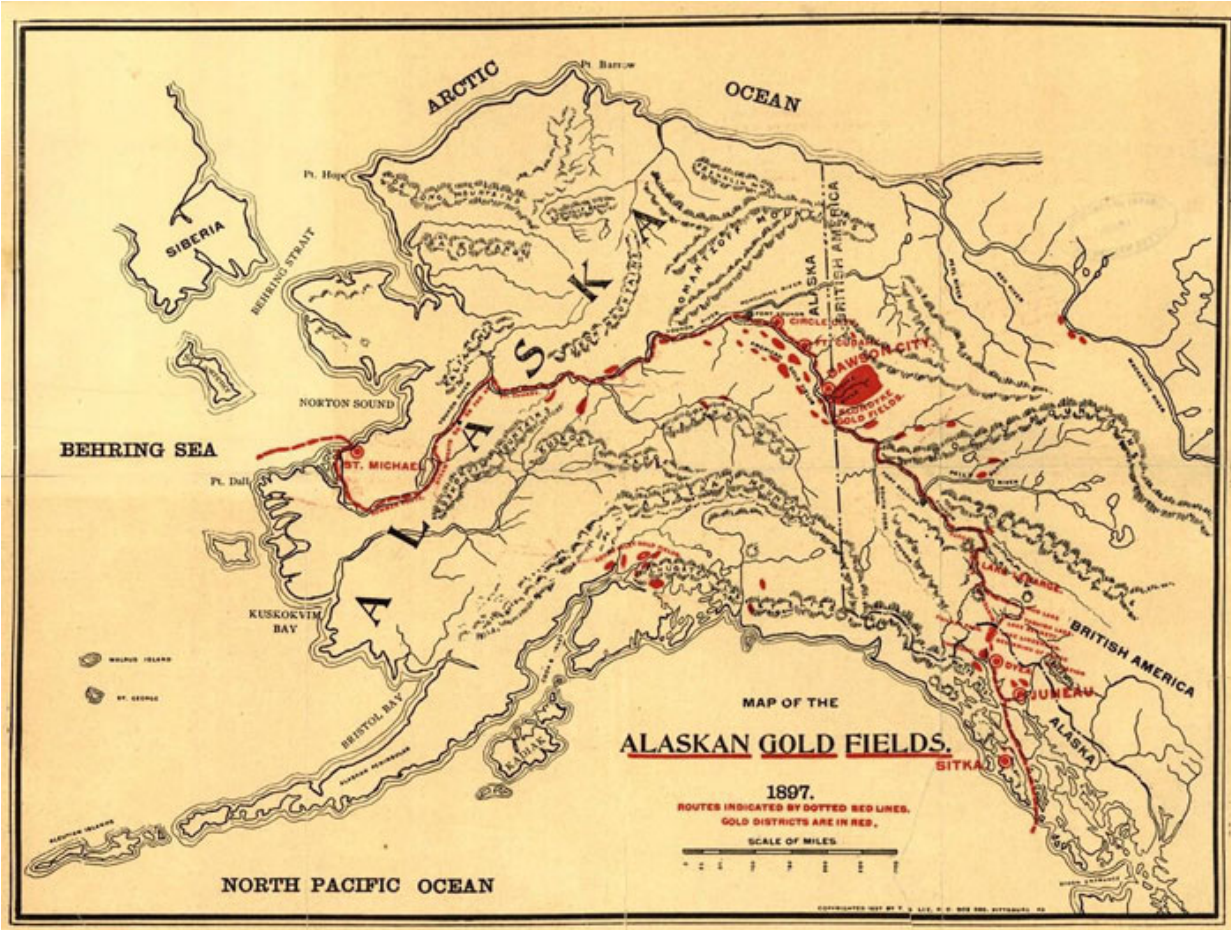
### NFT Collections

There is a strong need for human beings to own and possess things. It brings pleasure and comfort knowing something is exclusively ours. Most people want to own things that others also have, but at the same time, they want something original, something that other people would see as valuable. The rarer, the better. What could bring even more satisfaction to us is to own various things in the same genre, in other words, to have a collection where you can compare what you have with others, that is, something that can create envy.

We, as humans, have the urge to collect. Examples of this criss-cross pop culture throughout time, and a great example of modern age collection obsession would be *Pokemon Go* (*glossary, 1*)—*gotta catch them all!* In *Pokemon*, like with all other collectible games, you can go on a treasure hunt, which brings out the inner child in everyone. Although it binds you to all the other people who like collecting *Pokemons*, it also gives you a challenge.

So before choosing what NFT belongs to you, which one you would best create, or which one you should best buy or sell, it is best to first learn to know what types of NFTs are out there. And what types of collections exist.

This chapter promises to give you that overview. The following figure shows us a roadmap to the fields of digital gold:



*Figure 9.1: Your roadmap to the fields of (digital) gold*

## Structure

In this chapter, we will discuss the following topics:

- Introduction
- Different kinds of NFTs:
  - Digital art
  - Individual art
  - Generative art
  - PFPs and avatars
  - Fashion and design NFTs
  - Photography NFTs
  - IRL Merchandise NFTs

- Music NFTs
- Game NFTs
- Ticket NFTs
- Certificate and Diploma NFTs
- Famous NFT collections overview
  - Bored Ape Yacht Club
  - Crypto Punks
  - Crypto Kitties
  - Crypto Baristas
  - NBA Top Shot
  - SoRare
  - Vault Gucci
- Unique Selling Point (USP)
- Marketing review
- Certificate merchandise NFTs
  - Provenance
  - A future scenario
  - Product title
  - Royalty fee
  - An example
  - Sustainability

## Objectives

The objective of this chapter is to show you what kinds of NFTs are out there because they are not all the same—not every NFT that sits on *Opensea* is digital art.

We want to give you an overview of the most famous NFT collections currently which are in use and explain from a marketing perspective why they are so successful.

After these two reviews, we will dedicate a third part of the chapter to marketing analysis to understand why exactly people are drawn to NFT collections rather than individual NFTs because here lies the most significant marketing opportunity.

Finally, we will explain why *IRL Certificate Merch NFTs* (*glossary, 2*) are the future of marketing and branding.

## **Different kinds of NFTs**

There are various kinds of NFTs, some of which we will discuss here as follows:

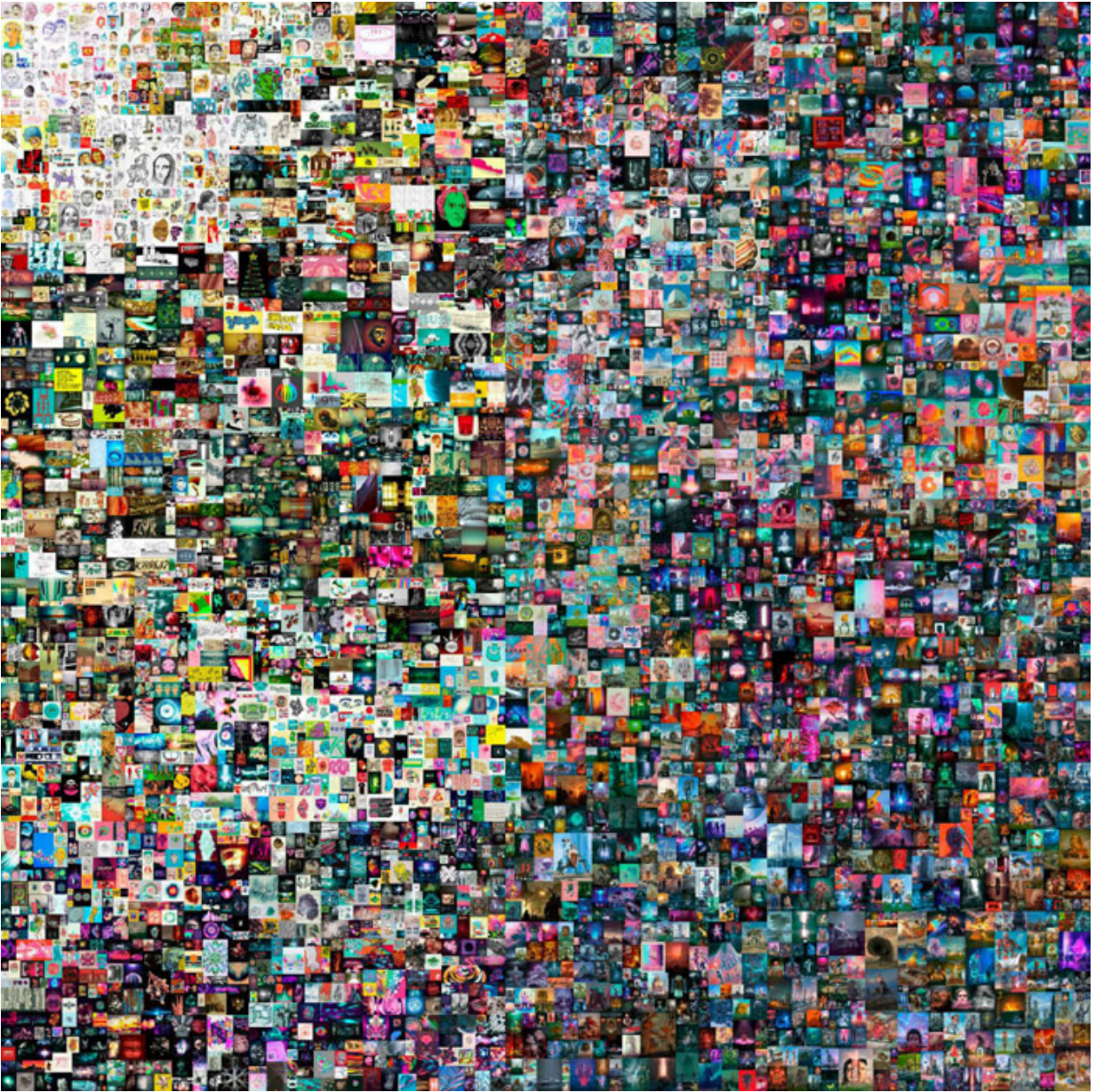
### **Digital art**

Digital art NFT is currently one of the two most popular and well-known NFTs kinds.

It consists of a digitalized picture *created by an artist or group of artists*. Digital art NFTs are a way for artists to protect their artwork using the blockchain, as well as simultaneously creating a commission system for every time their art goes from one owner to another via crypto transactions. Most commonly, these artworks come in groups of three or more, and this creates what is known as a *collection*.

### **Individual art (called one-of-one artwork)**

The individual art NFT kind is very similar to digital art NFTs with one key difference—they do not come in a collection but rather as a *one-time creation* (*glossary, 3*); an example of such artwork could be the well-known *Everydays: The First 5000 Days* (*glossary, 4*) by Beeple, which is currently the most famous One-of-One Artwork today. Despite it consisting of 5,000 different pieces of digital art made over just as many days, the individual pieces of art were put into of giant tableau as a one-time creation.



*Figure 9.2: Beeple's 5,000 days every day*

## Generative art

*Generative art* (*glossary, 5*) is art entirely created by the computer without the input of human creativity. What you need to know is that copyright is, therefore, legally questionable for generative art because such art is created entirely generic. For this type of art, no human creativity is involved. Copyright, as a right, attaches to a person and not to a computer. For copyright to exist under the law, human creativity or originality is necessary;

the NFT needs to be a part of human creation, as we cannot give copyrights to machines.

At the time of writing this book, there still has not been a precedent that discredits the copyright of Generative Art NFT, but it is certainly something to be aware of. And as AI gets better, the art gets more interesting. This is a topic that undoubtedly will come back in the near future.

## **PFPs and avatars**

*PFPs (glossary, 6)* (profile pic NFTs such as *Cyberpunks*) and avatars are the other most popular NFTs, on par with digital art NFTs, and so many projects fall under this umbrella.

These are a mix of generative art and digital art NFTs where an artist or a group of artists and coders create a base portrait character and different accessories, and characteristics will be applied to the character to create one grand collection of rare and different profile pics.

A great and extremely popular example of that NFT-type collection is “*Bored apes yacht club*”. This collection will be discussed in further detail later in the chapter.

## **Fashion and design NFTs**

In the field of Fashion and Design, NFTs are an interesting and promising rising new NFT type. Digital representation is becoming a major item in fashion because it allows one to hook into the metaverse through *AR and VR (glossary, 7)* and by means of “*digital wearables*” (*glossary, 8*).

Meanwhile, major fashion brands are dropping limited design NFTs for new launches, which then you may collect. They are now an integral part of the branding universe.

Exploring this further would merit a whole new book of its own. It is correct to say that by using the NFT blockchain technology, fashion designers are now able to tokenize, and therefore, copyright new forms of creativity on the blockchain.

The advantage is that fashion and design can thus be implemented both virtually (AR, VR, and metaverse) and *in real life (IRL) (glossary, 9)*.

Today you can own your own T-shirt design! In the form of an NFT that comes with the actual T-shirt, you are purchasing. Your T-shirt (digital-looking) design will be unique. It is an excellent example of where the digital universe meets with the real universe as fashion. Fashion will always be the avant-garde of what is possible in branding.

Furthermore, tokenization of design and styles, in general, will allow creators themselves as well as a form of ownership over their creations. In the past, you would have to go through an arduous and difficult process to prove the originality of your creativity when registering the copyright.

## **Photography NFTs**

Photography NFTs are easy to explain. It is the tokenization of a digitalized photograph into an NFT that you can later sell in the NFT marketplace. An example would be the Photo NFT picture of Andy Warhol, which we show in [Chapter 3, \*NFT Transactions\* \(figure 3.2\)](#).

## **IRL merchandise NFTs (or NFT-enabled merchandise)**

IRL merchandise NFTs are one of the most exciting NFT types on this list. These are the NFTs that allow you to purchase items in real life through the blockchain and hold the rights to them without being in physical possession of them. You can also just pick them up, of course, if they are not located in a store 5,000 miles away.

Let me elaborate; for example, you have just bought a ticket to the concert of your favorite artist, and in a package, to the concert ticket, there is a token that gives you the right of ownership of a particular piece of merchandise that you will be able to pick up the night of the show. This is an IRL.

In addition, the tokenized package can hold your VIP seating arrangement (physical) in the concert hall, as well as the rights to a snippet of a concert moment (digital). What a great marketing tool this is!

Another great example is *collectible sneakers* ([glossary, 10](#)): you have just bought some very expensive sneakers via an NFT that was attached to them because you never planned to wear that sneaker anyway, or you bought them purely for their monetary value, and now you can formally own them

without ever even touching them, they can stay safely in the store where you bought them 5,000 miles away until you ever decide to sell them to another person. This can make selling and buying collectible items much simpler.

Because such examples are at the forefront of how NFTs will change the world of marketing and branding in the future, we will do a further in-depth review of this matter in *Marketing Review* here.

## Music NFTs

Music NFTs allow a musical artist to tokenize not only their songs but also melodies, drum patterns, and instrumentals. This is groundbreaking for music copyright because now musicians who want to earn from selling their instrumentals, loops, or drum lines can do it without the need for complex royalty contracts and the help of music production companies. It will create independence for musicians.

Such a quest for independence may start with tokenizing your music files and by putting your creations up for sale through the blockchain peer-to-peer network on one of the Ethereum-based NFT platforms. Exploring these popular NFTs here further would require an entire new book on its own.

## Game NFTs

The concept of owning digital assets in online multiplayer games on central servers has been around for years. A great example of that can be the vastly popular **first-person shooter (FPS)** (*glossary, 11*) game called “*Counter-Strike GO*” where for years, people have been able to buy, sell and trade Weapon Skins (the images applied on the weapons used in-game) with each other in-game. However, initially, such trades and purchases did not take place on the blockchain but on the central server.

In contrast, NFT gaming today is integrating traditional gaming with the added value that comes with the possibilities of NFTs: namely, that now in the blockchain, you can own your own characters, weapons skins, or other game accessories in the form of digital assets to be sold for profit peer-to-peer on the platform, or even outside the gaming platform. This is called blockchain Gaming, and its popularity and acceptance are ever-increasing.

## Ticket NFTs



Ticket NFTs (movie tickets, concert tickets, ballgame tickets, and fashion show seating) are NFTs that make the assignment of people by ticket or voucher to the allocation of seats or placement a lot easier and more rewarding for the NFT owner.

By using an NFT, an organization or company can now attach personalized seating arrangements for an individual or a group of people while giving the owners of the tokens not only special access but also certain VIP rights or privileges (after parties, restaurant entrance, lodge entrance, and other special access privileges), whereas ticket fraud is virtually eliminated. In addition, one can also attach benefits to tickets, such as gifts or the right to purchase certain merchandise.

## **Certificate, license, and diploma NFTs**

By using the NFT technology and tokenizing for diplomas, we can eliminate diploma and certificate fraud and falsification, which will be achieved by the issuing party assigning full token ownership of the diploma only to the person that has passed the required certification or licensing process.

Since the blockchain is fully visible to everyone, faking the possession of a diploma will be close to impossible because anybody can instantly verify the authenticity of said diploma. There is perfect provenance and recording in the peer-to-peer world of the blockchain.

## **NFT collections**

An NFT collection is a group of NFTs that possess similar characteristics that go on sale at the same time. This definition is exceptionally general because of the sheer number of NFT collections that exist.

For example, when discussing art-based NFT collections, there are various things that could be added to this definition, such as the same artist or group of artists, the same artistic style, or the same group of characters.

Compare it with a fashion collection; although all the items are different, they still have a common theme running through them. In branding, we call this a “signature”. And that signature will lead to a certain style.

NFT collections are groupings of NFTs created by the same person or team that hold similar distinguishing qualities but also have a common theme running through them.

Collections are one of the biggest selling points of NFT projects because they give a reason for people to purchase those NFTs. Collections give rarity to NFTs, and at the end of the day, this is why people buy them. People simply like to connect to a group of *like-minded people* (*glossary, 12*), all collecting the same thing, and thus, forming some kind of an exclusive club of which they are a proud member.

This is vital to understand for someone who wants to create or invest in NFT because this concept, as described in the preceding paragraph, is basically what drives the whole NFT market.

### **Bored apes yacht club (PFP)**

*Bored ape yacht club* is probably one of the most famous and widely known NFT collections that exist. Founded in 2021 by four friends, this project became one of the biggest trendsetters for the NFT community. In a way, one could say that this project brought NFTs into the public eye. With a staggering 1 billion dollars in sales, they are one of the biggest NFT collections out there.



*Figure 9.3: One of the bored Apes NFTs—a prime example of the PFP NFT type<sup>4</sup>*

Their rapid success is large since they are a part of a collection that has a uniform shape. All their apes look similar but have their own distinct distinguishing factors so that no two apes look exactly alike. This creates the rarity of some apes looking especially different from others, and in turn, this raises their price making them attractive to people who want to make money from investing in their project.

*Bored Apes Yacht Club* is the prime example of what are called PFPs, profile picture NFTs.

So, when creating your NFT, take a page out of the *bored apes yacht club* book, and make sure to have a high standard of uniformity yet with certain rarities in the system; this will bring value to your project.

## [Crypto Punks \(PFP\)](#)

Created in 2017, Crypto Punks is one of the oldest NFT projects that currently exist, and one could argue that they are the second most widely known project now.



*Figure 9.4: A CryptoPunks PFP NFT—one of the first of its kind<sup>2</sup>*

Their collection consists of 24-pixel randomly generated protagonists that have distinguishing characteristics, like clothing, background color, and other accessories. They have an exaggerated retro digitalized pixel look to them.

This collection is another example of the use of collections with a certain like-kind uniformity to them that can raise the value of NFTs because of the increased demand of people wanting to own one to become a part of an exclusive list of owners of *CryptoPunks*.

## **Crypto Kitties (PFP + Game)**

*Crypto Kitties* were also launched in 2017. This is an interesting collection because it is not just an artwork; *Crypto Kitties* is a virtual game in which you can use the NFTs that you purchase to breed your NFTs and create new ones that have the characteristics of the original ones. The visual of a *Crypto Kitties* NFT is shown in the following figure:



*Figure 9.5: The visual of a Crypto Kitties NFT—a game + PFP NFT hybrid collection<sup>3</sup>*

This project is different from the ones mentioned previously because it gives you an opportunity to interact with your NFT and create one that looks completely different. This collection was the first to create *breedable NFTs* (*glossary, 13*), so it is now reaping the rewards of this innovation.

## **Crypto Baristas (PFP + IRL + Merch)**

“*Crypto Baristas*” is a really interesting project that was launched in 2019. This is a project that combines NFTs with an IRL space and merchandise. The logo of Crypto Baristas is shown in the following figure:



*Figure 9.6: Crypto Baristas logo—one of the pioneering projects in the realm of IRL + PFP NFTs<sup>4</sup>*

The goal of this project is to raise money for a crypto-funded cafe in New York City. With *Crypto Baristas*, you can see how NFTs can also be used as a fundraiser.

The investors in this project, when purchasing an NFT, get not only a blockchain image but also voting rights in the project overall and get to manage the project's commercial goals. Finally, investors are given rights to exclusive merchandise and discounts on their coffee in the store.

After the eye-watering success of the first round of their collection launch, they are now preparing to launch a second collection which will be used to create investment in a coffee farm in Honduras.

So, please note how NFTs can be used in the creation of Start-Ups.

### **NBA top shot (digital art + photograph)**

*NBA Top Shots* is a very successful project that specializes in collectible basketball player cards. It features tradable player highlights—called “moments”—from the NBA. Hence, “Top Shots”. It has a volume of nearly a billion dollars over the time that it has been active.



*Figure 9.7: NBA Top Shot logo—NFTs that combines sport, photography, and collection<sup>5</sup>*

The interesting part about this project is that *NBA Top Shots* is both an NFT project as well as an NFT sales platform, so you can buy and trade their NFTs on their own blockchain (called FLOW). This, in turn, raises a fair

question: are these real NFTs if the game moments are only tradable within the closed universe of the platform, being hosted on a central server despite being linked to the blockchain, but you cannot take them to a different marketplace out in the open sea of the blockchain?

An answer will be provided in [Chapter 12, \*The NFT Metaverse\*](#).

When NFTs are based on Ethereum (and made with the *ERC-721* ([glossary, 14](#)) standard protocol that makes tokens unique), they will be tradable on other platforms functioning with Ethereum as well. But by creating an in-house blockchain (FLOW) for the platform, NBA Top Shots regulates the market for their player highlights for trading on their own platform.

NBA Top Shot is a virtual sports card trading platform.

### **[SoRare \(NFT marketplace + game\)](#)**

*SoRare* is a fantasy football and baseball game platform where you can also collect football and basketball cards or trade them for profit. It is sponsored by Major League Baseball and by many professional football clubs.

*SoRare* is based upon the SOR token because it works with the Ethereum ERC-721 protocol for NFTs. This will also allow *SoRare* NFTs to be freely tradable outside the platform on other Ethereum-based platforms as well. Note the big difference with NBA Top Shots that is limited to its own platform.

### **[Vault Gucci \(NFT marketplace + fashion gallery\)](#)**

*Vault by Gucci (X SuperRare)* is one of the first big fashion names in the NFT space. It is a project that is focused on showcasing digital assets that feature virtual apparel and stylish Gucci-inspired art for collectors and brand followers so that they may enjoy today's *Web 3.0* ([glossary, 15](#)) digital opportunity. The selling is done by limited and exclusive drops for those who are a member of the platform, and thus, a beautiful virtual gallery is created where a user can learn about the house of Gucci.





*Figure 9.8: Vault Gucci logo and graphic—the Web 3.0 project of Gucci × SuperRare<sup>6</sup>*

Here, in collaboration with the platform *SuperRare* Gucci releases various digital fashion assets that link back to Gucci’s heritage. The collaboration with *SuperRare* is instrumental so that the Gucci fashion platform establishes a direct link with an already established NFT platform. This way, a marketplace for digital designer goods can be created by means of using the *SuperRare* marketplace tokens.

## **Unique Selling Point (USP)**

Another very important factor in creating your own NFT (or purchasing one as an investment) is that you first must well establish what is the USP of the NFT, which answer the questions: what will differentiate your purchased or created a product from the rest and what will add value to this particular (collection) of NFT(s).

How is your NFT different from others?

It is something that is often forgotten by NFT creators, while at the same time, it is exactly the one thing that will raise the value of the NFT in the

eyes of people in the current market.

There are several USP tactics for NFTs, and here we will present you with a non-exhaustive list:

- **Artistic:** The NFT you plan to purchase or create must be real art, it can represent something or just be visually appealing and complex, but most importantly, it must have a strong measure of *originality* to it.
- **Functional:** The NFT that you are planning to purchase or create is functional; it opens some doors or solves some problems or has a feature outside of just “looking good”. An example of that could be access to a community, tickets, games, or an exclusive metaverse space.
- **Collectible:** The NFT is tied to something that is regarded by a community as a collectible and has real rarity, examples of which that could be certain figurines, baseball cards, or even Pokemon.

By nature, these list cannot be exhaustive because you will have to create/purchase something that, to an extent, has not been done before. If it has already been done, chances are, your efforts in raising the value of your NFTs (and thereby the market price) will be futile.

## [Marketing review](#)

Now that you have been introduced to the most famous NFT collections and the different kinds of NFTs that are out there, we will briefly touch upon why people are drawn to collections.

Creating NFT collections rather than minting individual NFTs is vital to the success of many NFT projects precisely because when a group is collecting the same collectibles, this creates *a community of like-minded individuals*—a club—where people will happily and freely exchange information about their favorite project. This pushes people on the inside to continue purchasing or creating new NFTs as they are all fueled by the urge to collect and show off the items that they collected to their newfound friends.

The textbook example of this type of human behavior is the Biker Club, where everyone who owns a *Harley-Davidson* is quite literally also a part of the gang. It creates a sense of belonging besides adopting a certain style and characteristics that no one else has access to. And it brings with it a sense of

exclusivity and protection. People love to proudly show the honorable insignia that make them belong to a certain distinguished group. Individual ownership is affiliated with a distinguished group and, in return, will create a badge of honor.

If you get this simple principle, you will have understood the main key to the success of your next NFT project because only the tokenization process for unique creations makes individual ownership while being part of a group at the same time possible.

## **Certificate merchandise NFTs**

*Certificate merchandise NFTs* will probably revolutionize the product marketing and branding of tomorrow forever. It is why they deserve a little bit of extra attention in this chapter.

## **Provenance**

Many high-end or luxury brands have a large resale market for their goods to the very detriment of their own brand because this secondary market may decrease the sales of their latest collections. However, today, instead of dumping out-of-style goods in factory outlets or complaining about outlet resellers, merchandise NFTs can give the opportunity to established companies with good products to manage the secondary market of goods by simply certifying and authenticating their products as each product is assigned *NFT blockchain provenance* (glossary, 16), and thereby a certificate of ownership.

Thus, NFT product authentication may make it possible for companies to follow in the blockchain what happens with products even after they are first purchased. The blockchain product token creates a public ledger accessible to all which, when there is a later transaction on the same product which at the same time, can also notify the original owner that the product has been resold and sold again.

## **A future scenario**

The unique features of Certificate Merchandise NFTs may very well revolutionize marketing and branding as we know it because now the

original owner of the product can know what goes on in the secondary markets. This is huge in the field of distribution and logistics.

Therefore, in the future scenario, the products are going to be tagged with certificate NFTs where product creation and sales cycles can be measured and managed through blockchain tokens. This way, a much higher level of *product sustainability* (*glossary, 17*) can be achieved.

## **Product title**

By assigning merchandise NFTs to a branded product at the moment of its creation, a company will be able to certify authenticity while the ownership of the NFT is transferred in the market at the moment it sells. This sale can take place in a digital place.

When the person who initially purchased the item then eventually decides to resell the product, they, in turn, can use that same merchandise NFT to certify that the item that they are reselling is still authentic and they have full ownership over it. The ownership is then transferred to the person who is purchasing the item on the secondary market.

In other words, the Certificate Merchandise NFT here serves as a title or a deed, in the same way one would transfer a house or a car, which is especially important in the case for branded products.

## **Royalty fees**

In addition, because these are NFTs, the company that created and designed the product in the first place could set a royalty commission on each merchandise NFT transfer through smart contracts.

This way, they can collect additional revenue on every sale in the secondary market. This is a distinct NFT possibility but does not mean it would actually happen because it can also stipulate in the NFT smart contract that full unencumbered ownership is transferred without any additional royalties being granted.

## **An example**

You buy a pair of rare sneakers from a shoe company, let us call it “Like”. When buying the sneakers, after check-out, you will be able to scan your

sneakers with a **Near frequency control (NFC)** (*glossary, 18*) tag implanted in the shoes by the manufacturer that links to the original merch NFT to claim ownership of the item that you just purchased.

You wear the sneakers for some time, after which you decide to sell them because you do not like them anymore. You post the pair on an online marketplace, find a buyer and sell the shoes. At the moment of the transaction, you also transfer the merchandise NFT to the person that purchases your item and may pay a commission that is preset by the initial producer of your sneaker.

Your buyer can then verify the legitimacy and provenance of the item that he receives, as well as a certificate of ownership that is transferred to him by scanning the NFC tag on the shoes. This is in the form of an NFT.

The initial buyer is happy because he can secure the ownership of the items and can also prove their legitimacy; the manufacturer is happy because they get an additional stream of income as well as a new marketing opportunity; and the secondary buyer is happy because they are able to verify the legitimacy of the item and claim ownership of it.

In short, we believe that merchandise NFT certificates will become a massive game changer in the world of marketing and branding of valuable and or collectible items.

## **Sustainability**

More and more companies around the globe are becoming “green” and are promoting sustainability by using recycled materials and more eco-friendly production methods when creating products. Certificate NFTs in the future will help them in doing so better.

By being able to track sales and resales in secondary and tertiary markets here, NFTs may offer a real way to slow down overconsumption while improving recycling, but while NFTs cannot yet help with the recycling process of mass-produced goods, they can help by limiting the production of luxury goods and more expensive items through better management of sales volumes, inventory, and sales cycles.

## **Conclusion**

In conclusion, in this chapter, you will have learned why NFT collections are so important and how to use the creation of NFT collections to maximize the possibility of success of your NFT project.

The second thing we covered was the different NFT types that are present in the market at the moment of writing this chapter. We covered everything from Digital Art to Certificate and License NFTs.

In the middle of the chapter, we gave you examples of the most popular NFT collections, so you can do your own research when ascertaining your own project.

In the final part of the chapter, we introduced to you the NFT type that we believe will change the world: the certificate merchandise NFT.

We believe that this is one of the most valuable chapters in this book because it lets you take a short glimpse into the future of NFTs and the marketing possibilities of Web 3.0.

In the upcoming chapter, we will discuss how to market and sell your NFTs to the world. We will start off with defining marketing and all its components, after which we will discuss various forms of NFT promotion as well as give you specific digital avenues to go down when marketing NFTs through social media (for example, tailored advice per media channel).

## **Frequently asked questions**

### **1. What is the difference between digital art and individual art NFTs?**

The digital art NFT type is an art based NFT that usually comes in a collection alongside other similar pieces. Individual art NFTs *do not* come in collections and are sold on a “one out of one” basis.

### **2. What are certificate merchandise NFTs?**

Certificate merchandise NFTs are NFTs that are used to verify the authenticity of an object, which could both be IRL and online. Certificate NFTs are usually tied to the product with its Unique Product Identifier (for example, a serial code) and can be verified by anyone to determine the authenticity of an item. For IRL items, NFC tags can be used to link the NFT with the said item to prevent further, more complex fraud. It is a new technique that may revolutionize the way we approach authentication.

### 3. Can I launch a single NFT without creating a collection?

You most certainly can; creating a collection is not a must for NFT sales, although it is a tool that can help you maximize your sales.

## Glossary

1. *Pokemon Go*: Mobile AR game based on the original anime card game Pokemon
2. *Certificate Merch NFT*: blockchain-based ownership certificates for products and merchandise
3. *One-time creation*: Not a collection, but a single digital creation
4. *Everydays*: The first 5,000 days = famous digital art creation sold as NFT
5. *Generative art*: Computer-generated, and therefore, non-human art
6. *PFPs*: Profile picture NFTs
7. *AR and VR*: Augmented reality (a reality/world that can be accessed via a device) and Virtual Reality (a reality/world that can be accessed via VR headset glasses or other means)
8. *Digital wearables*: wearable digital tech, electronic tech, or a device that can be incorporated into your wear. Wearable tech can also be defined as an article or articles that can be worn digitally by an avatar representing the owner (for example, in the metaverse).
9. *IRL*: In real life
10. *Collectible sneakers*: First category of products where IRL-certified merchandise NFTs are being introduced. They are sneakers that hold a higher level of value than their counterparts due to either their rarity or inherent value.
11. *FPS*: First-person shooter game (a gaming acronym)
12. *Like-minded people*: A very important concept in the creation of NFT collections, where it becomes important that those who collect (let us say baseball card NFTs) all share the same passion
13. *Breedable NFTs*: Two NFTs (the parents) that combine their unique features into a completely new NFT (the offspring) with its own unique features.

14. *ERC 721*: A standard Ethereum protocol that allows NFTs to thrive and be sold on platforms that use a similar protocol.
15. *Web 3.0*: a new stage of decentralized digital information exchange where it becomes possible for the user to become owners.
16. *NFT blockchain provenance*: Blockchain-based authentication and verification by means of NFTs create a perfect and uninterrupted transaction timeline
17. *Product sustainability*: In this case, by improving logistics, supply, and distribution of products by means of adding certificate merchandise NFTs, much time, effort, material, and energy can be saved
18. *NFC*: Near Frequency Control, an alternative way to scan items or products not using a QR code

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[1](#) *Bored Apes Example: Public domain.*

[2](#) *Crypto Punks Example: Public domain.*

[3](#) *Crypto Kitties Example : Public Domain.*

[4](#) *Crypto Baristas Example : Public Domain.*

[5](#) *NBA Top Shots Example : Public Domain.*

[6](#) *Gucci Vault Example : Public Domain.*



## CHAPTER 10

# Marketing Your NFTs

**M**arketing is a word we often hear in our life, something that every “NFT enthusiast” is talking about. It is simple to understand its basics, but to make it work and tick with success is a task that is not so simple to many.

In a traditional market, it is very common to see a well-marketed product sell better than a poorly marketed version, even if it is functionally inferior. The same logic can apply to NFT. No matter how beautiful your collection is or what breakthrough usability it has, if you cannot reach your potential customer effectively, you are going to fail.

In this chapter, we will introduce you to the basics of NFT marketing: what avenues you should think about taking when it comes to social media and digital marketing; how to present your product well; and most importantly, how to create and engage your *NFT community of like-minded people*, which is the secret to market positioning for NFTs.

All these will help you survive the harsh winters, please, so do not forget your boots.

### Structure

In this chapter, we will discuss the following topics:

- NFT marketing
- A refresher on marketing
  - Market research
    - Icy tools
    - Rarity tools
    - Marketplaces
    - Trends

- Collections
- Product development
- Pricing
- Advertisement and promotion
  - Instagram
  - Tik-Tok
  - Twitter
  - Discord
- Positioning your NFT: welcome to the club

## **Objectives**

After reading this chapter, your memory will be refreshed with the components of marketing. You will also understand various methods of NFT market research and the basics of NFT product development. The principles of NFT pricing strategies and the main avenues of NFT advertisement and promotion will also be understood. Finally, you will be clear about the basics of NFT positioning.

## **NFT marketing**

The Clipper symbolizes the old marketing, supply chain, and distribution opportunity of that time called the Merchant Express Line. The gold-digging in the example is the NFT creation and minting process. Please refer to the following figure:

**A NEW AND MAGNIFICENT CLIPPER FOR SAN FRANCISCO.**  
**MERCHANTS' EXPRESS LINE OF CLIPPER SHIPS!**  
 Loading none but First-Class Vessels and Regularly Dispatching the greatest number.  
**THE SPLENDID NEW OUT-AND-OUT CLIPPER SHIP**

**CALIFORNIA**

HENRY BARBER, Commander, AT PIER 13 EAST RIVER.

This elegant Clipper Ship was built expressly for this trade by Samuel Hall, Esq., of East Boston, the builder of the celebrated Clippers "SURPRISE," "GAMECOCK," "JOHN GILPIN," and others. **She will fully equal them in speed!** Unusually prompt dispatch and a very quick trip may be relied upon. Engagements should be completed at once.

Agents in San Francisco,  
 Messrs. DE WITT KITTLE & CO. } **RANDOLPH M. COOLEY, 88 Wall Street, Tontine Building.**

NEBHIT & CO., PRINTERS.

*Figure 10.1: This is a tombstone newspaper ad from the 1849 California Gold Rush*

Here is another example of marketing, this time from the Klondike goldrush: a pair of gold boots. Because for NFT marketing too, you will need to strap on your best pair of wilderness boots. Please refer to the following figure:

**YOU WILL NEED A PAIR OF THESE**

When You go to the

**KLONDIKE**

**Alaska Footwear**



**SEATTLE** is the only place to order and get just what you will need. We carry a complete stock of **Alaska Footwear** of every description, including Miners' Boots, Shoes and Rubber Goods, Moccasins, Leggings, Gaiter Sox, Felt Boots with Overs, etc.

**San Francisco Shoe Co.**

*Figure 10.2: Promotional poster of boots for the Alaskan wilderness*

## A refresher on marketing

First, we talk about marketing which many people believe is a synonym for promotion, but it is so much more than that. Under the umbrella term of marketing, you can find the following:

- Market research
- Product development
- Pricing
- Advertisement and promotion

## Market research

Before starting your NFT project, it is crucial to conduct comprehensive market research. You must first explore the niche of the particular NFT you like to create. The most important step of this process is to research and understand the potential competition. In other words, ask yourself what other NFTs are out there that are similar or have similar usability. For example, if your NFT is a **Profile picture NFT (PFP)** (*glossary, 5*), compare the existing PFP market and see how your PFP will be different or similar.

After you have analyzed your competitors, you move on to targeting your customers and researching who buys NFTs similar to the ones you are planning to create. It is essential to know your customer and not just your competitors.

At this step, you have to ask yourself the following questions:

- What NFTs (collections) are people currently buying?
- What is the trend?
- Where in the world are most NFT communities located?
- What are the segments of the people buying NFTs in this niche market?
- Are the communities in your niche subject to one language or another?
- What is the average price for one NFT in the niche market?
- How successful is the minting in this segment of the market?
- How many NFTs are sold in this market?

- What are NFT platforms predominantly used to sell in this market?
- Are the NFTs for speculation or investing, or are they purchased to own?

After analysis, do not be afraid to make changes that develop your project to distinguish yourself from your competition. The NFT market, although young, is already very saturated, and if you do not stand out from the crowd, you are doomed to freeze in the harsh climate.

This is why *market research (glossary, 6)* is important. You need to lay a solid foundation for your goldmine before you build it and ensure that the ground is solid enough to support it. In conclusion, do not disregard fundamental market research. Here is where many projects die, and many do not realize it before it is too late to fix it.

The following tools can be used to conduct effective market research in the NFT space.

### [Icy tools](#)

Icy tools is a great real-time NFT monitor that allows you to see statistics on a particular project from the moment a single NFT is minted. Using icy tools, you can see what volume your competitors are turning over. You can get an accurate gauge of the market. This tool is free, with a premium version available for purchase. You can see the Icy tools logo in [figure 10.3](#):



*Figure 10.3: Icy tools logo—an NFT research tool [L](#)*

## Rarity tools

Rarity tools is an excellent platform on which you can evaluate the rarity of an NFT that is purchased or in circulation in a way that you can understand more about the rarity of the NFTs of your competitors. Also, do not forget to list your project on their platform after it is live. This will allow people who bought your NFT or are interested in buying it to understand its rarity and get even more excited about purchasing it. Please refer to the following figure:



*Figure 10.4: Rarity tools logo—an NFT rarity evaluation tool<sup>2</sup>*

## Marketplaces

This might be obvious, but you should conduct beginner-stage market research for your NFTs from the marketplace platforms you are considering selling on. Roam the marketplaces in search of similar projects to yours and research the ones you find in detail (*your potential competition might not be present on the marketplace that you have chosen for your particular project, make sure that you do a complete and thorough search of the most common marketplaces*).

## Trends

The top 10 trending collections at the moment of writing this chapter are as follows, and of course a great way to find out about the NFT markets is to first and foremost follow the trend. The list below is meant to give you a starting point of your own research.

- Otherdeed from Otherside
- Valhalla



- Mutant Hound Collars
- BEANZ Official
- The Potatoz
- Art Block Explorations
- Kubz
- Art Blocks
- Savage Nation
- Lil Pudgys

## Collections

Another way to gauge the NFT markets is to ascertain which collections are the most sold NFTs of all time. Here is a famous list.

- CryptoPunks
- Bored Ape Yacht Club
- Mutant Ape Yacht Club
- Otherdeed for Otherside
- Azuki
- Clone X
- Moonbirds
- Doodles
- Meebits
- Bored Ape Kennel Club

This information may be out of date by the time of your reading, so please, do your own market research, while bearing in mind that sales volume and total revenue per NFT collection should tell you a lot of new things to discover. Research the best collections and you will be sure to get the necessary hints and tips that are valuable to start your own collection.

## Product development

Now, you are ready to do product design. This is the most creative step. The most important idea that this book can convey lies in the following action:

BE ORIGINAL. That is what NFTs are all about, what is happening now. People are sick of seeing massive amounts of copycat projects that all look and feel the same, the NFT community wants a breath of fresh air, and you are here to deliver it.

In addition, if your work is not original, please will know that you can always run into the chance of being sued for copyright or trademark infringement.

The main bullet points for NFT product design and development are as follows:

- **Looks:** The end-product must catch your eye, should be very interesting, and look (or sound if audio is involved) professional and distinguishable from other NFTs. If you invest time and money in creating your NFTs, they may **look** as perfect as possible. All items in your collection (if you chose to create a collection and not a unique, single NFT) have to share a **unique** style. One has to look at an NFT and be able to say, “*Oh yeah—that is an X and X NFT.*” Similar to how you can recognize a Van Gogh painting simply by noticing the brushwork. Find a placement for your NFT in a certain niche market: it is best, due to the saturation of the NFT markets, to find a specific area that your NFT targets. You are much more likely to sell your product then.
- **Utility:** (*glossary, 1*) This goes back to the question of adding value for your customer. Your NFT must represent something. It can be pure art, a collectible, or have some other form of usability, like, for instance, an in-game gadget, but this utility needs to be clearly defined and conveyed to your customer.
- **Origin:** It has to be clear what your NFT represents, the story behind it, and what your plan is with it in the future. The provenance of the NFT is highly important. As with all other art in life.
- **Investment opportunity:** Make it clear what your end game is by creating NFTs. For example, you want to implement the NFT in the metaverse, launch a game with it, or simply present it as a collectible so that people are willing to bet and wager on it. Give it a speculative purpose, and your customers will come.

- **Collectible:** Your NFT product ideally needs to be interesting to collect for the average consumer. The main point here is to have a good balance of similarity and distinction among the different NFTs. Create something that is similar yet different.

This is why products like “Bored Apes” worked so well. Although the products were similar, they had some differences, making them highly collectible.

People love to collect rare things that are unique and better than the versions of others. This alone will add incredible value to your project. It is a concept that was first tried and tested with baseball cards.

## Pricing

The price tag of an NFT can make or break the product and needs to be attached very carefully. When pricing your NFT, you have to consider its uniqueness and how many other different yet similar NFTs you are planning to release.

- Do you already have a social media following for your NFT conception?
- Are people already lining up to purchase right after the minting becomes available to them?
- What market segments, targets, and positions are you trying to place your NFT in?

All this can impact the pricing when appropriately set. Set the price too low, and you cut your profits and risk your NFT being perceived as a cheap knock-off. Set your price too high and miss out on potential clients.

There are other caveats to consider in relation to pricing. I am sure you remember that there exist two sale types on most platforms, *auction versus fixed price*. Something to consider is that auction prices should start much lower than your fixed price, as this allows the customer to raise the price during the auction.

In addition to that, many people who are currently purchasing NFTs are doing that to raise a quick profit using the *FOMO* (glossary, 2) of others, and if your NFT is *priced too high*, this will not allow them to “*buy and flip*” because it would take longer for them to find a customer. So, by pricing an

NFT too high, you might be cutting off a massive chunk of your potential client base, not because of purchasing power but because of the nature of the NFT business.

*Royalties* (*glossary*, 7) are another factor to consider when pricing your NFTs. There is a profitability tactic that might work for certain projects where you can price your project very low but at the same time grant yourself a very high resale royalty premium. This will encourage the sale and resale of your NFTs at a higher rate (because of the low price) and, in turn, grant you a royalty every time it is resold. In successful projects, this might be even more profitable than selling at a higher starter price with a lower royalty percentage.

Remember, if we are being realistic, the NFT market is, for now, a huge *speculation bubble* fueled by the fear of missing out. This drives all the incredible million-dollar resale prices you hear about in the news. You can use that to your advantage by creating FOMO (*glossary*, 2) around your project so that the resale prices rise even more, which can allow you to run profits even if your initial sale price is not that high.

Finally, the last and most crucial thing to remember is that the NFT market is extremely *volatile*; one day, your sales might be through the roof, and the next day, you can be completely forgotten. It is possible that your NFT will not sell at all, regardless of the price.

When starting a project, just know that here lies a risk that you should be willing to undertake. Never invest more than you can afford to lose in your NFT project. The NFT market is still too volatile for that right now.

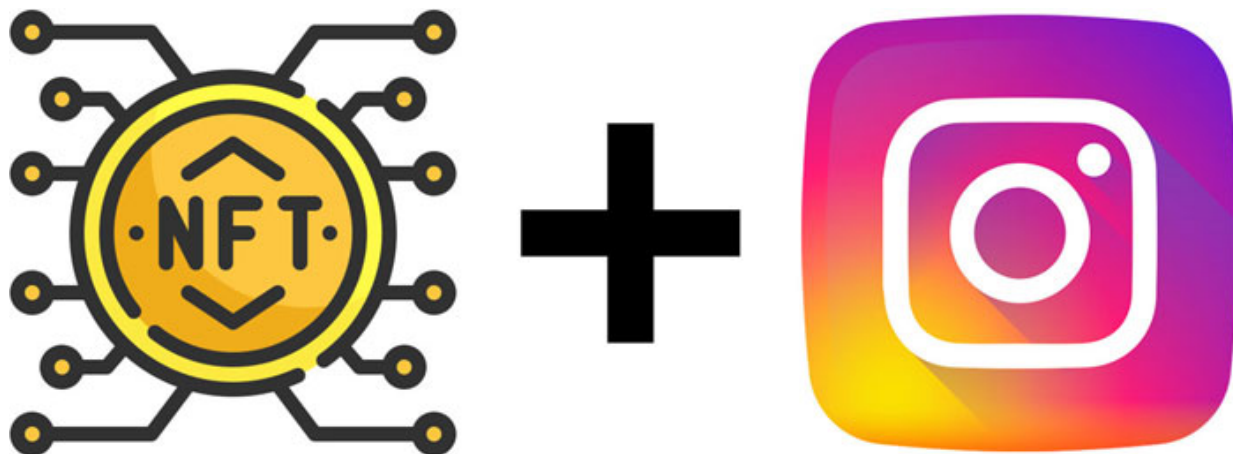
## **Advertisement and promotion**

This chapter's "Steak and Potatoes" is the advertisement and promotion. Here, we will discuss the platforms one should use for each marketing avenue and start building a well-known NFT "community."

First, as this is probably the foremost question on everyone's mind, let us discuss the different social media outlets and how to use each particular one to sell your NFTs. What are the drawbacks and benefits of each platform selling your NFT?

### **Instagram**

Instagram is one of the most popular platforms with a massive reach possibility. To start off, create a clean and professional account solely dedicated to your project. This might seem obvious, but you cannot imagine how often some people mix their personal pages with their professional ones. So, create an account just for your NFT. Please refer to the following figure:



*Figure 10.5: Instagram logo—one of the most popular avenues of NFT promotion <sup>3</sup>*

Your project's Instagram account is only there for the project, NOT for a story of your afternoon cup of tea and biscuits. Above all, *this page is not about YOU* but about your NFTs. This is called *l'art pour l'art* (*glossary, 8*) in good French, art for the sake of art, and not art for the sake of you or your popularity. People will want to follow or buy your NFTs, so do not make this about yourself if you wish to be successful.

For contact purposes, your Instagram bio is a vital part of creating your page, which should include the link to your NFT website. This will be something that we call your *conversion funnel* (*glossary, 9*)—a way for your observers to have the opportunity to become your customer in a simple and easily accessible way.

Once you are ready, begin posting pictures of your NFTs, create regular stories, and explain in each description your goals and the story behind your NFT. Explain to everyone why your project is the one they should invest in.

Some ways to begin gaining traction on the platform are as follows:

- To find *NFT communities* (*glossary, 4*) that are interested in NFT and contact the moderators through direct messages to inquire on how to get mentioned on their page. Some smaller accounts might promote

you for free, but if you plan to contact some big communities, be ready to hear a price.

- *Shilling (glossary, 3)*. Comment under posts related to your project or just under general NFT pages, and give a brief and attractive resume of why your project is one that they should consider “checking out.”
- Try going through the follower list of the significant communities and reach out directly to the individuals that might be interested in your project. You will be surprised at how many people you will attract.
- **Paid ads.** Try out Facebook ads on Instagram. This step requires financial investment, but one that can easily be very rewarding as well. Here is where the market research you did at the beginning of your project will come in handy. Using it, target specific geographic locations or interest groups to achieve the best results possible (*glossary, 11*).

The key thing to remember is to post *high-quality original content* (high definition and professional) that is well-adapted to your potential customers and can quickly catch the eye.

Do all the previous steps mentioned consistently.

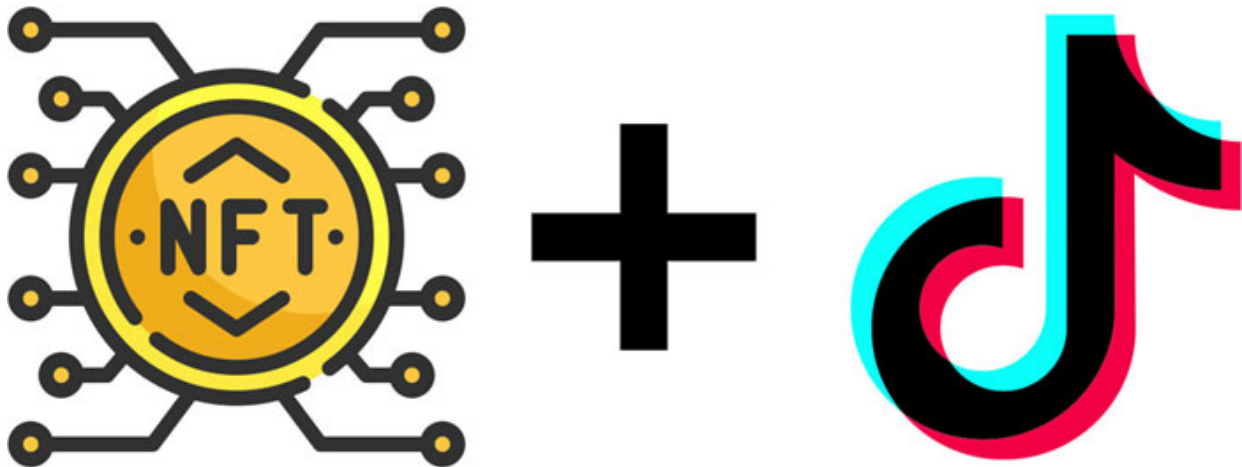
You cannot expect to gain a million followers in a week or a month. Still, it is important to work every day until you get the snowball rolling. Remember, if you have followed all the previous steps and your product has original value, with little luck in this extremely volatile environment, it will be a question of when, and not if, you succeed.

**Advantage:** The main pros of this platform are its ability to showcase visual information well and target a specific audience that already showed interest in you. Additionally, they have a superb direct messaging system that you can take advantage of by cold messaging.

**Disadvantage:** The main cons would be the limited algorithm-based discoverability; people that are already following you will see your content, and people that do not mostly will not. This platform is perfect for art (*glossary, 15*) and *PFP NFTs (glossary, 5)* but should be used by every type to create a stronger online presence. Instagram is the central social media to use at the moment.

[TikTok](#)

TikTok is a modern platform mainly used to share short video content. It is different from other social media platforms because it is highly algorithm-based and not a subscription-based platform. This means that people not only see the content they are following explicitly in their feed but also (and mostly) random videos that the algorithm automatically decides the user would like. There is a *big advantage* here because even with a small number of followers, you can reach an enormous number of people in a small amount of time if you stay consistent. Please refer to the following figure:



*Figure 10.6: TikTok logo—one of the best organic promotion methods*

Here is the breakdown of a mini manual for working your NFTs with TikTok:

- First, just like with Instagram, create a new professional account dedicated to your project and carefully write your bio.
- Create short videos with popular visuals and trending sounds that go well with your NFTs.
- Be creative, and think outside the box. TikTok (algorithm) loves that.
- Use hashtags such as #NFT, #metaverse, and so on for TikTok to reach the customer base you want. *Hashtags* (#) are tags in the description of your post that indicate what genre your video pertains to. This allows your video to be seen by your target audience rather than just anyone. This way, you can help the TikTok algorithm place your video correctly.
- Be consistent. TikTok and its algorithm are extremely powerful, and if you remain consistent over months, you will begin to reach more

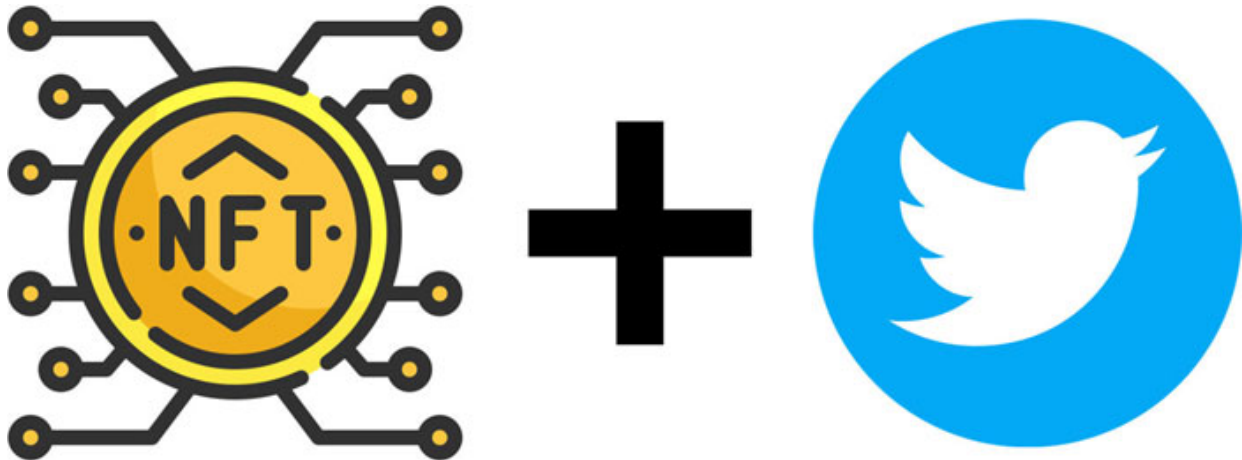
people who are interested in NFTs and are ready to explore the project you bring to the table.

**Advantage:** TikTok is one of the fastest-growing social media platforms out there, and its main strength is its *algorithm-based discovery process* (*glossary, 10*) and the fact that they have a higher density of people that might be interested in NFTs than other social media platforms from a demographic perspective (18 to 35).

**Disadvantage:** The drawback of Tik-Tok is a large amount of effort one has to place into the generation of content due to it being video based. This platform is useful for any NFT type.

## Twitter

Twitter is the first and foremost platform on which you can begin creating a community and connecting with like-minded people. Your marketing strategy on this platform will differ from that used in the previous two social media platforms. Please refer to the following figure:



*Figure 10.7: Twitter logo—one of the simplest community-building social media platforms <sup>4</sup>*

Same as always, create a professional account and fill in your bio. After that, mimic a couple of your Instagram and TikTok posts on Twitter and Type 2 or 3 messages explaining the project's goals and what you are trying to achieve. Space those messages over a couple of days.

It follows that Twitter should be used as an *information channel* (*glossary, 12*). Here, you will deliver *live updates* to your community about the work being done on the projects, updates about potential collaborations, and



*announcements* about the beginning and end of minting. This is the best platform where a sense of community around your NFT will be built.

A thing to remember when operating Twitter as your primary information channel is to make sure that the bios of other social media platforms have the Twitter link in their bio so that the traffic on Twitter can be brought in from those social media sites.

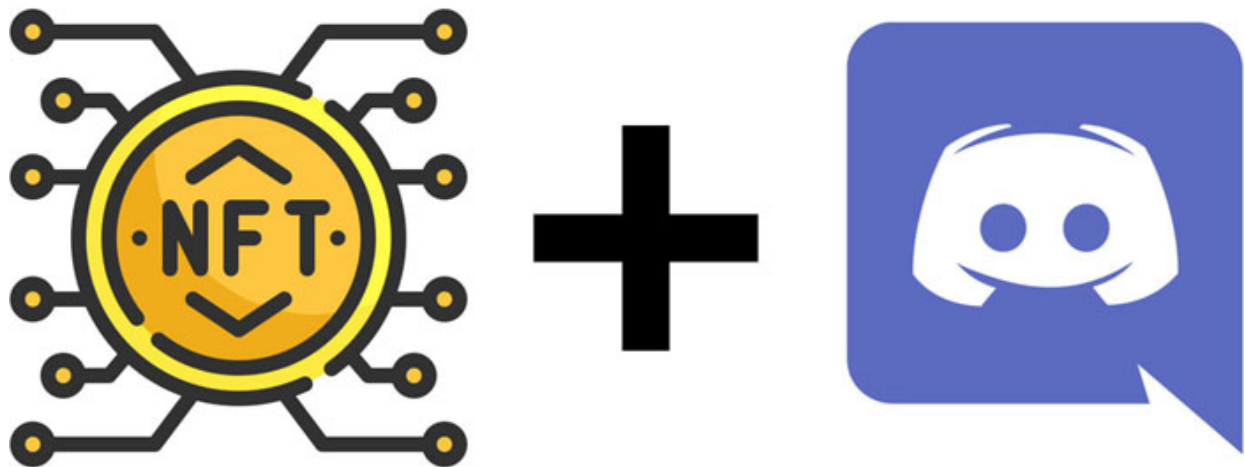
**Advantage:** This is a great platform that combines text and image-based content and *algorithmic discovery* (*glossary, 10*); it is a platform on which you can also build a community and interact with it.

**Disadvantage:** The main drawbacks of it are spam and current instability due to ownership change. This platform is a must for all NFT projects.

## Discord

Discord will be the heart of your community. This social media platform is a little trickier but vital nonetheless.

To start on this platform, you will have to create something that is known as a “Discord Server.” Register on the platform, and you will find many helpful tips on their website. Please refer to the following figure:



*Figure 10.8: Discord logo—the more advanced community-building platform [5](#)*

We recommend starting with one text channel, which you can call the “Town Hall,” where you will provide the major updates about your project, similar to Twitter, with one key difference. The members can reply in real-time and discuss it among themselves.

Your goal with creating a discord channel is to create a *community of like-minded people* who are excited about your project and are ready to help and spread the word about it. This will indirectly help advertisement and promotion and add legitimacy to your project.

- As your project grows, do not hesitate to add other channels to your Discord server, such as a skill channel, when you start noticing people self-promoting too much in the main town hall chat.
- Here you can also add a “show off your NFT” channel, allowing people who have purchased your NFT to show off which one they got.
- Here you can add voice channels too if you wish to give your community the opportunity to interact with each other in speech.
- Here you can implement different roles for people who own different NFTs to give them an additional incentive to purchase.

Discord is very different than any other social media due to the fact that it is completely community-based and that there is simply no discovery; people will find the discord of your project from your other social media and congregate there.

**Advantage:** Discords’ main role in the NFT business is to create a community and deliver announcements directly to your most attentive members. It can also be used for voting poles and other community-based activities.

**Disadvantage:** The main drawbacks are the know-how and relatively high complexity of creation and maintenance and, in certain cases, costs. It is a platform to use if you would like to build a tight-knit community and if you would like to get feedback from it.

## **Positioning your NFT: welcome to the club**

Once you have worked your way through market research, NFT development, promotion, advertisement, and pricing of your NFT, you will finally be able to build a solid NFT community by *positioning* (*glossary, 13*) it correctly in the markets. It is the process of finding like-minded people to join them in one CLUB.

*Community building* is the best and most essential NFT marketing and sales tool. As discussed previously, people are interested in NFTs because they are

interested in collectibles in a certain domain *that grants certain privileges*. People want to compete and show off their best, brightest, and latest NFT. People are interested in crossing the velvet ropes of an exclusive NFT club.

Often, an NFT will be a token that allows you to join a group of people that shares similar interests, and for your project to be successful, it will need to provide a utility to the members of your particular community.

Building a community is essential in raising the resale value of NFTs as this allows people to see what NFTs others have. This, in turn, will raise prices on their own accord. This is called *market-making (glossary, 14)*.

In our own experience, community building has been one of the most effective marketing techniques during the rise of our Gambit Club project. The community we managed to build allowed our members to interact among themselves and create added interest in purchasing our items. Our project was set in a tightly knit community of people (chess lovers) that gave the buyers many topics to discuss among themselves. It is safe to say that community building around NFTs made Gambit club what it is today.

## **Conclusion**

You have now created your own Merchant Express Line for your NFTs to be delivered to the markets. You have allowed them to be minted. Now, your NFTs will get shipped to the world markets by Clipper boat. By Twitter, Instagram, TikTok, and Discord—this is your supply line for your digital gold to the world markets.

Remember, the most important points: your goal is to create trust between you and your customer, create a loyal NFT community—a club, and target specific sets of people who are potentially interested in your project.

In the upcoming chapter, you will learn about risks and fraud in the NFT world. It is important to understand that NFTs are a non-regulated and decentralized form of digital assets, this is the beauty of it, but this is also the biggest risk, and it is why it is so important for you to become acquainted with various common NFTs “scams” in order to avoid them.

## **Points to remember**

Remembering these points will make your project a golden investment opportunity and a club for like-minded people. And digital gold will be

yours!

- Do not save any time or effort while conducting your market research
- Create an original and professional product that will match your passion
- Make sure that your product is collectible
- Make sure your NFT has its own story
- The NFT utility must be well defined
- Make sure that your NFT is recognizable and that it has its own USP; moreover, it is crucial for your NFT project to be different from the rest; it should stand out from the crowd.

## Frequently asked questions

### **1. Which promotion platform to use?**

That is a decision that you will have to make yourself using the pros and cons outlined previously while considering the time and monetary investment that you are willing to make into that project. We would advise you to try out most of the platforms actively to see which ones work best for your project and register yourself on all of them to avoid copycats.

### **2. Do you need to create a community for every NFT project out there?**

Yes and no, it is a must to target your product to a particular group of people that are interested in it, but the decision of creating a centralized place for your community to interact is up to you and your business model. We consider it to be one of the most efficient tools of marketing.

### **3. How much time should I spend on market research?**

We advise spending at least two to three weeks on active market research. That amount of time should give you enough time to evaluate the market that you will enter and understand the trends in it.

## Glossary

1. *Utility*: In this context, volatile refers to a particular use for an NFT that a customer could have post-purchase.
2. *FOMO*: Fear of missing out is the fear of a missed opportunity that every human possesses to an extent. If you learn how to control and create it, it can become one of the most valuable tools of NFT marketing.
3. *Shilling*: The process of self-promotion through digital channels.
4. *NFT community of like-minded people*: It is a community that brings people together around a joint interest, which your NFT topic incorporates.
5. *Profile picture NFT (PFP)*: PFP NFTs are NFTs that are characterized by a main avatar(s) (character[s]) that are more often than not digitally created. Those characters have interchangeable accessories or features that distinguish the appearance of one from another. It is the most common NFT type. For example, Bored Ape Yacht Club. (Please look back in [Chapter 9, Kinds and Collections](#), for a more detailed analysis.)
6. *Market research*: In broad terms, market research is the process of collecting information about a market with the end goal of entering it or investing in it. It includes everything from evaluating a market's barrier of entry to its general volume of it.
7. *Royalties*: Payments that are usually made to the owner or original creator (a third party) of a good usually based on quantity sold or revenue generated. These payments are common in industries that use intellectual ownership. (Patents, music streaming rights, NFT resale royalties, and so on).
8. *L'art pour l'art*: This expression refers to the act of creating art for the sake of creating art rather for monetary gain or any other purpose.
9. *Conversion funnel*: It is the step-by-step process of turning an interested party into a paying customer.
10. *Algorithm-based discovery process*: It is a process where the content presented to the end user of a particular social media is not predetermined by the accounts that the user follows but rather by the content that the user engaged with in the past. This model allows people to discover more new content that is better tailored to the

content that they are interested in at the moment. This model also allows for better

11. *Targeted advertisement*: Advertisement that uses the information collected on a user to determine which product that is being advertised to them would lead to a better conversion rate. (The rate of a “passer-by becoming a paying customer”).
12. *Information channel*: The source of information can be both broad and wide. (For example, Social media and mass-distributed media).
13. *Positioning*: The way an entity places a product on the market and the way it is perceived by both the market players and the way that it compares to them.
14. *Market-making*: The process of creation of a market in order for a company to expand to it or a start-up to develop.
15. *Art NFTs*: In very broad terms, NFTs whose main point is to deliver an artistic message. (Please look back in [Chapter 9, Kinds and Collections](#), for a more detailed analysis.)

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[1](#) *IcyTools logo—Public Domain.*

[2](#) *RarityTools logo—Public Domain.*

[3](#) *Instagram logo—Public Domain.*

[4](#) *Twitter logo—Public Domain.*

[5](#) *Discord logo—Public Domain.*

## CHAPTER 11

### NFT Risk and Security

As back in the days of the Gold Rush, scammers will always try to take advantage of people searching for a fast way to make gold. Today, gold is mostly in digital forms, such as Cryptocurrencies and NFTs.

What we see today in the Crypto/NFT world goes beyond any scams that are targeting banks and financial institutions in terms of sophistication and complexity. The reason is quite simple. The money fraudsters make off scamming people, and getting NFT tokens becomes untraceable if they exchange the underlying crypto via private coins [like *Monero (Glossary, 1)*], where every wallet is anonymous by default.

In contrast, with regular Ethereum or Bitcoin (*where you can see that the funds went from wallet X to wallet Y*), transactions are public. This gives the scammers an open-door to clear the scammed amounts without major risks, leaving them room to focus on making the scams as complex and ingenious as possible.

The fact that scammers are now being organized in small groups/organizations, combined with the huge increase in the number of people that have started investing in NFTs and a general lack of knowledge about cyber-security, makes the NFT—crypto part of the digital world an amazingly profitable land for scammers.

Good risk analysis and fraud assessment can make a difference between having an asset and not having it. Thus, we want you to be aware of what NFT scams and fraud schemes are and how you can protect your digital assets.



*Figure 11.1: Miners and prospectors ascend the Chilkoot trail during the Klondike Gold Rush*<sup>1</sup>

Here is a recent story to give you an idea about the extent of time, creativity, and know-how that such scammer teams are investing into making your life miserable.

### **Scam story**

The founder of a crypto-related project was approached by a fake designer who offered to help with some project designs for free. He received some tasks and returned high-quality work. This helped the fake designer gain the trust of the crypto millionaire through quite advanced social engineering skills. He further introduced a second scammer who was faking working for a world-renowned NFT project. This second scammer offered access to a “staking” platform (*where you put your cryptocurrencies/NFTs and receive an **Annual Percentage Yield (APY)** (Glossary, 2) for them*).

This is a classic investment scam (we qualify it in this chapter as an “investor scam”) in finance where people are trying to gain your trust to “move” your account. Since the world of NFTs deals with blockchain-based crypto wallets and not with banks, the owner was smart and created a new crypto wallet for the occasion, thus, avoiding being scammed.

The scammers had been pushing him to use his main wallet (*since they knew he had a lot of cryptocurrencies there*). Had he done so, they would



have been able to raid his account once it was transferred to the “*staking*” platform (*Glossary, 3*), where he could have obtained an interest. What saved the owner, in this case, is that he had the technical know-how to investigate the underlying smart contracts of the transaction to see if there was any scam going on.

This story serves to show you the level of sophistication of NFT scams out there, and in this chapter, we will cover an overview of what types of basic scams, schemes, and frauds you may come to expect in the world of NFTs.

## Structure

In this chapter, we will discuss the following topics:

- NFT fraud, schemes, and scams
- Targeting the NFT wallet
  - E-mail scam
    - How to identify the email
    - How to protect yourself
  - SMS/Text/WhatsApp
    - How to protect yourself
  - Phone or audio calls
    - Short scam
    - Long scam
    - How to protect yourself
- Phishing
  - How to protect yourself
- Fraudulent NFT projects
  - How to protect yourself
- Free NFTs
  - How to protect yourself

- Counterfeit NFTs
  - How to protect yourself
- Investor scams
  - How to protect yourself
- Price manipulation
  - How to protect yourself
- Thirteen golden rules to protect your NFT digital assets
- Enterprise security

## **Objectives**

After reading this chapter, you will be able to understand the most common NFT scams, schemes, and frauds. You will gain insight into how digital assets can be protected and how fraudsters target your NFT wallets via different channels such as e-mail, websites, SMS, audio, and video calls. But not all NFT scams target just the crypto wallet, so we will also discuss NFT phishing, NFT counterfeits, and NFT investor scams.

Then we will give you seven golden rules on the best way to protect your NFTs.

In the end, the segment called Enterprise Security at the end of this chapter will help you understand what types of NFT fraud may target companies.

## **NFT schemes, scams, and fraud**

Before diving into complex scams, we will take it from the beginning to understand how smaller scams work and further build your security knowledge. One of the most important points regarding scams is that this domain is very dynamic, and scammers will always try to find the best moment and context to launch an attack. These are usually made around major changes or events, or if they are individually targeted, they can collect a large amount of information about the person that they are targeting in order to place the scam at the perfect moment while using advanced social-engineering tactics in order to increase their success rate.

We will further see in detail some of these scams to see how we can protect ourselves.

## Targeting NFT wallets

Your NFT wallet is the main target for a scammer. For example, a thief in real-life would grab your wallet, giving the criminal access to everything you have in it. They can immediately take the money you have and use your credit card.

Likewise, if an NFT scammer gets your wallet's security key/secret passphrase, it will give them access to make any transfer from your wallet. This puts you at risk of losing everything you have inside it (*cryptocurrencies and/or NFTs*). That is why most NFT schemes target crypto wallets where you might have cryptos and other digital assets like NFTs.

## E-mail scam

To get to your NFT account and wallet information, fraudsters use hacked e-mail accounts/mail servers. As a result, you may receive an intriguing e-mail with just a phrase that has a significant chance of getting a reply. Once you reply, the next e-mail you receive from the attacker has a high chance of not being marked as spam and will probably hold a malicious link inside. So, never reply to this spoofed e-mail.

Such e-mails usually come in the following two types:

- Sent from an NFT marketplace or service you use telling you something has happened, and you will need to immediately log in to prevent your account from XYZ so that you better press on the following link ... (a malicious link)
- An e-mail from local authorities or regulators; that you are under investigation for XYZ and you need to immediately send your wallet address and key to.

Do not fall for it.

## How to identify the e-mail

This is how you can identify a fraud e-mail:

- Check the address from which the e-mail was sent

The spammers usually use an e-mail address that seems legit at first glance.

**Example:** Let us say your NFT Marketplace is blockfeed.net. The spammers would register a similar domain and send an e-mail from it. The e-mail would be something like accounts@bl0ckfeed.something, that at first glance, looks very similar, but on a closer look, it is spam.

In some cases, they can spoof the original domain when sending e-mails, but those e-mails are detected almost 100% by the antispam defense.

- Check the link or domain where the e-mail is sending you

In most cases, the spammers/scammers will provide a link to your NFT marketplace or NFT service, where you will be tricked into logging in using your credentials and **Multi-factor Authentication (MFA)** (*Glossary, 4*) code.

Be careful of and pay attention to the link and domain name.

For example, if your NFT Marketplace is [www.blockfeed.net](http://www.blockfeed.net), the link will be something that looks like [www.bl0ckfeed.something](http://www.bl0ckfeed.something). *Similar but not the same.*

This link will usually contain a partial replica of the main website you are using and will steal your username/password and MFA code that is then used to authenticate the attacker on the legitimate platform so that they can transfer funds or perform other malicious activities.

## [How to protect yourself](#)

This is how you can protect yourself from scammers:

- If you receive an e-mail that looks urgent, double-check it, and do not act impulsively—because it is most likely a scam. Do not reply.
- Never reply to an e-mail or click the link asking you for personal data (*banking, crypto address, name, address, account passwords, and so on*). In total, 99.99% of it is a scam.

- If there are links inside the e-mail, then check if those links are legitimate and not fraudulent.
- For verification, if the e-mail seems to come from local authorities, call the official number of the local authorities. If it comes from an NFT service you are using, then contact your NFT marketplace. If it comes from your crypto exchange wallet, call the original source of whomever the scammers are trying to impersonate.

## [SMS/Text/WhatsApp/WeChat scams](#)

Text message scams are usually based on potential reflexes that you might have and may, in fact, be targeted. In other words, someone has your information.

For a classic example, the most successful scams are those *related to delivery from an NFT service that you often use*. When you click the link, they will ask you to pay a small amount, like 1–2\$, but once you do that, they will get the information on your credit card and further extract a larger amount.

For a follow-up example, they will send you an e-mail stating that your account has been compromised. You need to immediately go to your NFT marketplace and log in, but you will suddenly receive a text message with a special code or some information related to the so-called “account hack” announced in the e-mail.

Be careful because now, you are part of a targeted attack (whoever it is, they somehow know your e-mail and your number). You should enforce all security measures immediately since the attackers are targeting you for the NFTs or cryptos you have in your wallet.

## [How to protect yourself](#)

This is how you can protect yourself from scammers:

- **Do not trust any message you receive:** Pay extra attention to the links that you receive by text message. Never share any personal information about yourself or your accounts.
- **Use two phone numbers:** Have one phone number to receive communications from all established and legitimate business contacts.

Then have another one that you can use on the other websites/applications that you may use, but are not critical.

## **Phone or audio calls**

In most targeted attacks, scammers will try to contact you by using advanced social engineering tactics. At first, they will try to gather as much personal information as possible about you and your business, having the ultimate goal of getting access to your wallet, where you store your valuable NFTs and/or cryptocurrencies.

### **Short scam**

A scammer will try to call you pretending to be from a legit platform (from your wallet, crypto, or NFT platform) or even from the local authorities. They make it sound very urgent, stating that your account has been hacked and you need to take action in that second because otherwise, you are losing NFTs/Crypto. In that rush, they will use some advanced social engineering techniques to make you give away the secret passcode of your Ethereum wallet or any other critical information that will give them access to your account.

### **Long scam, a real scheme**

The more advanced attackers will take a long-term approach and call you again, stating that they are from a legit platform or local authorities. They will start by giving you some personal details about yourself, like your address, where you work, or other confidential information that you might not have posted freely on the internet. This way, they want to gain your trust. They may have researched you online and found out this information about you before making that call.

Step by step, they earn your trust, which can spread over days, weeks, or months. Ultimately, at one point, they will put all the pieces together to make you perform some transfers or other transactions that may lead to you granting them access to your NFT/Crypto account.

### **How to protect yourself**

This is how you can protect yourself from such scammers:

- The general rule here is never to share personal information if someone calls you (*not even your name*), even if they are from the local authorities. Just hang up politely and call via the official website of the service/platform/authority they claim they were from and ask if they contacted you.

Also, note it is almost impossible for authorities to call or text citizens. If they want to contact you, they mostly use regular mail, a secured e-mail address, or just knock on your door.

- Once again, if the people calling you already have information about you, like your name, address, and so on, please proceed with extreme caution. Do not provide any further details about yourself. End the call immediately in a polite way.

## Phishing

Fake landing pages. Phishing with a fake website may work better than phishing with a fake e-mail or audio call, do not you think?

In simple cases, scammers will try to replicate services you are using, creating a fake NFT marketplace, a fake minting page, or fake ads and pop-ups where you need to log in using your crypto wallet for NFT transactions.

Advanced scams will create websites that look almost 100% legitimate, with hundreds of reviews, a domain that already has X years in service, and amazing customer service while you will get instant replies.

Do not trust it.

## How to protect yourself

This is how you can protect yourself from scammers:

- Links

As mentioned before, with e-mail scams, always check the links because these may give away if the source is real or not. Check every pop-up ad in your search engine that promises the latest and the greatest on NFTs. Then check the hyperlink and compare it with existing hyperlinks of legitimate NFT services. Chances are you will find oddities in the *URL (Glossary, 5)* of the fake service, or the name

of the site sounds magically close to the name of an existing reputable site.

- Due diligence I

You should do thorough research on the service offered and go to platforms like Reddit, where it is not so easy to fake reviews and see what people are saying.

- Due diligence II

Before sending any money to a website, check the legal name of the entity the service is claiming to be and the annual turnover they have, or call the local authorities in that country to see if the company exists. Every country has a corporate register where officially companies are described. This information is publicly accessible.

## **Fraudulent NFT projects**

Here, the wallet is not the direct target. The scammers will instead try to organize a seemingly legitimate NFT project (*or have a similar name with an existing famous one*). These are usually heavily advertised on social media to attract as many victims as possible.

Once a victim is on the website and is convinced they want to buy an NFT because everything looks real, there will be a transaction request. This request will look similar to what you see on common NFT minting pages, and a certain amount from the wallet of the victim will be taken.

The dip, however, is that you may not be given an NFT in return, or they will simply transfer you an NFT that has zero or little value (grey-zone NFT projects may actually transfer an NFT, but the value will go near zero once the project is flagged as a “*rug pull*” (*Glossary, 6*)).

### **Example**

A famous “pulling the rug” event was the *Evolved Apes* project, which had a collection of 10,000 NFTs and promised an amazing “fighting game,” but after the sale, the scammers disappeared after first transferring around 2.7 million US \$ worth of Ethereum to different wallets.

## **How to protect yourself**



This is how you can protect yourself:

- Due diligence

Follow the same rules for doing *due diligence research* as described in the paragraphs here. Essentially, each potential business partner first needs to be investigated thoroughly before committing yourself.

## **Free NFTs**

Most of us like free things, right?

This scam exploits your love of all things free by advertising on social media or guiding you to a website where you can “redeem” your recently found prize. The trick is to redeem. You will have to link your crypto wallet, and once you give up that information, the fraudsters will take whatever is inside and disappear. This scheme, therefore, also targets your wallet.

A standard part of the scheme may be that they ask you to transfer a very small token amount to first link your account for the NFT to get transferred, but do not fall for that. It is most likely a scheme. This scheme is also known by the name of *Airdrop (Glossary, 7)*.

## **How to protect yourself**

This is how you can protect yourself from scammers:

- Never give out or volunteer your crypto wallet account information. Of course, free NFTs can be legitimate and redeemable but giving out personal account information is decidedly NOT part of any legitimate digital transaction.

## **Counterfeit NFTs**

Stolen. Copied. Fake.

NFTs must be original and not fake; if not, they cannot be unique non-fungible tokens. There is only one correct chain of authenticity and provenance in the blockchain.

Nevertheless, some people will try to put stolen or faked Picassos for sale in the NFT world. Some work on which copyright exists long enough already.

And as we all know, you cannot sell what you do not own.

The most common category of counterfeit schemes is where scammers try to copy famous NFT projects and upload them under a similar name at cheaper prices. This happened with our very own *Gambit Club NFT*, where fraudsters uploaded some of the items we minted and created under a similar name on another NFT marketplace.

## **How to protect yourself**

Follow the following tips to protect yourself from scammers:

- As a buyer, you will need to check that the account selling the NFT is legitimate. If not, you may be buying something you do not own, even if you paid for it. The title to the digital assets sits in the original blockchain, which is the chain of provenance that started with the original creator, but your transaction was never recorded. Therefore, you do not own the original, just a copy or a fake.
- The best way to check is to see if the item you are buying precisely matches the original collection of NFTs that you were trying to become a part of as a “club member” by purchasing the NFT. If you are not buying in the original Louis Vuitton store but on the street, make sure to go back to the original dealer to do your due diligence research.
- Check the chain of custody. Chain of custody means researching all previous owners of a (digital) asset you want to buy. It is painstaking work in the real world, but it can be done, and indeed in the real art world, this is common industry practice. Digitally, however, today, there are blockchain-based solutions that can verify authenticity and provenance.

## **Investor scams**

The story at the beginning of the chapter, *Scam story*, is an example of an investor scam (an attempt to transfer funds or assets into a compromised account), which is quite common with all types of financial assets. Such common investor scams (Ponzi scheme, pump -n- dump, and so on), of course, must be avoided at all costs.

In the case of NFT crypto investment platforms, fraudsters may be offering a surreal **Annual Percentage Yield (APY)** (*Glossary, 2*) if you pledge to stack your different cryptocurrencies like Ethereum, Bitcoin, or NFTs with them. To deceive you, they will promise high returns.

Do not trust it.

Once you invest, there will be excuses to explain why you did not receive your promised annual or quarterly **Return on Investment rate (ROI)** (*Glossary, 8*). It will be in the interest of the scammer to keep the appearance up for as long as possible while the “business” is still online.

### [How to protect yourself](#)

NFTs are digital assets and have value, so you should treat them like any other financial asset, security, or financial instrument: Always do your due diligence on every transaction and keep them in a safe place. Depending on the amount you plan to invest, do an in-depth check of the company or service you are dealing with.

### [Price manipulation](#)

Price manipulation is also called *Bid Rigging* (*Glossary, 9*) on the street.

Believe it or not, in the NFT pricing business, during the different ways that the NFTs are auctioned off or sold online, bid rigging or price manipulation may be happening. An example would be an NFT trader selling NFTs from a collection to himself to drive the price. And then, there are stories of the highest bidder changing the crypto used for payment at the last moment, thereby changing the value of the transaction.

### [How to protect yourself](#)

Follow the following tips to protect yourself:

- Go to different platforms and check if prices are similar or different.
- Remember that market value is never the same as accounting value.
- Verify the value of the crypto before accepting a bid.

## [Thirteen golden rules to protect your digital assets](#)

Follow the following 13 golden rules to protect your digital assets:

1. Deal only with NFT marketplaces and collections of excellent reputation and review.
2. Never share personal information on a communication channel (*e-mail, phone, SMS, social media, and so on*) unless the counterparty is 100% verified first.
3. Never share critical wallet information (*or credentials like the NFT marketplace account, e-mail, and so on*) with business partners or other people who might also be targeted by scams.
4. Create strong passwords and keep them private and secure.
5. If you are contacted by someone who is saying it is an emergency and your wallet/account has been hacked, never panic, and remember rule number two.
6. Do not click on links arriving via suspicious channels or in suspicious form (*e-mail, SMS, social media, and so on*).
7. If you get a phone call from someone who knows your personal information, act cautiously and do not disclose anything else. End the call.
8. Always do due diligence on all your contacts, clients, and partners in the NFT business.
9. Use two phones; one for business and one for personal.
10. Always keep all passcodes and keys private, and store recovery codes somewhere where only you can find them (as well as a hard copy in a safe).
11. Before buying an NFT, verify authenticity, transaction history, and provenance.
12. Check prices of similar NFTs before buying.
13. Verify the cryptos that are used in all transactions and not just the prices.

## **Enterprise security**

If you do an NFT project together with a start-up, or if you are employed in a company dealing with NFTs, you need to make sure that you do not leave

any doors open to fraud, as scammers may try to take advantage of different team members who may not have a complete understanding of how cyber security works in the NFT/blockchain environment.

In addition to the rules that you read in the previous section, we have compiled an additional list of cyber security attention points based on our experience of working with large teams who are working on different NFT projects:

- For a small project, the primary wallet connected to the smart contract from the main collection should have a hard copy and a soft copy of the security key/secret passphrase put in a safe place. Just one or two people should have access to it (two would be ideal to avoid a **single point of failure (SPOF)** (*Glossary, 10*).

We often see projects where the passcode is shared with the whole team, which increases the chances of a “disgruntled” team member attack or an involuntary event where one of your team members discloses the information to a scammer by mistake.

- Before the go-live launch date of your NFT project, keep an eye out on your social media channels and NFT marketplaces for:
  - Copycat collections

As we discussed earlier, it will not be unusual to see projects appear with a similar name as your project that will steal your pictures, your logo, and your project details in order to create a scam collection and so that they can trick people who search for your project to be redirected on the marketplace.

This is *knock-off fraud* (*Glossary, 11*), of course, and if you were the first one to create such a collection, it is legally actionable. You could sue the fraudsters over copyright infringement, provided your collection is not based on *Generative Art* (*Glossary, 12*) and holds a strong element of originality and creativity.

What you should do right away, besides contacting your copyright lawyer, is to immediately contact the NFT marketplace support teams on all channels with the request to take down the copycat collection. You may have to provide digital proof that your collection existed first.

- Copycat websites

It also happens to famous projects where scammers create similar minting website(s) that will use your project name, design, and so on. Apparently, many people do not wish to work to create NFTs or do not have the creativity that it takes to mint them.

For example, your project is called “Santa Cloud” (selling digital Christmas presents), and your main website is [www.santa.cloud](http://www.santa.cloud). Scammers may create a website called [www.santa1.cloud](http://www.santa1.cloud) and advertise a fake website on your social media like Discord and Twitter in order to lure potential buyers hoping to redirect traffic from your collection to theirs.

Unfortunately, it is quite complicated to take down a scam website in a short period, so the best option you have is to inform your followers on all your social media channels (like Discord and Twitter) that the [www.santa1.cloud](http://www.santa1.cloud) website is a scam and that they are likely to lose their investment if they use it.

Second, call your lawyer.

## Conclusion

In conclusion, cybersecurity is becoming more and more important in our daily lives, and, unfortunately, the NFT/Crypto world is very attractive to attackers who love to create advanced scams.

After reading this chapter, you should now have a good overview of how most of the common NFT scams function and how attackers target NFT projects in general. This overview should give you an excellent insight into the risks involved in the NFT business, and it should be a starting point for you to do your risk analysis for your NFT project.

If you stick by our 13 golden rules, it will help protect your digital assets for the foreseeable future.

In the next chapter, you will learn how the Metaverse and NFTs are the future of tomorrow.

Stay safe and secure!

## Frequently asked questions

## **1. How can I protect myself from scams?**

Rules of thumb:

- Do not share any personal information with anyone via phone, social media, e-mail, or other digital channels.
- Always keep your passwords, keys, and passphrases somewhere safe, and do not share them with anyone. You can use a password manager to make this more convenient.
- Subscribe to a channel where they discuss scams that are happening in your area/country since some of them might be quite innovative, and you might fall for them.

## **2. My wallet was hacked, and they took my Crypto/NFTs; what can I do?**

Unfortunately, in this type of situation, there is not much that you can do, and that is why reading this chapter is important. If this unfortunately happened, you should report the theft to your local authorities to have proof that your digital goods were stolen. Next, for most of the cryptocurrencies and NFTs, you can track the thieves, and you can monitor to see if your stolen NFT is put up for sale. Then further report the theft to the NFT marketplace in question with proof of theft and demand they reverse the illegitimate transactions.

## **3. Why are there so many scams in the Crypto/NFT world?**

It is quite easy to cash out once someone has been scammed, and since everything is digital, thieves can perform scams from the comfort of their homes by using different layers to hide their true location.

The second reason is that due to the lack of clear legislation for digital fraud at this time, local authorities often cannot do much in most cases, and stolen digital assets may never be recovered. Raising awareness about scams is, therefore, very important in order to reduce the number of people that get their digital assets stolen.

## **4. What is the biggest risk that your NFTs are running in the NFT marketplace?**

The number one risk is still not that someone will steal your actual digital assets but that someone will copy your work, pretend to be you, and start selling knock-offs of the real NFTs that you just created.

**5. What is the risk that the NFT content files which are not on the blockchain, unlike the tokens and smart contracts that direct them, will disappear or will be altered while sitting in separate servers?**

Such files are sitting on a special *IPFS hosting platform (Glossary, 13) off-chain (Glossary, 14)*, and these files are immutable objects, which means that they cannot be altered or modified after creation. The issue is that the IPFS platform might go down (or could be hacked) due to various reasons, and in that case, the files will either disappear or go offline entirely. By contrast, the blockchain never goes down. IPFS is the weak point in the world of NFTs.

However, there are two ways to mitigate this. First of all, most of the NFT marketplaces like OpenSea keep a local caching of content files (images, videos, and so on). Second, the creator of the Smart contract can update these links if they decide, for example, to change the IPFS storage system.

## **Glossary**

1. *Monero*: Monero is a decentralized cryptocurrency. What makes it interesting for scammers is that it achieves anonymity and fungibility by using a public distributed ledger with privacy-enhancing technologies that disguise transactions.
2. *Annual Percentage Yield (APY)*: The term “annual percentage yield” (APY) in the Crypto/NFT world refers to the compounded yearly return expressed as a percentage.
3. *taking platform*: Most of the cryptocurrency exchanges also act as staking platforms for the cryptocurrencies that allow staking (currently supported by Ethereum, Cardano/ADA, Solana, Cosmos, and others); by “staking” your cryptocurrency holdings, you receive a percentage-rate reward over time.
4. *Multi-factor Authentication (MFA)*: With multi-factor authentication, a person may only access a website or application after successfully providing two or more forms of identification, such as knowledge, possession, and inherence, to an authentication system.



5. *URL*: A Web address, also known as a uniform resource locator (URL), is a reference to an online resource that identifies its position on a computer network and a method of retrieval.
  6. *Rug pull*: The term “rug pull” comes from the phrase “pulling the rug out” and refers to a cryptocurrency or NFT fraud in which the developer(s) recruits investors but abandons the project before it is finished, leaving investors with a worthless commodity.
  7. *Airdrop*: A “crypto/NFT airdrop”, a marketing term, is a promotion strategy used usually by newly launched projects; it entails giving tokens to early adopters in exchange for a minor promotional service.
  8. *Return on Investment rate (ROI)*: A Fintech term, return on investment is a ratio between net income and your investment.
  9. *Bid rigging*: Another Fintech term, one common instance of bid rigging is when rival companies agree beforehand on which company will receive the bid; when it comes to NFTs, it may involve *project owners buying their own NFTs* to drive up the price or doing different actions that will manipulate the price.
  10. *SPOF*: Single point of failure, the idea that in order to be secure in cyberspace, you will always need two factors rather than one.
  11. *Knock-off fraud*: When it comes to NFTs, knock-off products may have the same/or very similar logo and NFT content as the genuine product, similar to luxury product knock-offs but for NFTs.
  12. *Generative Art*: When it comes to NFTs, fake digital artists who use algorithms as a technique to create art that is generic and NOT original, thereby not being able to be subject to copyright protections (only human-made (digital) art qualifies for copyright protection); this is not to say that generative art can be added onto original art, but there has to be “an original” somewhere.
  13. *IPFS hosting platform*: Interplanetary file system, a special protocol used to store and share content in case of a decentralized distributed file system.
  14. *Off-chain*: Off the blockchain, not on the blockchain.
-

<sup>1</sup> Miners and prospectors ascend the Chilkoot trail during the Klondike Gold Rush in 1898, public domain.

## CHAPTER 12

### The NFT Metaverse

This chapter will explain the importance of NFTs in the metaverse. We saved it for last since here is where you will find one of the latest developments in the world of NFTs, which, at the same time, also happens to be one of the latest developments in the metaverse. It can be challenging to read the subject matter, but you will find that NFTs are now starting to shape the metaverse itself.

The historical problem with the metaverse and purchasing digital goods, in general, was *that you could not own anything. Everything was always owned and controlled by the creators of the digital platforms, and you, as a user, would only be granted a temporary right to use it.*

However today by using NFTs people can claim ownership in the digital world of many different things and will have the ability to start trading NFTs securely as digital assets. Even in some cases if the platform on the web or in the metaverse where the NFTs were originally purchased or created no longer exists. In other words, because NFTs are on blockchain cross-platform selling has now become possible.

In addition, if everyone owns their digital content, it can create open-source user-owned blockchain communities. And we will carefully describe in this chapter what this process of *democratization of the Web* through property rights means for everyone.

In short, *NFTs are the key to owning and authenticating digital assets in the metaverse (glossary, 1)*, while you can build new online communities in the process.

For now, here is our definition of the metaverse before we move on in the chapter: a digital world where people may communicate and interact electronically by fusing elements of social networking, online gaming, **augmented/virtual reality (AR/VR)**, cryptocurrency, and NFTs.

#### Structure

In this chapter, we will understand the following topics:

- Examples of NFTs in the metaverse

- Access tickets
- Owning land
- Diplomas, deeds, titles
- Product ID
- NFT galleries
- Introducing the legalverse
- Seven layers of the metaverse
  - Infrastructure
  - Gateway
  - Platform
  - Applications
  - Connectors
  - Ownership
  - Full democratization based on property rights
- NFTs changing the metaverse
- Blockchain-based user-owned metaverse platforms
  - Xpansion
  - Ceek
  - Voxels
  - Decentraland
  - Division
  - Neos
  - Sandbox
  - Somnium
  - Spatial
  - Stageverse
  - Rove
  - Nemesis
- Companies using NFTs in the metaverse
  - Gucci
  - H&M

- Wendy's
- Adidas
- Tiffany's
- The expanding metaverse landscape: Web 3.0 / 4.0

## **Objectives**

After reading this chapter, you will have knowledge of how to give a technical description of the metaverse, and you will be able to realize the importance of NFTs in the current development of the metaverse in the direction of a *legalverse* (*glossary, 2*), where transactions and ownership become possible. We will show you this development and progression by the hand of real-life practical and existing examples. Technology will eventually make a legalverse where owning digital assets are commonplace possible, and we want to demonstrate this in the chapter. At the same, you will be able to realize that this will entail a parallel development from centralized to decentralized blockchain-based platforms, and we will be adding diagrams and a matrix to make it more clear. Finally, we conclude that over time NFT-based privately user-owned communities will become the norm and that this will lead to what we call Web 4.0. In order to achieve these objectives, we will have to carefully explore the NFT metaverse landscape first to see what types of NFTs are out there.

## **Examples of NFTs in the metaverse**

To give you a general idea, the following are some advanced examples of different uses of NFTs in the metaverse. Later in the chapter, we will detail NFTs per industry domain in the metaverse.

## **Passes and access tickets**

Metaverse creators can use NFTs *to verify the legitimacy of tickets and passes* of people that may enter pay-per-view events in the metaverse. It can also be used to check if someone has access clearance when joining a company's virtual office for, let us say, a corporate shareholder meeting.

## **Owning 'land' in the metaverse**

NFTs can grant access and ownership to digital land in the metaverse. Now, unlike land on Mars or Moon, which are fake schemes that exist, owning "land"

or space in the metaverse is very legitimate because the blockchain allows you to claim both title and possession of your NFT content (please see the legal chapter, [Chapter 2, \*NFT Ownership\*](#) for further reading).

## **Blockchain certification of diplomas, deeds, and titles**

Using NFTs, you can securely digitalize your academic title and diploma to confirm their authenticity. This will give you a great advantage in the metaverse when posting a resume, or applying for a job in the future, as your credentials will be instantaneously officially accredited. In a similar fashion, other official documents (like deeds) can be easily certified.

## **Blockchain-backed product identification**

NFTs can certify certain special products, reduce the chances of forgery, and give a certificate of authenticity.

Today luxury brands are using QR codes or *NFC devices* (*glossary, 3*) embedded in products. When scanned, the QR code will take you to the official website of that particular product. The problem with this is that the scammers copying such products can easily do the same for their fake items. But NFTs will make it impossible to do this.

In the future, NFT-authenticated items are going to have two parts. One is the item itself (bags, shoes, clothes, and so on), and the second is the non-fungible token that will be given to the buyer when acquiring the product.

For each item sold, luxury brands can create specially sealed envelopes containing a blockchain wallet with the NFT token certifying each luxury item purchased. You can just keep that envelope and never open it. When you then resell the item as vintage (or pass it on as an heirloom), the NFT will act as an authenticator to prove that the item is authentic. The serial number of the item purchased matches the details in the non-fungible token, which will be forever on the blockchain.

## **Creating NFT galleries**

Just as we have museums in real-life, art galleries are now opening shops in the metaverse because there are many famous NFT collections that people like to see. Bored Apes come to mind, of course. For this, you need, first and foremost, a digital gallery. Museums around the world in real-life are also displaying NFT art in their physical galleries.

Of course, this flux between IRL and the virtual is affecting social media, where people can showcase NFTs in galleries for their friends to see or where famous people can showcase their collections to the general public.

Furthermore, the increased interchange between IRL and virtual art leads to increased profits and opportunities for the sale of art in general, whether digital or real. Due to this reason, art auction houses are moving towards the metaverse.

Art ownership is a thing, and NFTs make it possible.

## [Introducing the legalverse](#)

To get a starting point to introduce the legalverse we first would like to repeat our own definition of the metaverse from the introduction:

*A digital world where people may communicate and interact electronically by fusing elements of social networking, online gaming, augmented/virtual reality (AR/VR), cryptocurrency, and NFTs.*

This definition is composed of several separate experiences where you can find a more connected world with reality. The user experience is improved through *augmented reality* (*glossary, 4*), which places visual components, audio, and other sensory information over real-world situations (*AR*). On the other hand, there is the *imaginary reality* in which you are fully submerged in the virtual world by using a *VR* (*glossary, 5*) headset.

Cryptocurrency has become a part of the metaverse (either by stealth or by design) ever since the onset of blockchain in 2008. It would take us another chapter to explain in detail what happened, but suffice it to say that Web decentralization became possible because of the introduction of blockchain because publicly secured peer-to-peer transactions allow for not only an exchange of information (like a regular e-mail on the Web 1.0, for instance) but allow us to exchange value(s) (like a crypto transaction for instance) on the Web, which leads to what is called Web 3.0. (Web 2.0 is user-created content).

The blockchain features make decentralization on the World Wide Web possible, at the same time, make it impossible for Big Tech companies to completely still control and own the metaverse all alone. One could say that the introduction of blockchain technology on the World Wide Web in 2008 made real democratization of the Web inevitable by granting all people a piece of the pie by making private transactions and private ownership in the metaverse possible.

Such decentralized public ledger technology based on a peer-to-peer system can be used in the metaverse ever since the onset of Bitcoin. So, when the history of the internet is written, the release of Bitcoin will become the moment when banks

start losing control over our transactions, and Big Tech companies begin to lose control over an ever-growing and expanding metaverse with the onset of NFTs. Here is where full democratization of the Web will become a future reality through the option of ownership with NFTs. Because today individual property rights in the metaverse can be established.

Thus, the metaverse today is also, by and large, becoming a “legal verse”: with smart contracts, ownership, royalty rights, copyright, and many other legal aspects that will allow full democratization and private ownership of the virtual world. We talk about this at length in the legal [Chapter 2, \*NFT Ownership\*](#) of this book.

It is our contention in this chapter that because we are witnessing the beginning stages of the granting of ownership rights by means of NFTs on the World Wide Web that this development is creating an NFT Gold Rush in the metaverse, the title of this book, and in which we hope you will be able to participate.

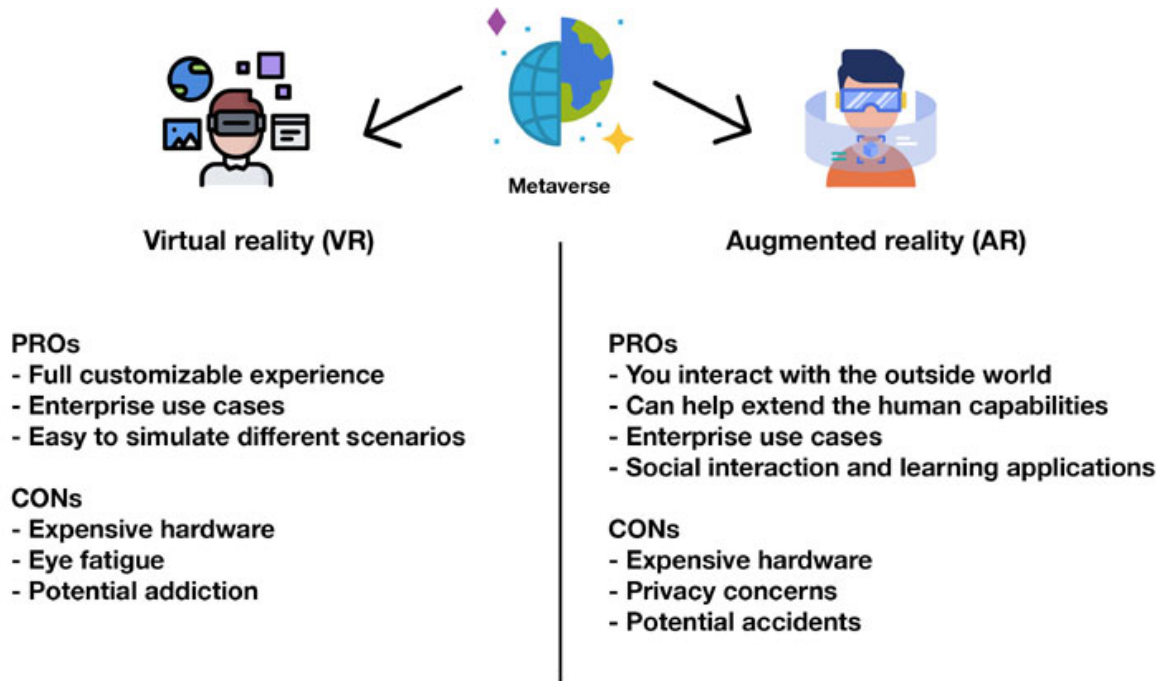
All NFTs are recorded in a decentralized blockchain on a public digital ledger that can be shared (and traded) peer-to-peer. There is the key to understanding your road to digital gold. And such are the elements of the metaverse that we will discuss further in this chapter so that you may gain a better understanding thereof.

NFTs today allow for *digital ownership and the creation of digital assets*. We, therefore, cannot exclude the legal, financial, and accounting experience from the metaverse equation. The metaverse is not all just technology but is starting to contain, simulate, and execute legal transactions and accounting equations. And the remainder of this chapter will describe how such experience makes a real impact on how the metaverse is currently developing.

In [figure 12.1](#), we describe the traditional view of what is the metaverse, where you see a development from Web 1.0 with informational exchange and user content towards a world of VR and augmented reality. This is how Big Tech companies want you to see the metaverse, so they can keep selling their products to you and keep selling your private data.



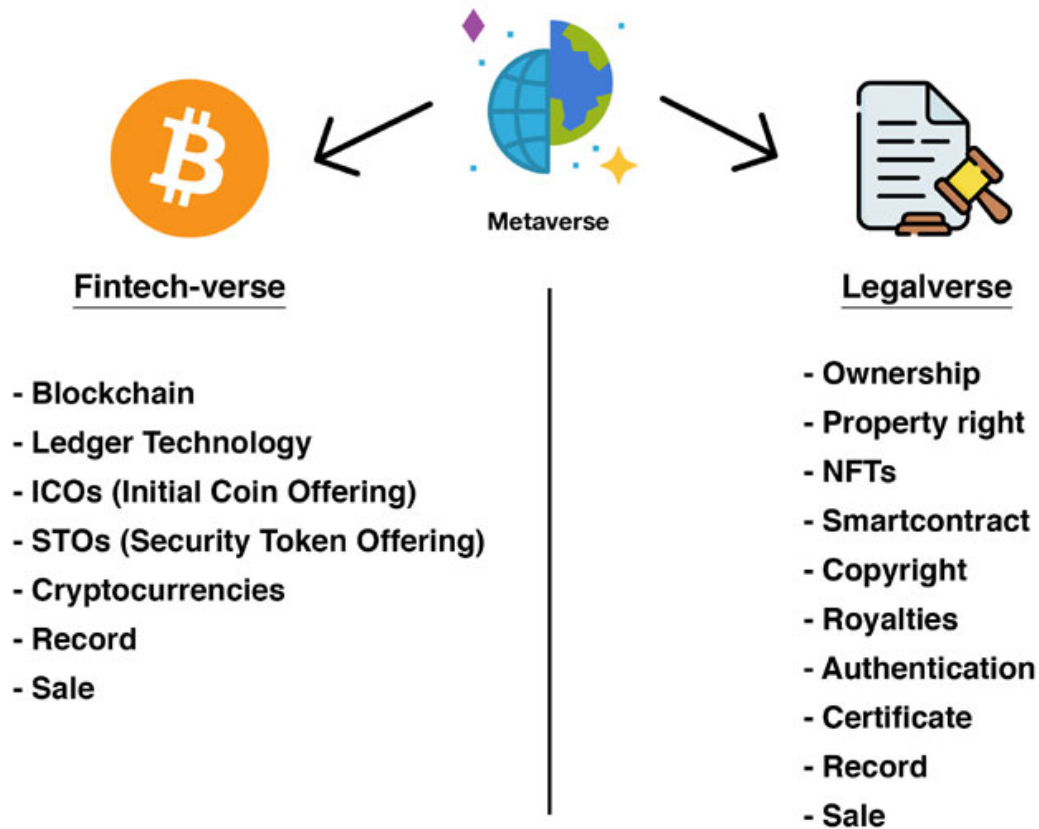
## The Metaverse “directions”



*Figure 12.1: Traditional vision of the metaverse: metaverse 1.0<sup>1</sup>*

However, in [figure 12.2](#), you see the full potential of the metaverse appearing. Not only will you be able to do private financial transactions by trading crypto or buying or selling things with cryptocurrency, but no, in addition, you will be able to gain private ownership and property in the metaverse because smart contracts that are on-chain will make legal records inevitable. This is the part Big Tech does not want you to know, that now, you, too, can own a part of cyberspace.

## The Metaverse “directions” 2



*Figure 12.2: A progressive vision of the metaverse: metaverse 2.0<sup>2</sup>*

## The seven layers of the metaverse

To better understand the basics of the metaverse, based on our experience, we have created a view of the layers that are included in the Metaverse. This construction has been a collaboration between the three authors of this book, who each have a different background and ideas.

### Layer 1—Infrastructure

To make an analogy, this layer represents the highway, and the metaverse applications are the cars. This includes connectivity networks, like 4G/5G, and the hardware that is helping the backbone to run, in which we include the computing power (CPU, GPU, RAM, and Storage) and the Cloud providers that are giving this service. The coming 5G network all over the planet will make NFT blockchain applications much more accessible, especially since all blockchain transactions take enormous energy and time to process.

## **Layer 2—Gateway**

This includes all the devices that help you connect the classic devices (smartphones, tablets, PCs, and laptops), VR Headsets, AR devices like smart glasses, the sensors involved, IoT devices, and other related hardware devices like the VR rooms, and so on.

## **Layer 3—Platform**

This layer is formed from the metaverse platforms (for example, Sandbox), which allow you to perform certain functions on the Web, and where you can further build the metaverse. This definition would include both hardware and software or a mix of both.

## **Layer 4—Applications (personal and company level)**

This definition includes all the applications you can find in the metaverse, which are either developed on the existing platforms or standalone.

## **Layer 5—Connectors**

These elements link the metaverse with the economy and the real world.

We include here cryptocurrency made for buying/selling different things and performing peer-to-peer transactions. It must be noted here that without blockchain technology, such connections are not possible. It is, therefore, that we like to include the onset of NFTs at this level because NFTs, too have the ability to connect you to the metaverse. Everything *on-chain* (*glossary*, 7) becomes an exchange of values and is no longer an exchange of information only.

## **Layer 6—Ownership**

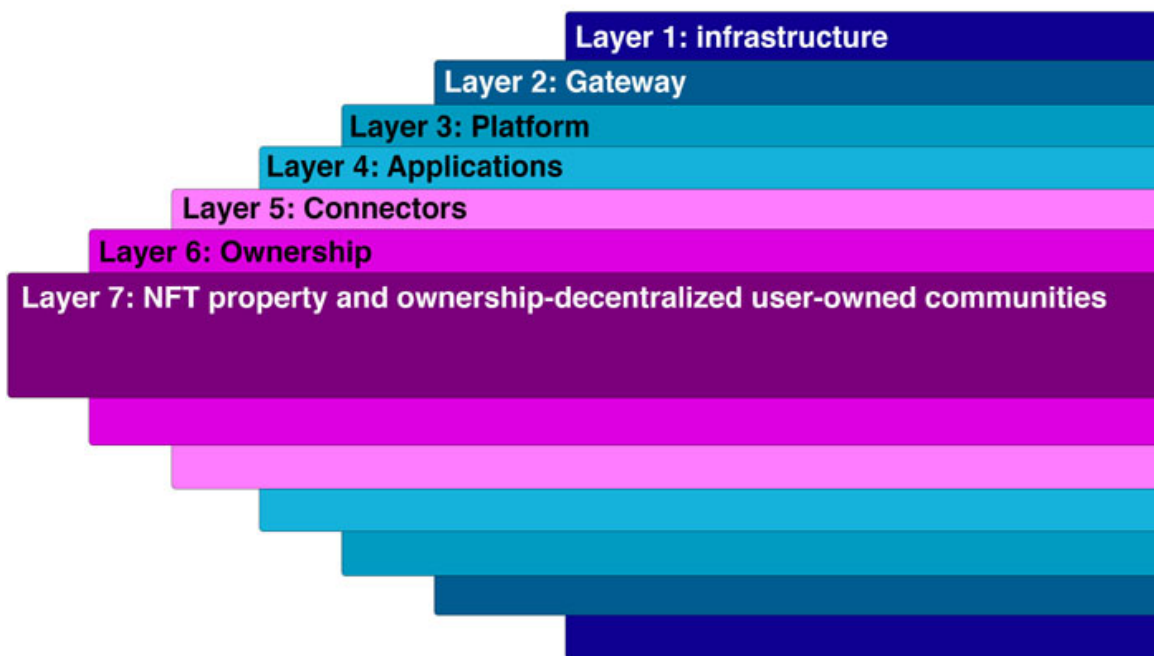
Like in the real world, where you can buy, sell and own things, today, NFTs make it possible to own digital assets. In other words, the metaverse is becoming more like the real world once there is a transition from the metaverse to what is called the *legal verse* (*glossary*, 2).

## **Layer 7—Full democratization based on property rights**

In its final stage of development, the metaverse will allow full democratization of virtual space now that property rights have been established through NFTs. It will allow virtual communities to be fully integrated **In-real-life (IRL)** (*glossary,6*) that are completely independent. Private ownership allows community development both online and offline.

The seven layers of the metaverse are illustrated in the following figure; you can see its full progression and development from pure information exchange to a social media application, eventually leading to a private ownership-based community based upon value exchange through blockchain.

### The 7 layers of the Metaverse

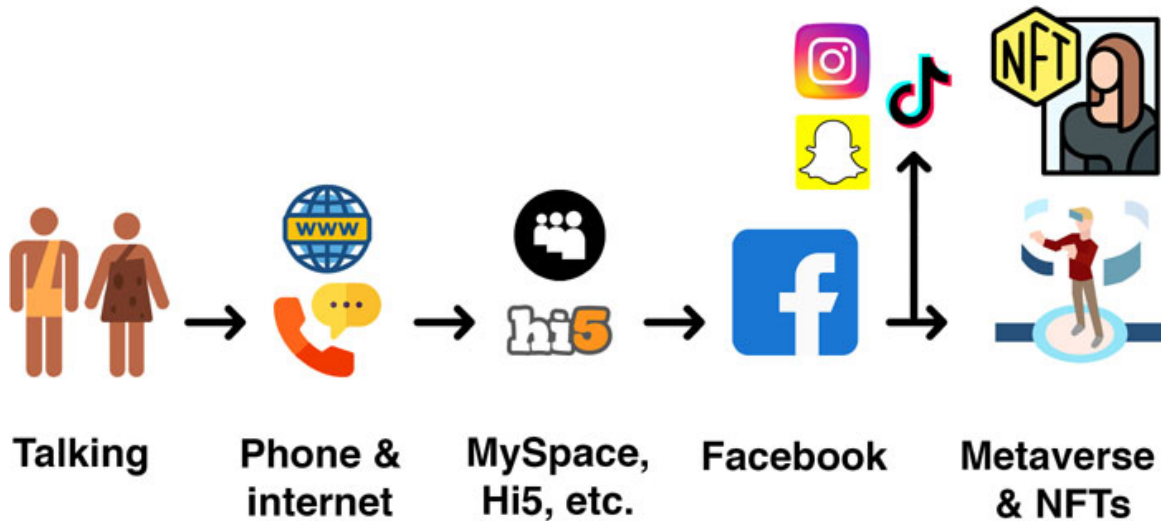


*Figure 12.3: The seven layers of the metaverse (as per the NFT guys in 2022) [3](#)*

### [How NFTs are changing the metaverse](#)

Here you will find the NFT guys’ predictions of the *seven different ways* in which NFTs are changing the metaverse. One of these predictions is that social media will become more and more intertwined with the use and practice of NFTs. You can see this development in the figure in [figure 12.4](#):

## The evolution of “social media”



*Figure 12.4: Social media will eventually include NFTs <sup>4</sup>*

- More people  
Most people have been hesitant to put money or capital into the digital world until now. It feels like your money is going into an abyss and into the pockets of the ones who control the platforms and the Big Tech companies. However, NFTs change this equation completely. They allow people to have full ownership without the overarching control of the platform creators; therefore, adoption rates will increase.
- Creativity boost  
Just like how creativity exploded with social media becoming widely accessible, creativity in other domains will explode again with the possibility of direct ownership of NFTs. People will be inspired to launch creative projects worldwide to become a part of the NFT Gold Rush.
- Social and economic cooperation  
NFTs in the metaverse will simplify global trade flows because of the ease of secure trades in the metaverse. There will be no more Swift transfers and delays in the banking system, whereas products can easily be authenticated and identified using NFTs. This will have a social impact in people themselves will be able to trade very efficiently with each other.
- Ownership  
With private ownership comes opportunity, independence, and often success. With NFTs, this feeling will now extend to digital goods, which are becoming digital assets since they are recorded on the blockchain. There is a

big chance that the next evolution of social media will be an ecosystem where you can own and showcase your digital possessions.

- New jobs

Since we expect a Gold Rush in the metaverse, we are seeing various new jobs coming along: big corporations are hiring NFT specialists, and within the metaverse, various new NFT-related openings ranging from marketing positions (3D artists, community/events managers, virtual interior designers, and so on) to technicians (IT security, specialized software engineers).

- Entrepreneurship 3.0.

The way *Yukon gold rush* was the land of new opportunity back in 1898 for Alaska; we see the metaverse and NFTs as the new land of digital opportunity where we are going to see very innovative entrepreneurs coming up with new business ideas that are unimaginable at this point. Many will strike gold, whereas many will fail.

For some practical examples and ideas for you to run with, we have listed them carefully for you in the last paragraph of this chapter named “the expanding metaverse landscape: transition web 3.0 - web 4.0 here.

- Digital Colonization of Cyberspace

Art has always been the vanguard of progress, and here it is no different, as the first real NFT trades are digital art pieces. Establishing digital property rights inside the metaverse by means of NFTs will allow the *digital colonization (glossary, 8) of cyberspace*.

In the seventeenth century, explorers set out to discover the unknown world and were able to colonize unknown lands because of the established rules of private property, capital investment, and ownership. Without capitalism 101, they would have not succeeded in building new communities worldwide. The current NFT Gold Rush will do the same for cyber explorers today: property rights will allow for the establishment of digital villages in cyberspace a million times over. The private colonization of cyberspace has begun!

**"The metaverse is here, and it's not only transforming how we see the world but how we participate in it – from the factory floor to the meeting room."**

*- Satya Nadella, chairman/CEO Microsoft*

That is an interesting and true statement by a corporate CEO of a big tech company indeed, but what is not explained is that this participation by means of NFTs also means that you will be able to act and participate in the metaverse severally, individually, separately, privately, and independently. This book purports to be your handguide to that process.

## **Blockchain-based and user-owned NFT metaverse platforms**

One of the main trends in the metaverse is a strong development of decentralized platforms based on blockchain, where, with the use of NFTs, you can own a thing or two or everything. And where you can build, trade, play or collect based on your own NFT ownership.

This is as opposed to the traditional Web-based versions of centralized platforms.

*“On the **web**, you exchange information, whereas on the **blockchain** you exchange values.”*

In our definition of the metaverse, as mentioned previously, we are integrating both.

And after you study the different platforms in the NFT landscape mentioned as follows, you too may conclude that the general trend in the metaverse is moving towards **user-owned** (and created) *content* (*glossary, 9*) and moving away from centralized servers.

We invite you to visit the sites mentioned as follows yourself, so you get a better view of the differences and of the position of such platforms in the metaverse/legalverse NFT landscape. To make your life easier, we created a matrix here, and we urge you to study it carefully as it captures a clear view of the direction in which the NFT-driven metaverse is heading.

## The NFT landscape matrix

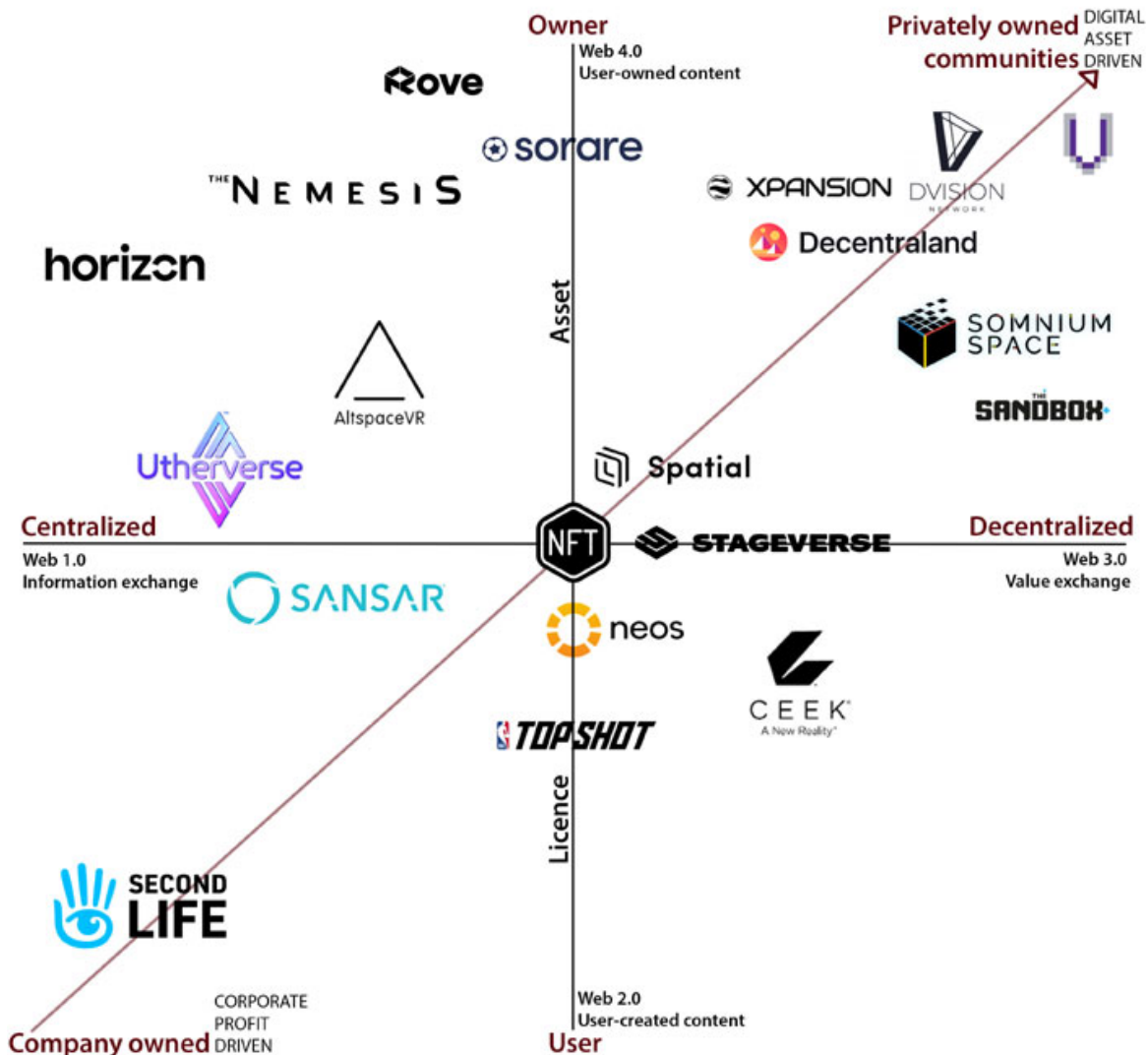


Figure 12.5: NFT landscape matrix <sup>5</sup>

A democratization of the metaverse in the name of NFT ownership is currently taking place. Please consider the following platforms and see if you can place them correctly in the matrix that we have created previously.

- *Xpansion: Rule the Metaverse* (<https://xpsgame.io>)  
A simple blockchain (XPS) based metaverse space where you own, buy, trade land NFTs, and play a game.
- Ceek VR ([www.ceek.io](http://www.ceek.io))  
This advanced platform directly connects music artists, athletes, and other digital content creators with their fans in the metaverse by creating CEEK



tokens. It will allow you to have a VR experience while also tapping into digital merchandise through your tokens.

- Cryptovoxels ([www.voxels.com](http://www.voxels.com))

Crypto-voxels, aka Voxels, is a User-owned Virtual Reality World. Voxels is an easy-to-get-around virtual world based on the Ethereum Blockchain. You can own land parcels, and there is a marketplace metaverse platform to buy and sell. It features “digital wearable NFTs.” You will get a certificate for the land purchased.

Voxels, at its core, is a project similar to the Sandbox meta. It offers similar utility, being a metaverse that allows you to build anything you want on the plot of land you purchased and own. The following figure of crypto Voxels shows you a view of what part of a privately owned piece of cyberspace may look like as following figure:



*Figure 12.6: Voxels, an example of a privately user-owned cyberspace community <sup>6</sup>*

- Decentraland ([www.decentraland.org](http://www.decentraland.org))

Here is more user-owned created content. Here, you can own digital land and estates, digital games, and wearables. Decentraland is a famous project, a 3D virtual world browser-based platform working on Ethereum. Of course, without NFTs, it would not function.

- Division Network ([www.dvision.app](http://www.dvision.app))

An NFT metaverse is owned by the users, who, in this case, are players because it is a game. It is built on the Ethereum Network and Binance Smart Chain, having its own token. It is currently available on Windows and Android but coming soon on Mac OS.

- Neos ([www.neos.com](http://www.neos.com))

Neos runs on cryptocurrency and supports *virtual reality (VR)* (*glossary, 4*). It has an *in-game economy* (*glossary, 10*) only, which means that whatever credit or token you “own” can only be used to trade within the game itself.

In other words, the NFT ownership is limited to this platform only. This metaverse is technically not open source “user-owned” even though users can own things on Neos by using Neos crypto credits and tokens.

- Sandbox ([www.sandbox.game](http://www.sandbox.game))

Famous for its *in-game digital asset collections*, Sandbox is probably one of the most well-known user-owned platforms. It became famous when the price of the virtual land exploded after its launch. This metaverse is currently supporting only Windows and Mac environments. You can own plots of land as well as *wearables* (*glossary, 11*) or accessories.



*Figure 12.7: Sandbox* <sup>2</sup>

- Somnium Space ([www.somniumspace.com](http://www.somniumspace.com))

This is a blockchain-based VR metaverse. You can see the trend toward *user-owned content* (*glossary, 9*). Here is the important quote that you should consider for the objective of Somnium is to set users free and make owners out of you:

*“By tokenizing Somnium in-game assets and land parcels, we are forever decoupling Somnium space as a company from owning and operating the database of parcels and all in-game items by giving this power to our users.”*

- Spatial ([www.spatial.io](http://www.spatial.io))  
A metaverse space for culture, art, and architecture events and exhibitions. Of course, you can own your tokenized work based on ETH. The platform has amazing galleries created by different artists and personalities. There is also a VR capability built in.
- Stageverse ([www.stageverse.com](http://www.stageverse.com))  
A quietly advanced metaverse platform that makes it easy for creators, communities, and brands to launch their own unique 3D spaces and share immersive social experiences. They are available on the Web, Android, iOS, and Quest. They are selling land in the form of NFTs (ERC721 tokens) on the Ethereum blockchain.
- Rove ([www.rove.to](http://www.rove.to))  
A dance game metaverse that claims to be “the first truly community-owned metaverse platform”: it collaborates with Polygon, Fantom, Binance Smart Chain, and Ethereum, and different wallets can be used. They are currently *Web-based (glossary, 12)*, not blockchain-based.
- Nemesis ([www.thenemesis.io](http://www.thenemesis.io))  
A straightforward game where you can mint on *Opensea*. The game has an interesting roadmap that includes tokens, NFTs, land for sale, and more. They are currently accessible via the Web, Google Play, and Apple App Store.

## [Companies using NFTs in the metaverse](#)

There is also a strong movement in the corporate sector toward developing an NFT-based metaverse. Here, you will find a current list of brands that are already active using NFTs in the metaverse:

- Gucci  
Gucci Vault by Gucci is one of the pioneers in the NFT fashion space. Vault by Gucci is a variety of different Web 3.0 projects that range from metaverse sandbox playgrounds to digital NFT Art Space with a standard Gucci-made design.  
*“... as it expands in all directions to push beyond the traditional and the purely transactional, Vault also acts as an emissary of Gucci’s presence within the metaverse, evolving by creating with the community. Web 3.0 based initiatives including NFTs join the platform’s virtual shelves as*

*objects from different eras with diverse origins allow ideas to hybridize and create those perfect conditions to spark new creativity for the future.”*

Thus reads the Gucci Vault website, and in translation, this statement acknowledges the creative potential for user-owned fashion communities in the metaverse. In other words, become part of Gucci by owning part of the Gucci collection by means of NFTs. You may very well be in their galleries.

- H&M

H&M is one of the world’s leading fast fashion chains that looked into digitalization and has been toying with the idea of blockchain decentralization. They created the first virtual showroom where potential customers can check out new collections.

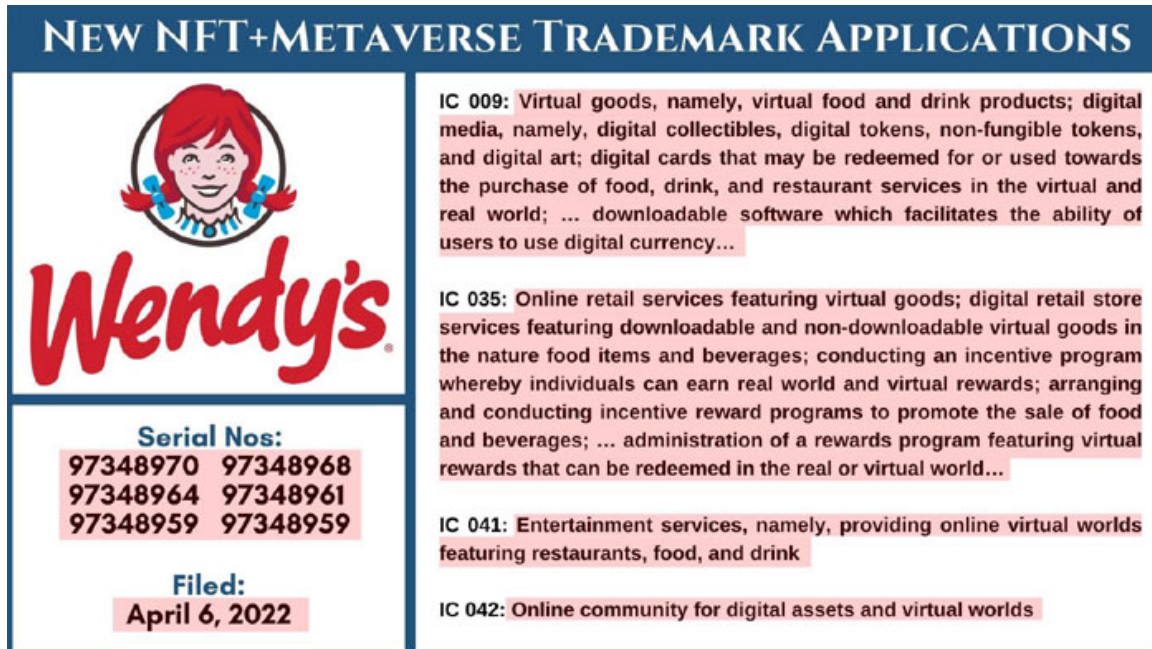


*Figure 12.8: The world’s first virtual showroom*

H&M was then reported at the beginning of 2022 to have struck a deal with CEEK Token Sale VR so as to be able to sell virtual items in the virtual store, but those rumors have been denied. Such negotiations however show what may become possible if you integrate ownership possibilities with virtual Web 2.0 locations into a Web 3.0 platform.

- Wendy’s

The US fast food giant Wendy’s created the first VR restaurant and dubbed it the “Wendyverse.” This metaverse is accessible with a Quest 2 VR headset and is, as per the company’s words: “a world that just starts from our restaurant”. Interestingly all the digital assets and NFTs of Wendy’s are protected by “Metaverse Trademark” legal protection as they have all been registered with the US Patent and Trademark Office in April of 2022.



*Figure 12.9: Wendy's digital assets are protected under US Trademark Law [8](#)*

- Adidas

Adidas is another world-leading brand that looked to the digital stars by creating Adidas Originals in collaboration with existing and known names in a decentralized world like Bored Apes Yacht Club, Punks Comic, and Gmoney. In the first launching rounds, people claimed physical merchandise based on the purchased NFTs.

- Tiffany's

Tiffany's is a well-known jewelry brand that collaborated with Crypto Punks to bring their NFTs to real life. The campaign that Tiffany started was that all Crypto Punk NFT holders were eligible to purchase a reproduction of the NFT that they owned in jewelry form. The supply was only 250 units, and the price was 50 ETH (About 50,000 \$ at the time). In other words, it is a great collectible.

## [The expanding metaverse landscape: transition web 3.0 – web 4.0](#)

The metaverse is constantly expanding in undiscovered directions and is becoming integrated into a legalverse, which draws in more and more different industries that will be adopting the benefits of NFTs and smart contracts. We have created a diagram that makes visible here in [figure 12.10](#) the legion of new possibilities and opportunities that this new and improved metaverse based on

Web 3.0 / 4.0 will open up for companies, individuals, and communities of people.

## Metaverse Landscape 3.0 / 4.0



*Figure 12.10: The metaverse landscape <sup>9</sup>*

This NFT metaverse landscape offers goldmines in the Yukon, which you will own after you mine, mint, and collect the NFTs found in them. Thus, the different metaverse applications for NFTs are expansive, comprehensive, and innovative. Here follows an overview of what is currently possible. First, the explanation and then follow the example:

- **Events:** Ticket and VIP access NFTs. These are NFTs that will give you normal or VIP access to digital (metaverse-based) or IRL events.

Imagine going to a fashion runway show and owning your own entry ticket in the form of an NFT, which includes photographic moments of the show, as well as a gift and after-party entrance.

- **Sports:** Game moment NFTs, merchandise NFTs, seating arrangements, collector card trading, and gameplay. Sports are now more monetizable than ever because of NFTs.

Just like with the previous fashion show sample, one can do the same for sports events with the added value that a transaction-based piece of merchandise can be selected at the stand right before the match. Merch IRL NFT merged with digital game moments.

- **Fashion:** One of the most advanced and decentralized in a sense NFTs because of this industry's diversity and creativity: digital brand name easter eggs, IRL wearable NFTs, digital wearable NFTs, VR showrooms, and virtual fashion shows are all potential avenues that an NFT/metaverse developer in the industry are developing.

As is their habit, the fashion and luxury industry leads the pack when it comes to NFT possibilities, as authentication and exclusivity, of course, are of huge importance, and owner participation in fashion creativity is key to the different brands. This will be the first place where actual digital wearables will become, well, also wearable in real life.

- **Gaming:** User-owned is possible but, for the most part, not yet completely decentralized.

CS:GO is an excellent example of how NFTs can be implemented across the board to achieve a Web 3.0 / 4.0 effect. CS:GO has a very active marketplace of skins for weapons. With blockchain technology, you can make the items you purchase or trade your own rather than just having them assigned to you by a centralized owner.

- **Business tools:** Using the blockchain and metaverse power to secure certifications, authentications, chains of custody, passes, payments, billings, giveaways, warranties, and insurance contracts—the possible applications here are endless.

An example is an NFT-invoicing payment system (in order to make specific payments, an NFT token is created with the Invoice details and the price stipulated in the invoice).

Another example is certification using product tokenization (in order to certify that a certain product is original, you will attach an NFT with the details of the item, the serial number, the properties of the item, and so on).

A third example is advanced security checks (opening a security deposit box by authenticating with the NFT that it was generated for the owner of the box, and so on).

- **Collaboration:** Using NFTs, user-owned communities could be created with the whole community using NFTs to exchange items related to a particular topic they are interested in.

For example, a baseball community created by users where they can securely exchange baseball collector cards and other general baseball information.

- **Social media:** NFT-metaverse-based communities can be created to rival centralized platforms like Instagram and Facebook.

For example, a user-owned digital art gallery NFT museum with social media function included. which will create a user-owner community of modern art lovers.

- **Marketing:** Product Identification NFTs

This is the big one, and it will change every transaction on the planet. See also the last expanding part of the metaverse landscape under “consumer” here. Eventually, in full Web 3.0 mode, things will move to the Web 4.0 direction, where all physical products will have a digital component guaranteeing ownership. This is where the metaverse moves into the legalverse as all products will come to have a virtual identity that is directly linked as a certificate of ownership to the product. The product will have to be identified, and your NFT will serve as a product passport of sorts.

- **AR/VR:** NFT ownership inside your private VR space, collect NFTs and view them in AR.

XR, extended reality, with the help of the use of blockchain in Web 3.0 / 4.0, will make immediate transactions possible once your XR device locates a real-life product. Or a movie ticket. Or a work of art. Or virtual Bored Ape. Because you will be able to integrate metaverse Layers 1, 2, 3, and 4, as mentioned at the beginning of this chapter.

- **Consumer:** *Product Tag NFTs (glossary, 13)* are the future of luxury and collector’ items.

These are NFTs that can be used in conjunction with the serial code of an item to verify its authenticity; the same tags can also be used to hold a digital version of the item that you own to be able to wear or carry it in the metaverse.

As mentioned under marketing, this development will eventually come to decide the future of all supply chain and logistics management in the world.

## Conclusion

George



One of the new pillars that NFTs bring will be *reshaping social media*, a process similar to what happened in the past with the transition of social media from MySpace to Facebook. MySpace was first pinkish, animated, and glowing (like the Bored Apes NFT version of the metaverse of today) but inevitably moved towards a more classical mass adoption and a more general version of social media, which then became Facebook.

At that point, NFT tech becomes widely implemented for legal documents (ID cards, passports, birth certificates, diplomas, and so on), asset ownership (houses, cars, and so on), and being a part of the new wave of marketing. NFTs will be used for limited edition luxury items, event VIP tickets, and so on. This will be the more mature version of the NFT-based metaverse.

The mass adoption of NFTs will take us in a new direction of the Metaverse, which, together with the AR/VR development, will become the new playground for social media, entertainment, and work collaboration.

## **Stepan**

The full transition to NFTs will still take years, just like it did for social media. It is undoubtedly changing the world of communications as we know it today. Rejoice that you have the opportunity to board this train early and that you got a fast pass because we firmly believe that NFTs and, in turn, the new legalverse will create the Jeffs, Elons, Marks, and Bills of tomorrow.

## **Robert**

Art has always been the vanguard of progress, and here it is no different, as the first real NFT trades were digital art pieces. Establishing digital property rights inside the metaverse by means of NFTs will allow for *the digital colonization (glossary, 8) of cyberspace*.

In the way explorers first set out in the seventeenth century to discover the world and allow for small new and open communities in promised open unknown lands, today's NFT Gold Rush will do the same for cyber explorers today: the property rights will allow for the establishment of digital villages in cyberspace a million times over.

By integrating value exchanges, transactions, and ownership (blockchain-based platforms) with the free exchange of information that the Web allows (*Web-based (glossary, 12) information platforms*), the legal universe will eventually become fully integrated into the metaverse. Property rights are established, which explains the digital gold rush of our times.

It means that if you have a true frontier mentality, there is a good chance that you may strike digital gold today.

## Glossary

1. *Metaverse*: A digital world where people may communicate and interact electronically by fusing elements of social networking, online gaming, augmented/virtual reality (AR/VR), cryptocurrency, and NFTs.
2. *Legalverse*: A version of the metaverse where legal transactions and property rights are made possible.
3. *NFC device*: Near Field Communication device which works on radio frequency; in this case, used to scan products giving you access to its NFT.
4. *Augmented reality (AR)*: Computer image in composite superimposed view on user application.
5. *Virtual reality (VR)*: Computer-generated 3D simulation with which you can interact.
6. *IRL*: In Real Life.
7. *On-chain*: On the blockchain.
8. *Digital colonization*: The idea that cyberspace is there for the taking for everyone now that NFTs allow for private property rights in the digital space.
9. *User-owned content*: As opposed to strictly user-created content, for instance, on a social media platform, today, because of NFTs, you will be able not only to manage your created content but actually own it.
10. *In-game economy*: In this case, NFTs that cannot be taken off the platform but which you can exclusively trade on one platform itself, such as Top Shot for instance; what you need to realize is that, in fact, you are just granted a *license to use* certain things and that you do not want outright own in that case, but we are still awaiting the first cases in courts of law from people who may think that they have been deceived on ownership because user licenses are very limited for why be on the blockchain if there is no true decentralization possible; of course, there is nothing wrong with an *in-game economy* in and of itself but a user license is not the same as ownership or even copyright.
11. *Wearables*: Term from the gaming industry referring to digital wearables that can be purchased today by NFT and previously just in-game (for

example, a pair of hoodlum sunglasses for your game character's collection).

12. *Web-based*: Simple centralized platform based upon classic information exchange user content as opposed to a blockchain-based platform where NFTs and ownership are possible.
13. *Product tag NFTs*: NFTs authenticating in-real-life products (usually by way of QR code or *NFC device* (glossary, 3)).
14. *Web 4.0*: Ownspace (see FAQ)

## Frequently asked questions

### 1. What is Web 4.0?

**Answer:** Web 4.0 is our idea after writing this book that beyond Web 3.0, where value exchange transactions have become possible because of blockchain ledger verification, the next step, because of smart contracts attached to NFTs, is that a legalverse will be developed slowly where private property rights become universally possible while digital contract agreements will hold up in courts worldwide thereby creating an entirely new chapter in the development of internet technology. We sketch this development in the matrix presented under footnote 5 of this chapter and notice that the first privately held digital asset-based user-owned communities have already been created. This will allow for the private and individual colonization of cyberspace over time. We have a name for it and have not yet submitted it for Trademark or Copyright protection but call it "Owospace". So, hurry up and register this name with your lawyers, and you will beat us to the punch, and we will owe you a user fee if we ever want to use the name again.

**Short answer:** *Web 4.0* (glossary, 14) - Ownspace.

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<sup>1</sup> A diagram created by NFT guys.

<sup>2</sup> A diagram created by NFT guys.

<sup>3</sup> A diagram created by NFT guys.

<sup>4</sup> A diagram created by NFT guys.

<sup>5</sup> A matrix created by NFT guys.

<sup>6</sup> Voxels image, public domain.

<sup>7</sup> A Sandbox image, public domain.

<sup>8</sup> Wendy's public announcement on the protection of their digital assets.

[9](#) A diagram created by NFT guys.

## CHAPTER 13

### Staking Your First NFT Claim

"These gentlemen having asked me to write down the whole particulars about Treasure Island, from the beginning to the end, keeping nothing back but the bearings of the island, and that only because there is still treasure not yet lifted, I take up my pen in the year of grace 17\_\_ and go back to the time when my father kept the Admiral Benbow inn and the old seaman with the sabre cut first took up his lodging under our roof."

*(Quote from Treasure Island, by Robert Louis Stevenson, published 1883, five years before the Klondike gold rush).*

This quote from 1883 is an excellent way to finish this book on the great NFT Gold Rush of the early twenties of our century. Indeed, "there is still treasure not yet lifted, (as) I take up my pen in the year of grace 17\_\_", and thus, here, we are taking up our pens in 2023, having written this book in the hope that, you too, may partake in the loot and digital treasure that lurks deep in the metaverse and that by using this book as an NFT handguide, you too may strike it rich. We hope this book may for you provide the map that will lead you to Digital Treasure Island.

And that there is still NFT treasure, not yet lifted.



*Figure 13.1: The map of Robert Louis Stevenson's "Treasure Island" [↓](#)*

## Structure

In this chapter, we will cover the following topics:

- NFT Giveaway 9,000
- The Gold Digga NFT collection
- How to Stake your NFT claim
- Gambit club
- NFT Digital Gold Assets

Author Goodbye

- George
- Stepan
- Robert
- Epilogue

## Objectives

The objective of this chapter is to wave goodbye to our handguide and give you the opportunity to claim your own NFT with this book—and get some practice with claiming NFTs at the same time.

We will introduce how we made 9,000 NFTs available for the publication of this book and how you can claim them if you are one of the first 9,000 purchasers of the book. We are giving away  $2 \times 500$  super rare NFTs as well as  $3 \times 1,000$  very rare ones. Then there are still  $2 \times 2,500$  NFTs to be given out that are rare.

After you claim your NFT, you can practice how to claim and work with them and see if you can trade for a full collection of seven different kinds. With this, you will be able to put them into a digital gallery or perhaps a marketplace of your choice. The idea is to instruct you on the value and opportunity of NFTs today. Meanwhile, of course, these NFTs will have real value and a price in the NFT markets.

We will relate to you our own experience with our NFT project, called Gambit Club, which made much of writing this book possible. You will find

many of the things we talked about in the book (minting, selling, risks, frauds, and creating collections) related to a topic of our own experience. This direct experience helped us in creating this book, and we hope you can learn from our mistakes and our success.

The final part of this last chapter, which is already beyond the regular handbook content, will give a chance to each one of the three authors to say goodbye and explain what was learned and understood by the writing and the publication of this book. In this goodbye, we will mention our personal thoughts about which directions NFTs are headed, a small vision statement of each author.

Finally, we will end by leaving you with a gold rush metaphor for the epilogue. For every good book written about pirate gold should never be finished without a mysterious ending.

## **[NFT Giveaway 9,000](#)**

To say thank you for reading our work and help you practice the skills taught in this book, please follow along and read carefully to get your first—hands-on—experience in the world of digital ownership: we are giving away 9,000 NFTs that are uniquely tied to this book. It includes 5,000 rare, 3,000 very rare, and 1,000 super rare NFTs.

Let us accompany you on your first journey through Web 3.0. by sharing with you this pirate treasure map.

Since we believe that the direction towards which NFTs are moving involves the metaverse, we have created the Gold Rush NFTs in the 3D format so that they can be showcased in the future in your own metaverse corner, or in your virtual gallery, next to your Bored Apes and Cyberpunks. Thus, your friends, followers, and other interested people will be able to experience your NFT Gold Rush digital gold firsthand. This will be the tangible proof that you have now joined the NFT gold rush. NFT guys are honored to introduce you as an integral complement of this book, the *Gold Digga NFT collection*. We like to call them *gold diggas* (*glossary, 1*) on the street (in the market).

## **[The Gold Digga NFT collection](#)**

In this section, one can claim their own NFT if you are one of the first 9,000 buyers of the NFT Gold Rush. We work with a real graphic artist whose



credentials you will find in the very beginning of this book and who has created the following collection of NFT Gold Rush NFTs for the purposes of a promotion for the book.

Each NFT can be traded online on various NFT platforms, and the value (in Ethereum) of your NFT may go up or down depending on the NFT markets of the day. For the purposes of this unique mint that we are offering, you will have to know that an exact number of 10,000 NFTs were created in total and that no other minted pieces of this NFT digital gold collection will ever be created afterward. Of the 10,000 NFTs created and minted for NFT Gold Rush 9,000 NFTs are being given out as a book promotion to first purchasers.

The NFTs are unique and are original creations.

We have decided to name the collection *Gold Digga* to inspire you to go out there and start minting your own NFTs together with the tips, hints, and pointers that you have read in this handbook. Gold digging, like NFT minting, is no easy task, and you need several tools and much gold-digging equipment before you could start. Let alone succeed. You also need a gold diggers outfit, of course. And after much work, sweat and tears, eventually, you may arrive at finding gold nuggets which you can bring to the shop where they will be weighed on the gold scales.

So, the following are the various NFTs that complete a full *limited collection* after you can claim your first NFT right here in the upcoming section (if you are one of the first 9,000 purchasers) and after you start trading for the remaining ones on the various NFTs platforms. It is thus possible to get the complete collection if you like NFT trading and it will open things up for you to the world of buying and selling NFTs on platforms. Your Gold Digga NFTs have real value.

There are the following three categories of ***Gold Digga NFTs*** to be collected or minted:

**One: Rare**

Gold Digga Outfit and Tools

- NFT Dynamite (2,500 NFTs)
- Gold Digga Miner Hat (2,500 NFTs)

**Two: Very Rare**

## Gold Digga equipment

- Gold Digga Pickaxe (1,000 NFTs)
- Gold Pan (1,000 NFTs)
- Gold Digga Shovel (1,000 NFTs)

## **Three: Super Rare**

### Gold Digga gold

- NFT Gold Bar (500 NFTs)
- Golden Nugget (500 NFTs)

Thus, the full *Gold Digga NFT* collection consists of seven NFTs in total, and for the first person to collect all seven iconic and unique NFTs of the collection (and show blockchain proof thereof in real-time), we will double your collection by giving you another full *Gold Digga NFT* collection as a dividend.

All 9,000 NFTs are randomly allocated, and a further 1,000 NFTs are held in stock by NFT Guys for at least three months until after the launch date of this book. It bears repeating that only 10,000 *Gold Digga NFTs* in total will be minted and created, and no others, so that your *Gold diggas* (*glossary, 1*) become a limited collection and investment.

Remember that NFTs are digital financial assets.

## **How to stake your NFT claim**

As promised, this book is special because it comes with an NFT that can be claimed by the first 9,000 people who purchase.

Now how can you actually get this NFT into your Ethereum wallet?

The procedure is quite easy, and you will need to take and follow these steps:

### **Step 1**

Do you have an Ethereum wallet?

If yes, skip to Step 2.

If not, create a wallet using the following video tutorial by scanning the QR code below:



## Step 2

Once you created your Ethereum wallet please send the public address of the wallet together with proof of purchase of the book by using the form below.

Please scan the next QR code to enter the form:



Details:

- Fill in the form with a nickname.
- Upload the proof of purchase (the invoice, purchase screenshot, or anything similar that proves you bought the book). The file can be uploaded as an Image, PDF or Word Document.
- And in the last field, paste the public Ethereum wallet address (example: 0x684f68a68d86b2d32cd5c5c8984sa5558463213e).

We will transfer the NFTs on a weekly basis until the 9,000 NFTs are assigned to the first 9,000 legitimate buyers of NFT Gold Rush. First come, first serve.

Please see here below the template of the form to be filled out to claim your own Gold Rush NFT (to get to the form scan the second QR code above).

## Claim your "Gold Rush" NFT

**Enter your book purchase information** in order to receive your "Gold Rush NFT".

You will randomly get an NFT from our "NFT Gold Rush" collection out of a total of 10,000 pieces.

**No further NFTs will be minted under this collection!**

<=> For compliance reasons please **ONLY send the purchase receipt**.

If you encounter any issues or you do not receive your NFT, please email us at [NFTclaim@nft-guys.com](mailto:NFTclaim@nft-guys.com).

**Disclaimer:** We will do our very best to send everyone an NFT who sends a legitimate purchase receipt of the book. In case your purchase receipt cannot be conclusively validated for one reason or the other, we cannot send you an NFT. In that case, please contact us by email at [NFTclaim@nft-guys.com](mailto:NFTclaim@nft-guys.com) within 30 days of not receiving your NFT, and we will enhance the validation procedures.

\*Required

**Nickname \***

Your answer

**Please upload proof of purchase of your "NFT Gold Rush" book.** This can be in the \* format of a paid invoice or purchase receipt.

The file can be uploaded as an Image, PDF or Word document.

[Add File](#)

**Ethereum Wallet Address** (example: \*

0x684f68a68d86b2d32cd5c5c8984sa5558463213e).

If you do not have an Ethereum wallet, please create one on Metamask, by following the tutorial from this [link](#).

Your answer

Submit

Clear form

Figure 13.2: NFT Gold Rush Claim Form

## [Gambit club](#)

As you may have noticed, in some chapters of our book, we referred frequently to one of the NFT projects that we worked on called *Gambit Club* (*glossary*, 2). It was created with the goal to move the chess world into the digital realm. To move into new digital directions, we achieved interesting NFT results, of which you will find samples and examples explained here as follows.

Here is where you can check out our project:

- Gambit club website: <http://www.gambitclubnft.com>
- Gambit club on Twitter: <https://twitter.com/gambitclubnfts>

Here, you will find digitally created examples of collaboration and community building toward an NFT user-owned metaverse.

Our objective to create the *Gambit Club* was to expand chess society past the boundaries of reality to help chess move further into the digital era of the NFTs and into the metaverse. Chess became very popular in the past years following a world-famous chess Netflix series, “The Queens Gambit.” We believed that the next logical step would be to have chess enter the metaverse, which could solve a fundamental question of how to play online chess.

Online chess has been a massive breakthrough for the international chess community, but at first, it had its drawbacks, like, for example, the inability to play over-the-board chess virtually, but the metaverse changes that. With a metaverse chess club, you can get all the benefits (digital matchmaking, customization, and simplicity) of online chess while at the same time enjoying the physical attributes of over-the-board chess. This can revolutionize chess as we know it for the second time this century.

On the existing digital chess platforms, you can interact with your opponent or with the people online just by using text, emojis, and sometimes text/video, depending on the platform. By using metaverse 3.0, we are now getting very close to simulating a real-life scenario, which means that during a tournament, you can interact directly with others by using voice, gestures, and so on, just like in real life.

So, for the Gambit project, we started by creating and minting two NFT collections of 3D pieces, one that was based on the Polygon blockchain for

our early adopters and the other (the main collection) that was released on the Ethereum blockchain, having 10.000 3D NFTs.

We went live with the main collection on 1 March 2022, and since then, we have followed our roadmap toward full implementation of a chess club in the metaverse 3.0.



*Figure 13.3: The minting for the main Ethereum collection started on 1 March 2022 [2](#)*

To follow the timeline of the project, in September 2022, we made a partnership with *Somnium Space* (*glossary, 3*) to launch our Chess Club in their metaverse. At this point, our technical teams are working on making that happen.



**Chess Gambit Club NFT** @gambitclubnfts · Sep 4, 2022



🚀 We are writing history with @SomniumSpace! The launch of the first-ever #Chess Club in the #Metaverse is coming soon!

Our tech teams with @oasismetagames started working on the big release!

We'll keep you posted!

#VR #SomniumSpace #VirtualReality #NFTs #OMGEngine #NFT



*Figure 13.4: The Tweet posted to announce the collaboration between “Gambit Club” and “Somnium Space”, and it is a picture taken from their metaverse <sup>3</sup>*

At the same time, under “Gambit Club”, we are running several other projects, one of which was organized together with a national chess federation that organized the World Youth Chess Championship in 2022.

For this event, we created four special NFTs, one that was created for all the participants and was shared with them to claim in the first round of the tournament, while three other NFT Trophies were created for the podium winners (Gold, Silver, and Bronze). All winners received a special NFT during the final ceremony, and the NFTs can be seen today on the Ethereum blockchain. This event marked an important milestone in NFT history



because Gambit Club became the first in creating official World Chess Championship NFT medals for all podium winners during an international chess competition.

Thus, from our experience with running Gambit Club NFTs, we have learned the following 10 pointers, which may be useful when you are starting your own NFT project:

1. **DYOR: Do Your Own Research.** Make a shortlist of ideas and then do your market research. Find out if similar projects exist and how your NFT community is best being built. What is the **Unique selling position (USP)** of your NFT collection?
2. If you have no money to involve experts or when you are not a blockchain specialist yourself, you may have to find friends with particular sets of skills that can help you. Bring aboard a software engineer who has time to learn the basics of NFTs, and the internet is full of step-by-step tutorials.
3. Nothing like a great first NFT product launch. The experience that you will get from launching your first NFT collection is going to be priceless. Even if not many people buy it immediately, you will get a chance to understand the market and become better until you will eventually achieve success.
4. Build your NFT community:
  - a. Recruit people who may be interested in helping with your social media promotions and can get repaid with NFTs from your collection
  - b. start your social media channels (Discord and Twitter)
  - c. network for people that are really interested in your project
5. Find someone who is good with communications to collaborate with. The main channels to promote NFTs are Twitter and Discord. You will need someone who is able to interact with people and create hype around your project on social media.
6. Internet security is crucial, but many new projects do not even think about security. You do not really need money to implement security protocols. All you need to do at the beginning of your NFT project is to agree on some basic security principles which the whole team should

follow; for example, have just a very limited one to two people that know the secret keys of your main wallet(s). You can re-read most of these recommendations in [Chapter 11, \*NFT Risk and Fraud\*](#), NFT Risk and Fraud.

7. There is no such thing as easy money. You will need to make a good plan, stick to it till the end, and if, in the end, you did not sell anything, go back to the drawing board, see where you failed, improve, and try again. Making smart money in innovative areas like NFTs requires continuous learning, continuous improvement, and lots of hard work.
8. Failure is a part of the journey. Even if your first try or reiteration of your project is not successful, it is important to stay on target and to continue to put one foot in front of the other. Without mistakes, you cannot learn anything.
9. Create real added value. One of the most crucial points of any, not only NFT project is—real value added to the customer, user, buyer, or client. Remember, your project must complete a certain need or desire of your community, and if the core value of your project is not 100% crystal clear to you, then surely, it will never be to others either.
10. **Deliver.** Keep working on your NFT project and changing it until you see results.

## [\*\*NFT Digital Asset Gold\*\*](#)

Right as this book is going to the press a miracle happened as everything we have been arguing and preaching about NFTs in this book has actually come to pass in real life: the United States Tax Authority have recognized NFT as **digital assets** for the first time. There is now an IRS web page that exclusively deals with the tax consequences of digital assets and remarkably NFTs are now listed on that page as **digital assets**.

Since from the beginning we set out to prove to you in this book that NFTs are intangible property and digital assets we see this as the ultimate validation of what we have been trying to tell you here: that NFTs are potential digital gold and that there is a digital gold rush going on. And it is now clear that the government too is aware of this. So, a note of advice to all who read this: make sure to pay your taxes on your profits over your digital NFT gold in the future.

## Author Goodbye

### George

First of all, co-authoring this book was a rough ride with ups and downs, but overall, an amazing experience. When we first discussed the creation of this book, we had a simple goal in mind: anyone that reads our book should be able to understand what NFTs are, what is the current and future possible utility for them, and to open a small window for our readers, through which they can have a glance on how to start building the future of tomorrow.

With our book, we wanted to stimulate everyone's imagination so that they can mix this information with their own experience and knowledge to create new projects, know how to invest in NFTs, and maybe even invent a new type of art or utility for the NFTs, or even to build the NFT platforms of the future, toward the Metaverse direction.

As a former professional chess player, I am extremely passionate about patterns and have always liked to look at things as graphs while comparing them with past events. When it comes to NFTs, I believe we are currently, in early 2023, at a very low adoption rate, which creates a huge opportunity for you, the person reading this book.

If we make a parallel with cryptocurrencies, I will place us on the timeline somewhere around the time when ICOs started to appear, but due to the current macro-economic factors, we have not yet seen linear growth for NFTs, and I consider this as being probably one of the few chances for our generation to build amazing projects and create wealth.

Zooming out, I also believe that we are living in exciting times and are soon going to make the migration to a new type of social media that is moving toward the direction of an integrated metaverse (*Web 3.0*).

As we saw back in the days when *MySpace* (*glossary, 4*) and Hi5 appeared, most of the profiles there were blinking, pinkish, and animated, whereas the famous profiles were mostly formed of rappers or different singers. This is exactly what is happening now in the NFT space, where famous singers are buying NFTs for social status and showcasing them somewhere in the metaverse or in NFT galleries; in the same way they were sharing new projects in *MySpace* back in the days.

Fast forward to the future, I believe that in the upcoming years, we will have various metaverse platforms that are going to become more popular by starting from one simple idea, which is to give digital space back to the people. The current social media system is centralized, but the new one will be based on digital assets that the users own, where your profile will have the NFTs that you own in your personal wallet so that the main Metaverse platforms will just provide the ecosystem where people create and own digital assets. That is why I believe the decentralized metaverse(s) will be the future of social media.

At this point, it is hard to imagine ourselves in a virtual matrix-like ecosystem, where everyone is connected to the Meta-matrix, but I personally do not think that this will happen overnight, and we are still far away from such a completely submersed experience. In the first phase, the new platforms will be available for a large audience, being accessible from simple browsers on your desktop or portable PCs, tablets, and mobile phones, offering the possibility to use an AR/VR headset for a better experience.

Once NFTs get closer to mass adoption, these platforms will get more users that want to share their digital assets with other people or even build their own personally owned digital corner. From there on, I believe we will start having an exponential increase in digital activity related to unique virtual assets as people will become more interested in being more than just a user on the new digital asset-based social-media platforms by owning their own “bytes” on the platform, which they will be able to trade or transfer at free will and their leisure.

That being said, with this book, we are giving you the first pages in this new chapter, and now it is your turn to continue writing our digital history, mint, and mine your own digital gold.

## [Stepan](#)

Wow, the end already? It seems like only yesterday I created the first-word document that eventually became this project. My goal, as a representative of Gen Z writing this book who claims insight into NFTs and social media marketing communications, by writing these chapters was to introduce you to the very basics, the essence of NFT marketing, and to share the experience that I have gained.

The mission of this book is to introduce as many people as possible to the NFT world, simplify NFT talk as much as possible, make NFTs digestible, and leave no one behind in this rapidly evolving NFT world. We believe Web 3.0 is the future, and we believe that everyone should have the opportunity to educate themselves on the topic before it is too late, before the train has left.

Hence this handbook and NFT manual, which we hope will be helpful to you. Now go out there, explore the vast barren wilderness and find your—digital gold.

## Robert

It was an honor and pleasure to be able to write this book together with Stepan and George, and I would like to thank BPB and their entire team for making the project possible. We will answer as much as possible all additional questions that you, dear reader and student, may have on the website that we provided as a landing page in this chapter for the purposes of claiming your *Gold diggas* NFTs. Please do not hesitate to contact us with questions or feedback.

The NFT journey is one that is only just beginning, and this is why we are urging you to read this book and to get in now and start digging and minting already. For if you wait too long, the gold train will have departed. But if you follow all consigns and advice carefully that you may find here in this NFT manual, and prepare your journey carefully with great intent, then there is certainly NFT minting gold to be found. And much commerce and business to be done.

Good luck in your journey or voyage. *La bonne chance est l'exploitation du hasard!*

## Epilogue

This book is the result of a chance allotment over a few beers on a terrace in Brussels during the dog days of 2020 when Europe was under lockdown, and all outdoor activity and travel had been strictly forbidden. That day on the terrace, we discussed NFTs (we called them “art coins”) as this was one of the first days the terrace was allowed to open again. People were running around in masks, and social distancing was obliged.

It then occurred to us that somehow, somewhere, liberty still lurked somewhere in the dark corners of the internet and the web—while she had been removed completely and in full from the city streets. That between the shades of the darkness of lockdowns and faceless people who were afraid to approach you, there was still “*some treasure not yet lifted*” out there in the wilderness, but that this treasure first had to be minted and mined before it could see the light of the day. And that this new wilderness was digital.

It occurred to us then that the idea and concept of NFTs could set you free. And that there are digital barren virgin lands still which are hidden deep within the belly of the internet that is free from the constraint and surveillance of the damned servers of giant tech companies. And that these unexplored cyber lands can be mined and minted individually, severally, personally, and privately so that you and I too can become the owner of something of value on the World Wide Web. And become rich. Very rich even.

Blockchain makes this possible. Because it allows value exchanges, NFTs will be making property transactions legal as individual digital property rights eventually will be established over time (see our legal chapter, which makes mention of several high courts affirming this opinion). Thus, new wealth will be created.

We urge people to go out in the digital wilderness and claim what is waiting there to be yours. This book proposes to be a handguide to striking your own digital gold. This book makes the claim that NFTs can set you free because tokenization with smart contracts attached on-chain allows the creation of veritable digital assets. So that many new asset classes will be created.

Over time, a garden variety of different NFTs will allow the creation of wealth and digital private ownership. This development will allow for

privately owned digital communities on the Web, whereas user-based communities will become less and less popular. For who wants the epithet of “user” anyway? There is a horrible dependency on corporations in that. However, private ownership will give you power and control over your own digital destiny. Over your own digital life. Your private chateau will be hidden in your electronic wallet.

No, the foremost revolutionary idea behind NFTs is that they can make people free and independent because they make private ownership possible. But you must realize that such a libertarian grand conception is only starting today. So that there remains much treasure to still be mined and minted and so that there is a great adventure awaiting those who join the NFT Gold Rush today.

Without risk, great risk, there will never be a great reward.



*Figure 13.5: N. C. Wyeth Pirate Treasure Gold, 1911 <sup>4</sup>*

## [Glossary](#)

1. *Gold diggas*: NFTs created just for the purpose of the promotion of this book.
2. *Gambit Club*: An old NFT project of NFT guys from which we learned a lot for the creation of this book.
3. *Somnium Space*: Somnium Space is an open-source metaverse platform that officially launched in 2017 and, at the time of its publishing, was one of the few Metaverses that supports blockchain technologies and offers VR (virtual reality) and AR (augmented reality) capabilities.
4. *MySpace*: The Face-book before Facebook replaced it.

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<sup>1</sup> Map of Robert Louis Stevenson's book *Treasure Island*, written in 1883, about 15 years before the Klondike Gold Rush; public domain.

<sup>2</sup> The Gambit Club minting day launch logo.

<sup>3</sup> Gambit Club in the metaverse.

<sup>4</sup> The Pirate Gold from the book *Treasure Island* as painted by N.C. Wyeth in 1911 as illustration for an edition of same; courtesy WikiArt, public domain.



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