A Work Project, presented as part of the requirements for the Award of a Master's degree in Management from the Nova School of Business and Economics.

EXPLORING THE POTENTIAL OF WEB3 TECHNOLOGIES IN THE MUSIC INDUSTRY

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05/07/2023

Abstract

Since its genesis, the music industry has constantly been subject to technological disruptions leading to major changes in its functioning. Today, Web3 technologies such as blockchain and NFTs are already bringing many changes in different areas of our society. This research adopted a multi-faceted approach combining a literature review of the most relevant resources and interviews with various experts of Web3 and music industry around the world. In order to describe scenarios of the potential adoption of Web3 technologies in the music industry, addressing the economic opportunities, the barriers to adoption, and the changes those technologies would bring to the players. Answering our research question, will the music industry adopt Web3 technologies in the upcoming years?

Keywords: Technology Adoption, Music Industry, Web3 Technologies, Blockchain

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

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1. Introduction

Web3 technologies such as Blockchain and NFTs are revolutionizing various aspects of our society (Dr. Chamria 2022). The transformative potential of these technologies has drawn parallels with the emergence of the Internet three decades ago (Voshmgir 2020). Music, an integral part of human culture, has experienced numerous transformations in the way it is produced, transmitted, and consumed (Hanania and Norodom 2016). As we potentially stand on the verge of another technological revolution, the question arises: Will the music industry players adopt Web3 technologies in the upcoming years?

While Web1 primarily functioned as a read-only platform and the current Web2 allows both reading and writing, the term Web3, often referred to as the decentralized web, represents the future of the internet. According to Vinicius Rocha, Web3 expert and founder of the Peer to Peer Foundation, Web3 can be described as "What should be the Internet of tomorrow." The goal of Web3 is to give more control to users over their data and online identity to create a more democratic web (Ethereum Foundation 2023). For this purpose, the individuals behind this ideology use and develop new technologies such as blockchain, cryptocurrencies, or NFTs. These technologies are part of the so-called Web3 ecosystem. Likewise, our research defines "adoption" as the lasting presence of these technologies and their ability to make a long-term impact rather than just a short apparition in the industry, as it happened for other technological innovations in the past.

The relevance of this research lies in the impact those Web3 technologies could have on the music industry's future. By comprehending via our various interviews the current problems existing in the music industry and the possible solutions provided by Blockchain and NFTs, music stakeholders could better navigate the impending changes and capitalize on the benefits they offer.

Our research will start with a literature review examining technology's role in civilization throughout history, exploring adoption processes and potential adoption barriers that may hinder progress. We categorized those adoption barriers as behavioral for the ones related to the individuals and technical for the ones associated with the technique. Then, observe how those technological advances have been adopted in our society, passing from complex new tools to standards in our lives. We will follow, more specifically, the evolution that has disrupted the music industry in the 21st century, focusing on the emergence of streaming. This will provide insights into our findings to investigate the path Web3 Technologies must pass to integrate the music industry. Our discussion with experts will provide insight into the music industry's current business model, issues, and potential benefits of utilizing Blockchain and NFTs. Finally, we will explore distinct scenarios on how the adoption of this technology could unfold.

Our findings have identified both challenges and opportunities for the music industry to adopt Web3 technologies. The insights gained from the qualitative analysis of specific resources and expert interviews indicate that Web3 has the potential to create new revenue streams, reduce the cost of middle actions, and foster greater transparency in the industry. However, barriers to adoption, such as resistance to change from the labels and the need for technological knowledge, must be addressed for these benefits to be fully realized. Overall, In light of our results, we suggest three possible scenarios for the possible adoption of Web3 technologies in the music industry. The most probable scenario applies to internal adoption by established major labels, leveraging their resources and expertise to drive those technologies to their benefit. Nevertheless, it is equally crucial to acknowledge that there is also a substantial likelihood of these technologies being partially or not adopted.

2. Literature Review

2.1 Pioneering technologies: Pathways to widespread adoption

2.1.1 A look at the adoption process

Adopting a technology starts with identifying a problem or need that a technology can address. Then, his development or application becomes so useful that it extends to more general public adoption. For some technologies, it may take only a few months; for others, it may take several years or even decades (Headrick 2009). Suppose we advance in time until the invention of the Internet called at that time, Arpanet. It allowed long-distance information exchange using decentralized servers for military use. In the 1980s, the technology was opened to researchers and academics to enable them to share their findings and collaborate. Operating this version of the Internet required technical skills (Andersson 2018). In the late 1990s, tech companies such as IBM understood the commercial potential of that technology. They made it more accessible to the average person by creating the World Wide Web with user-friendly interfaces (Schafer and Serres 2017). The adoption of this technology will continue to accelerate with the arrival of smartphones in the 2010s, facilitating its access to general adoption (Andersson 2018).

2.1.2 Overcoming barriers to technology adoption

The Internet illustrates a long path between the emergence of a new technology and its banalization in our daily life. This path is restrained by barriers to entry and limits that complicate mass adoption. These obstacles can be multiple and depend on the technology (Desjardins, 2018). This research, drawing on "Barriers to adopting technology" by Darell L Butler and Martim Sellbom and "Barriers to technology adoption and development by Stephen L. Parente and Edward C. Prescott, " identifies seven adoption barriers applicable to most cases. The barriers to entry can be separated into two categories. The first, "behavioral," encloses aspects tied to individuals, including ; *resistance to change, technical expertise,*

cultural and language barriers. The second category, "technical," covers factors such as *elevated costs, restricted access to infrastructure, security and privacy concerns, and regulatory limitations.* While some technologies have made it through the masses despite those barriers, their presence creates the risk of a lower scale or non-adoption of the technology (Desjardins 2018).

2.1.3 Non-adoption case: The mini disc

In the 1990s, the mini disc, a compact version of the CD, was expected to revolutionize the entertainment industry due to its practicality and portability. The mini disc was a good technical innovation. It offered high-quality digital sound, the ability to skip tracks and create playlists, and was more durable than cassette tapes (Faulkner 2012). Unfortunately, this format faced many barriers, such as the very high equipment cost and the complexity for industry players to change their sales model. This led to its complete disappearance in the early 2000s. Despite superior technical capabilities, one technology may never supplant another if its adoption pathway is laden with excessive barriers. (Butler and Sellbom 2002). It is interesting to notice as well that some companies manage to impose by force the use of new technology because of their market dominance (D'Aveni 1999). We can give the example of Apple, which has changed the lighting port of its phones three times since 2015 (Gartemberg 2021). Web3 technologies hold promise for the future as more sectors adopt them into their business models (Voshmgir 2022). Learning the fundamental problems it can address and potential entry barriers is crucial to successfully implementing it in the music industry.

2.2 Historical Review of new technologies in music history

The music industry has undergone significant transformations throughout history, driven by technological innovations that have disrupted how music is created, distributed, and consumed. Each innovation has brought new distribution channels, revenue streams, and

consumer preferences (Hanania and Norodom 2016). Leading to new business models and the rise of timeless artists. This historical review will examine fundamental disruptions that impacted the music industry.

2.2.1 Physical era

The creation of the phonograph by Thomas Edison in 1877 was a significant breakthrough in music history. Until then, music was instantaneous and experienced in a single moment. The possibility of recording music and playing it in a loop opened up a new area for music (Spitzer 2021). Sharing and selling music became possible, leading several American entrepreneurs to establish the first record label in history, Columbia Records. Establishing these early record labels was essential in shaping the commercial recording industry and the history of music in the 20th century (Kenney 1999).

In 1948, Columbia Records launched the long play, allowing multiple tracks on the same record. This format, known as vinyl, will replace the phonograph (Spitzer 2021). In 1958, a new technology appeared, the RCA Magnetic. The advent of this smaller music design did not replace vinyl. Still, it enabled storing music in a smaller format to become portable, starting with cars and later everywhere with the Sony Walkman in 1979, paving the way for future innovations. Around the same time, MTV revolutionized the music industry by introducing music videos to screens, providing record labels with a new way to market their music (Llamas 2018). This shift in consumption habits forced artists to consider their music and image, resulting in the birth of icons such as Madonna and Michael Jackson. The format continued to evolve in the mid-80s, with the CD player increasing sound quality, storage, and durability in smaller packaging. This evolution was a success, and the music industry thrived, reaching its peak in 1999 with a return of 14.6 billion dollars in the US alone (Daniel 2019).

2.2.2 Digital Era

Ironically, it was also in 1999 that the cause of the industry's downfall emerged with the appearance of music piracy and the introduction of Napster. The service allowed users to share online music files using a decentralized peer-to-peer network system where each participant could share files, resources, or services directly with peers without needing a central server or intermediary (Theotokis and Spinellis 2004). Instead of downloading music from a central server, Napster users could download music from other users' computers. The platform had 80 million users by the end of its first year and was listed on the stock market in 2000. The year after, founder Sean Parker was forced to close down Napster due to a lawsuit filed against the company by several major record labels, including Universal Music, Sony Music, and Warner Music (Bergmann 2004). The shutdown of Napster was a significant turning point in the music industry, highlighting the challenges labels would face in the upcoming years. The judgment was won, but the war was lost. Downloading music from the Internet was now here to stay (Llamas 2018). Opening the door to new digital players trying to adapt to this new consumption mode. From paying music libraries like Itunes to streaming platforms like Spotify nowadays.

2.3 From Web 1.0 to Web3.0: Tracing the Evolution of the World Wide Web

2.3.1 A brief history of the Web

The general perception is that the Web is a static technology created, adopted, and unchanged. However, the reality is that the Web has constantly been evolving since its inception.
(Schafer and authors 2017)

A. The Web 1.0 | Read Only |1990-2004|

Tim Berners-Lee is credited with creating the initial protocols that formed the foundation of the World Wide Web. In its early stages, the Web-hosted mostly static websites that could not facilitate meaningful interaction between users and the platform. (Naik 2009) Despite this

initial limitation, the Web has continued to evolve with the development of new technologies and advancements that have created more dynamic and interactive websites.

B. The Web 2.0 | Reading Writing |2004-Now|

The rise of social media has fundamentally transformed how people interact with the Web (Ethereum Foundation, 2023). Rather than passively consuming content, users seek platforms that allow them to engage actively with others. They no longer want to read but to interact with it. This shift in behavior has coincided with the emergence of new business models for web companies, which prioritize sharing user-generated content over traditional information sharing (Nath and author 2014). As a result, the data collected by these platforms has become increasingly valuable, giving rise to a handful of web giants with unparalleled power to control the direction and content of the Web. The concentration of power in these platforms has raised concerns over issues such as censorship and their influence on public discourse, leading to ethical, moral, and legal issues that prompt regulations on the use of personal data, such as the GDPR. (Janiszewska-Kiewra, Podlesny, and Soller, 2020). All these questions will lead to awareness for many individuals who were part of the web ecosystem, leading people to develop a new vision of what the Internet of tomorrow should look like. This vision will take the name Web3.

2.3.2 The Fundamental Principles of Web3

Web3 is a movement that aims to return power to users by decentralizing data and providing equal access and decision-making capabilities to everyone. This new ecosystem is built on four key principles: the decentralization of data, permissionless access, native means of payment, and a trustless economic system (Voshmgir 2020).

The goal of Web3 is to create a more equitable and democratic Internet that prioritizes the needs and interests of users over those of centralized entities. Blockchain technology has been chosen to design this decentralized Internet. It provides a secure way to store and

transfer data, transactions, and assets without intermediaries or central authorities (Ethereum Foundation 2023). To eliminate the need for centralized actors such as banks and authorities, Web3 creators had to develop an internal currency. That decentralized cryptocurrency was called Bitcoin and marked a major turning point in the evolution of the Blockchain ecosystem. Bitcoin was built on a Blockchain Network, meaning the technical structure uses blockchain technology (Stackpole 2022). Later, many other Blockchain Networks appeared, intending to design the best Web 3 ecosystem possible. They all used their own cryptocurrencies to interact with the ecosystem, creating the crypto market.

In 2017, a new technology emerged from the blockchain ecosystem, the NFTs - Non-Fungible Tokens. A unique digital asset using blockchain technology to verify its authenticity, ownership, and scarcity. They can be bought, sold, and traded like traditional collectibles. NFTs enable new business models for artists and creators (Rehman and authors 2021). As such, they are important to consider when exploring the intersection of blockchain technology and the music industry.

3. Methodology

Since the subject is relatively recent, there is a lack of numerical data or academic documents available for analysis. Therefore I have adopted a multi-faceted approach that includes examining the most recent literature on the topic and discussion with many actors involved. My research purposefully focused on artists and labels, as these two key players have persistently remained vital to the music industry throughout its history. Additionally, I specifically investigated blockchain and NFT technologies within Web3, owing to their current applications in various cultural industries and their existing utility in music.

In line with this approach, I conducted ten interviews, both in person and through recorded video calls when allowed, with international members of the music industry (label owner, major label employee, artists), the Web3 ecosystem (Web3 advisors, researcher,

entrepreneur) and individuals working at the intersection of these areas to develop what they refer to as Music Web3. Each interview followed the same protocol, lasting one hour and comprising three parts: introduction about the participants, industry-specific questions, and discussions regarding opinions on the application of blockchain and NFTs in the music industry. This thematic analysis allowed me to identify, analyze, and interpret patterns or themes within the qualitative data obtained from the interviews. The insight gathered from our interviews provided a comprehensive understanding of the current challenges in the music industry and the potential solutions offered by blockchain and NFT technologies. Coupled with examining past technological adoptions in the music industry, this enabled us to envision possible scenarios for adopting Web3 technologies within the music landscape.

4. Findings

In this section, we will analyze, based on our research and conversations with various industry players, if blockchain and NFTs have a role to play in the music industry. To properly address this question, it was crucial to gain an understanding of his current business model. Through our discussions with music stakeholders, we aimed to identify the existing challenges faced by its key players. We will then explore the potential solutions offered by blockchain and NFTs to address these challenges. Lastly, we will examine the new opportunities and barriers this emerging technology must overcome to gain widespread acceptance within the industry.

4.1 Current music industry value chain

From the standpoint of Roman Muller, formerly project manager at Universal Music, "The music industry's business model operates by generating revenue through various channels, involving both artists and record labels. The main sources of income include music sales physical and digital, streaming royalties, live performances, merchandising, licensing, and brand partnerships". From the perspective of record labels, their focus is on increasing profits,

broadening their impact, and guaranteeing the success of the artists they work with, which ultimately leads to the label's ongoing growth and stability. On the artist's side, his interests in the music industry involve developing their art, generating revenue, gaining exposure, and maintaining creative control while navigating the challenges and opportunities that come with a music career (Newkirk 2021). Robert Bagunda, manager of artists and artistic director at Wagram Music, suggests that the connection between labels and artists is primarily based on reciprocal arrangements that optimize earnings and visibility for both sides. As the music industry continually evolves, the balance of power between both parties has remained the same since its inception. The emergence of streaming and new technologies leads us to new problems (Newkirk 2021) that will be analyzed in the next point.

4.2 Behind the Music: Addressing the Industry Challenges

As we have seen in the previous chapter, the interdependent relationship between labels and artists is the basis of the music business model. Unfortunately, as pointed out by Robert Bagunda, "relationships in the music industry are fueled by self-interest, and that can lead to conflicts." Many artists have expressed a feeling of distrust toward the "big three" major labels (Universal, Sony & Warner). This loss of confidence is characterized by a central element of the music business model, the record deals.

4.2.1 Record Deals

As we have seen previously, major record labels make money through various revenue streams related to the artists they sign and the music they produce. This includes music sales, streaming, live performances, merchandising, and brand partnerships. It depends on the agreements they establish with their artists when signing. From many artists' points of view, such as Belgian artist YDB "there is often a lack of transparency in record deals." They are usually complex documents presented as being for the benefit of the artist when in fact, they

are mostly in favor of the label. See details about the four major record deals in Annex1. Alexandre Brehm, founder of the independent label LMI Records, mentions that a major label signing in the career of a young artist often represents the first steps to success, but it sometimes can be a trap. The artist is often unaware of his commitment and the clauses that may exist in his contract. This leads to many artists being blocked by their producers or label.

An example of this type of record deal being at the artists' disadvantage is that of the girl band TLC. In 1996, the band sold 65 million albums and explained during their Grammy win speech that they were in a tricky economic situation. This was due to a traditional deal signed with the record company LaFace sub-label of Sony Music. The unclear terms of the contract heavily favored the label, with TLC receiving only a small percentage of profits from their album sales, merchandise, and other revenue streams. As a result, they were earning far less money than their immense popularity would suggest (Llamas 2018). As an answer to this, it is incumbent upon artists and their affiliates to comprehend the implications of the agreements they enter into. Eros Gorse, responsible for talent acquisition at Warner Music, affirms that, "Even if these contracts seem to be to the disadvantage of the artists, it also comes that the labels take big risks and make bets on their success." Lil Pump's situation, where he signed an $8 million deal with Warner Bros. Records in 2018 but experienced a commercial decline after his hit "Gucci Gang," leading to his 2020 departure from the label, serves as a notable example of this issue. Roman Muller states, "The lack of contract transparency presents a major challenge for artists in the music industry." While artists must remain cautious when signing agreements, the industry should promote fairness and openness.

4.2.2 Music rights ownership

The second issue mentioned during my discussions with the artists was always related to the control over their art and, therefore, their music rights. As stated by the Brazilian independent artist Pessa during our interview, "Owning my creations impacts my emotions and my

financial control." Music rights are an essential part of record deals, and having the most control over them is essential for the label and the artist.

Many artists have become superstars and written legendary albums without ever owning their music. The Beatles, for example, never owned their albums. Their music belongs to Universal (Rys 2017). The most publicized case is the conflict between Prince and Warner Bros., rooted in disputes over music ownership and control. To regain control, Prince changed his name to an unpronounceable symbol, severing contractual ties with Warner Bros. He also wrote "SLAVE" on his face during public appearances as a protest. This case has opened a new awareness in the artist sphere about the importance of control over their art. Consequently, many artists encounter conflict with their labels or buy back their music rights. In 2004, Jay'z bought back his music catalog, including his first albums and recordings owned at the time by Def Jam Records, for 5 million dollars (Perice 2012). Today, Forbes estimates the catalog's value to be hundreds of millions. Similarly, Taylor Swift re-recorded her first album to recover her rights (Bruner 2021). Such actions resonate with fellow artists, yet not all can wield the influence of celebrities like Jay-Z or Taylor Swift.

The system is often designed to compel artists to conform to it. Still, a few individuals, fueled by a longing for independence, break the norm and refrain from signing with labels. For example, the American artist Russ gained recognition for his unique approach to the music industry. Instead of signing with a major label early in his career, Russ released his music independently. He utilized platforms like SoundCloud and YouTube to distribute his music, building a fan base through a steady stream of singles and mixtapes. This gave him better control when he signed with Columbia Records, where he signed a distribution contract that preserved the ownership of his music (Mitchell 2018). This accomplishment encourages numerous artists to avoid signing with labels and to create their music independently. As mentioned by YDB, "It has never been a better time to be an independent artist."

The emergence of new social media platforms like TikTok and the reduced cost of music production equipment has created an unprecedented opportunity for budding talents to gain recognition without the help of major labels.

As reported by MIDiA Research, independent artists releasing music have increased by 34% since 2018, representing a shift towards a more do-it-yourself approach. This trend is driven by greater creative control and ease of self-distribution through online platforms. Due to this tendency, the major record labels face stiffer time to sign new talent and consequently see their revenue decline. Nevertheless, as observed by Alexandre Brehm, "The abundance of independent artists makes the competition much more difficult for them to stand out and become renowned." Moreover, It is important to notice that artists with label support will always have an exposure advantage. Could more transparency between labels and artists reverse this situation?

4.2.3 Middelman issues

The music industry has long been marked by the presence of middlemen such as publishers, distributors, and collecting companies. The cost of those intermediaries is a challenge that the label usually recuperates on the artists' income (Annexe 2). We must remember the most important middleman of the current music economy: the streaming platforms. As revealed by Eros Gorse, “On average, 70% of the revenue goes to the rights holders, and 30% goes to the streaming platform.” Ideally, reducing the number of middlemen involved or decreasing their percentage share would allow more income to be returned to the artists. However, it is unclear whether labels have a vested interest in pursuing such changes.

4.3 Blockchain & NFTs as a Solution

Over the years, technology has played a pivotal role in addressing challenges and streamlining processes within the music industry. From fighting piracy with the advent of streaming

platforms to empowering independent artists through social media (Llamas 2018). In this part, we will explore how blockchain and NFTs may offer innovative solutions to solve the problems related to Record Deals, Music Rights, and Middelman costs.

4.3.1 Record Deals Solution

The blockchain is a decentralized and transparent database where all transactions and agreements are recorded (Ethereum Foundation 2023). In the context of record deals, this would enable improved contract transparency by making their terms and conditions visible to all involved parties. Through smart contracts, the blockchain can initially safeguard artists by ensuring they have consistent access to their contracts (Bach and authors 2022). The visibility of these would deter many from entering into unfavorable agreements. Transparency in blockchain-based contracts, accessible anytime and anywhere, fosters trust between artists and labels since alterations cannot be made without leaving evidence. In the words of Vinicius Rocha, “It's similar to writing in a book where pages can't be turned out.” As a result, labels would be more accountable for their actions.

4.3.2 Music Rights Solution

As discussed earlier, the music rights issue has been a persistent challenge in the music industry for a long time. Blockchain technology has the potential to address this problem by creating a unified, transparent, global database of intellectual property rights, including copyrights and related rights, along with their corresponding metadata (Bach and authors 2022). Roman Muller states, “At the moment, such an ambitious project is hardly feasible due to the lack of transparency between the music stakeholders.”

Creating a database could streamline collaborations among various intermediaries in the music industry by fostering a climate of trust. Sam Feltrin, founder of a Web3 platform aiming to help independent artists leverage money, indicates that “blockchain would also

enable artists and other contributors in this business model to receive their earnings faster.” Currently, this process can range from a few months to a year, depending on an artist's specific contract.

For the artists, It's essential to highlight that the primary beneficiaries of adopting blockchain in the music industry would be the artists themselves. After developing his own musical NFTs project, Pessa asserts that this technology has the potential to enable them to reclaim control and autonomy within their careers. Besides, many artists have already started to use it with NFTs. An example of this kind of Project is the artist Tory Laynes who issued 1 million copies of his album "When It's Dark" as an NFT for the price of 1$ per copy. The artist partnered with the blockchain platform E-NFT.com. The number of copies was limited and unique; the hype grew quickly when the project was announced. Finally, his 1 million copies were sold in less than a minute, bringing him 1 million dollars (Ihaza 2021).

4.3.3 Advantages of Music NFTs

Artists who have deployed this type of project described many advantages to using NFTs to release their music. First, from a marketing point of view, the NFTs being a limited and unique item, will play on a social phenomenon called "FOMO," or Fear of Missing Out. A report from (Gupta and Sharma 2021) in the National Library of Medicine describe it as the feeling discerned by someone afraid to miss an opportunity. Fans and other speculators will pounce on the product like an exclusive clothing collab. This phenomenon will create a rapid sell-out and increase the hype around the artist.

Brazilian artist Pessa expresses, “As a matter of fact, it creates a real emotional link between the artist and the fans. They are no longer a simple listener but become an exclusive member of the artist's community”. This aspect is interesting from a business point of view because it's then possible to offer many other products, such as merchandise, exclusive music, or even concert tickets. French artist Booba NFTs gave you access to his clips before

everyone but also to be given priority for purchasing his concert tickets (Henzy 2022). The owners of their NFTs will tend to take advantage of these benefits and buy the artist products.

Additionally, the NFT is resellable and has a value that fluctuates. As outlined by Robert Bagunda, “Owners will tend to promote the artist and his projects to maintain the value of their property. Thus becoming a solid communication relay for the artist.” By giving more importance to the fans, NFTs projects such as Power I.O allows artists to independently finance their albums through the issuance of NFT collections, with fans buying NFTs to support them in exchange for merchandise and, in some cases, royalties. On the economic side, Sam Feltrin explains that NFTs allow an instantaneous income, meaning that when the NFTs are sold, the money generated is directly transferred to the artist's wallet and the project collaborators if there is any. And all this in a transparent way via the blockchain. An argument that seduces many artists is the possibility of getting dividends on each resale made after the project's mint, which is the production process of each NFT (Bach and authors 2022). For example, if the artist Picasso had sold his painting "The Dream" in the form of NFT with a 10% interest return, he and his descendants would have received 10% of each sum to which the work would have been resold. These numerous arguments open up a huge number of commercial opportunities for artists. And completely change the consumption of their content, despite the enthusiasm that we can have towards NFTs usage. It is important to note the limitations and problems that this technology can cause.

4.3.4 Limits of Blockchain & NFTs Utilisation

The term NFT has gone from a technical use by insiders of the blockchain ecosystem in 2019 to one of the top trends in Google searches in late 2021 and early 2022 (Annex 3). This is due to the success of some NFT collections, such as Bored Ape Club or CryptoPunk, sold for hundreds of thousands of dollars and promoted by celebrities on social media (Jain 2022).

Due to the NFT craze, many exploited public naivety for profit by creating misleadingly named collections, such as "Big Daddy Ape Club" and "Evil Ape Dudes," which absconded with significant funds ($1.3M and $2.7M, respectively), leading to a tarnished public perception of NFTs associated with scams. Despite genuine utility and honest teams in the NFT space, these incidents have eroded public trust in most collections (Hern 2022). The market collapsed around January 2023 (Annex 4). Along with it, the musical NFTs did not make an exception. Sam Feltrin notes that “the artists fear the reaction of the public and by the wish to preserve their image prefer not to be associated with NFTs anymore.”

In conclusion, despite the bad image, NFTs allow an infinity of creative and business possibilities. Many international artists like Steve Aoki or Miguel still believe that NFTs have a future in the music industry. They keep using NFTs to promote their music and explain their approach to give back the confidence to their audience. Following the opinion of Robert Bagunda, the truth is certainly halfway by proposing NFTs that place the listeners at the center of the creative universe. French artist PLK's recent project highlights Web3's potential in music by using an NFT for fan participation in album creation via Zoom. The album's availability on streaming platforms also ensured access for non-NFT owners.

4.4 Other applications

4.4.1 Merchandising

The share of income related to Merchandising is a significant part of the income received by the artist and his label, ranging from around 10 to 40% of the total revenue generated (Newkirk 2021). NFTs innovate in this field. They can be used as a certificate of authenticity for different items to protect against counterfeiting. A system is already in place in large luxury groups like LVMH. This may seem exaggerated for items related to artists. But the increase in the quality of the products and the limited side of these last ones has developed a real market of collectors and resellers (Loeb 2021). Proving the authenticity of these products

via an NFT would be a real advance. As noted by Sam Feltrin, “The interest of NFTs is also to digitize and make unique physical products.” A new form of merchandising that is also becoming very popular among brands. It can propose wearable clothes in video games or the metaverse. Gucci, for instance, has presented clothes in the form of NFT worn by characters in the video game The Sandbox. This same process is replicable for artists offering them a new revenue stream and communication channel via video games.

4.4.2 Ticketing

Ticket forgery, particularly at concerts, has escalated recently, with The Organisation for Economic Co-operation and Development (OECD) estimating that around 10% of all event tickets sold worldwide are counterfeit, affecting about 11 million victims in the U.S. alone. This issue is amplified by scammers who mass produce and sell fake tickets on marketplaces or social media groups, as seen in 2022 when 2000 counterfeit tickets for a Bad Bunny concert in Mexico City were sold on Ticketmaster, leading to upset fans being turned away at the venue. Even if the artist is not responsible, he is still at the heart of the criticism.

The authentication of these tickets via NFTs technology ensures the QR code is unique. It also allows verifying the purchase and resale history of the ticket, which is ideal in case the ticket has been bought secondhand (Katz 2022). This is possible because the history of each NFT is immutably recorded and visible to all in the blockchain (Annex 5). This provides true transparency between ticket buyers and resellers. And eliminating technical errors in an almost definitive way. Known worldwide artists like Ed Sheeran already implement this functional model. To solve this fraud problem, a part of his last tour tickets were issued in the form of NFT, which was therefore uncopyable. Each buyer received their NFT as a QR code, frequently changing in a wallet personalized with the buyer's name. Eliminating almost any possibility of fraud. Moreover, the artist offered with the purchase of this NFT advantages like backstage access or exclusive content of the artist (Lewis 2022). The

success of this first large-scale test attracted the attention of many industry players. Ticketmaster, the world's largest ticketing platform, has announced that it will use this technology in the future, and major label Warner says it supports the initiative.

4.5 Barriers to Blockchain and NFTs adoption

Blockchain and NFTs are already operational in other sectors and have the potential to address various challenges within the music industry. However, multiple barriers to entry continue to hinder their widespread adoption. We will examine the behavioral barriers, with a focus on one specific barrier emerging from the interviews being (*the fear of change).*

Roman Muller states, "Historically, labels have always had a certain resistance to changes that they did not introduce directly." A prominent example was the case of Spotify. When Spotify was launched in 2008, it was initially met with resistance from the music industry, especially the major record labels. At the time, labels feared that Spotify's business model - an ad-supported, subscription-based music streaming service - would cannibalize physical and digital music sales. At the time, almost all labels either shut the door or agreed to too costly and restrictive conditions to make it viable for the Swedish company (Eriksson and authors 2019). However, under the pressure of piracy and the product quality proposed by Daniel Ek, major labels agreed to give them the rights to their music catalogs but on the condition of having shares in the company. The contracts are confidential, but it is estimated that the "Big Three" held 10 to 15% of Spotify's shares (Ingham 2018). This shows the labels' constant need for control, who want to maintain authority over the financial industry's mechanisms. This phenomenon is very similar today to NFTs. The labels are aware of the potential and do not close the door like Warner, which supports the development of this technology to attend to the innovation (Stassen, 2022). As described by Eros Gorse, major labels want to avoid seeing a new player or standard appearing that could change their business model as the streaming a few years ago.

A second behavioral barrier to adopting Blockchain & NFTs is simply the complexity of use for the uninitiated in Blockchain (*technical knowledge*). It is necessary to have a minimum of knowledge on the subject and perform some steps, create a wallet on his computer, hold cryptocurrencies, and buy the NFT in the artist's collection. This process leads to a third behavioral barrier (*fear of the unknown*) that can discourage fans, risking simply not following the artist's project. As mentioned by Sam Feltrin, "People do not like to change how they do things, even more, if it demands effort".

Regarding the technical barriers *(limited infrastructure access)*, the inability to purchase or resell NFTs via mobile phones poses a significant constraint. Connecting to a computer to access a crypto wallet is a requirement, which is problematic since smartphones play a crucial role in our daily lives. The rapid growth of recent innovations, such as Instagram or Uber can be attributed to their accessibility on mobile devices. However, Tyler Pinter affirms that progress is being made as Web3 companies are developing alternatives to facilitate access to blockchain on mobile platforms. Additionally, (*the high costs)* associated with overhauling the financial models of an entire industry and (*potential regulations*) that may be introduced in the coming years for the Web3 ecosystem should also be considered.

4.6 Adoption Scenarios

With a comprehensive understanding of the potential applications and limitations of Blockchain and NFTs in the music industry and the potential barriers to adoption, we can now develop three distinct scenarios for the possible future of these technologies in the industry.

4.6.1 Internal Adoption,

The first possible scenario for adopting blockchain and NFTs in the music industry would involve the major labels developing their internal platforms. As Eros Gorse expressed in our interview, "Major labels are generally reluctant to the presence of new players and tend to

block their development if they are not involved in the process." One hypothetical example is the adoption of a data-driven platform created by the major labels internally, utilizing blockchain to streamline music rights and artist contracts. Creating this tool internally could enable Universal to utilize the power of Web3 technologies without relying on external actors who may also work with competing labels and have some control over the data. With this in mind, labels could also create customized NFT collections for their artists, offering an additional revenue stream and greater leverage over fans.

4.6.2 External Adoption

The second scenario for adopting blockchain and NFTs in the music industry is external adoption, where a player outside the music industry becomes so powerful that labels must rely on it. Spotify and TikTok are prime examples of players that have become essential to the music industry. As cited by Robert Bagunda, " Nowadays labels pay for advertising space or use influencer agencies to promote their artists and increase their streams on these platforms." If an NFT platform like Opensea becomes a dominant player in the industry, labels would be forced to partner with them to ensure the success of their artists. Similarly, Web3 streaming platforms like Audius could become serious competitors to established players like Spotify or Apple Music. In this scenario, Web3 startups could become stakeholders in the music industry, taking control over economic mechanisms, just like Spotify or TikTok. In the view of Roman Muller, "Labels may try to invest in the development of these startups or even buy them, but it would still be an external adoption of the technology." Decentralization of music rights could also be developed by external Web3 actors, forcing labels to use these mechanisms without having complete control over their data.

4.6.3 Non or Partial Adoption

This last scenario is more pessimistic. Web3 technologies, due to their high number of barriers to adoption and the reluctance of the public and labels, would not succeed or only partially succeed in imposing themselves in the music industry. In this case, the listeners would not be receptive to these new technologies. The artists and the labels would not see any financial results and would lose interest in them. This would cause the fall of these platforms based mainly on the content proposed by the artists. An example of a non-adoption in the music industry would be the streaming platform Tidal aiming to compete with Spotify. The platform offered better remuneration for artists and premium sound quality. Unfortunately, the platform failed to find its audience due to the low number of artists providing content. The possibility of partially adopting Web3 technology is also conceivable if the public becomes uninterested in music NFTs. As Sam Feltrin remarks, “Blockchain technology could facilitate mechanisms between intermediaries, and NFTs tech could be used for ticketing.”

5. Discussion

5.1 Limitations in my research

In writing this research, I faced several technical and opinion limitations. The recency of this topic results in a low quantity of trustable data. This made the research complex as we relied mainly on recent articles and expert interviews. Additionally, the topic's newness makes it harder to measure Blockchain and NFTs' impact due to insufficient long-term data. Secondly, it took time to distinguish the problems emanating from the music industry because they were different from one actor to another. This raises the question of whether the lack of control of the artists on their music is an issue or a consequence of the power of the labels. While speaking with Web3 experts, I had to consider their overconfidence in blockchain and its technologies. To draw the real benefits and solutions applicable to the problems stated earlier. Finally, the fact that blockchain and NFTs are largely linked to a speculative cryptocurrency

market, which means it follows cycles of great interest and complete disinterest from the public and industry players. This makes it difficult to know if adopting these new technologies is related to the hype or a real technical innovation that is here to stay.

5.2 Other areas to explore

In this research, I decided to focus on the impact of Web3, specifically on artists and labels, the two unchanging entities in music history. However, nowadays, streaming platforms also take an important position in the music industry; thus, exploring Web3 technology focusing on streaming platforms could be interesting. Then, it would be intriguing to delve deeper into other technologies within the Web3 spectrum, such as the Metaverse and augmented reality. These have already found usage in the music industry and, like NFTs, hold potential for further development. These different topics were complex because they didn't offer real solutions to the music industry's problems but provided opportunities to exploit. It would be impossible not to mention artificial intelligence (AI). Research on this trend could also be interesting to understand how this technology could influence the future of music production.

6. Conclusion

The music industry is since its beginning subject to constant technological disruption, which has evolved its production, sale, and consumption methods. These innovations are always there to improve these mechanisms and answer the problems its various actors face. Web3 technologies such as blockchain and NFTs have been created to give back control to the creators and answer many industry issues, bringing more transparency between labels and artists, fluidifying many mechanisms, and offering a different place to fans. However, it will face many barriers to adoption, such as the complexity of use and reluctance of labels to keep control. Our likely scenario is that internal adoption will be driven by labels who see it as an interesting opportunity to create new business and marketing streams while remaining in

control. This scenario would be logical due to the known precedents in the music industry, where the labels often choose the direction. But it would be a deviation from the essence of freedom of why this technology was created in the first place. Despite this, artists have gained more and more individuality in recent years thanks to social media and new ways to promote their music. Will Blockchain and NFTs technologies follow this dynamic and give back power to artists? Only the future will tell us.

7. References

Acoca, Brigitte and Webber Alice. 2019. “Roundtable on Secondary Ticket Markets; Organisation for Economic Co-operation and Development.”

Andersson, Gerhard. 2018. “Internet interventions: Past, present and future.” Internet Intervention, Volume 12, p181-188.

Bach, Laurent, Rémy Guichardaz, Eric Schenk. 2022. “Blockchain and NFT technologies: The future of the music industry?” CNM Lab.

Bergmann, Frank. 2004. “Napster & The Music Industry Napster & The Music Industry” ESADE Barcelona.

Butler, Darell L and Martim Sellbom. 2002. “Barriers to adopting technology.” Ball State University, p2-7.

Bruner, Raisa. 2021. “Here’s why Taylor Swift is re-releasing her old albums.” Times Magazine.

Chamria, Dr. Ravi. 2022. “How Web3 can transform your business model.” Zeeve.io.

Daniel, Ryan. 2019. “Digital disruption in the music industryThe case of the compact disc.” Creative Industries Journal, Volume 12, p159-166.

D'Aveni, Richard. 1999. “Strategic supremacy through disruption and dominance” MIT Sloan.

Desjardins, Jeff. 2018. “Technological transformation; A brief history of technology.” World Economic.

Eriksson, Maria, Rasmus Fleischer, Anna Johansson and al. 2019. “Spotify Teardown : Inside the Black Box of Streaming Music.” The MIT Press.

Ethereum Foundation. 2023. “What is Web3 and why it is important” Ethereum Organisation.

Faulkner, Joey. 2012. “MiniDisc, the forgotten format.”The Guardian.

Forde, Eamonn. 2015. “Record breaker: a brief history of Prince's contractual controversies.” The Guardian.

Gartenberg, Chaim. 2021. “The Lightning port isn’t about convenience; it’s about control” The Verge.

Gupta, Mayank and Aditya Sharma. 2021. “Fear of missing out: A brief overview of origin, theoretical underpinnings and relationship with mental health.” National Library of medicine, 4881-4889.

Hanania, Richieri and Anne-Thida Norodom. 2016. “A Brief Overview of the Evolution of Musical Technology: Promises and Risks for the Diversity of Cultural Expressions.” Diversity of Cultural Expressions in The Digital Era, p12-18.

Headrick, Daniel R. 2009. “Technology: A World History.” Oxford University Press, p143-148.

Henzy, Marc. 2022. “10 mois après « TN », décryptage de la stratégie NFT de Booba” Ventes Rap Media

Hern, Alex. 2022. “More than $100m worth of NFTs stolen since July 2021, data shows.” The Guardian.

Ihaza, Jeff. 2020. “Tory Lanez released an ‘NFT album.” Rolling Stone.

Ingham ,Tim. 2018. “How many shares the major labels bought in spotify? ; Music Business Worldwide.”

Janiszewska-Kiewra, Ewa, Jannik Podlesny, and Henning Soller. 2020 “Ethical data usage in an era of digital technology and regulation.” Mckinsey Digital

Jain, Vikrant. 2022. “Non Fungible Tokens (NFTs): A Fad or the Future? Linkedin Article

Katz, Josh. 2022. “How Web3 can reduce concert ticket fraud and clean up the industry” Forkatz.

Kenney, William H. 1999. “Recorded Music in American Life: The Phonograph and Popular Memory, 1890-1945.” Oxford University Press, p46-50.

Perice, Leanne. 2012. “Music Entrepreneurs in the Twenty-First Century: A Case Study on the Career of Jay-Z.” Journal of the Music and Entertainment Industry Educators Association 12, p221-238.

Lewis, Genevieve. 2022. “Ed Sheeran’s Stade de France shows benefit from NFTs solution” Ticketing Business.

Llamas, Liliana, 2018. “From Phonograph to Spotify” The Wall Street Journal.

Loeb, Walter. 2021. “Why Resale Merchandise Is Popular And Sales Will Grow Rapidly” Forbes.

Mitchell, Julian. 2018. “The art of being self-made: A conversation with Russ” Forbes.

Nath, Dhar and Basishtha, "Web 1.0 to Web 3.0 - Evolution of the Web and its various challenges," 2014 International Conference on Reliability Optimization and Information Technology (ICROIT), Faridabad, India, 2014, pp. 86-89.

Newkirk, Junior. 2021. “How record deals work and making money in the music industry” Financial Times.

Parente, Stephen and Edward C. Prescott. 1994. “Barriers to Technology Adoption and Development”, University of Chicago, Journal of Political Economy, Volume 102, p44-48

Rehman, Zainab, Imran and Bawany. 2021. "NFTs: Applications and Challenges," 22nd International Arab Conference on Information Technology (ACIT), Muscat, Oman,, pp. 1-7

Rys, Dan. 2017. “A Brief History of the Ownership of the Beatles Catalog” Billboard Magazine.

Schafer, Valerie and Alexandre Serres. 2017. “Histories of the Internet and the Web” Infoclio, University of Luxembourg.

Spitzer, Michael. 2021. “The Musical Human: A History of Life on Earth”
London, Bloosbury Edition.

Stackpole, Thomas. 2022. “Your guide to (what could be) the future of the internet”
Harvard Business Review.

Stassen, Murray. 2022. “Warner to 'mint shared memories as NFTs' in partnership with $10m-backed web3 startup POAP”, Music Business Worldwide.

Theotokis Stephanos and Diomidis Spinellis. 2004. “A survey of peer-to-peer content distribution technologies” ACM Computing Surveys, Volume 36, p 335–371.

Umesha, Naik. 2009. “Comparative Study of Web 1.0, Web 2.0 and Web 3.0”
Mangalore University.

Voshmgir, Shermin. 2020. “Token Economy: How Web3 reinvents the Internet”. Berlin, Token Kitchen. Volume 2, p7-12

8. Appendix

Annex 1 Record Deals Comparative Table.

Type of Deal	Description	Artist benefits	Label benefits	Limits
Traditional Record Deal	Label provides funding and resources, artist signs over rights	Funding, expertise	Ownership, control, profits	Limited artist control, profit share
360 Deal	Label profits from all aspects of an artist's career	Career support	Increased revenue, control	Loss of artist control, independence
Distribution Deal	Label manages distribution, artist keeps control of music rights	Distribution, control	Sales percentage, growth	Limited support, artist handles production
Production Deal	Producer assists with music production, royalties shared	Producer, network	Royalties share, success	Influenced creative control, shared royalties

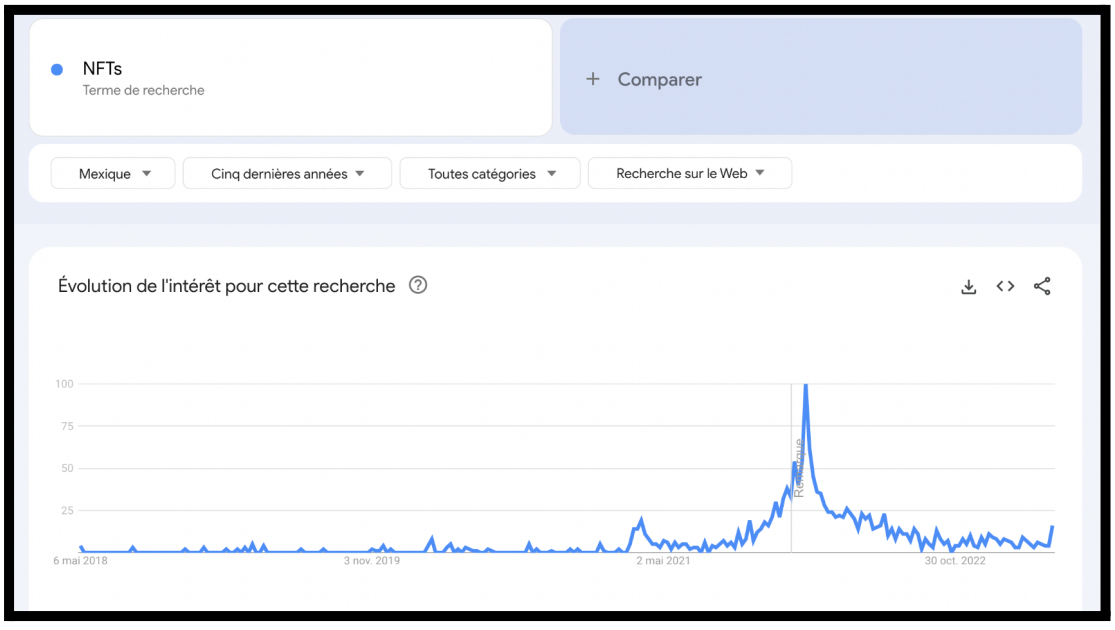
Sources: (Bagunda, Robert. 2023. Interview)

Annex 2 Middlemen Presentation Table.

Middlemen	Functions	Percentage fees	Companies
Performance rights organizations	Collect and distribute royalties for public music use	Typically 10-12% of revenue collected	ASCAP, BMI
Publishers	Manage copyrights and royalties, negotiate licensing deals	Typically 10-25% of revenue generated	Warner/ChappellMusic, Sony/ATV
Distributors	Help get music to digital and physical outlets	Typically 9-20% or a flat fee per release	Distrokid, CD baby

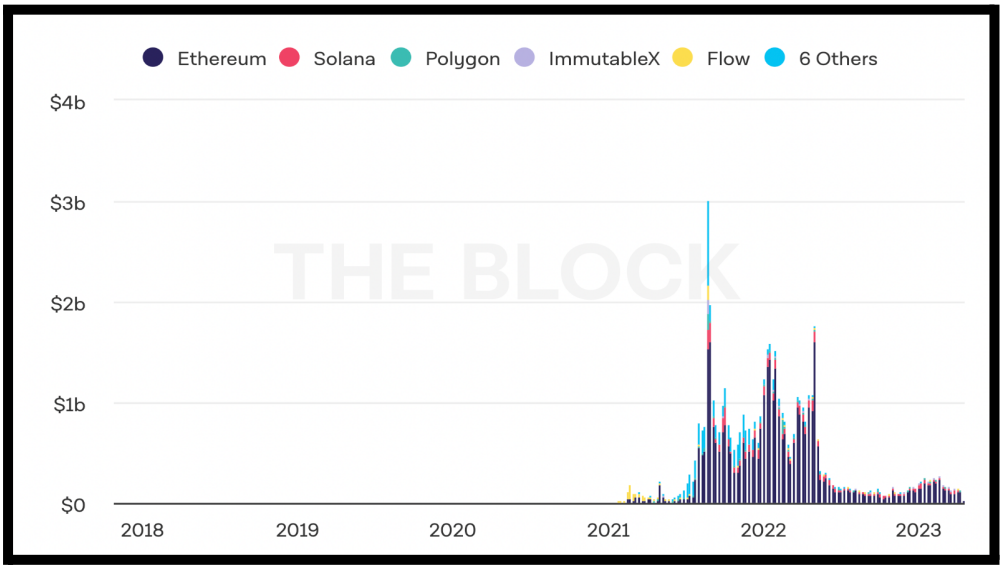
Source : (Gorse, Eros. 2023. Interview)

Annex 3 NFTs term on google trends.



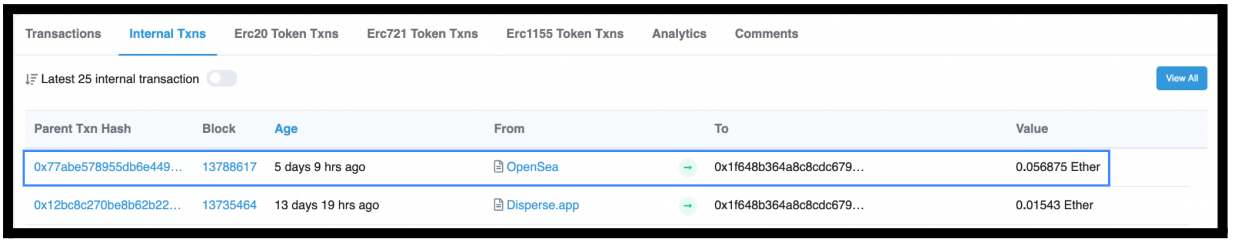
Source : (Google Trends. NFTs)

Annex 4 NFTs volume by Blockchain Network.



Source : (Cryptoslam, The Block. 2023)

Annex 5 Example of an historic of NFT's ownership.



Source : (Opensea. 2023)

Annex 6 Interviewees table.

Name	Job	City	Interview	Date	Company
Bagunda Robert	Artistic Director	Paris	Video Call	01 April 2023	Wagram Music
Brehm Alexandre	Label Owner	Lisboa	Video Call	15 April 2023	LMI Records
YDB	Singer	Brussels	Video Call	16 April 2023	Independant Artist
Feltrin Sam	Web3 Entrepreneur	Brussels	Video Call	01 April 2023	Power Io & Slide
Gorse Eros	Artist Operation	Paris	Video Call	20 April 2023	Warner Music
Muller Roman	Music Marketing	Brussels	Video Call	02 March 2023	Ex Universal Music & Life Web3
Parrachia Pedro	Web3 Researcher & Speaker	Rio de Janeiro	Face to face	27 March 2023	Ethereum Rio Speaker
Pessa	Artist & DJ	Rio de Janeiro	Face to face	25 March 2023	Cyberfunk NFTs
Pintar Tyler	Web3 Advisor	Miami	Video Call	20 March 2023	Degen Dao
Rocha Vinicius	Web3 Expert & Tech historian	Rio de Janeiro	Face to face	27 March 2023	Peer to Peer Foundation

9. Interviews

Bagunda Robert | Paris | Video Call | 01 April 2023 | Wagram Music
linkedin.com/in/robert-m-bagunda-53496a115
Robert co-founded the esteemed Jeunes Boss record label, which has garnered significant acclaim in Belgium, France, and Switzerland. The label's triumphs can be attributed to its association with distinguished artists such as Frenetik and Axellence. Subsequently, Robert applied his vast expertise to various endeavors bridging the music industry and the emerging Web3 domain. Presently, he holds the position of artistic director at Wagram Music, a prestigious Parisian label renowned for its affiliation with prominent artists, including Orelsan and Philippe Katerine.

Brehm Alexandre | Lisboa | Video Call | 15 April 2023 | LMI Records
https://www.instagram.com/homiebrehm/
Alexandre is a distinguished videographer in the French music landscape, collaborating with numerous eminent artists and record labels. In 2018 he established his independent label, signing diverse artists and producers. This venture gave Alexandre comprehensive insight into the music industry's inner workings. Leveraging his extensive knowledge, he currently guides emerging artists regarding their professional trajectories.

Feltrin Sam | Bruxelles | Video Call | 01 April 2023 | Power Io & Slide
https://www.instagram.com/smvie/
Initiating his entrepreneurial journey at an early age, Sam established a digital marketing agency in London. Subsequently, he honed his expertise in blockchain technology and created a platform that leverages NFTs to support and fundraise for artists' endeavors. Sam continues to expand his Power Io platform and has ventured into the role of a Web3 consultant.

Gorse Eros | Paris | Video call | 20 April 2023 | Warner Music
linkedin.com/in/eros-gorse-257203136
Eros began his career in the music industry while studying, founding his label to support emerging artists. His talent for identifying promising artists caught the attention of the Believe label, where he worked as a talent scout. After a year with Believe Music, Eros was recruited by Warner Music France, where he signed leading new-generation artists such as "LaFeve" and "BBJacques."

Muller Roman | Bruxelles | Video Call | 02 March 2023 | Ex Universal Music
linkedin.com/in/roman-müller
Roman possesses an unparalleled understanding of record labels, commencing his professional journey as a Brand Partner at Universal Music. Subsequently, he transitioned to Warner Music, contributing to the marketing campaigns of illustrious artists like Coldplay, Stormzy, and Dua Lipa. His experience with major labels proved to be a valuable asset. Driven by his passion for Web3, Roman was pivotal in launching the "Brussels Blockchain Week." Currently, he is dedicated to developing numerous initiatives that amalgamate music and blockchain technology to empower artists.

Parrachia Pedro | Rio de Janeiro | Face to face | 27 March 2023 | Web3 Researcher
https://twitter.com/parrachia?lang=fr
Pedro is a tech researcher and strategist specializing in Web3. Since 2017, he has been immersed in this ecosystem, conducting extensive research on blockchain and its various applications. His expertise has led to invitations as a speaker at esteemed conferences, such as "Ethereum Rio." Through his insights, he has provided a valuable understanding of the potential and limitations of these emerging technologies.Today, he advises and develops projects related to ecosystem regeneration via blockchain.

Pessa | Rio de Janeiro | Face to face | 25 March 2023 | Artist & DJ | Cyberfunk NFTs
https://www.instagram.com/pessa.nha/
Pessa, a versatile artist from Rio de Janeiro, began his career as a tattoo artist before successfully transitioning to digital art and gaining recognition on social media. Subsequently, he became a DJ in a renowned Brazilian collective, with his art and music emphasizing black Brazilian culture. In 2023, Pessa launched an NFT project named Cyberfunk, connecting his artwork to his music.

Pintar Tyler | Miami | Video call | 20 March 2023 | Web3 Advisor | Degen Dao
Telegram @Thisguyty
Since 2017, Tyler Pintar has actively participated in the Web3 ecosystem. He established a company focused on investing in promising Web3 projects and later initiated a DAO (decentralized autonomous organization) to foster the advancement of Web3 technologies within the firm. With his extensive knowledge of these technologies and their potential applications, Pintar currently holds the position of Web3 Advisor for several American investment funds.

Rocha Vinicius | Rio de Janeiro | Face to face | 27 March 2023 | Web3 Experts
@VRSS - twitter / ReRe - Regenerative Resources / RWI Reimagining Wealth initiative
Vinicius Rocha is a prominent figure in the Web3 space. In the 2000s, he founded the Peer-to-Peer Foundation, a technology that laid the groundwork for today's blockchain technology. Subsequently, he joined the team of developers who contributed to the seminal white paper "Bitcoin: A Peer-to-Peer Electronic Cash System," which shaped the foundation of modern Bitcoin. Rocha is a speaker who spearheads projects merging Web3 with environmental initiatives.

YDB | Brussels | Video call | 20 April 2023 | Artist
https://www.instagram.com/yung.dumb.bae/
YDB is a Belgian singer who began his career a few years ago. His unique blend of rap and song enables him to appeal to a diverse audience. He succeeded greatly with his cover of “Baby Mama.” Presently, YDB is signed to an independent label and ranks among the artists performing the most in the Brussels scene.