BRIDGING PAST & FUTURE:

Harnessing NFTs for Audience Engagement and Revenue Growth in Museums

POLITECNICO
MILANO 1863

DIPARTIMENTO DI DESIGN

MSc. IN PRODUCT SERVICE SYSTEM DESIGN
A.Y. 2022/2023 - Matricola 913719

Bridging Past & Future:
Harnessing NFTs as a Storytelling Medium for Audience Engagement and Revenue Growth in Museums

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PHYGITAL

CULTURE

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ARTSY

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LART

CENTRAL

ZATION

WEB3NFT

ACKNOWLEDGEMENT

ABSTRACT (EN)

This thesis investigates the potential of integrating non-fungible tokens (NFTs) as a storytelling medium to enhance audience engagement and revenue generation in museums. Driven by the rapid rise of digital art, NFTs, and the COVID-19 pandemic's impact on cultural institutions, the study aims to bridge the gap between traditional museums and the evolving digital art landscape. Utilising a multi-method research approach, the author explores challenges and opportunities at the intersection of museums and NFTs, examining the role of digital communities and Web3 in driving engagement and supporting the art industry's sustainability and growth. The findings contribute to the development of a comprehensive service design project that enables museums to leverage NFTs and digital collectibility globally, enhancing accessibility, promoting cultural heritage, and creating value for both traditional and digital art ecosystems. The research also identifies areas for future improvement, such as expanding user research, addressing sustainability concerns, and assessing the long-term impact of NFTs on museums, paving the way for a more inclusive and innovative art world.

KEYWORDS

ABSTRACT (IT)

Questa tesi esamina il potenziale di integrare i token non fungibili (NFT) come mezzo di narrazione per migliorare il coinvolgimento del pubblico e la generazione di entrate nei musei. Spinta dalla rapida crescita dell'arte digitale, degli NFT e dall'impatto della pandemia di COVID-19 sulle istituzioni culturali, lo studio mira a colmare il divario tra i musei tradizionali e il panorama dell'arte digitale in evoluzione. Utilizzando un approccio di ricerca multi-metodo, l'autore esplora le sfide e le opportunità all'intersezione tra musei e NFT, esaminando il ruolo delle comunità digitali e del Web3 nel promuovere il coinvolgimento e sostenere la sostenibilità e la crescita dell'industria dell'arte. I risultati contribuiscono allo sviluppo di un progetto di service design completo che consente ai musei di sfruttare gli NFT e la collezionabilità digitale a livello globale, migliorando l'accessibilità, promuovendo il patrimonio culturale e creando valore sia per gli ecosistemi dell'arte tradizionale che digitale. La ricerca identifica anche aree per miglioramenti futuri, come l'ampliamento della ricerca sull'utente, affrontando le preoccupazioni sulla sostenibilità e valutando l'impatto a lungo termine degli NFT sui musei, aprendo la strada a un mondo dell'arte più inclusivo e innovativo.

PAROLE CHIAVE

Gettoni non fungibili - Musei - Arte digitale - Tecnologia blockchain - Patrimonio culturale - Design dei servizi - Coinvolgimento del pubblico - Generazione di entrate

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1.

INTRODUCTION

1.1 BACKGROUND / OVERVIEW

The rapid ascent of digital art and non-fungible tokens (NFTs) has revolutionised the art world, changing how works of art are produced, traded, and experienced. The COVID-19 pandemic had a significant effect on museums and other cultural institutions, highlighting the necessity of adaptation and digital engagement. As traditional art audiences embrace digital ecosystems, museums must adopt innovative strategies to remain competitive and capitalise on opportunities presented by digital art and NFTs. This shift, exacerbated by the pandemic, emphasises the importance of new avenues for museums to connect with audiences, generate revenue, and contribute to the sustainability and growth of the art industry.

This thesis investigates the potential of NFT-driven practises in assisting museums around the world in increasing audience engagement and revenue. It looks into how museums can use NFTs, digital collectibility, and vibrant digital communities to improve accessibility, promote cultural heritage, and contribute to the sustainability and growth of the art industry.

Motivated by the growing prominence of digital art and the need to adapt to a rapidly changing cultural landscape, the author conducted a thorough review of existing literature, case studies, and user research. The thesis employs a multi-method research approach, including expert interviews, surveys, and in-depth analysis, to investigate the challenges and opportunities at the intersection of museums and NFTs and to develop strategies for collaboration and innovation between these two spheres.

The culmination of the thesis is the creation of CultureChain, a comprehensive service system design that integrates NFT technology and digital art ecosystems with existing museum infrastructures and practises. CultureChain aims to facilitate seamless collaboration among museums, NFT artists, collectors, and digital art communities, ensuring that all stakeholders benefit from the opportunities created by this new era in the art world.

In addition to investigating the technical and logistical aspects of implementing NFT-driven solutions, the thesis delves into the broader cultural implications and potential synergies between traditional and digital art spaces. It examines the motivations and behaviours of digital art enthusiasts, as well as the expectations and needs of museum professionals, providing valuable insights into the key factors that drive engagement and foster a thriving art ecosystem.

Furthermore, the study acknowledges the global nature of the digital art landscape, considering the diverse and decentralised nature of technology and communities beyond national borders. As such, the proposed service system, CultureChain, is designed with a global target audience in mind, ensuring its applicability across a wide range of cultural contexts and institutions.

Ultimately, this thesis serves as a timely and relevant exploration of the transformative potential of NFTs and digital art in redefining the way museums engage with their audiences, generate revenue, and contribute to the sustainability and growth of the art industry. By providing a roadmap for the successful integration of NFT technology and digital art ecosystems within the museum context, the research aims to foster innovation, collaboration, and cultural enrichment in the face of an ever-changing global landscape.

1.2 RESEARCH QUESTIONS

1. What are the main challenges faced by museums in terms of audience engagement and revenue generation, and how have these challenges been exacerbated by the pandemic and digital transformation?

2. How can NFTs and digital collectibility be used to promote accessibility, cultural heritage, and audience engagement in museums?

3. What role do digital creators, collectors, and Web3 communities play in driving attention to NFT marketplaces, and how can museums leverage this role to increase audience engagement and revenue?

4. How can a collaborative service be designed to bridge the gap between traditional and digital art ecosystems, ensuring global accessibility and promoting cultural heritage, while increasing audience engagement and revenue for museums?

1.3 THESIS OBJECTIVES

1. The Aftermath of Covid and Digital Transformation in Museums

Outline the global challenges and trends museums face, particularly after the COVID-19 pandemic and the rise of digital transformation. Understand the implications of these challenges on audience engagement and revenue generation, and how they threaten the future sustainability of museums.

2. Blockchain Technology in the Digital Art Industry

Lay out the opportunities and applications of NFT technology as a tool for museums to engage new and existing audiences and increase their revenue. Analyse best practices, trends, and potential synergies between museums and the NFT ecosystem.

3. Learning from Experts and Target Audiences

Explore the perspectives of experts in the museum sector and the NFT world, as well as the motivations and preferences of digital collectors, creators, and art enthusiasts. Propose strategies for connecting NFTs with museums in a valuable way that addresses the challenges and negative reputation of NFTs in the traditional art ecosystem.

4. Developing a Feasible and Culturally Impactful Service System Design

Create a comprehensive service design project that supports museums through an NFT-driven platform for audience engagement and additional revenue. Design the platform in a way that contributes to the growth of the art industry in a sustainable and culturally enriching manner.

2.

MUSEUMS IN TIMES OF CHANGE

2.1 MUSEUMS: SUMMARY AND IMPORTANCE

Falk and Dierking (2000) say that museums are important cultural institutions because they preserve and share our cultural heritage, encourage education and learning, and contribute to the social, economic, and political life of our communities. They provide unique collections of artefacts and works of art that inspire and educate visitors and facilitate research, study, and academic collaboration. Additionally, they boost local economies by attracting tourists and providing employment opportunities. Because of their potential to promote a sense of shared identity and collective memory, museums are essential for societies to continue to thrive in the future.

2.2 GROWING COMPLEXITY

The International Council of Museums (ICOM) has recently redefined museums; it is important to note that each new definition highlights the increasing complexity of museums and their expanding role in society. ICOM (2022) says that museums are permanent, non-profit institutions that collect, preserve, research, share, show, and explain the tangible and intangible heritage of humanity and its environment in order to teach, learn, enjoy, and think critically. As museums continue to change and take on new roles and responsibilities, it is important for them to adapt to the changing needs and expectations of society and promote equality, diversity, and access for everyone. By doing so, museums can continue to serve as important resources for communities and contribute to our society's social, economic, and cultural development.

2.3 DIGITAL TRANSFORMATION & TRENDS

Starting around the 1990s, digital transformation slowly became a leading trend in museums and has settled on their agendas as a result of the increasing digitalisation of society in all fields of life. Museums have had to adapt to new ways of engaging with visitors and promoting their collections in the digital world (Richardson, 2021). This cultural sector has embraced digital strategies to improve access and engagement with its audiences, such as creating online collections and virtual exhibitions, using social media and other digital platforms, and creating interactive exhibits (Tim, Pan, & Ouyang, 2018). Even though a lot of progress was made, museums also had trouble with limited resources, staffing, and the need to keep improving and making things more accessible. There remained a need for museums to continue to experiment with and explore new technologies and platforms while ensuring that these aligned with their overall mission and values (Özdil, 2020). While digital transformation provided new opportunities for museums to expand their reach and impact, the room for growth expanded simultaneously. It compelled the institutions to investigate and develop strategies in this area. Ongoing research and evaluation were crucial for advancing this field. Collaboration with other cultural institutions, partners, and stakeholders is an additional crucial component of successful digital strategies for museums. Museums can help the cultural sector as a whole by joining forces and sharing resources, knowledge, and creative ideas. Such partnerships can lead to more effective and long-lasting digital projects that can help museums stay connected and relevant in a world that is becoming more and more digital.

	Traditional Museums	**Museums in Digital Age**
Governance system	Focus on exclusivity, authority and resource consolidation (Lampel et al. 2000)	Advocate for openness, interactions and co-creation (Kidd 2011)
Competitive-ness	Focus on possession of resources, expertise and professionalism (Lampel et al. 2000)	Advocate for visitor engagement and market influence
Use of technologies	Focus on enabling the curation of objects (e.g., database to store digitized records)	Advocate for empowerement in the curation of experiences (e.g., VR technologies to create immersive experience)

Digital Transformation of Museums, Source: (Tim, Pan & Ouyang, 2018)

2.4 THE AFTERMATH OF THE PANDEMIC

The COVID-19 pandemic has had a profound impact on nearly every aspect of daily life, disrupting established routines and prompting people to seek out new ways of navigating their world (Pourmoradian et al., 2021). In response to the pandemic, consumer behaviour has shifted dramatically, with many people turning to online platforms to shop, connect with others, and access information and entertainment. In this way, the pandemic has also changed how people see art and what they expect from cultural institutions. Museums faced a predicament where they operated in a society characterised by unpredictable developments and changing dynamics (Özdil, 2020). That factor applied because many people had to adjust to digital systems that did not contravene the social distancing procedures instituted by national and local governments. The pandemic has significantly affected the financial health of many museums. There was a significant loss of income from ticket sales, events, and gift shops as these establishments were threatened with closure as social distancing measures and lockdowns were put into place. The decline in visitors also hurt businesses like cafes and restaurants located inside or close to museums. As a result, many museums had to reduce staff, either through layoffs or furloughs, and cut budgets for exhibitions, educational programmes, and maintenance. In some cases, museums were forced to sell parts of their collections or even permanently close their doors. According to Özdil (2020), the growing uncertainty in the market concerning museums and the impact digital transformation has had on that industry has caused many people to consider the industry obsolete. Conjointly, COVID-19 compelled traditional audiences to discover and develop new habits in digital ecosystems. Pourmoradian et al. (2021) say that new steps need to be taken to make sure that players in the museum sector adapt to the new dynamics and adopt digital frameworks to become more competitive in the art market. Also, the UNESCO (2020) report says that there is a high chance that the number of contributors and sponsors will drop by a lot, and international tourism may drop by a lot in the next few years because of the COVID-19 crisis's effects on the economy. Based on this finding, the museum's business plan and strategy (Larkin & Burtenshaw, 2021) should include ways to bring in more money. Last but not least, COVID-19 emphasised the significance of audience accessibility, calling for the development of channels beyond physical locations and inclusive engagement strategies.

2.5 STRATEGY TREND & FOCUS MEDIUM

As noted above, the museum sector is currently facing several challenges. While the rise of digital transformation in recent years has enabled some museums to respond quickly to the COVID-19 crisis through swift digitalisation, these technologies continue to evolve, and sustainable digital strategies are needed to ensure long-term success (Pourmoradian et al., 2021). Also, the growing number of people who want to see art and collections online is putting pressure on museums to make their content and collections available all over the world. The traditional approach of focusing on local and touristic visitors is no longer enough, and museums must pay attention to the behaviours and motivations of art enthusiasts in the digital space. While uncertainties may arise as technology continues to develop, it is important for museums to view these changes as opportunities to engage with organically evolving audiences (Özdil, 2020). Valeonti et al. (2021) say that the focus is on re-engaging audiences and finding new ways to make money using promising digital tools and strategies built around them. On top of that, a well-balanced digital strategy emerges from the meeting point of the institution's needs and the audience rather than the technology. As Özdil (2020) states, for museums to succeed in the digital world, leaders and strategists must focus on the institution's purpose, their in-house know-how, and the needs of their audience. It's not enough to go digital because you have to; a digital strategy must be driven by the meaningful engagement that serves the institution's purpose and meets the needs of its audience. Museums should stay true to their mission and cultural heritage while also changing to meet the needs of the modern digital audience. By searching for meaning and actively engaging with their audiences, museums can successfully navigate the uncertain times ahead (Özdil, 2020).

After analysing the focus pain points of the museum sector and exploring various digital tools, the author discovers a rise in the use of non-fungible tokens (NFTs) that is shaking up the art industry. (Valeonti et al., 2021) Museums can't ignore the fact that NFTs have the potential to bring in money and get people involved. Since NFTs already dominate the digital art ecosystem, museums should welcome and incorporate them as a new component. (Ciecko et al., 2021) In the world of NFTs, there is a growing community of tech experts, digital collectors, creators, and curators that museums can reach out to and connect with. Museums can establish a strong online presence through the use of NFTs, allowing them to connect with a new and enthusiastic audience (Resch, 2022). The potential of NFTs for museums goes beyond revenue generation. NFTs can also serve as a bridge between traditional and digital art and enable museums to reach a wider and more diverse audience. The use of NFTs in the art world has already begun to impact how art is collected, exhibited, and traded (Ciecko, 2021). NFTs offer a new way to certify digital art's authenticity, ownership, and provenance, creating a more secure and transparent ecosystem (Valeonti et al., 2021). Several museums have already recognised the potential of NFTs and begun exploring their use. For instance, the British Museum has entered the NFT market by selling digital reproductions of its artefacts, while the Uffizi Gallery in Florence has sold NFTs of some of its most famous paintings. These examples demonstrate the growing interest of museums in embracing NFTs as a tool for audience engagement and revenue generation. In the next part of this literature review, the author will look at how museums are currently using NFTs to create new revenue streams and engage with audiences in new ways. The author will also present a number of case studies, best practices, and potential challenges and limitations of NFTs in the museum context. By understanding where NFTs are now and where they could be in the future, museums can use this technology to keep up with the changing art world and stay relevant and sustainable.

2.6 SUMMARY / TAKEAWAYS

Museums are very important to society because they keep and share cultural heritage, encourage education, and help with the social, economic, and political lives of communities. The rise of digital transformation and the effects of COVID-19 have presented museums with both challenges and opportunities as they attempt to diversify their revenue streams and meet the evolving needs and expectations of their audiences without compromising their mission or that mission's integrity. Non-fungible tokens (NFTs) could be a way for museums to connect with a growing community of tech experts, digital collectors, creators, and curators.

- Museums play an important cultural role and must adapt to new roles and responsibilities, such as the use of digital tools and the exploration of new technologies, to ensure equality, diversity, and access for all.

- The pandemic has had a dramatic effect on museums and the art world, hastening the shift towards digitalisation and altering the ways in which audiences engage with and experience artwork.

- The museum industry desperately needs to do a better job of attracting an audience and generating income.

- Non-fungible tokens (NFTs) give museums a unique chance to attract and interact with a growing community of tech experts, digital collectors, creators, and curators in the digital world.

- NFTs, give museums a chance to come up with new and creative ways to engage audiences, bring in more visitors, and make more money.

- Museums must make sure that their use of NFTs and other digital strategies fits with their values and mission. Creating an authentic digital experience that is true to the museum's identity and caters to the needs of its audiences requires the development of a unique narrative and strategy.

- To successfully implement digital strategies, including the use of NFTs, museums must invest in digital infrastructure, staff training, and resources. Museums can better engage with visitors and adapt to a shifting art world if they invest in the technical capabilities and expertise to do so.

3.

**NFTS: GAME CHANGER
IN ART INDUSTRY**

3.1 THE TECHNOLOGY & MAIN ACTORS

Blockchain

Non-fungible tokens (NFTs) have taken the art world by storm, with some pieces selling for millions of dollars (Thaddeus-Johns, 2021). To understand the concept of NFTs, it is first essential to understand the underlying technology they are built on: blockchain. At its core, blockchain is a decentralised digital ledger that records transactions transparently and securely. Each block in the chain contains a unique cryptographic code that links it to the previous block, forming an unbreakable chain of information (Hayes, 2022). The benefits of blockchain technology include increased security, transparency, and accountability, and its use allows for a decentralised market, providing accessibility to a broader audience (InLea, 2021). This technology is becoming more popular in many fields, such as real estate, finance, and supply chain management (Hayes, 2022). However, the use of blockchain in the art world has been incredibly impactful, as it has introduced a new level of transparency and provenance to the industry (Valeonti et al., 2021).

Non-fungible tokens (Digital Collectibles)

As explained by Valeonti et al. (2021), NFTs are distinct cryptocurrency tokens that use blockchain technology and enable users to purchase various digital assets, including artistic works, gaming items, sports memorabilia, and virtual goods, without physically visiting a location or interacting with a centralised authority. These tokens are unique digital assets stored on a blockchain and represent ownership of an item or piece of content. Unlike regular cryptocurrency tokens, which are interchangeable, NFTs are distinct and have a specific value based on their uniqueness. During the COVID-19 pandemic, the importance of digital collectibles was recognised because many museums experienced a drop in visitor numbers due to social distancing procedures, but the digital framework enabled them to continue operations remotely by using NFTs (Ante, 2022). The popularity of NFTs skyrocketed when the digital artist Beeple sold a single artwork for $69 million at a Christie's auction in March 2021 (Ciecko, 2021). This sale put NFTs on the map and sparked a new wave of interest in the technology. NFTs have since been used to sell various digital assets, including music, video, and even tweets (Hayes, 2022). Gold (2021) states that the technology behind NFTs can help revolutionise the art market by providing proof of ownership and authenticity while allowing for greater revenue generation opportunities.

Unique
metadata describes what makes this asset different from all the rest

Rare
developers have the power to limit the number of rare, desirable items in existence

Indivisible
NFTs cannot be split into smaller denominations

Ownership
blockchain technology helps to prove your ownership

Transferable
NFTs can be freely traded on specific markets

Authentic
the biggest benefit: fraud prevention

The Nature of NFTs, Source: (InLea, 2021)

Web3

Learning about Web3 and its significance in the art world is the next logical step after becoming familiar with NFTs and the technology that powers them. It's important to know how Web3 fits into the history of the internet before discussing it. Web1, the early version of the internet, was made up of websites that didn't change and didn't let users do much. Web2 grew to include user-created content, social media platforms, and dynamic content. Now, Web3 aims to create a decentralised web using blockchain technology, allowing users to have more control over their data and digital identity. In particular, Web3 applications can help artists, curators, and audiences work together online, which can lead to new ways of expressing creativity and interacting (Gryn, 2021). Gryn says that Internet users will be able to create and sell their own value on the global network thanks to Web3 and digital currencies in particular. Web3, the next iteration of the internet, aims to create a decentralised web using blockchain technology. "Web3 is not only a technology but a cultural movement," says crypto and blockchain expert Marc Baumann. It lets people do transactions and talk to each other without going through middlemen. This gives people more control over their data and digital identities. Web3 applications are built on decentralised platforms and use cryptocurrencies and tokens as a means of exchange (WAC Lab, 2021). The ultimate goal of Web3 is to make the Internet more open, transparent, and safe. Web3's potential for the art industry lies in the chances it gives to build communities, reach new audiences, and get people more involved (Gold, 2021).

As the crypto-native audience and the traditional art world mix more and more, museums have a chance to connect with a younger audience and build relationships that will last. Web3 tools can foster projects that are more open, interesting, and creative and that serve both new and old audiences. Also, the idea of a permanent digital identity through NFTs can help museums build lasting relationships and communities around their work (WAC Lab, 2021).
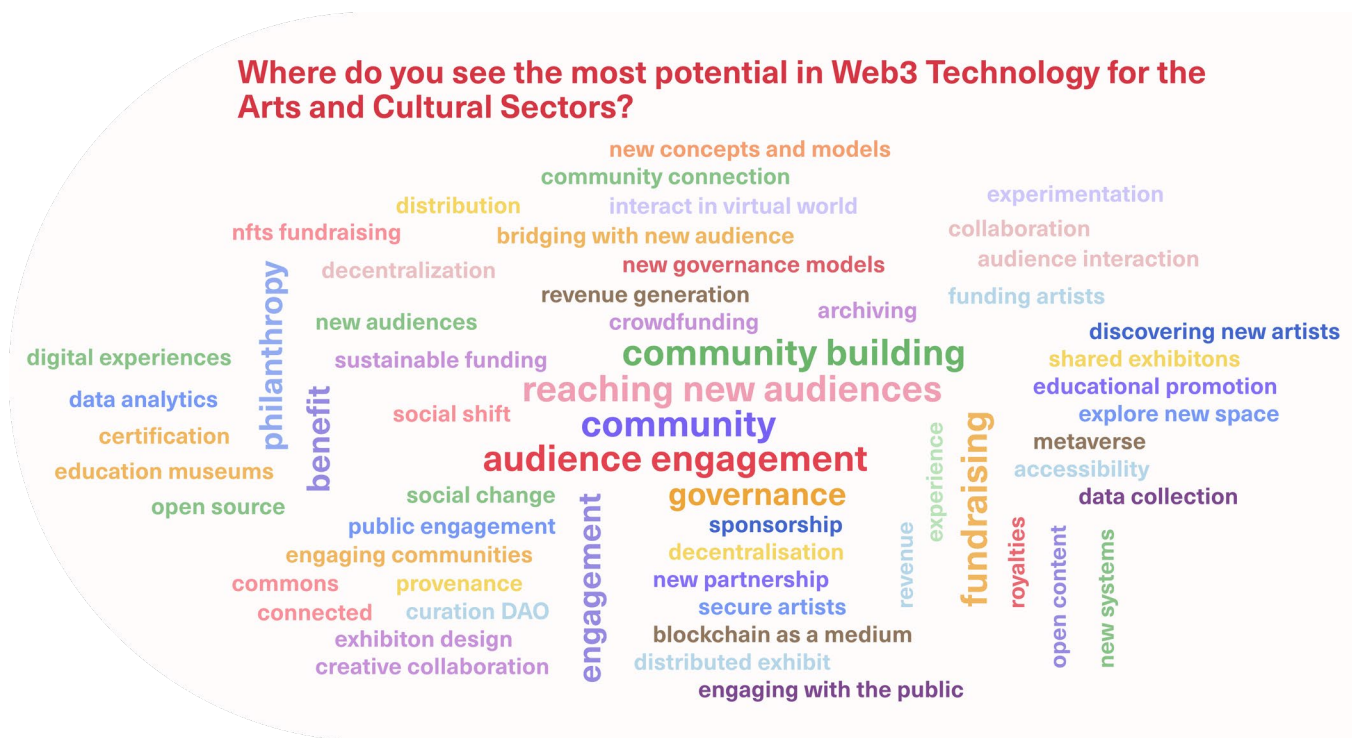
The question that was raised to the group of curators, creators, and strategists from all over the arts and culture sector and their answers, Source: (WAC Lab., 2021)

Decentralised Autonomous Organisations (DAOs)

DAOs, or Decentralised Autonomous Organisations, are digital organisations that operate through smart contracts on a blockchain. These organisations are run by their members, who hold tokens representing ownership and decision-making power (WAC Lab, 2021). DAOs are valuable due to their potential to revolutionise the art industry by fostering decentralisation, democratisation, community engagement, and innovative funding models. DAOs can help museums, artists, and audiences connect more deeply with one another, generate new revenue, and forge new partnerships through the use of blockchain technology and Web3 applications. One example of a DAO in the art world is FlamingoDAO, which is focused on collecting and curating digital art and NFTs (Flamingo DAO, 2021). Additionally, DAOs can pave the way for the establishment of community-owned museums, wherein members make decisions on acquisitions and exhibitions collectively, thereby promoting a more democratic and open decision-making process. If DAOs make the art market more accountable and open, it could lead to more fair and equal transactions (Gold, 2021). Because of this, DAOs are an integral part of the digital ecosystem that includes NFTs and their revolutionary effect on the art world. Some of the problems plaguing the conventional art market might be alleviated if artists and collectors had a more open and decentralised place to conduct business with one another through Web3. (WAC Lab, 2021).

Key Players

Several key players exist in the NFT and Web3 world, including minters, creators, curators, sellers, and collectors (Valeonti et al., 2021). Minters are individuals or entities that create NFTs, while creators are the artists or designers who create digital assets that are turned into NFTs. Sellers can include anyone from individual collectors to galleries and even museums. Finally, collectors are individuals who purchase and own NFTs. In addition to these actors, platforms and marketplaces (such as OpenSea, Rarible, or Foundation) play a significant role in facilitating NFT transactions, connecting creators and collectors in a decentralised environment. These platforms make it possible to list, browse, buy, and sell NFTs. They give artists a place to show off their work and help collectors find and buy unique digital assets. These actors and their motivations play a significant role in shaping this digital ecosystem, which differs from the traditional art world as it allows for a more decentralised and transparent market. While galleries and auction houses play an important role in traditional art market transactions, the NFT market facilitates more direct interactions between artists and collectors. The use of Web3 tools and blockchain technology opens up new avenues for making money and connecting with an audience, which in turn affects how artwork is traded and experienced (Gold, 2021).

3.2 DIGITAL COLLECTIBLES IN THE ART INDUSTRY

Non-fungible tokens (NFTs) have emerged as a game changer in the art industry, offering numerous advantages and potential challenges for both traditional institutions and digital art platforms (Resch, 2022). Initially, NFTs attracted significant hype, as is common with new and popular technologies; now that the initial frenzy has subsided, it's the right time to analyse and experiment with the real advantages that NFTs offer (Gold, 2021). As discussed in previous sections, NFTs use blockchain technology to provide transparency, decentralisation, and security, while Web3 tools foster community building and engagement, creating a new dynamic in the art world.

Benefits

NFTs offer several benefits to the art industry, such as ensuring the authenticity of digital art pieces, providing a transparent record of provenance, enabling decentralised decision-making processes, and allowing artists to receive royalties from secondary sales of their work (Hallak, 2021). Additionally, NFTs allow for increased accessibility and democratisation of art, as digital communities and DAOs can participate in the acquisition and curation of artworks (WAC Lab, 2021). Furthermore, NFTs can help artists reach broader audiences and generate new revenue streams as digital art becomes more accessible to a wider range of collectors and enthusiasts (Resch, 2022). Traceability also adds value to NFTs because it's easy to find out about each piece's history and who owned it before. This gives the artwork a richer story and background.

Challenges

However, the adoption of NFTs also presents challenges and risks for the art industry. The need for education and training is one of the primary obstacles, as art institutions and their staff must become familiar with the new technology and its implications (Resch, 2022). One barrier to NFTs being adopted by a wider audience is the general public's lack of knowledge about the technologies' capabilities and advantages (WAC Lab, 2022). Environmental concerns, security risks, and the costs associated with the use of blockchain technology also pose challenges for the art industry as it explores the world of NFTs (Resch, 2022). This experimental phase can lead to unexpected consequences and uncertainties (Gryn, 2021), which is further highlighted by the lack of well-established regulations in this rapidly expanding and novel field.

Adoption and Hype Cycle

It is essential to recognise that every new technology faces initial scepticism and resistance, as illustrated by the digital technology adoption curve, which highlights the different stages of adoption from innovators to laggards (Rogers, 2003). This was the case with the advent of photography, which was initially perceived as a threat to traditional art forms (Teicher, 2016). Over time, photography became an integral part of the art world as its value and potential were recognised and explored, moving through the adoption curve and gaining acceptance by the majority. For instance, photography revolutionised the way we document and perceive art, giving birth to entirely new genres of artistic expression (Teicher, 2016). NFTs and similar technologies could go through a similar period of doubt and experimentation before they move up the adoption curve and are fully used in the creative sector.
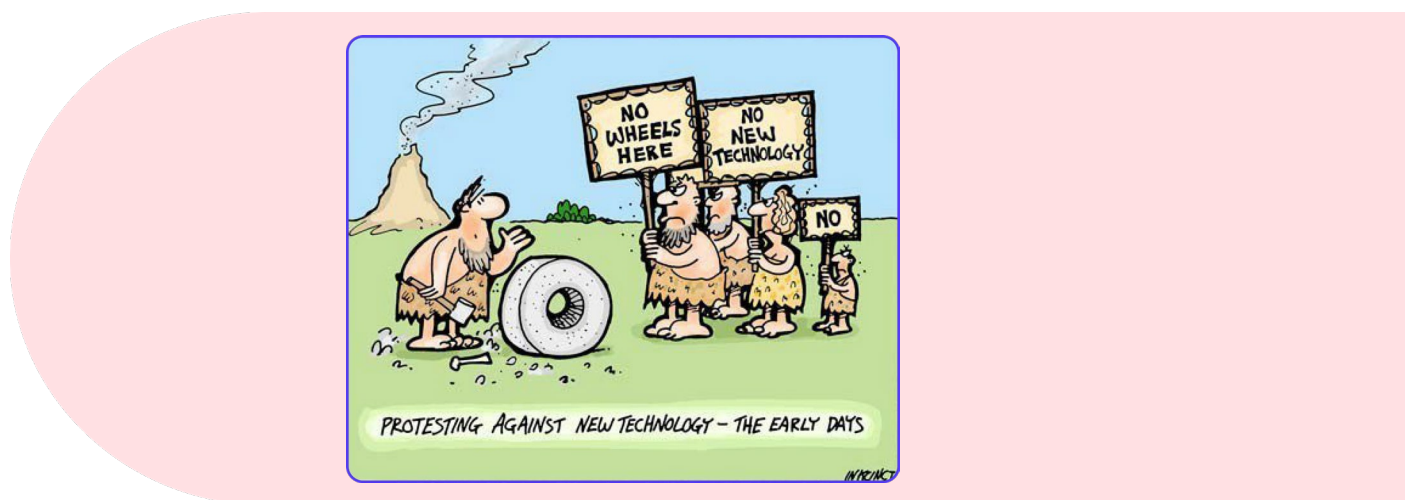
Protesting Against New Technology, Source: (INKCINCT cartoons)
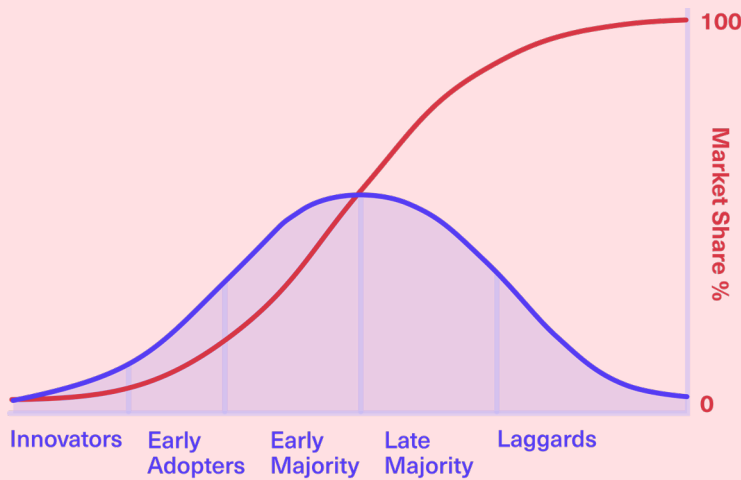
The diffusion of innovations, Source: (Rogers, 2003)

The Gartner Hype Cycle is another important framework layer to consider when examining the adoption of NFTs in the art industry. This model describes the typical progression of new technology through five distinct phases: the Innovation Trigger, the Peak of Inflated Expectations, the Trough of Disillusionment, the Slope of Enlightenment, and the Plateau of Productivity (Perri, 2022). When NFTs were first introduced to the art world, there was a lot of excitement and buzz about them (Innovation Trigger) (Gold, 2021). Following this, there was a period when people overestimated the value and potential of NFTs (Peak of Inflated Expectations) (S, 2021). The art world may be in the Trough of Disillusionment right now, which is when the limitations and problems of NFTs become clear, leading to scepticism and doubt (Gold, 2021).

However, as the technology matures and stakeholders better understand its potential and limitations, the art world could enter the Slope of Enlightenment, where practical use cases and benefits are explored, and the technology starts to be integrated into the industry (Yan & Kelly, 2022). Eventually, NFTs may reach the Plateau of Productivity, where they become an established and accepted part of the art ecosystem, contributing value and innovation to the sector. In light of the Gartner Hype Cycle, it is essential to recognise that the current uncertainties and challenges surrounding NFTs are a natural part of the technology's evolution. As the art world gains more experience with NFTs, it is likely that the technology will find its place within the industry and play a significant role in shaping its future.
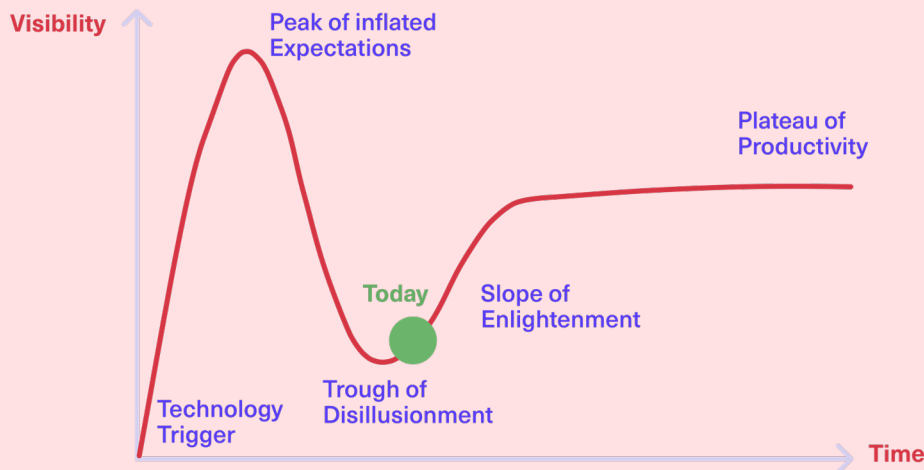
Gartner's Hype Cycle on NFTs, Source: (Yan & Kelly, 2022)

Furthermore, it is important to note that some of the challenges and risks associated with NFTs are not exclusive to this new technology. Traditional art institutions face their own set of challenges, such as issues surrounding ownership, authenticity, and the provenance of artworks (Ciecko et al., 2021). Thus, the potential risks of NFTs should be considered within the broader context of challenges common to the art world.

As the study continues to look into NFTs in the art industry, it is important to look at the role that marketplaces and platforms play in making NFT transactions possible and in figuring out the value of these digital assets. In the next chapter, the author explores the current market landscape, analysing the strengths and weaknesses of various NFT platforms and how they contribute to the overall impact of NFTs on the art world. This analysis enables to identify potential areas for improvement and uncover the missing pieces in the puzzle of NFTs and their place in the future of the art industry.

3.3 OVERVIEW OF NFT MARKETPLACES

NFT marketplaces serve as platforms for trading and showcasing various types of non-fungible tokens, including digital art, collectibles, and virtual goods. In the art industry, these marketplaces play a crucial role in facilitating transactions and connecting artists, collectors, and enthusiasts. They offer a range of experiences to users, from widespread platforms to more curated and focused marketplaces. A typical user journey involves creating an account, connecting a digital wallet, and browsing the available digital art pieces. Users can bid on or buy artworks at fixed prices, with transactions secured by blockchain technology. This digital and decentralised approach stands in contrast to the traditional art market experience, where visitors physically engage with artworks. Prominent NFT marketplaces include OpenSea, Rarible, SuperRare, Foundation, and Nifty Gateway, while Twitter has also emerged as a significant force in the NFT space, with its community-driven approach fostering the growth and adoption of art NFTs. In the following sections, the author presents the different kinds of NFT marketplaces, their pros and cons, and things to consider when choosing one.

Widespread Marketplaces

These platforms offer a wide range of digital assets, including art, but often lack curation and focus on specific niches (The Ascent Staff, 2023). While they might be the most popular and trustworthy, their vast offerings can make it challenging for users to navigate and discover quality art NFTs. The main examples are OpenSea and Rarible.

● OpenSea

OpenSea is the largest NFT marketplace, hosting a variety of digital assets such as art, collectibles, and virtual goods. Its positive characteristics include trustworthiness, being the first and biggest marketplace, and offering the widest range of digital assets (The Ascent Staff, 2023). However, OpenSea's e-commerce-like approach can make it feel like an overwhelming "sea" where it's easy to get lost. The lack of curation, minimal contextual foundation, and difficult navigation can cause worthy artists to be overshadowed by more popular ones. OpenSea is often associated with investing or making money rather than owning unique art pieces, and its reputation is more connected to the cryptocurrency world than the art world (Valeonti et al., 2021).

Art-Centric / Curated Marketplaces

These platforms concentrate on the art segment and often have a more curated selection. However, their smaller size and specific focus can limit their reach and may not always provide the necessary exposure for artists. SuperRare, Foundation, and Nifty Gateway are examples of such.

● Foundation App

Foundation is a curated marketplace for digital art, aiming to bridge the gap between traditional art and NFTs. Unlike OpenSea, Foundation offers a more focused experience with its recent launch of curation features (The Ascent Staff, 2023). However, its limited size and reach may restrict its ability to support artists compared to larger, more generalist platforms.

Social Media Adoption

Social media platforms are also venturing into NFT marketplaces, increasing the potential audience for digital art. However, the commercialisation of art NFTs on these platforms might diminish their perceived value and cultural significance. Twitter, although not a formal NFT marketplace, has become a vital platform for promoting NFTs, artists, and connecting with collectors, showcasing the power of community-driven promotion (Gold et al., 2022).

● Instagram NFT marketplace

Instagram is working on digital collectibles feature to showcase NFTs on its platform (Meta, 2022). While this will provide artists with greater visibility and reach, the commercialization of art on social media could potentially dilute the cultural significance and value of art NFTs.
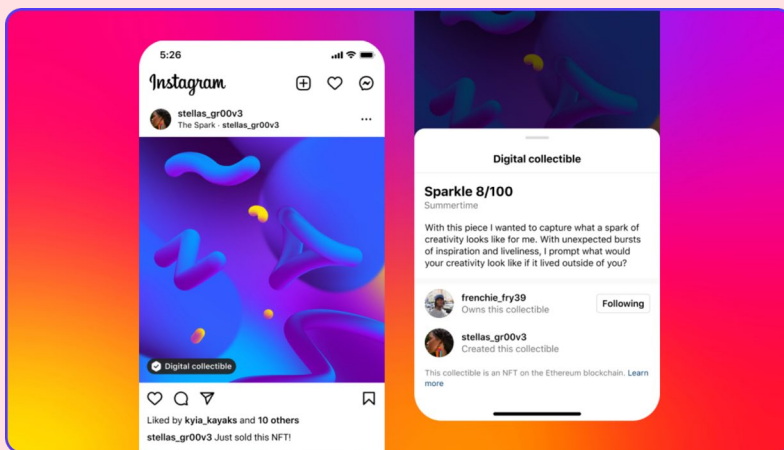
Source: Meta (2022)

Mass Adoption

The entry of major players like Amazon into the NFT space could lead to increased visibility for digital art but might threaten the authenticity and transparency that make NFTs valuable in the first place.

● Amazon NFT marketplace

Amazon's upcoming NFT marketplace is controversial due to concerns about the company's history with counterfeit and fake products. While Amazon could bring increased visibility and adoption to the NFT market, its track record raises questions about its ability to maintain the integrity of an NFT marketplace. If Amazon fails to prioritise identity verification and authentication of NFTs on its platform, it may undermine trust in the industry and become an obstacle to mass adoption.

Source: Poster Grind (2023)

3.4 THE ROLE OF DIGITAL ART COLLECTORS

Understanding the behaviour and motives of digital art collectors is crucial for museums and the art industry, as it helps them adapt to the changing landscape, cater to new audiences, and develop innovative strategies to remain relevant. The ArtTech report, based on a survey with 306 respondents, provides valuable insights into these collectors, who differ from general NFT collectors (Gold et al., 2022). Art NFT collectors are mainly motivated by appreciating the art piece, connecting with the artist, and the story behind it, reflecting traditional art collecting habits. By understanding the insights derived from the ArtTech report, museums and the art industry can develop strategies and digital initiatives that cater to the preferences of art NFT collectors. Recognising collectors' expectations can help museums create innovative models, such as DAOs, that involve the collectors in decision-making processes (WAC Lab, 2021). Art NFT collectors have the potential to drive engagement, revenue, and traffic to museums, making them valuable contributors to the art world. Their influence can promote the adoption of new technologies, expand the reach of museums and artists, and reshape the way art is consumed and appreciated.

Key Insights from the ArtTech report on art NFT collectors (Gold et al., 2022):

The importance of a strong artistic and foundational context:
Art NFT collectors value a robust artistic and foundational context, as it adds significance to their collection and helps them better understand the art piece.

The desire for curation and association with the art world:
Art NFT collectors appreciate curation and association with the traditional art world, seeking a connection between their digital and physical art experiences.

The motivation for digital ownership:
Collectors are driven by the concept of digital ownership, which allows them to possess unique art pieces in the digital realm.

The sense of community among collectors:
A sense of community is an important motivating factor for art NFT collectors, as it fosters emotional connections and collective self-expression among collectors and artists.

The public nature of collecting and sharing art NFTs:
Unlike traditional art collecting, which often occurs in private, art NFT collecting is more public, with collectors sharing and enjoying their collections on social media or in the metaverse.

Collectors' desire for phygital display options:
Collectors have a strong desire to showcase their art NFTs in real life. They seek both digital and physical display options, and over one-third would buy more if they had better ways to exhibit their art NFTs at home. This highlights the potential for museums and the art industry to engage collectors through "phygital" touchpoints.

Collector starts buying when:
57%
Curated exhibitions
46%
Targeted curation and selection
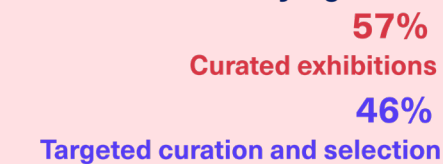
Collector buys more when:
65%
High profile exhibitions
56%
Curated selection

Collector values:
93%
Strong artistic concept
90%
Art appreciation
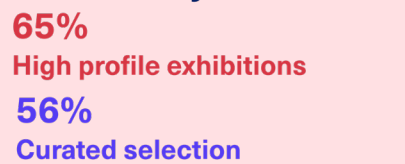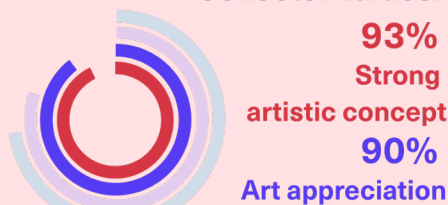
Collectors switching worlds in both directions:
85%
Collects traditional art
Collects NFTs

Community matters:
represents an important 60% motivation to collect art NFTs

Art NFTs are here to stay:
68% Growth recognition
76% Interested to buy same or more

ArtTech report on art NFT collectors, Source: (Gold et al., 2022)

3.5 SUMMARY / TAKEAWAYS

In summary, the integration of NFT technology into the art industry has created new opportunities and challenges, transforming the way art is created, bought, and experienced. NFTs offer numerous advantages, such as providing a transparent record of provenance and enabling artists to receive royalties from secondary sales. However, challenges such as environmental concerns and security risks persist. As the hype around NFTs subsides, it is an ideal time to explore valuable and lasting solutions. Various NFT marketplaces and platforms emerge while understanding digital art collectors' motivations becomes crucial for museums and the art industry to adapt and innovate. The rise of Web3 communities plays a significant role in shaping the NFT landscape, influencing its development and adoption. By fostering collaboration between NFTs, museums, and these communities and leveraging insights on collectors, the art ecosystem can evolve in a more engaging and sustainable manner during this crucial phase of NFT evolution.

- NFTs offer significant potential for museums in terms of audience engagement and additional revenue generation by enabling a transparent record of provenance, fostering direct connections with artists and collectors, and providing new digital experiences.

- The NFT hype has led to art enthusiasts converging on online platforms to create digital identities and communities, making it crucial for museums and art institutions to integrate this dynamic into their strategies for future growth and audience engagement.

- NFTs can overcome the perception of being trade objects or dominated by finance by fostering meaningful engagement with museums, thus highlighting their cultural and artistic value.

- The communities surrounding NFT technology, including artists, collectors, and curators, possess vital insights for structuring collaboration and strategy, serving as valuable resources for understanding potential engagement and motives.

- Digital art collectors play an essential role in the adoption of NFTs by museums, as they can support and participate in the creation and distribution of NFTs, driving engagement and contributing to a more diverse and inclusive art ecosystem.

- NFTs not only unlock new creative possibilities for artists but also enhance the engagement level between creators and collectors, fostering stronger connections and a more vibrant art community.

- As NFTs enter the slope of enlightenment in the hype cycle, it is an opportune time for museums and art institutions to explore valuable and lasting solutions that leverage the technology for a more sustainable and engaging art world.

4.

CASE STUDIES

This chapter presents a selection of case studies that illustrate various initiatives and approaches taken by museums and the art industry towards digital environments, including the use of NFTs. The case studies are categorised based on their primary focus, such as revenue generation, audience engagement, and technology usage. By analysing these real-world examples, the author aims to provide a deeper understanding of the relationship between museums, digital services, and NFTs, and to identify the missing aspects and opportunities for improvement in current implementations. The insights derived from these case studies will inform the development of a more comprehensive and effective service design in later chapters.

4.1 REVENUE GENERATION FOCUS

Uffizi Gallery

Michelangelo's Doni Tondo, Source: ArtnetNews (2021)

The Uffizi Gallery, one of the world's most renowned art museums, turned to minting NFTs of Renaissance masterpieces by artists such as Botticelli and Michelangelo as a temporary financial solution during the pandemic. Through a partnership with Italian encryption firm Cinello, the museum created NFTs of famous paintings that include a certificate of authenticity. However, this approach primarily serves the hype around NFTs and targets a limited number of wealthy individuals rather than providing sustainable value or engagement for a broader audience.

Project by: Uffizi Gallery in partnership with Cinello
Release: 2021
Target: Wealthy art collectors and enthusiasts, funders
Project: Minting and selling NFTs of iconic Renaissance paintings with a certificate of authenticity by the museum

Features:
• NFTs of famous artworks from the Uffizi Gallery, including works by Botticelli and Michelangelo
• Partnership with Cinello for creating NFTs with certificates of authenticity
• Limited audience targeting and serving the NFT hype

Highlights for the Study:
- Use case of minting physical artworks certified by the museum it is displayed
- Temporary financial solution for the museum during the pandemic
- NFTs used as a commercial and promotional tool, rather than a sustainable approach
- Not scalable for a broader audience, targeting only a few wealthy individuals

British Museum & LaCollection

Source: British Museum & LaCollection (2021)

The British Museum, one of the world's largest and most comprehensive museums, partnered with LaCollection, a platform specialising in art NFTs, to create and sell limited edition NFTs based on Hokusai's famous artwork series "36 Views of Mount Fuji." This collaboration aimed to engage a new audience by offering a new way to enjoy and collect art in digital form, while also providing additional revenue for the museum.

Project by: La Collection in partnership with British Museum
Release: 2021
Target: Art collectors, enthusiasts, and fans of Hokusai's artwork, as well as those interested in digital art and NFTs
Project: Digital sale of limited edition NFTs based on Hokusai's "36 Views of Mount Fuji" artwork series.

Features:
- Partnership between a prestigious museum and an art NFT platform
- Exclusive, limited edition NFTs based on a renowned artwork series
- New way to collect and engage with art in digital form

Highlights for the Study:
- Engages a new audience and expands the reach of the museum
- Provides additional revenue stream for the museum
- Demonstrates potential for collaborations between museums and NFT platforms
- Showcases the possibility of transforming traditional art into digital collectibles

Smartify Marketplace
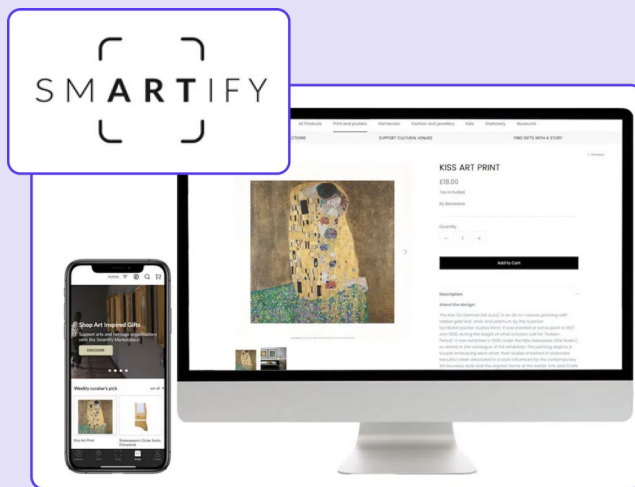
Smartify, often referred to as "the Shazam of the Art World," is a smartphone app that uses augmented reality to identify artworks, providing users with information and anecdotes about the pieces. As a response to the COVID-19 pandemic and its impact on museums and galleries, Smartify launched the Smartify Marketplace to support partner institutions during lockdowns. The marketplace is a global multi-seller arts and heritage platform where each order directly supports the partnering museums and galleries. Smartify Marketplace offers curated collections of handpicked products, such as fashion items, prints, accessories, and other retail products typically found in museum gift shops, from various cultural institution partners worldwide.

Founder: Anna Lowe, Thanos Kokkiniotis, Ron Vrijmoet, and Nick Mueller
Founded: 2021 Marketplace
Target: Art enthusiasts, museum visitors, and collectors looking for unique, curated items from cultural institutions and galleries
Services: Online marketplace for curated arts and heritage products, including fashion items, prints, and accessories, from partner museums and galleries

Features:
- Curated collections from various cultural institution partners
- Direct support to museums and galleries with each order
- Handpicked products to ensure quality and uniqueness, such as fashion items, prints, and accessories
- Multi-seller platform with a global reach

Highlights for the Study:
- Financial support for museums and galleries
- The need emerged after the pandemic
- Curated products
- Increases access to museum and gallery merchandise for a global audience
- Encourages collaboration and partnership between cultural institutions
- Digital layer for cultural institutions

4.2 TECHNOLOGY FOCUS

Active Image
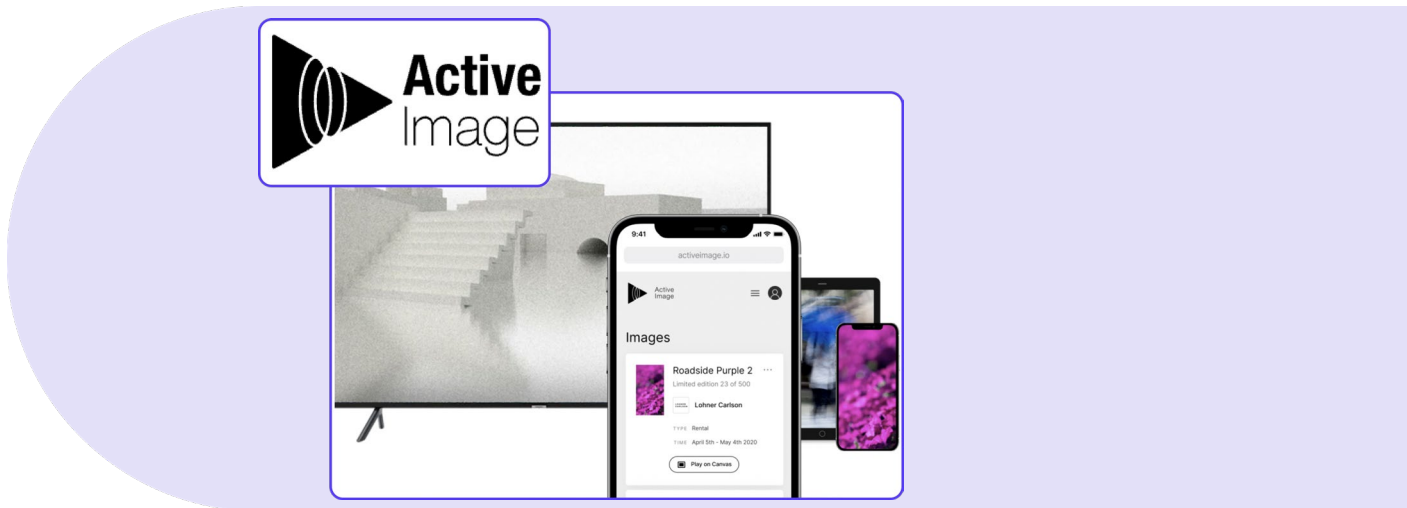
Source: Active Image

Active Image is a digital art platform that serves as a curated marketplace for buying and selling digital art while also offering a streaming app that transforms screens into dynamic canvases for art display. The platform showcases contemporary artists from around the world and employs blockchain technology to ensure trust and provenance, with artists receiving royalties on further sales. Active Image is dedicated to operating sustainably and reducing its environmental impact through carbon offset initiatives and its partnership with Fraunhofer, a leading research institution in the field of applied research.

Founder: Henning Lohner (German-American composer, artist, and filmmaker)
Founded: 2018
Target: Digital art collectors, artists, and enthusiasts interested in buying, selling, and showcasing digital art
Services: Browse Artworks - Buy and Resell Artworks - Experience Artworks Physically on Compatible Digital Devices

Features:
• Exclusive content creation in collaboration with reliable institutions, venues, artists
• Broader focus on art, film and music industries
• Curated exhibitions
• Primarily designed for the collectors
• Hybrid of analog and digital
• Reduced climate impact with smart contracts

Highlights for the Study:
• Audience engagement
• Hybrid approach of physical and digital
• Partnership with artists
• Low environmental impact with innovative blockchain usage

Musee Dezentral

Source: Musee Dezentral

Musee Dezentral is the world's first decentralised NFT museum, offering a platform where people can buy "frames" to display their NFTs or rent them out to other NFT owners and digital artists to showcase their works. Connected to OpenSea, the museum experience and collecting experience are combined, allowing users to discover and appreciate digital art while engaging in the NFT marketplace.

Founder: Developed by ravespace.io
Founded: 2021
Target: NFT owners, digital artists, and enthusiasts interested in displaying, renting, or discovering digital contemporary art
Services: Buying and renting digital "frames" for displaying NFTs, discovering digital art, and engaging in the NFT marketplace that is connected to Metaverse

Features:
• World's first decentralised NFT museum
• Connection to OpenSea marketplace
• Combines museum experience and collecting experience
• Digital "frames" for displaying and renting NFT

Highlights for the Study:
• Innovative approach to showcasing digital art and engaging with NFTs
• Connects artists and collectors in a decentralised museum environment
• Expands the reach of digital art and NFT appreciation

4.3 AUDIENCE ENGAGEMENT FOCUS

NBA Topshot
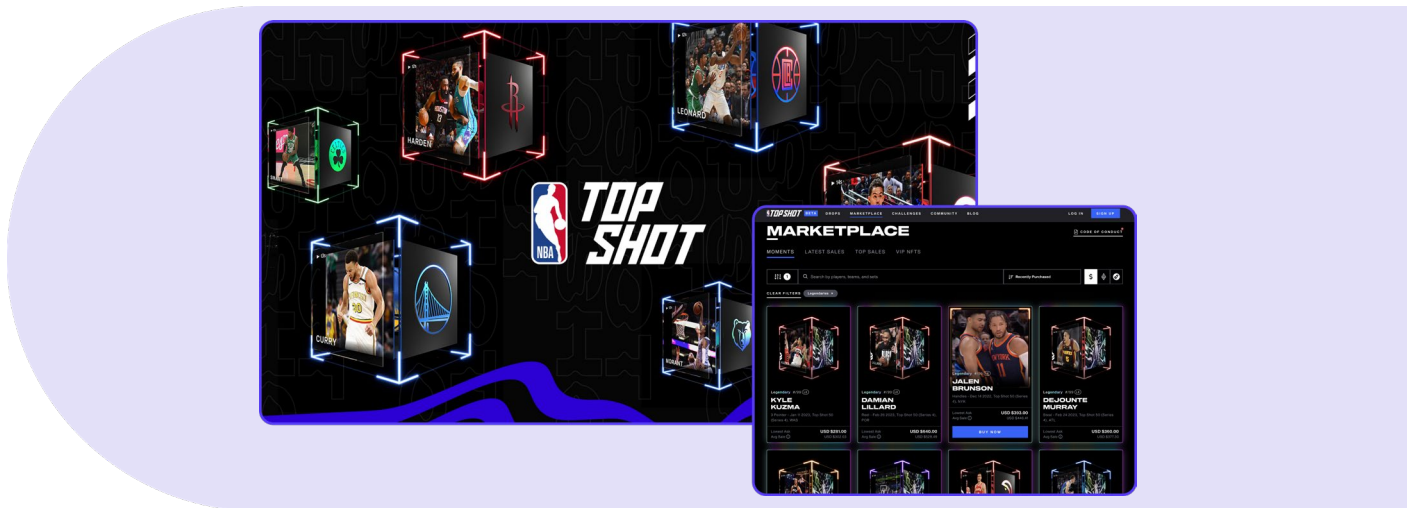
Source: NBA Topshot

NBA TopShot is a digital collectibles platform that allows users to buy, sell, and trade officially licensed NBA highlights as NFTs while fostering a vibrant community of collectors and fans. Developed in partnership with the NBA and the NBA Players Association, it has rapidly gained popularity among sports enthusiasts, with millions of dollars in transactions. NBA TopShot not only serves as a marketplace but also as an engaging space for collectors to interact and share their passion for the sport. Its success demonstrates the potential of digital assets, when certified and officially licensed, to create thriving communities around shared interests.

Founder: Dapper Labs (in partnership with NBA and NBA Players Association)
Founded: 2020
Target: NBA fans, sports enthusiasts, and collectors interested in digital sports memorabilia
Services: Buying, selling, and trading officially licenced NBA highlights as NFTs

Features:
- Officially licensed NBA highlights as NFTs in video format
- Exclusive content with limited edition collectibles
- Active marketplace for buying, selling, and trading NFTs
- Access to a strong community of collectors and fans

Highlights for the Study:
- The importance of certification and official licensing in driving value and trust for digital assets
- Serves as an example of how to create an engaged community around digital collectibles
- Shows the potential for additional revenue generation through the sale and trade of digital assets
- Easy navigation through high-level categorisation and curation

The Delft Blue Night Watch

Source: delftbluenightwatch.com

The Delft Blue Night Watch Project is a unique initiative that merges the traditional art form of Delft Blue pottery with modern NFT technology. This collaborative project involves the recreation of Rembrandt's famous painting, "The Night Watch," as a Delft Blue tableau composed of 336 individual tiles, each of which is represented as an NFT. By combining the historical and cultural significance of Delft Blue pottery with the innovative world of NFTs, this project showcases the potential for integrating traditional art forms with digital technologies.

Prooject by The Delft Blue Night Watch Project in partnership with Royal Delft Company
Release: 2023
Target: Art enthusiasts, collectors, digital collectors, NFT enthusiasts
Project: Sale of limited edition Delft Blue Night Watch NFTs, which represent individual tiles of the recreated tableau

Features:
• Unique combination of traditional Delft Blue pottery with NFT technology
• Limited edition NFTs representing individual tiles of the Delft Blue Night Watch tableau
• Collaboration among various Dutch artists to recreate Rembrandt's iconic painting

Highlights for the Study:
• Demonstrates the potential for blending traditional art forms with digital technologies
• Offers new avenues for audience engagement and appreciation of historical art forms
• Innovative approach to monetise and preserve traditional art through digital means
• Combination of digital & physical
• Using culture to promote culture
• Unique, not scalable

4.4 OPPORTUNITY MAPPING

By analysing the case studies, an Opportunity Map was devised to visualise insights and pinpoint areas for innovation. The map considers two key metrics: Technology Focus (Traditional vs. NFT Technology) and Engagement and Accessibility (Limited vs. Broad Audience). These metrics help assess the current landscape and reveal untapped potential for future service design development. By positioning the case studies within this matrix, the author identifies unmet needs and opportunities for innovation. The opportunity area emerges at the intersection of technology and tradition, leaning towards broader engagement. The defined area underpins the importance of a comprehensive approach for a broader audience, and the combination of museum values with technology implementation. Recognizing these potentials will be crucial in shaping an effective service design in subsequent chapters.
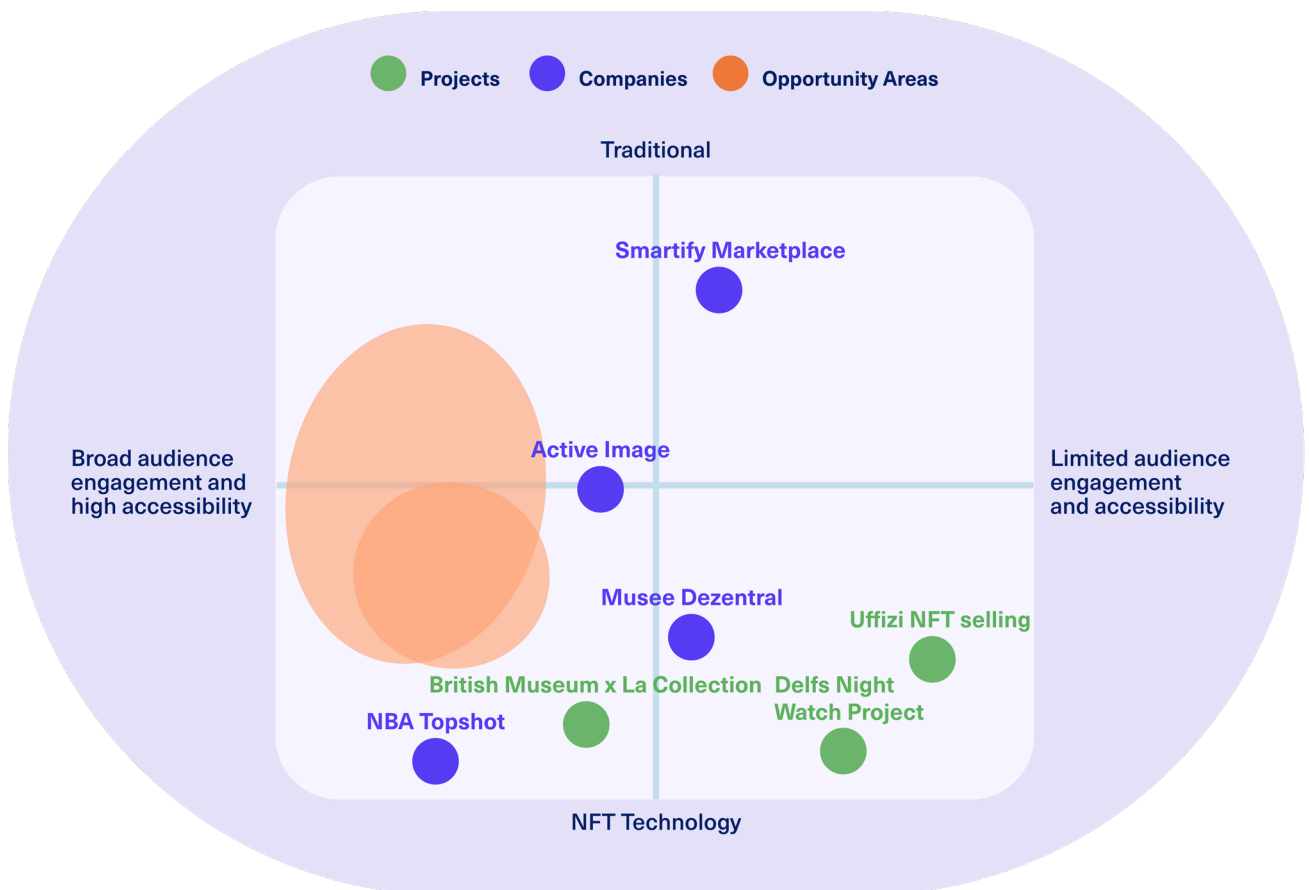
4.4 SUMMARY / TAKEAWAYS

The case studies presented in this chapter explore the diverse initiatives and approaches taken by museums and the art industry towards digital environments and NFTs. These examples showcase different focuses, ranging from targeting end users, supporting museums without utilising NFT technology or leveraging NFTs for promotional purposes. Additionally, some famous museums have adopted an educational approach, hiring staff, creating labs, and hosting NFT events to explore the technology and connect with communities. While these initiatives may not cover the entire scope, they provide valuable insights and learnings that can contribute to the development of a comprehensive, holistic approach that is beneficial to both museums and technology and applicable on a global scale. And finally, The Opportunity Map reveals the importance of combining technology with traditional museum values and leaning towards broader engagement. This intersection serves as an essential insight for creating a comprehensive service design.

- Hybrid approaches, combining physical and digital experiences, are effective in engaging audiences and supporting museums.

- Official licensing and certification of digital assets, backed by the trustworthiness of well-known museums, drive value and trust, fostering engaged communities around shared interests.

- Collaborations between museums and NFT platforms can unlock new opportunities for audience engagement, monetisation, and preservation of traditional art forms.

- Temporary financial solutions, such as minting NFTs of iconic artworks, primarily serve the hype around NFTs and target a limited, wealthy audience.

- Developing a curatorial strategy is essential for every museum or collection; only through this can a globally applicable service emerge, requiring a holistic service strategy.

- A bottom-up approach, working with communities and artists already in the system, is essential to integrate NFT technology into museums and the art industry effectively.

- The development of a comprehensive and effective service design should consider the importance of combining technology with traditional museum values and reaching a broader audience.

5.

USER RESEARCH

5.1 OVERVIEW

Embarking on a comprehensive exploration of the NFT art world and its intersection with museums and cultural institutions, the author drew upon insights from the literature review and case studies to create a roadmap for this user research chapter. A multi-method approach was employed, with three research steps designed to progressively refine the focus and build upon previous insights. Initially, expert knowledge was gathered through interviews with museum professionals to understand opportunities and challenges in engaging with NFT art. Following this, an online survey explored the motives and behaviours of digital art communities, delving into the dynamics of the NFT market and artists' and collectors' decisions. Finally, a unique interview with an NFT artist examined the creative process and the role of technology in shaping the future of art. After thoroughly analysing the data gathered from each research step, a thoughtful synthesis was carried out to identify key insights and trends. This process paved the way for shaping the "How Might We" question, which serves as a foundation for the service definition process. By focusing on the diverse perspectives of key stakeholders, this approach ensures that the proposed solutions are both relevant and effective, poised to make a lasting impact in the realm of NFT art and its intersection with museums and cultural institutions.
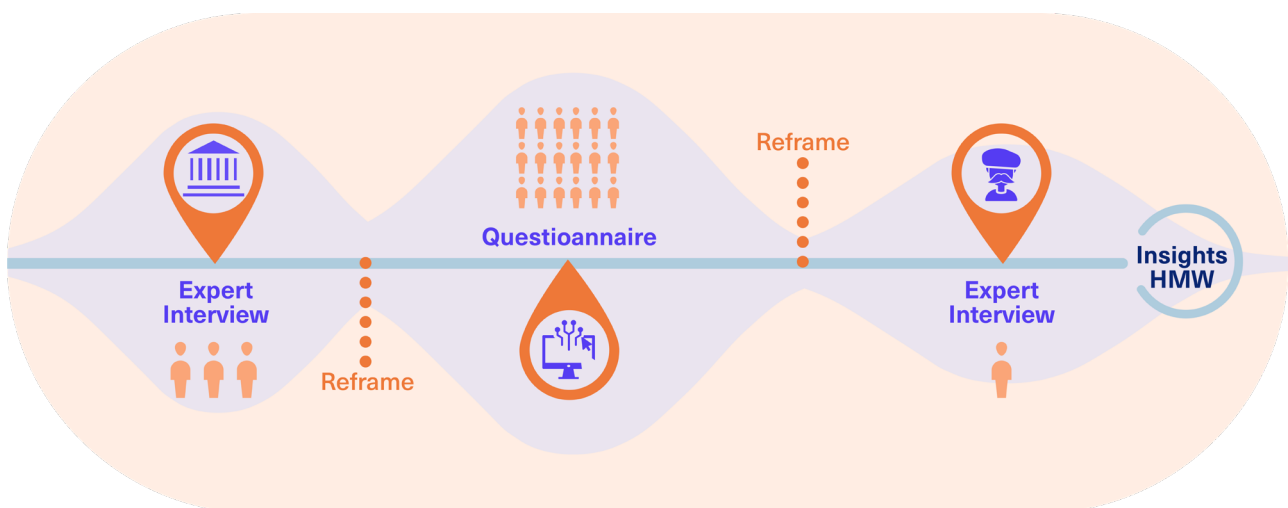
5.2 EXPERT INTERVIEW: MUSEUM PROFESSIONALS

Main Objective

The primary objective of the expert interviews with museum professionals is to investigate the challenges, opportunities, and necessities of adopting NFT technology in museums and cultural institutions while fostering collaboration with their digital communities. As representatives of the traditional system, these professionals offer institutional-level insights crucial for understanding the perspective of museums. The interviews aim to explore various aspects, including audience engagement, revenue generation, organisational structure, and potential barriers to NFT adoption. By engaging with diverse museum professionals, such as curators, fundraising specialists, and conservators, the interviews seek to provide valuable insights and contribute to the development of a comprehensive approach for museums to successfully navigate the evolving digital landscape, harness the potential of NFTs, and foster partnerships with artists, collectors, and curators in the digital realm.

Methodology

For the expert interviews with museum professionals, a semi-structured interview approach was used. This method allowed for a more conversational, open-ended discussion while still covering specific topics and questions relevant to the research objectives. The interviewees were free to select the questions most relevant to their expertise and interests, resulting in each interview following a unique and custom path.

Before conducting the interviews, the questions were shared with the interviewees via email to provide them with an overview of the topics that would be discussed. This also allowed them to prepare their thoughts and consider any relevant experiences or insights they might wish to share. Each participant was sent a "Participant Consent Form" that protects their data, ensuring that the insights will be shared anonymously. They were asked to sign and return the form to the conductor.

The interviews were conducted remotely, each lasting approximately 60 minutes. With the permission of the interviewees, the sessions were recorded to ensure the accuracy of the information collected. The recordings were then transcribed and analysed to identify key findings and insights relevant to the research objectives.

Interviewees

Three interviews were conducted with museum professionals from different backgrounds and areas of expertise. The interviewees included "Emily," a Senior Fundraising Specialist at a well-known Turkish contemporary art institution in Istanbul; "Sophie," an Art Conservator at the main art museum in Hamburg; and "Olivia," an Independent Curator working for digital culture structures based in London. To protect their privacy, all interviewees were given English aliases regardless of their country of origin. It is worth noting that all the interviewees were women, representing diverse perspectives and experiences within the museum and art industry.

Interviews

The interviews were structured around key themes and questions that aimed to explore various aspects of NFT adoption in museums and cultural institutions. The full interview report can be found in the appendix section of this document. The main themes and related questions are as follows:

Understanding the role of the expert within their organisation:
Questions aimed at exploring the interviewee's position, responsibilities, and insights related to their work within the museum.

Organisational structure and approach:
Questions focused on the museum's structure, roles, and decision-making processes to understand the approach that should be taken while designing the service.

Adoption of digital technologies and NFTs:
Questions aimed at investigating the extent to which digital technologies, including NFTs, are being adopted, welcomed, or considered within the museum.

Audience engagement and revenue generation:
Questions aimed at understanding how the interviewees perceive the relevance of audience engagement and revenue generation within their institution and how NFTs can play a role in these areas.

Barriers or challenges in adopting NFTs:
Questions focused on identifying potential obstacles or difficulties that museums might face while adopting NFTs and strategies for overcoming these challenges.

Collaboration and engagement with digital communities:
Questions aimed at understanding the relevance of collaboration and engagement with digital communities, including artists, collectors, and curators, and how these relationships can benefit museums.

● Emily
Senior Fundraising Specialist at a Turkish contemporary art institution

The Potential of Digitization

Emily emphasised the benefits of digitisation in museums, including reduced costs for acquisitions and maintenance, increased accessibility, and a lower carbon footprint. She also stressed the importance of museums staying relevant by engaging with digital communities and adopting digital strategies.

NFTs as Transactional Items

According to Emily, NFTs are currently seen more as transactional items rather than content-focused works. She suggested that integrating NFTs into museums would require extensive curatorial study and an emphasis on content and display to unlock their potential.

Overcoming Resistance

Emily compared the initial resistance to NFTs in the cultural context to that faced by photography when it was first introduced as an art form. For NFTs to gain significance, they need to capitalise on their unique benefits and establish strong content.

Organisational Requirements

To successfully adopt NFT-focused digital strategies, Emily highlighted the need for legal and curatorial staff with expertise in the field. She suggested that partnering with external service providers could be a more efficient and cost-effective approach for museums in the early stages of NFT adoption.

Public Interest and Engagement

Finally, Emily noted that the demand for NFTs in museums would be shaped by public interest and the ability of museums to engage audiences in innovative ways. The integration of NFTs within museum programs would depend on curatorial decisions and the museums' ability to connect with their audiences.

● Sophie
Art Conservator at the main art museum in Hamburg

Relevance of Digital Integration and NFTs

Sophie believes that museums need to adapt to the digital world to engage with younger, tech-savvy audiences and to generate new revenue streams. She sees a gap between the traditional mindset of museums and the interests of younger generations. The adoption of NFTs and other digital technologies may help bridge this gap, offering new ways to promote museum collections and engage visitors.

Challenges in Adopting Digital Innovations

Sophie identifies several challenges museums face when considering the integration of digital technologies and NFTs, such as financing, the need to rethink their approach to purchasing and displaying art, and the incorporation of digital art expertise. She also highlights the potential issues of authenticity and original intent when dealing with NFTs, especially when the artist is no longer alive.

Collaboration with Digital Communities

Sophie sees value in musums working with digital communities of artists, curators, and collectors to develop collaborative projects. She believes that engaging with these communities and adopting innovative ideas like NFTs can help museums become more attractive and financially sustainable.

Role of Curators in Digital Innovation

Sophie emphasises the importance of involving curators in the implementation of digital projects like NFTs. As the professionals responsible for expanding museum collections, engaging with artists, and presenting exhibitions, curators have the knowledge and connections needed to drive innovation. They are the key figures in exploring new opportunities, such as collaborations with digital communities and the integration of NFTs into museum operations.

Traditional Mindset and Challenges in Museum Culture

Sophie points out the difficulties museums face in adapting to new ideas, as they often have a traditional mindset and slow-moving bureaucratic processes. She also mentions the patriarchal management structure and budget constraints as factors that hinder progress. Despite these challenges, she recognises that there is a growing interest in digital innovations and NFTs within the museum sector.

● Olivia
Independent Curator working for digital industry based in London

Embracing Digital Technologies

Olivia highlighted the importance of incorporating digital and interactive experiences in museums, particularly to engage younger audiences. By collaborating with digital artists and creatives, museums can develop immersive installations and exhibits that resonate with these demographics.

Exploring NFTs and Blockchain

As an expert in the field, Olivia emphasised the potential of NFTs and blockchain technology to provide new revenue streams for museums. This could involve creating NFTs based on museum collections, collaborating with artists on unique NFT releases, or hosting NFT-focused exhibitions.

Fostering Education and Dialogue

Olivia believes that museums should position themselves as platforms for exploring digital culture, hosting workshops, panel discussions, and events related to digital art, blockchain, and NFTs. This approach helps establish museums as leaders in the intersection of art and technology, appealing to a wider audience.

Building a Global Network

Olivia's experience in connecting with artists, curators, and collectors worldwide offers valuable insights into the importance of networking. Building a global network can lead to creative collaborations, access to emerging trends, and an expanded audience for museums.

Adopting a Collaborative Approach

Finally, Olivia emphasised the need for museums to adopt a collaborative and multidisciplinary approach to their projects. Encouraging cross-disciplinary dialogues and engaging with diverse communities will ensure that museums remain relevant and responsive to the evolving needs of their audiences.

Summary / Takeaways

Discussions were held with Emily, Sophie, and Olivia, three professionals with diverse backgrounds and experiences in the museum and digital art sectors. Common themes emerged from their insights, highlighting the importance of digitisation for museums to stay relevant in today's digital era, attract younger audiences, and increase accessibility. All three experts acknowledged the potential of NFTs in museums but emphasised the need for careful curatorial study and a focus on developing relevant content. They also addressed the importance of collaboration among museums, creators, collectors, and curators for innovative and sustainable solutions. Furthermore, they mentioned the necessity of adapting to new technologies and digital tools in order to resonate with younger audiences and stay informed about digital art trends. Overall, the interviews provided valuable insights into how museums can evolve and embrace the opportunities presented by NFTs and other digital technologies.

- Digitisation offers various benefits to museums, such as cost reduction, increased accessibility, and environmental sustainability.

- Museums need to engage with digital communities and adopt digital strategies to stay relevant in today's world and attract younger audiences.

- NFTs have potential in museums, but their integration requires careful curatorial study, focus on developing relevant content, and leveraging their unique benefits for meaningful public engagement.

- Collaborative projects involving digital communities, artists, curators, and collectors can help make museums more attractive, interactive, and financially sustainable.

- Curators play a crucial role in decision-making and project development, making them ideal individuals to collaborate with on digital initiatives like NFTs.

- Public interest and innovative engagement strategies will shape the demand for NFTs in museums.

- Developing NFT-focused strategies in museums may require collaboration with external service providers, as finding in-house experts could be costly and challenging.

- Museums should consider outsourcing digital expertise or training their staff to better understand and utilise digital technologies like NFTs in their operations.

- Encourage collaboration between museums, creators, and collectors for innovative solutions.

- Leverage blockchain and NFTs to create accessible, transparent platforms.

- Curators should expand their roles, adapting to digital tools and NFT characteristics.

- Connect with diverse artists and professionals to stay informed about digital art trends.

5.3 QUESTIONNAIRE: DIGITAL BEHAVIOR OF NFT & ART ENTHUSIASTS

Main Objective

The questionnaire was conducted to gain a deeper understanding of the motives, interests, and behaviours of digital art enthusiasts, visitors, collectors/sellers, creators/artists, curators, and tech experts within the digital art ecosystem. This understanding is essential for devising strategies to bridge the gap between traditional museums and digital communities. The main motive behind preparing the questionnaire was to build upon insights gathered from expert interviews, which emphasised the importance of collaboration between digital communities and traditional museums. By examining the engagement areas between digital art ecosystem users and the museum sector, the survey aimed to identify factors that could motivate and strengthen these relationships. The insights gathered from this questionnaire are expected to provide concrete data to map out service strategies and generate targeted "How Might We" questions, ultimately aligning with the thesis's aim of developing a framework for integrating NFTs into museums.

Methodology

The methodology for the questionnaire involved recruiting 30 participants through various online channels, including LinkedIn, Twitter, and Facebook groups. The questionnaire was prepared using Google Forms and distributed to a diverse group of individuals from digital communities centred around digital art and NFTs. The participants included tech experts, NFT and digital artists, and collectors, ensuring a holistic approach and a broad range of insights. The questionnaire consisted of demographic questions and open-ended questions, allowing for both quantitative and qualitative data analysis. The survey questions can be found in the appendix section.

Questionnaire

The questionnaire aimed to gather insights from a diverse group of participants involved in the digital art ecosystem. The survey consisted of 16 questions, including demographic information, multiple-choice, and open-ended questions.

The demographic information revealed that the participants were evenly distributed in terms of gender, with a majority aged between 26 and 59 years old and predominantly from Europe. In terms of their roles or interests in the digital art ecosystem, most participants identified as NFT and Web3 enthusiasts, collectors, or artists.

The survey results showed that participants engaged with digital art or NFTs daily and visited traditional museums or art galleries in physical space regularly. However, their engagement with museums' digital platforms was less frequent. When asked about their interest in collecting digital versions of physical art collections from museums, the majority of respondents expressed interest, with factors such as exclusive versions, rewards, and supporting the museum influencing their decision.

Participants	Age	Role/ Interest in Art Industry	
15 female	%14	%53 NFT enthusiast	%37 Digital curator
15 male	26-42 43-59 <25	%43 NFT artist	%30 Art visitor
	%43 %40	%47 NFT collector	%10 Investor
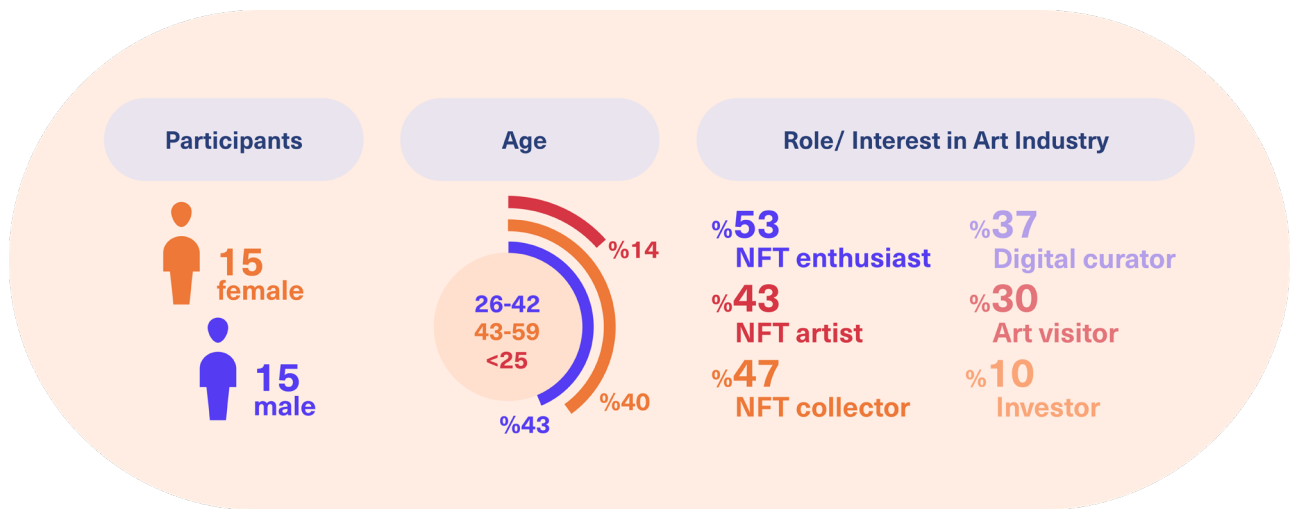
One participant emphasised the appeal of exclusive content, stating,

> *NFT art created for a specific open call, for example, an interpretation of a theme or historical period, to discover new artists.*

In terms of NFTs associated with rewards, there was a strong preference for offerings that included museum memberships, exclusive events, or other perks. The majority of participants believed that NFTs showcased by traditional institutions would be more trustworthy than those available on open platforms. The survey also revealed that digital artists and creators were interested in collaborating with museums and their collections to create exclusive content. Open-ended suggestions for museums to better engage with digital communities and incorporate digital art or NFTs into their collections or programs included hosting virtual exhibitions and events, partnering with digital artists, offering educational programs on art and blockchain, and engaging with digital communities on social media platforms. A respondent shared their thoughts on how museums can embrace the digital art movement:

> *Believe in the NFT movement. It is a game changer for art institutions. Art that is hidden inside museums will likely be seen only by a single-digit number of people. Instead, they must join progress and enhance/extend access to their collections by those who are embracing the works of art. Gen Y and Gen Z will need to be enticed by technology. NFT, AI, blockchain, AR, VR, etc., must become part of the art itself.*

Another participant suggested that museums should:

> *Actively engage with digital communities on social media platforms and use targeted digital marketing strategies to promote the museum's digital art initiatives and NFT-related programs, reaching a wider audience and creating awareness and excitement around these initiatives.*

Summary / Takeaways

The online questionnaire study provided valuable insights into the motivations, interests, and behaviours of digital art enthusiasts, collectors, artists, curators, and tech experts in relation to traditional museums and NFTs. Importantly, after completing the survey, many participants willingly reached out to the author to express their enthusiasm for the topic and found the overall study to be innovative and forward-looking in the context of the evolving relationship between museums and the digital art world. The survey revealed that the majority of digital art enthusiasts are deeply interested in museums and are inclined to support them through the purchase of exclusive NFTs. Furthermore, digital creators expressed a strong interest in collaborating with museums to create exclusive content, and participants provided numerous suggestions for how museums can better engage with digital communities and incorporate digital art or NFTs into their collections or programs. These insights are crucial in developing a service strategy and understanding how museums can effectively tap into the growing digital art ecosystem.

- Digital creators are motivated to collaborate with museums and create exclusive content, potentially opening new avenues for museums to engage with digital artists and expand their offerings.

- Digital art enthusiasts who participated in the survey are deeply interested in museums and are willing to support them by purchasing exclusive NFTs.

- Participants expressed a strong preference for exclusive versions of NFTs, highlighting the importance of uniqueness and limited edition releases.

- The majority of respondents indicated that they would be more inclined to purchase NFTs if they were associated with rewards such as museum memberships, exclusive events, or other perks.

- Participants provided numerous suggestions for museums to better engage with digital communities, including hosting virtual exhibitions and events, partnering with well-known digital artists, creating educational programs, and facilitating discussions on the future of digital art and NFTs.

5.4 EXPERT INTERVIEW: NFT ARTIST

Main Objective

The main objective of this expert interview is to explore the perspectives and experiences of an NFT artist who participated in the questionnaire survey and expressed great interest in the study. By conducting an in-depth interview with the artist, who has a unique approach to combining traditional and digital art, the research aims to delve deeper into the creative process, inspiration, technical knowledge, and potential of NFT art in collaborating with museums. This interview is essential to the research as it offers a closer look at the challenges and opportunities NFT technology presents to the art world and its potential impact on the way people engage with art and artists online. Additionally, the insights gathered from this interview are expected to provide valuable information for museums and cultural institutions considering collaboration with NFT artists and integrating NFT art into their collections and exhibitions.

Methodology

The methodology involved a unique interview with a single participant, the NFT artist "Tree Skulltown." The artist consented to reveal his name and allowed the use of one of his works as an example. The interview comprised 11 questions shared with the artist via email. The artist provided their responses in a document, and the interview took place remotely. The interview questions can be found in the appendix section.

Interviewee

The interviewee, Tree Skulltown, is an NFT artist and collector with affiliations to several well-known NFT communities. He has a strong presence on Twitter, with more than 5,000 followers. Tree Skulltown's work involves creating GIF art that explores the origins of primitive and tribal art. With a background in contemporary art, he has been working in the field for ten years, demonstrating both experience and innovation in his artistic practice.

Interview

In the interview, the artist discussed their background, creative process, inspirations, and experiences working with NFT technology. They described their unique approach to combining traditional art with digital techniques, using royalty-free works from museum collections as a base for their creations. Tree Skulltown's work challenges the traditional boundaries of art, inviting viewers to reconsider the relationship between old and new artistic forms. The artist is part of various digital communities focused on Web3 and NFTs and believes that these communities are changing the way people engage with art and artists online.

Tree Skulltown also shared their thoughts on the potential for NFT art to collaborate with museums. They envision an opportunity for NFT art to bring new life to forgotten artworks, encourage curiosity about the origins of traditional works, and create a bridge between classic and digital art forms. The artist believes that putting screens with GIFs next to traditional works could create a relevant gateway for engaging audiences.

An example of the artist's unique approach to NFT art can be seen in his reinterpretation of Jacques-Louis David's "The Death of Socrates." The artist worked with a digital copy of the original piece obtained from The Metropolitan Museum of Art's website and then transformed it into a captivating digital collectible in GIF format by adding his distinct layer of creativity. The result is a unique, modern take on a classic piece of art that shows how NFT art can be used to give traditional pieces a fresh and captivating look.

An Example of Artists NFT Creation Process with His Unique Concept "Renaissance Hijacking"

obtain
digital copy

recreation

minting &
selling

Jacques-Louis David, The Death Of Socrates
painting on canvas

Tree Skulltown, Skullleth Series 12
GIF as digital token

Summary / Takeaways

The interview with NFT artist Tree Skulltown provided valuable insights into the creative process, motivations, and vision of an artist working at the intersection of traditional and digital art. Incorporating these insights into the understanding of the NFT art world helps to better grasp the opportunities and challenges presented by this technology in the art world. These insights can inform museums and other cultural institutions seeking to engage with NFT artists and integrate NFT art into their collections and exhibitions. By recognising the potential for NFT art to transform the way people engage with art and artists online, it becomes possible to work towards developing innovative strategies and collaborations that further bridge the gap between traditional and digital art forms, ultimately enriching the cultural landscape for artists, collectors, and audiences alike.

- NFT technology provides artists with creative freedom and independence, enabling direct connections with collectors.

- Digital communities focused on Web3 and NFTs are changing the way people engage with art and artists online, fostering solidarity and visibility among artists and collectors.

- NFT art has the potential to collaborate with museums, offering new opportunities to bring new life to forgotten artworks and create a bridge between classic and digital art forms.

- Artists should continually challenge themselves and their work to maintain their creativity and sincerity, which can resonate with collectors and audiences.

5.5 REFRAME

Insights

1 A holistic approach that considers the perspectives of museums, cultural institutions, and the NFT art community is necessary for effective service design.

2 Exchanging and integrating values from both traditional and digital art spaces can lead to the creation of new value, with each side offering unique strengths and opportunities.

3 A well-crafted digital strategy that encourages collaboration among all parties and experts is essential.

4 Curation and theme definition play a pivotal role in shaping storytelling and vision, which are key to engaging audiences.

5 Motivating digital collectors and artists is crucial for fostering support for museums and driving traffic to physical spaces.

6 A "phygital" approach that combines digital and physical touchpoints can create an omnichannel experience for users.

7 Given the decentralised nature of technology and diverse digital communities, the service should be designed with a global target in mind.

8 Redefining "visitors" to recognise the increasing accessibility and prevalence of digital collecting as more people take on the role of collectors.

9 Harnessing the power of digital communities for collaboration, innovation, and engagement.

10 Preserve the core values of museums.

How Might We ?

From the previous insights, the following question are formulated:

HMW develop a digital collectibles strategy that leverages NFTs as a storytelling medium for museums in both online and offline spaces?

HMW involve digital art communities (collectors, artists, enthusiasts) in generating inclusive values for both ecosystems of traditional and digital art?

HMW ensure that the devised strategy and value propositions increase audience engagement and revenue for museums while promoting global accessibility and preserving cultural heritage?

6.
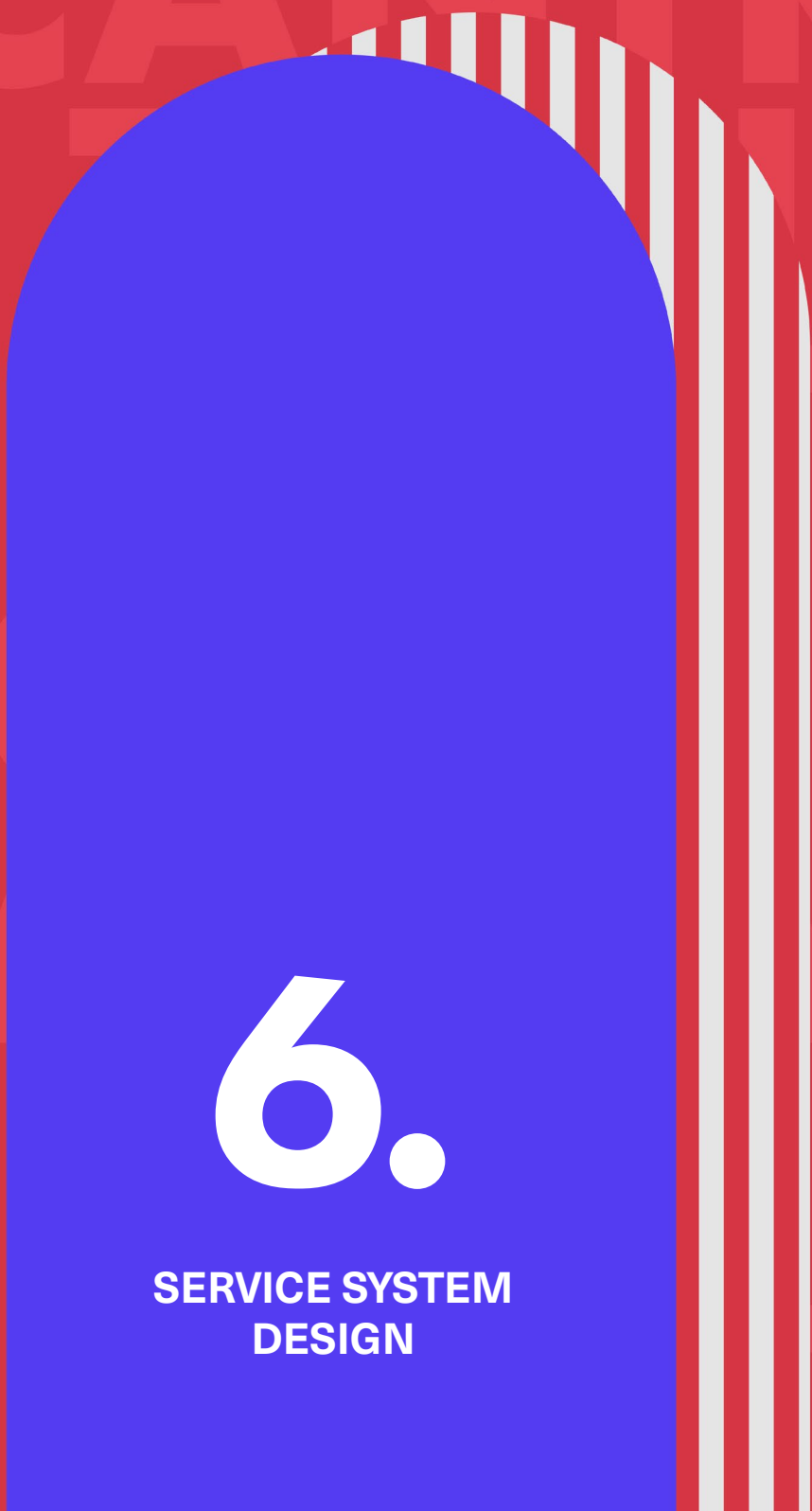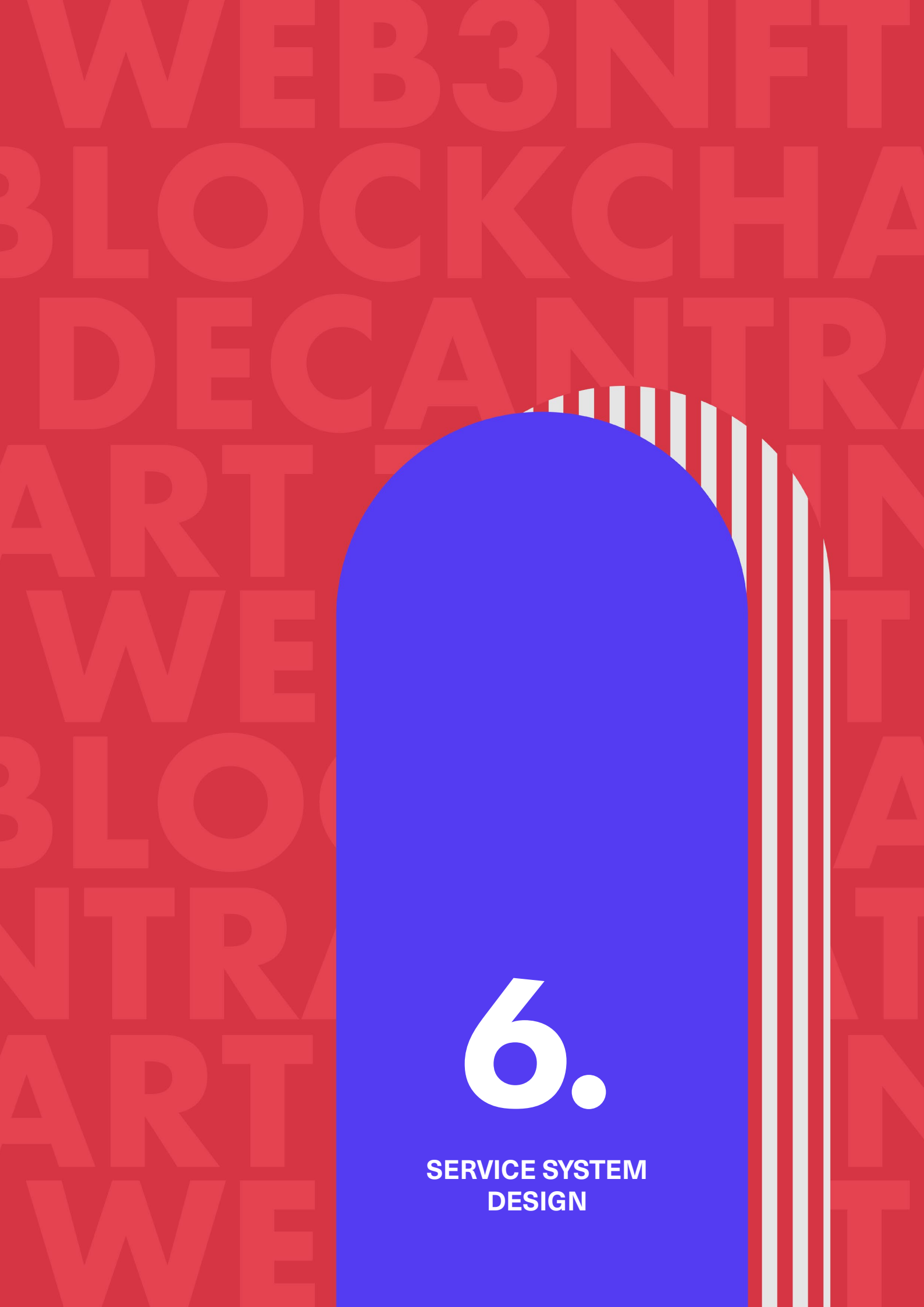
**SERVICE SYSTEM
DESIGN**

Using the insights collected from academic literature review, market benchmarking, and user research, a number of "How might we" (HMW) questions have been posed to identify the most significant design challenges. The proposed service system intends to address these obstacles with a comprehensive strategy.

CultureChain is a platform designed to resolve the challenges and opportunities at the intersection of traditional museums and the digital art world. CultureChain is motivated by the idea of integrating cultural heritage with the blockchain technology underlying NFTs. The name symbolises the fusion of traditional museum culture and the dynamic world of digital NFT art.

In the subsequent chapters, numerous tools and methodologies will be used to probe deeper into the CultureChain service design, illustrating its potential to create an influential art experience for both museums and their audiences.

6.1 SERVICE DESCRIPTION

CultureChain is an exclusive NFT platform designed to assist museums in adapting to the digital art world and ensuring their long-term success through the adoption of new technologies and engagement with a growing audience of digital art enthusiasts. By partnering with museums and involving NFT artists, CultureChain creates digital collections of exclusive, museum-authorized collectibles that are showcased and sold through digital and physical channels, providing a unique and modern art experience.

The primary goal of CultureChain is to support museums in engaging their audiences, generating revenue, and offering exclusive, curated art pieces for NFT collectors. CultureChain acts as a helpful companion for museums throughout their NFT journey, providing a seamless experience from strategy development to NFT creation, marketplace setup, and promotion of the collections. This approach allows museums to focus on their core mission while embracing the benefits of digital art.

To create exclusive NFTs, CultureChain collaborates with talented NFT artists who work under the guidance of museum curators to transform selected artworks into digital collectibles. These NFTs are then showcased on a digital marketplace where collectors can purchase, trade, and admire these unique art pieces. As a reward for their support, collectors benefit from exclusive perks, such as special event invitations or free tickets, which encourage them to visit the physical museum spaces.

For a seamless "phygital" experience, CultureChain integrates digital touchpoints within the museum environment. Digital screens are installed next to original artworks, allowing visitors to access the NFT collection via QR codes that direct them to the CultureChain website. Additionally, a dedicated CultureChain booth in the museum serves as an information and onboarding point for curious visitors interested in becoming collectors or learning more about NFTs and their role in supporting cultural institutions.

CultureChain also focuses on education and community engagement. Museum professionals can participate in webinars and events designed to connect them with web3 and digital art communities, fostering collaboration and knowledge exchange. For regular museum visitors, CultureChain offers a dedicated space within the museum to learn about NFTs, blockchain technology, and their impact on the art world.

In summary, CultureChain provides a comprehensive and easy-to-understand solution for museums to engage with the digital art world. By acting as a helpful companion, the platform benefits museums, art collectors, NFT artists, and museum visitors alike, ultimately supporting the art industry's evolution into the digital age and fostering a new era of creativity and cultural preservation.

The service differs from other NFT practises for museums and NFT marketplaces with the following characteristics:

End-to-end solution
It provides a comprehensive, custom-tailored solution for museums, from digital strategy formulation to NFT creation, promotion, and monetization.

Strategic companion
CultureChain works closely with museums, providing a team of professionals with a wide variety of specialties to ensure an all-encompassing and effective digital strategy in line with the museum's values and goals.

Collaboration with NFT artists
The platform connects museums with NFT artists, encouraging productive collaborations that result in original digital collections that not only generate revenue but also foster a more diverse and inclusive art environment.

Phygital Experience
CultureChain incorporates digital and physical spaces in a seamless manner, providing users with an omnichannel experience. The platform promotes engagement with both the physical museum and digital collections by managing an online website to display and sell the NFT collection, engaging with Web3 and digital art communities to promote, installing digital screens alongside original artworks, and constructing information spots within the museum.

Inclusivity and education
The platform aims to educate a larger audience, including regular museum visitors and staff, about the potential advantages of NFT technology for the art industry. This is achieved through information spots, events, and educational programmes.

Exclusive perks for collectors
CultureChain offers NFT collectors exclusive benefits, such as invitations to special events or complimentary tickets, to encourage them to interact with physical museum spaces and support cultural institutions.

Focus on storytelling and curation
CultureChain emphasises the importance of narrative and curation in the NFT creation process, ensuring that the digital collections provide context and substance to the original artworks and offer audiences a more meaningful experience.

These unique selling propositions differentiate CultureChain from other NFT practices and marketplaces by offering a holistic approach that caters to the specific requirements and values of traditional museums while fostering strong connections with the digital art world.

Strategic companion for Museums & **exclusive NFT marketplace** for art collectors.

Strategic Companion

Team of marketing, technologists, digital strategists, art & technology curator and other experts to create a customized digital plan for the museums.

Museum-centric NFT marketplace

Online platform for the discovery, purchase, and exchange of unique digital assets provided and backed by the museums.

In-Museum Experience
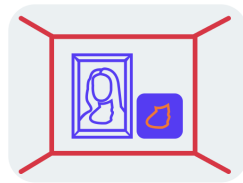
Digital touchpoints integrated within the museums: digital screens to showcase NFTs and a Booth to purchase and learn about the digital collections.

6.2 PERSONAS

Within the CultureChain service, there are various types of users who contribute to the platform's ecosystem, each with differing levels of importance. These users include museum professionals and the art NFT collectors are main users, NFT artists as supporting actors, and finally museum visitors as secondary user with the aim of exponential reach over time.

Museum professionals (main user):

Museum professionals, including curators, directors, and administrators, collaborate with CultureChain to develop digital strategies, select artworks for NFT creation, and ensure a seamless integration of digital touchpoints within the museum space. They are focused on preserving and sharing cultural heritage while embracing new technologies and engaging with digital art enthusiasts.

Community of art NFT collectors (main user):

The community of collectors and traders forms the primary audience for the NFTs created by CultureChain. They purchase, trade, and admire exclusive, museum-authorized collectibles, generating revenue for both museums and NFT artists. In return, they enjoy exclusive perks, such as special event invitations or free museum tickets, encouraging them to visit physical museum spaces.

NFT artists (supporting actor):

NFT artists play a crucial role in the creation of digital art collections. They collaborate with museum curators to transform selected artworks into NFTs, ensuring that the digital collectibles maintain the essence of the original pieces. Their creative skills and understanding of the digital art space make them essential contributors to the success of CultureChain.

Museum visitors (secondary user / potential adopter):

Museum visitors interact with CultureChain's digital touchpoints within the museum environment, learning about NFTs and their role in supporting cultural institutions. Curious visitors have the opportunity to explore the digital collections and become collectors themselves, further expanding the reach of CultureChain and promoting the adoption of digital art in traditional museum settings.

Advantages of the service across the user segments

Museum professionals (main user):

Museum professionals benefit from CultureChain's comprehensive solution, enabling them to navigate the complex world of digital art and NFTs with ease. By collaborating with experts and leveraging innovative technologies, they can expand their reach and engage with new digital audiences. The additional revenue generated through NFT sales helps support the museum's core mission of preserving and sharing cultural heritage.

Community of art NFT collectors (main user):

Collectors and traders enjoy access to an exclusive selection of museum-authorized digital collectibles, providing them with a unique opportunity to own and trade high-quality NFTs. By purchasing these NFTs, they not only support the museums and artists but also enjoy exclusive perks, such as special event invitations or free museum tickets. These incentives encourage physical museum visits and foster a deeper connection with the art world.

NFT artists (supporting actor):

NFT artists, as creative contributors, gain valuable exposure and recognition through their collaboration with prestigious museums and curators. They have the opportunity to showcase their skills by transforming traditional artworks into digital collectibles while preserving the essence of the original pieces. This collaboration helps them expand their professional network and generate revenue through NFT sales.

Museum visitors (secondary user / potential adopter):

Museum visitors, as an emerging user segment, experience an enriched visit by interacting with digital touchpoints and learning about the potential of NFTs in supporting cultural institutions. They have the opportunity to explore digital collections and become collectors themselves, further promoting the adoption of digital art in traditional museum settings.

In the following pages, three main personas are elaborated upon to showcase the essential aspects of their characteristics and motivations: the Museum Professional, representing the institutional perspective; the NFT Collector, embodying the digital community of buyers and traders; and the NFT Artist, acting as the creative contributor supporting the service.

Museum Professional

Bio

Isabelle Dubois is a passionate curator with over 15 years of experience in the art world. She has curated numerous exhibitions at her museum, as well as at galleries and art fairs across Europe. She is deeply interested in how digital art and technology can enhance the museum experience for new generations but struggles to find the time and resources to explore these possibilities fully.

Goals

- Develop innovative ways to showcase the museum's collection and engage new generations.
- Find a balance between traditional art experiences and digital innovations.
- Attract more diverse audiences, including younger visitors and those interested in digital art.
- Secure funding and resources to implement digital strategies within the museum.

Frustrations

- Lack of expertise in technologies to create digital strategies.
- Limited time and budget, along with overwhelming work, makes it difficult to learn about new technologies and digital art trends.
- Unhappy to see the decreasing number of visitors each day.
- Difficulty in finding ways to engage new generations without losing the essence of the museum.
- Afraid of NFTs due to lack of knowledge and speculations surrounding the technology.

Isabelle Dubois

Age: 38
Gender: Female
Location: Paris, France
Occupation: Curator at modern art museum

"

I'm excited about the developments in the digital art industry, but I don't have the time or budget to explore ways to benefit from them, leaving little room for implementing digital strategies. Since the pandemic, I'm concerned to see a decrease in visitor numbers, with mostly elderly and school children visiting. I'm currently seeking ways to showcase our collections that are engaging and appealing to new generations.

"

Art NFT Collector

Bio

Alexander is a successful entrepreneur and avid art enthusiast who has transitioned from collecting physical art to NFTs. A well-respected member of various web3 and NFT communities, he seeks out curated marketplaces to find unique pieces with strong stories behind them. Alexander loves visiting museums during his travels but has become disenchanted with the exhibitions they offer.

Goals

- Discover unique, curated NFT art pieces created by talented artists.
- Support museums and help them adapt to the digital world.
- Share his collection with the public and engage with fellow collectors on social media.
- Showcase his NFT collection on physical screens and explore their potential in the traditional art world.

Frustrations

- Difficulty in finding curated, validated digital art pieces.
- Disappointment with traditional museums' lack of engaging exhibitions.
- The challenge of uncovering the stories behind art pieces in the digital space.
- Willing to support his favorite museum but not sure how.

Alexander Grant

Age: 32
Gender: Male
Location: London, UK
Occupation: Entrepreneur and Art NFT Collector

"

As an art collector, I value unique pieces with strong stories and backgrounds. I wish there were more curated, validated marketplaces to discover digital art that bridges the gap between the traditional and digital realms. I'm eager to support museums and help them adapt to the digital world. I miss the excitement of visiting museums and discovering new art, and I hope to reignite that passion by engaging with both digital and traditional art communities.

"

Digital Artist

Bio

Clara is a tech-savvy artist living in Berlin, Germany, who combines her background in contemporary art with her innovative NFT creations. Over the past years, she has built a strong presence within her digital art community. She is interested in revitalizing forgotten artworks through her NFTs and envisions a bridge between traditional and digital art forms.

Goals

- Revitalize forgotten artworks by creating NFT interpretations.
- Combine traditional and digital art forms to establish a bridge between the two worlds.
- Expand her presence in both the digital and traditional art industries.
- Encourage curiosity about the origins of traditional works and their relevance in the digital age.
- Be recognized for her strong foundational stories and artistic integrity.

Frustrations

- Revitalize forgotten artworks by creating NFT interpretations.
- Combine traditional and digital art forms to establish a bridge between the two worlds.
- Expand her presence in both the digital and traditional art industries.
- Encourage curiosity about the origins of traditional works and their relevance in the digital age.
- Be recognized for her strong foundational stories and artistic integrity.

Clara Weber

Age: 28
Gender: Female
Location: Berlin, Germany
Occupation: Contemporary and Digital Artist

"

"Digital art and NFTs shouldn't just be about making money in cryptocurrencies. I want to create meaningful connections between the traditional and digital art worlds, breathing new life into forgotten works while maintaining the artistic integrity that makes art so powerful. I wish there was a way for my digital creations to be recognized and valued in the physical world, so I can bridge the gap between the two realms and encourage curiosity about the origins and stories of traditional art."

"

6.3 OFFERING MAP

The following map presents an overview of the offerings and benefits tailored specifically for the primary users of CultureChain: museums and art NFT collectors. The offerings are divided into primary and secondary categories to highlight their significance for each user group. This comprehensive map showcases the diverse range of offerings available for both museums and collectors, as well as the advantages and positive impacts these services bring to their respective experiences.
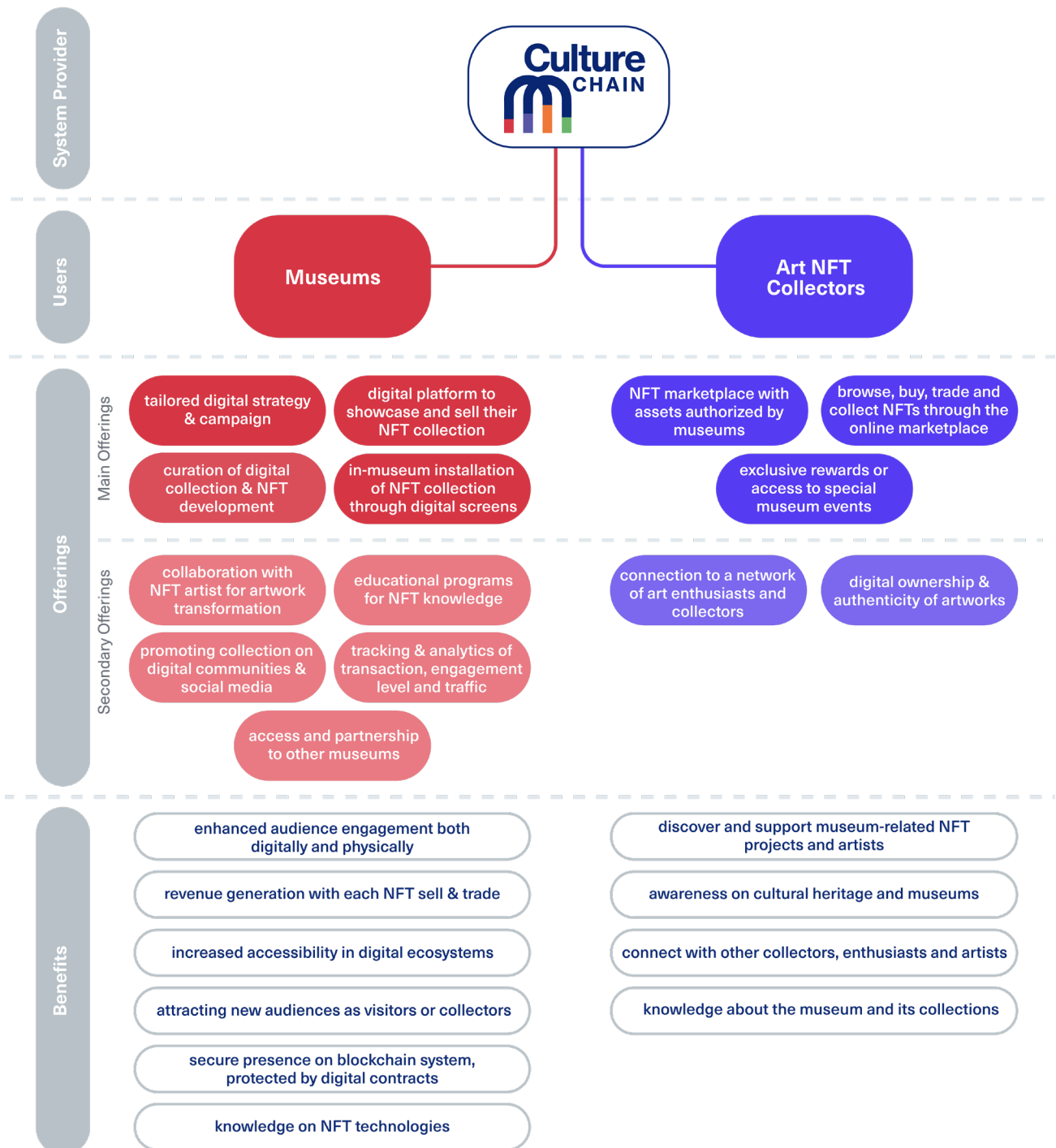
6.4 TOUCHPOINTS MAP

The service is enabled through a combination of digital and physical touchpoints, catering to the various user segments and facilitating interactions between them. These touchpoints create an interconnected network that supports the seamless integration of the museum and digital art experiences. The online marketplace, accessible through both the website and the app, serves as the primary digital platform where NFT collectors can browse, purchase, and trade exclusive museum-authorized NFTs. Social media platforms such as Facebook, Instagram, and Twitter help to promote CultureChain and engage with a broader audience, including potential collectors and artists. Within the museum environment, digital screens and QR codes provide access to the NFT collections, allowing visitors to learn about the digital artworks and their connection to the physical exhibits. The CultureChain booth, a dedicated physical touchpoint within the museum, enables visitors to receive more information about the service and potentially onboard as NFT collectors. Special events, such as exhibition openings and artist talks, offer opportunities for all user segments to engage with one another, fostering a sense of community, collaboration, and shared understanding of the value that digital art and NFTs bring to the museum experience.

	Supporting Actor	Main User	Main User	Secondary User
	NFT Artist	**Museums**	**Art NFT Collectors**	**Museum Visitors**

Physical Touchpoints

Strategy & Curation & Campaign

- Partnership Meeting
- Campaign & Strategy Meeting
- Selected artworks from the defined collection
- Collection transformation workshops
- Ads, commercials on public spaces
- Cultural Institutions, Art Galleries, Organizations, Council of museums

In-museum Experience

- Opening Events
- Digital screens for NFT display & QR code
- CultureChain Booth
- Discount tickets & perks
- Educational Programs

Digital Touchpoints

Online Presence

- CultureChain website and app
- ads on OpenSea, Web3 and digital art communities
- Social Media
- Digital Wallet
- Digital Contracts

6.5 STAKEHOLDERS MAP

The stakeholder map illustrates the various actors involved in the CultureChain ecosystem, showcasing their roles and positioning within the service. At the core of the map is the CultureChain team and platform, which serves as the connecting link between all parties and facilitates their interactions. The primary users of the service are museum professionals and the community of collectors, whose collaboration and engagement drive the success of CultureChain. Supporting actors, such as NFT artists and museum visitors, contribute to the creative and dynamic nature of the platform by creating digital art and potentially joining the collector community. External actors play a vital role in the overall ecosystem, with government and cultural institutions providing funding and regulatory support, while technology partners and blockchain experts ensure the robustness and security of the platform. Marketing platforms and digital art influencers help promote the service and engage with a broader audience, further expanding CultureChain's reach and impact.
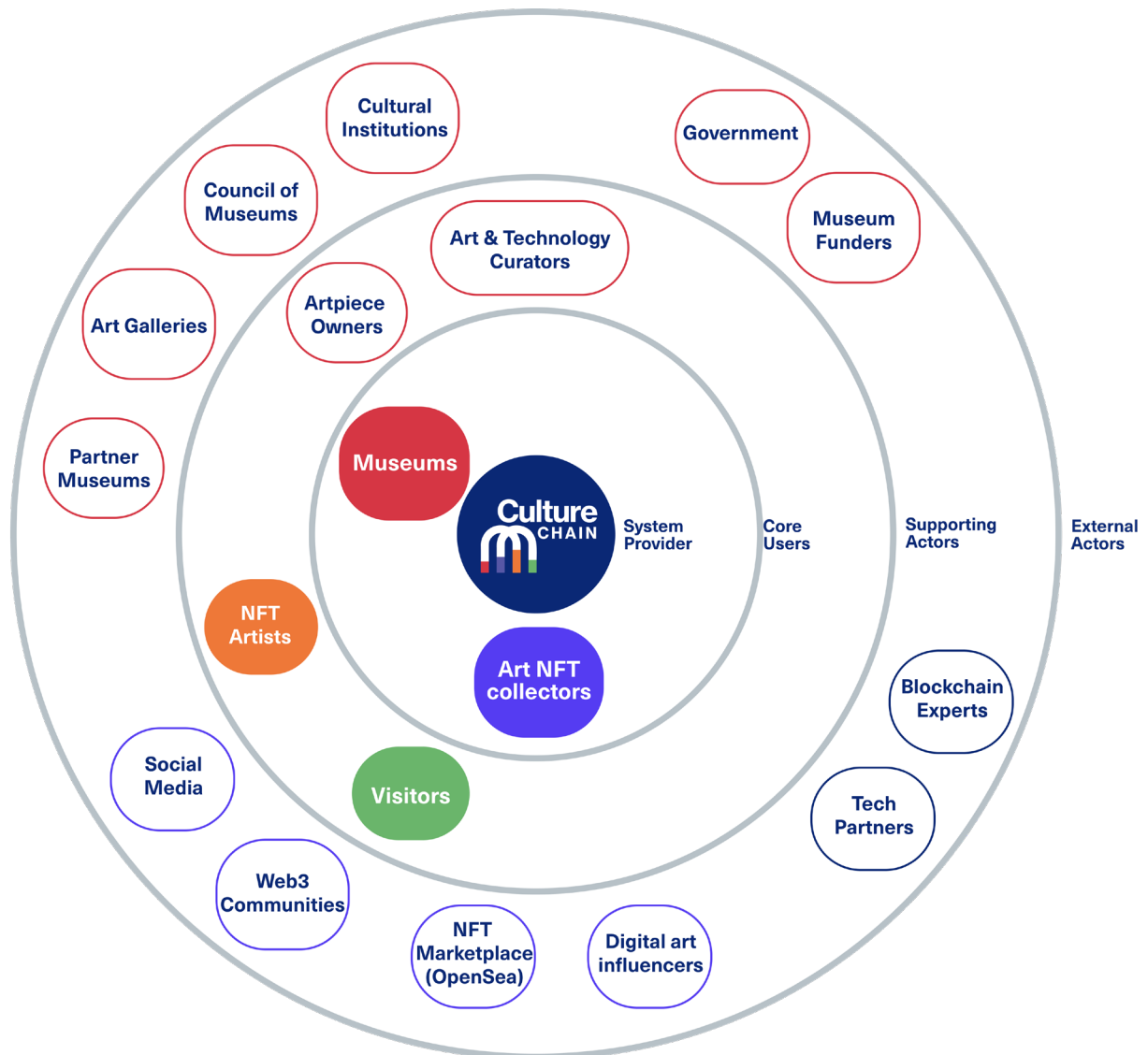
6.6 SYSTEM MAP

The system map provides a comprehensive visual representation of the various flows and relationships among the different actors involved in the CultureChain ecosystem. This map highlights the interactions between stakeholders, focusing on three main types of exchanges: financial, information, and material flows. Financial flows depict the movement of funds between parties, such as the revenue generated for museums and NFT artists from collectors' purchases, as well as funding from government and cultural institutions that support the platform's operations. Information flows illustrate the exchange of knowledge, data, and communications among stakeholders. This includes the development of digital strategies between museums and the CultureChain team, the collaboration between NFT artists and curators, and the marketing efforts to promote the service and engage with audiences. Material flows represent the tangible aspects of the service, such as the creation and trading of NFTs, the installation of digital touchpoints within museums, and the physical attendance of visitors and collectors at events and exhibitions.
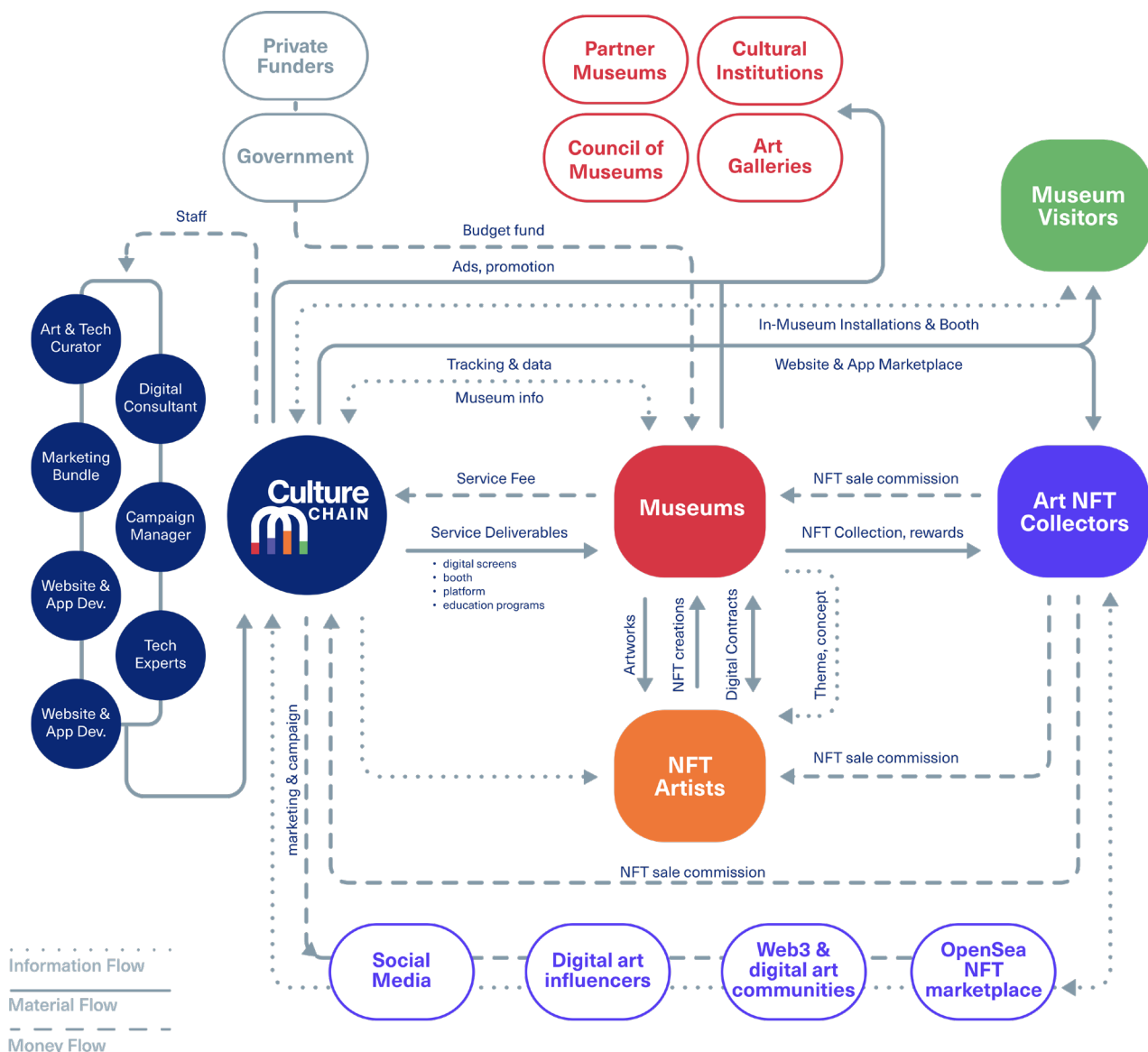
6.7 STORYBOARD

In the storyboard section, a series of illustrations will be provided to visualize a generic scenario involving key steps of the user journey within the CultureChain ecosystem. These visuals will bring the interactions between different stakeholders to life, showcasing the primary touchpoints, experiences, and processes that users encounter as they engage with the service. By presenting a cohesive narrative, the storyboard will help convey the overall user experience, making it easier to understand how CultureChain effectively bridges the gap between traditional museums and the digital art world.

1 CultureChain (CC) partners with the museum, co-creates the digital strategy with museum director and curators, tailored to museums target and needs.

2 Museum curator works together with CC experts to define and select the art pieces that will be transformed to exclusive NFTs, decides on the concept and theme for NFT creation.

3 NFT artist reached by CC creates the exclusive version of original piece, together with other artists.

4 Museum and artist agree on the digital contract terms, ownership terms and number of copies, and collection is minted for launch.

5 CC builds the digital touchpoints: integrated the museum and its NFT collection within the CC website and app, ready for launch.

CC builds the physical touchpoints: implements digital screens next to the selected artworks inside the museum, builds the CC booth in a dedicated space in museum.

6 When the infrastructures are ready, CC launches the campaign through digital channels: digital art communities, OpenSea, social media and physical channels: partner museums, cultural institutions, art galleries.

7 Digital Art Collectors reaches the CC website, displays, buys and trades from the museums NFT collection. With each transaction, both museum and the nft artist generates revenue.

8 Token owner (collector) receives free tickets, event invitations and other perks coming with NFT contract, engaged to visit the museum physically.

9 Museum visitor engages and interacts with the NFT digital screen during their museum experience. Have the option to scans the QR code to direct to the CC website or goes to the booth and receive more information about the service and potentially become a collector.

10 Museum successfully raises its accessibility through the digital environments, attracts more audiences and engage its visitors in innovative ways. Gets additional revenue from each NFT transaction.

11 CC gathers digital and traditional communities together via webinars, exclusive events and educational programs. CC builds an ecosystem where past and future meets and co-exists together.

Illustrations are modified.
Original assets: Zanzi Illustrations

6.8 USER JOURNEY MAP

	Context	Awareness	Digital Strategy & Co-Curation

Emotions

Main Users

Museum Curator: Struggling to create engaging digital strategies and doesn't know where to start. | CultureChain reaches or reached by directly or through cultural institutions, organizations | Initial meeting and partnership with CC | Co-create the digital strategy roadmap together with CC experts

Art NFT Collector: Struggling to find art-based, curated digital NFTs that authorized by art industry.

Supporting User

Digital Artists: Wishing their name and works would have high credibility and placed in industry-authorized marketplaces.

Secondary User

Museum Visitor: Would prefer more engaging experiences and different storytelling mediums in the museums

Touchpoints
- Context: (none)
- Awareness:
  • organic ads
  • email
  • social media
  • word of mouth
  • other museum partners
- Digital Strategy:
  • physical or digital meeting
  • physical meeting with CC Team of digital consultant, digital curator, marketing manager and technologists

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Define which exhibition to work on, select the pieces that will be reproduced as NFTs

Define the NFT contract and ownership rights, the blockhain set up and minting details

Decide on the storytelling theme and concept for NFT creation kick-off

Agreement on NFT digital contract terms, ownership rights, fee from each transaction, copy numbers

Reached by CC and Web3 art communities as a best fit for the theme

Agreement on NFT digital contract terms, ownership rights, fee from each transaction

Creates reproductions of original museum pieces through the defined theme

- museum exhibitions
- artworks
- archives

- workshop with NFT technology expert

- social media
- e-mail
- Web3 art communities
- artist ecosystem

- digital contract
- online meeting

73
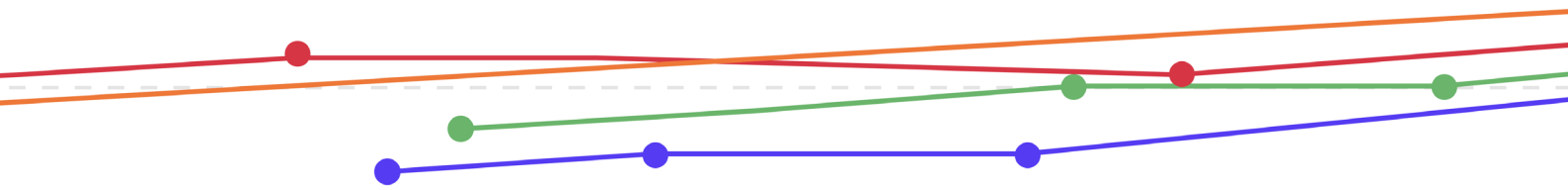
Installation of digital screens placed next to the original art pieces for exhibition

Sees the launched collection and campaign within the CC website

Staff guides museum visitors through the CC venue

Sees ads on Twitter and checks CC website

Decides to purchase an NFT from the collection

Subscribes to the website with his digital wallet

Sees the collection ad on the train station, decides to visit the museum

Visits the exhibition, interacts with the digital screens engage with NFT versions

At the end of museum experience, visits the CC venue next to the gift shop, discovers and learns about technology and the campaign

Decides to become a collector and creates digital wallet with the guidance of tech experts in the venue

- digital screens
- venue interior
- qr codes
- knowledge materials

- ads
- social media
- nft marketplaces
- brochures

- website
- digital screens

- venue
- museum staff
- website

- website
- qr code
- digital wallet
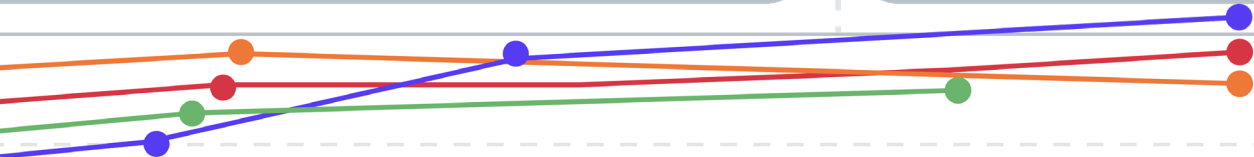
Earns money from each NFT sell

Keep track of analytics of transactions, engagement level and traffic

Joins Partnership events with other museums, engage and share knowledge

Joins educational programs to gain more expertise on NFT technology and practices

Purchase the NFT and gets ownership of the piece

Earn access to the upcoming events of the museum and free entrance ticket for another partner museums exhibition

Visits the partner museum with his free ticket, explores their collection

Joins community events organized by CC to meet with other collectors and artists

Earns money from each NFT sell

Joins community events organized by CC to meet with other collectors and artists

Purchase the NFT from the physical CC venue in the museum

Becomes a collector and recommends to his friends & family

- website
- venue

- tickets
- token contract benefits
- website

6.9 SERVICE ROADMAP

The CultureChain service roadmap presents a strategic plan for transforming the museum and digital art landscape through a progressive, three-phase approach. Each phase represents a vital step in CultureChain's growth and impact, ultimately redefining how we engage with art and cultural heritage institutions. The roadmap covers an estimated timeline, with realistic durations for each phase, ensuring a steady and sustainable growth trajectory for the platform.

0-12 months — Trailblazer

During the Trailblazer Phase, CultureChain prioritises quality over quantity by collaborating with one or two museums to create successful, high-impact campaigns. This pioneering phase focuses on raising awareness and knowledge about NFT technology and its capabilities, promoting the service idea, and teaching museums how to integrate it. CultureChain will also utilise popular NFT marketplaces like OpenSea to display and promote the collections, reaching out to existing collectors and expanding its audience. In this phase, CultureChain will establish itself as a pioneer in the NFT- museum space and lay the groundwork for future expansion.

1-2 years — Momentum Builder

In the Momentum Builder Phase, CultureChain aims to become a hub for museums by creating a diverse portfolio of partnerships from different countries. As the go-to digital companion for museums, CultureChain will focus on reaching a wider range of collectors and raising awareness among museum audiences to cultivate the habit of collecting NFTs. This phase will also involve refining the platform's features and functionality based on user feedback and market trends, ensuring that CultureChain remains at the forefront of the industry.

2-4 years — Game Changer

The Game Changer Phase signifies a substantial shift in the industry as CultureChain expands its reach to other cultural institutions beyond museums. This phase envisions a future where CultureChain becomes a permanent digital layer for museums, art galleries, and other heritage institutions, creating a sustainable income system and encouraging the habit of collecting NFTs as a natural part of the museum experience. In this final phase, CultureChain will solidify its position as a leading force in digital art and cultural heritage spaces.

6.10 BUSINESS MODEL CANVAS

The Business Model Canvas is a strategic tool that visually represents the key components of CultureChain's business model. This canvas is designed to provide a comprehensive overview of the value proposition, customer segments, channels, customer relationships, revenue streams, key resources, key activities, key partnerships, and cost structure that make up the foundation of the service. By outlining these elements, the Business Model Canvas offers a clear and concise snapshot of how CultureChain plans to create, deliver, and capture value in the digital art and museum space, ultimately enabling stakeholders to better understand the service's viability and potential for success.

KEY PARTNERS

- Museums and cultural institutions
- NFT Artists
- Technology experts
- Museum partnerships
- OpenSea (major NFT marketplace)
- Government
- Web3 Communities
- Art critics, historians, and experts

KEY ACTIVITIES

- Develop and manage digital strategy campaign for museums.
- Reach and connect NFT artists with museums to create the collection pieces.
- Kick-off and promote digital collections.
- Set up physical and digital infrastructures
- Organising educational programs and exclusive events

KEY RESOURCES

- CultureChain platform and technology infrastructure
- NFT artists and experts
- Digital Consultants
- Museum partnerships
- Marketing and promotion efforts
- Museum professionals
- Art Galleries
- Digital Art communities

VALUE PROPOSITIONS

Museums

Increase revenue, attract new audiences, and enhance visitor engagement by incorporating NFTs and digital strategies.

Collectors

Access curated, museum-validated NFT collections with exclusive benefits and events.

NFT Artists

Collaborate with museums, gain exposure, and monetise their work through exclusive NFTs.

Visitors

Engage with unique digital art experiences in both physical and digital places and learn about NFTs.

USER RELATIONSIPS

- Self-service platform for browsing and purchasing NFTs
- Personal assistance for museums and artists during onboarding
- Educational content and workshops
- Exclusive events and access for token holders

CHANNELS

Digital
- CultureChain platform
- NFT Marketplaces
- Web3 Communities
- Social media
- Emails and notifications

Physical
- CultureChain Venue
- Museum exhibitions and events
- Cultural Institutions
- Visual Ads

USER SEGMENTS

- Art Museums and their representatives such as directors and curators that are willing to create digital strategy and campaign through NFT collection for audience engagement and revenue.
- Community of digital art buyers and collectors who are interested in museums and Art NFTs, willing to support the museums and artists.
- NFT Artists looking for collaborations with trusted organizations.
- Museum visitors/public
- Art Enthusiasts

COST STRUCTURE

- Platform development and maintenance
- Costs for staff and collaborators
- Technology and infrastructure costs
- Blockchain crypto payment infrastructure
- Marketing and promotion
- Legal and administrative expenses

REVENUE STREAMS

- Initial fee from museums for digital strategy development and platform usage in case there is no funding from the government.
- Fees for digital screens, set up and venue preparation
- Fees for educational programs and workshops
- Commission on NFT sales
- Commission on NFT artist partnerships

6.11 USER INTERFACE

In this section, a selection of key user interfaces is presented to showcase the diverse range of digital and physical interactions within the CultureChain service. These interfaces demonstrate how the service seamlessly integrates NFT technology and digital art ecosystems with traditional museum experiences, fostering a dynamic and engaging environment for users. By visualizing these essential touchpoints, the aim is to provide a better understanding of the service's overall functionality and user experience. Through the exploration of digital and physical campaigns, in-museum interactive displays, and the NFT marketplace, this section illustrates how CultureChain connects traditional art spaces with the vibrant world of digital art, creating a comprehensive and innovative platform for audience engagement and cultural enrichment.

Digital Frames
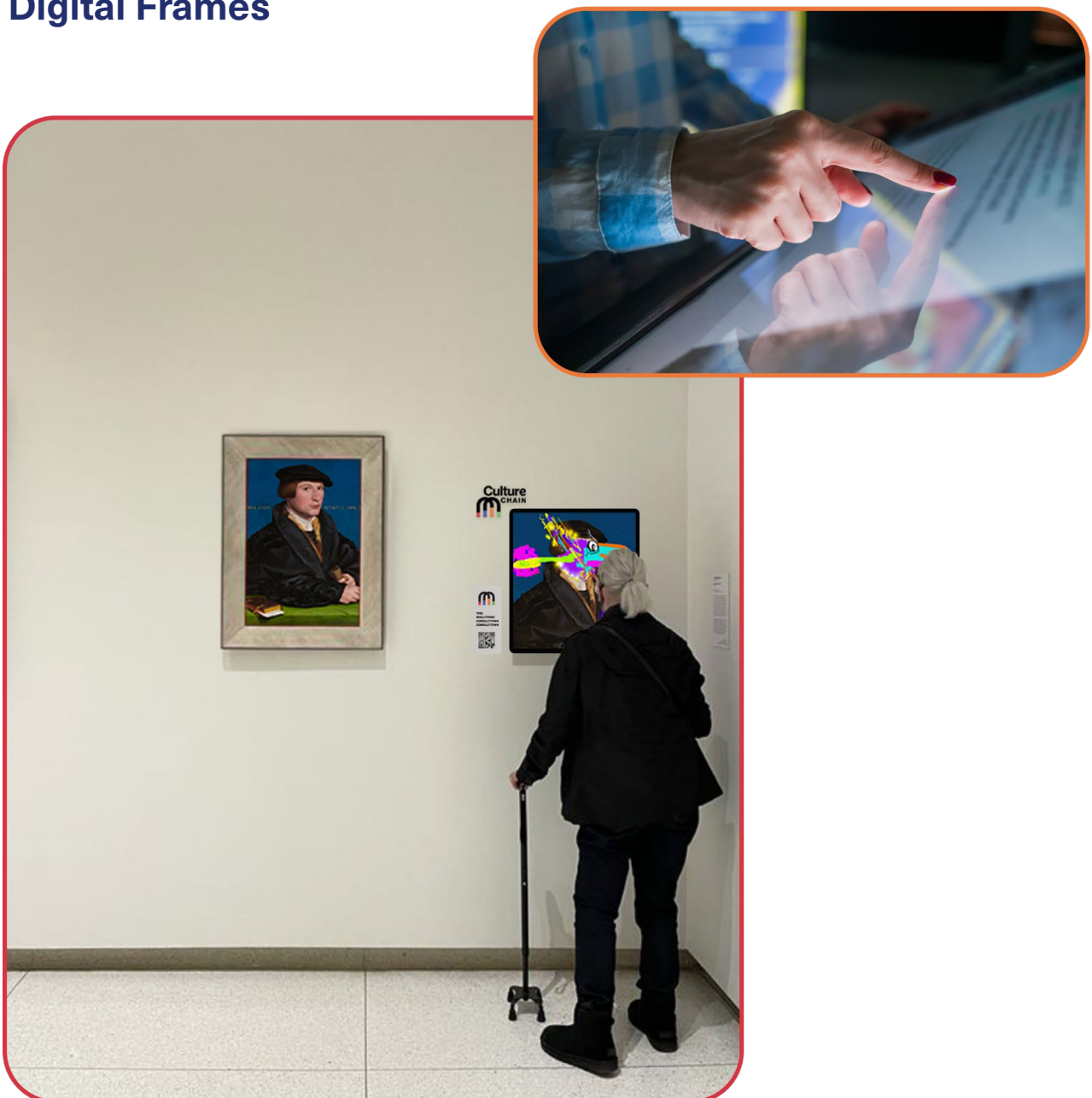
The digital screens in museums primarily serve as a tangible representation of the NFTs associated with original art pieces, allowing visitors to interact with these digital tokens in a physical space. These screens enable users to engage with the NFTs, which can be in various digital formats, such as video, GIF, or visual images. Visitors can zoom in on the NFT, compare it to the original artwork, learn about its story and theme, and discover information about the creator and the current owner. Alongside the screen, a QR code is provided for those interested in purchasing an NFT copy through the CultureChain website. In this manner, the digital screens create a seamless connection between the physical and digital art ecosystems, offering visitors an interactive and immersive experience.

Photographs are edited to create mockups, Original Photo Credit: Pırıl Kaftan, 2023

Campaign Ads

The campaign ads, both digital and physical, serve as crucial touchpoints for engaging potential visitors and piquing their curiosity about the NFTs showcased in the museum. Physical ads strategically placed in public spaces, such as train stations or billboards, are designed to capture attention and spark interest in the NFT-driven museum experience. The language and visuals used in these ads are crafted to resonate with a broader audience, employing straightforward and compelling terms that generate excitement and anticipation.

Simultaneously, digital ads play a significant role in promoting the museum and its NFT collection to a wider online audience. By leveraging influential NFT collectors and their social media presence, these ads encourage art enthusiasts to explore the CultureChain platform and consider purchasing NFTs associated with the museum's collection. The combination of digital and physical campaign ads creates a synergy that effectively reaches diverse audience segments and invites them to engage with the world of NFTs in a museum context.
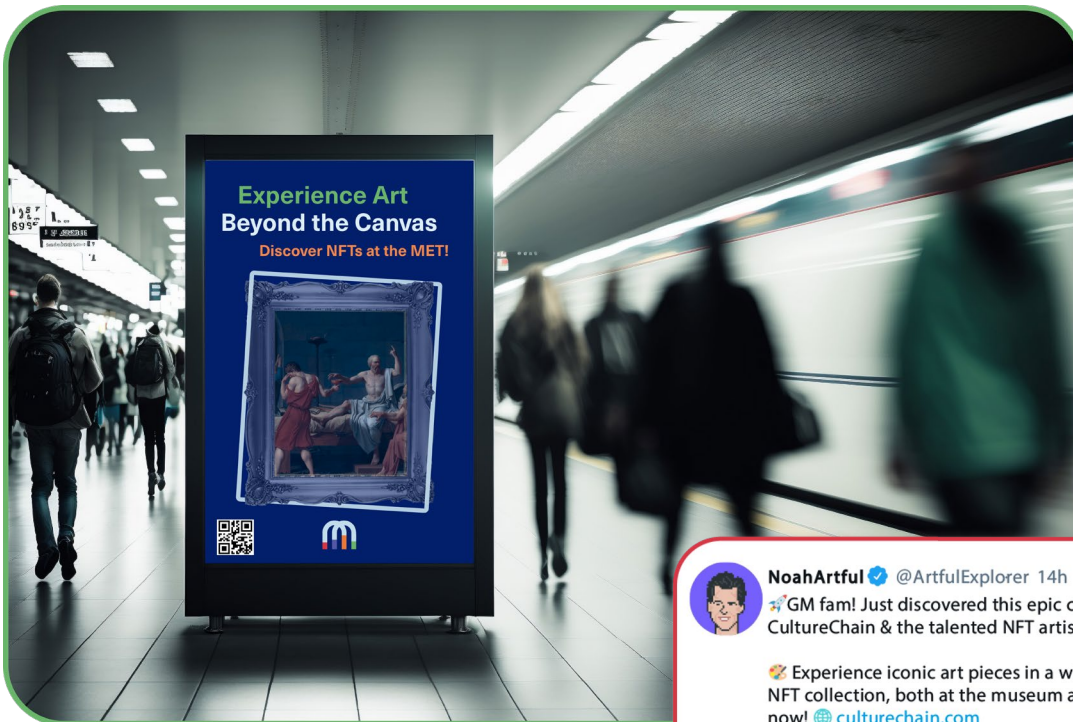
Culture CHAIN

Discover a World of Digital Art:
Experience Exclusive NFTs from
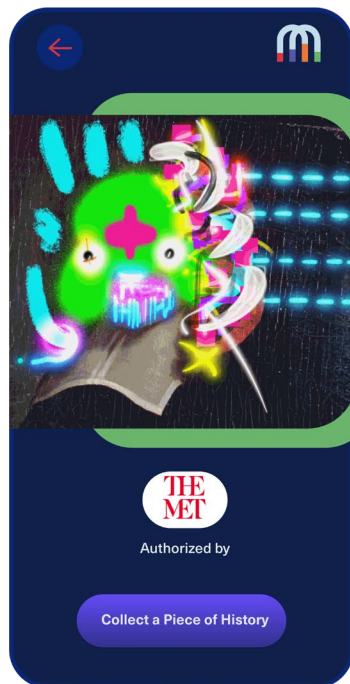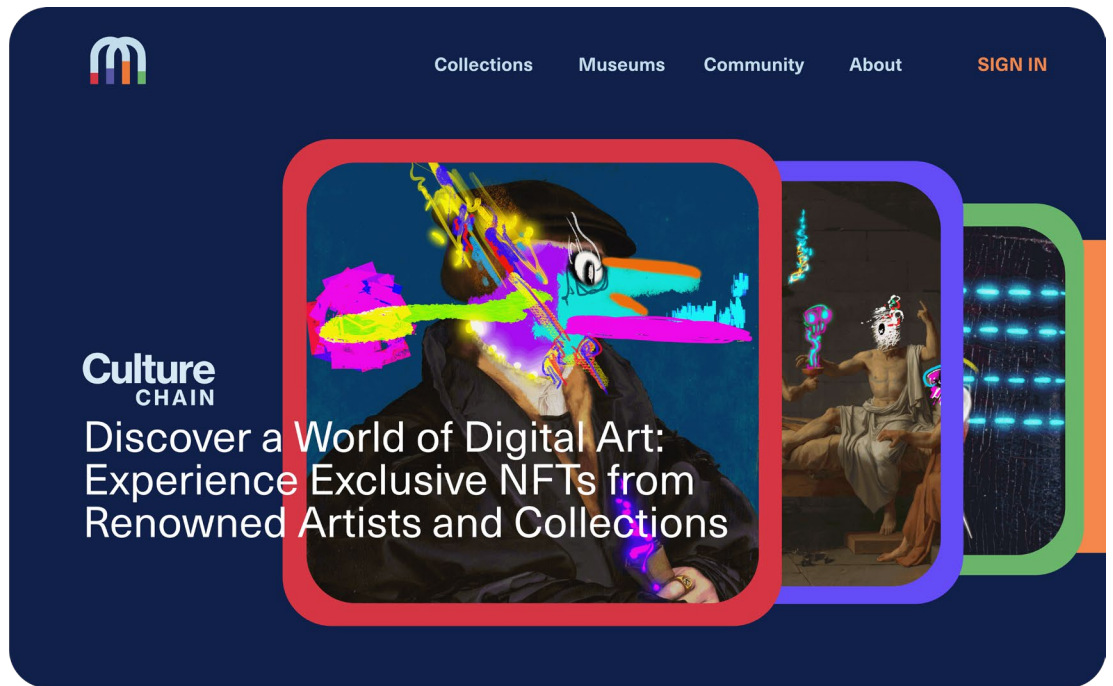Renowned Artists and Collections

THE MET

Authorized by

Collect a Piece of History

Online Platform

The CultureChain online platform offers a seamless and immersive experience for art enthusiasts, allowing them to explore, discover, and purchase NFTs associated with their favorite art pieces. With a user-friendly interface, the platform showcases a curated collection of NFTs, detailed information about each artwork, and the artists behind them. Designed for both desktop and mobile devices, the platform ensures a smooth purchasing experience, making it easy for users to acquire and manage their digital art assets.

Artworks used on the Mockups belongs to TreeSkulltown
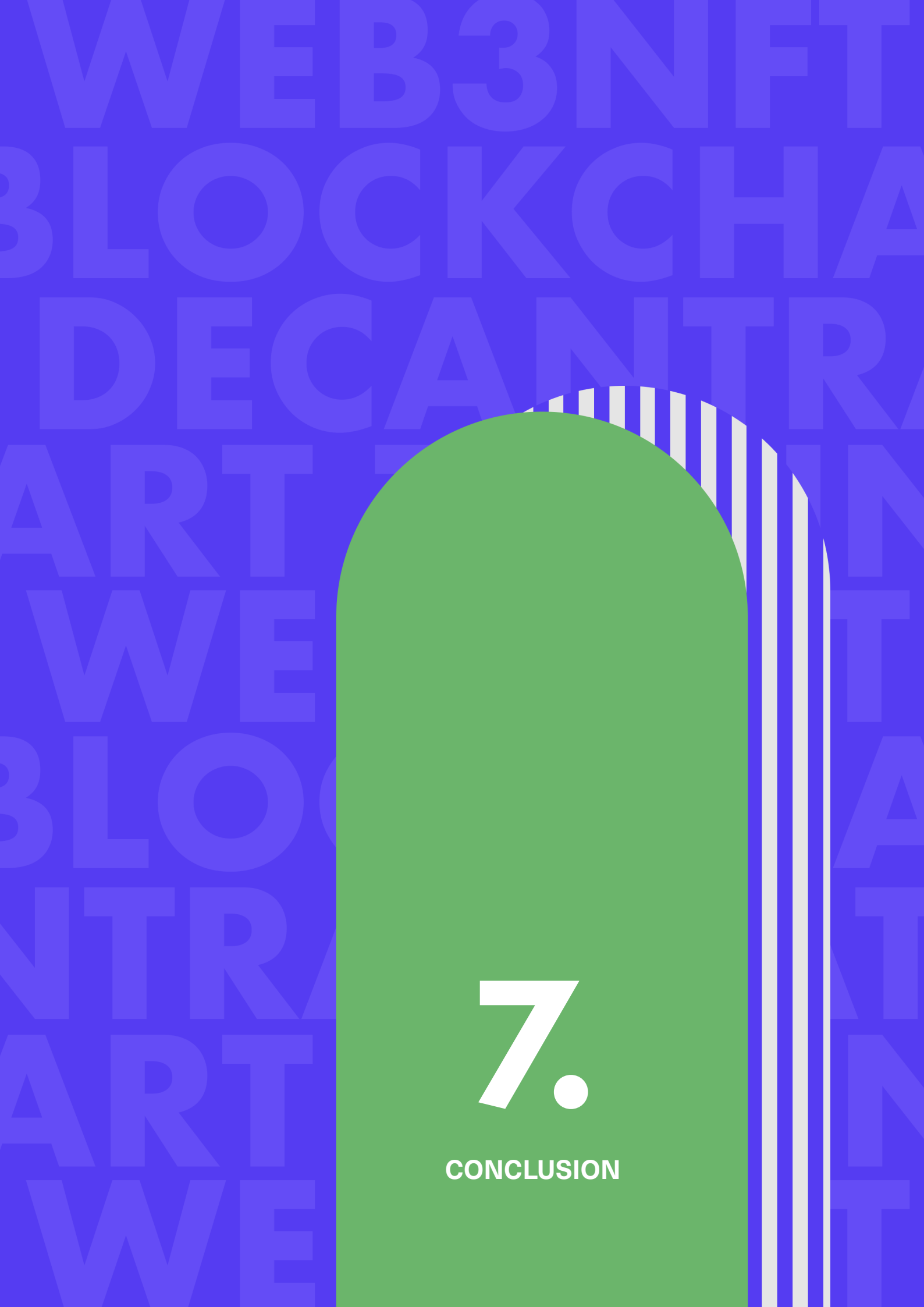
7.

CONCLUSION

7.1 SUMMARY

Throughout this research journey, the objective has been to develop a collaborative service for museums that bridges the gap between traditional and digital art ecosystems, increases audience engagement and revenue, and embraces digital collectibles, while ensuring global accessibility and promoting cultural heritage.

The analysis started with a comprehensive literature review to establish a solid foundation in understanding the challenges and opportunities in the evolving museum landscape, as well as the impact of digital technologies like NFTs on art ecosystems. The literature review was followed by the case studies, which were conducted to identify best practices and trends in the museum sector, as well as to understand the potential of NFTs as a storytelling medium for audience engagement and revenue growth in museums. These studies provided valuable insights into the various aspects of existing services and models, revealing the potential for a new, more comprehensive solution. By drawing from the most meaningful elements in context, model, and technology, the foundation for a novel service was laid. User research was then conducted to shed light on the needs and preferences of various stakeholders, including museums, digital art creators, collectors, and art enthusiasts. These insights culminated in the formulation of the key question: "How might we develop a collaborative service for museums that bridges the gap between traditional and digital art ecosystems, increases audience engagement and revenue, and embraces digital collectibles, while ensuring global accessibility and promoting cultural heritage?"

In response to this question, the service concept CultureChain was developed. CultureChain is a comprehensive platform designed to facilitate the integration of traditional museum experiences with the digital art world through the use of NFTs, exclusive digital collections, and audience engagement strategies. A key aspect of this service is the utilisation of blockchain technology, which enables the creation of exclusive and secure digital collections that can live forever in the digital realm, adding a new dimension to museum culture and storytelling. Key offerings of CultureChain include digital strategy development, NFT artist collaboration, online collection creation and promotion, in-museum digital experiences, audience education and involvement, analytics and tracking, collaboration with experts, and partnerships with cultural institutions and Web3 communities. These offerings work together to create a seamless connection between traditional museum collections and the digital art ecosystem, fostering a dynamic, interactive experience for visitors and collectors alike.

By leveraging NFTs as a storytelling medium, CultureChain adds depth and context to museum collections, attracting new audiences and generating revenue for museums. Moreover, the platform promotes global accessibility, cultural heritage, and sustainability in the art industry. Global accessibility is achieved through the online presence and availability of digital collections, allowing a wider audience to engage with and appreciate art, regardless of their location. Cultural heritage is preserved and promoted by ensuring that digital reproductions are created and validated in collaboration with museums and experts, maintaining the integrity and authenticity of the original works. Lastly, the platform contributes to sustainability in the art industry by fostering collaborations and partnerships among various stakeholders, promoting a more inclusive and diverse art ecosystem.

7.2 FUTURE IMPROVEMENTS

As the thesis concludes, there are several areas for future improvements. Expanding the user research to reach a broader audience can provide valuable insights for the development of CultureChain. Since NFTs and blockchain are rapidly evolving technologies, staying up-to-date with the latest advancements is essential for the service to remain relevant and effective. Further development and testing of CultureChain's service offerings and prototypes on a global scale can help measure its feasibility and potential impact. Addressing sustainability concerns, such as the environmental impact of blockchain technology, will be crucial for the long-term success of the platform. Strengthening and expanding partnerships with various stakeholders in the art ecosystem can promote growth and foster collaboration. Lastly, assessing the long-term impact of NFTs on museums and examining their implications for the transformation of visitor experiences in both digital and physical worlds will be vital for shaping the future of the museum and digital art sectors.
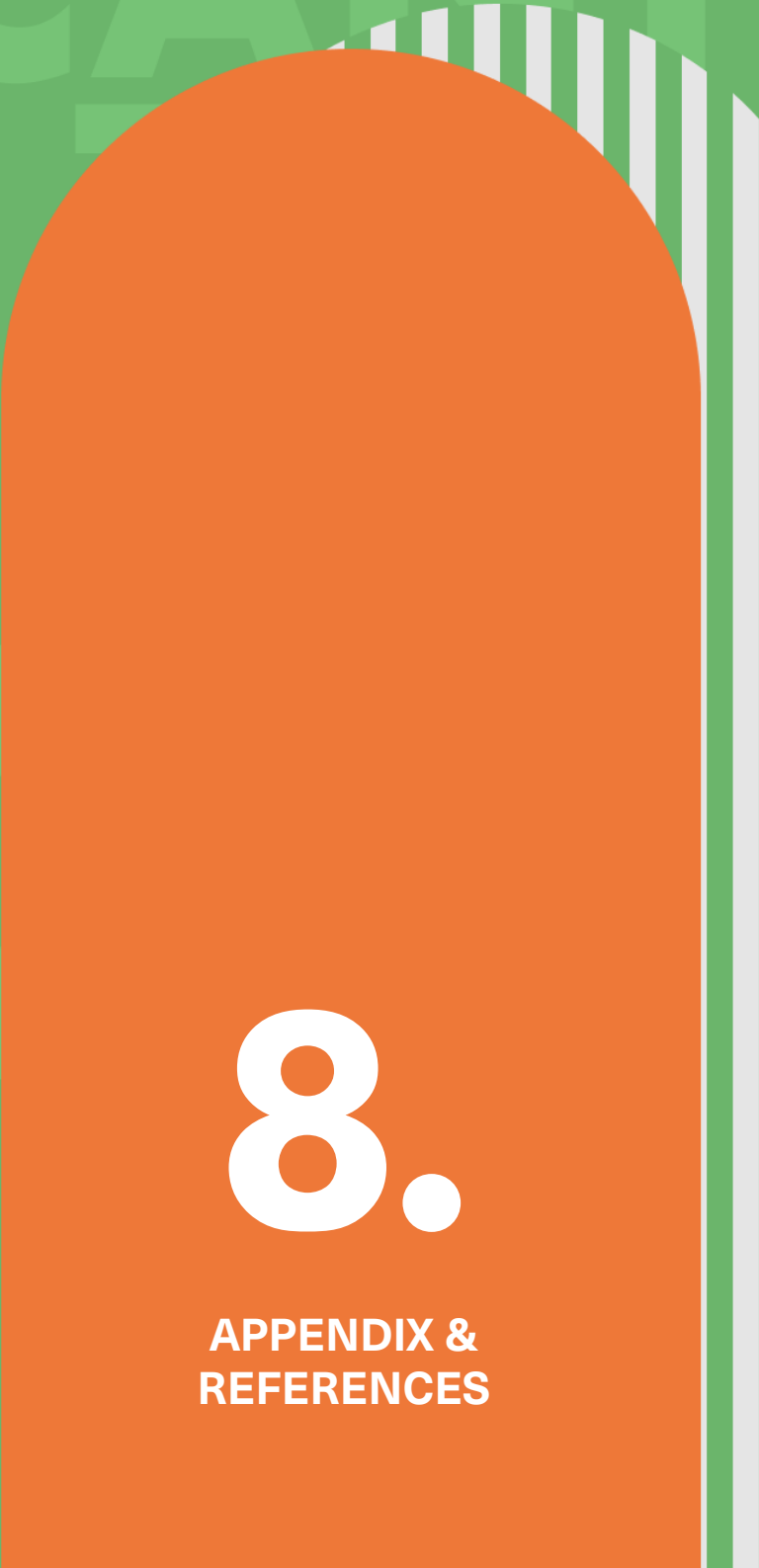
8.

APPENDIX & REFERENCES

APPENDIX User Research

Expert Interview Questions for Museum Professionals

1 - Could you please provide a brief description of your role and responsibilities within your cultural organisation? Alternatively, if you are an enthusiast, could you describe your contribution to the sector (e.g., funder, collector, etc.)?

2 - Digitization in cultural institutions has been around for a while, but new technologies and the pandemic have sped up the need for digital adoption in all aspects of life. This makes it more important than ever for museums to adapt quickly. What are your thoughts on how museums can adjust their strategies to succeed in this fast-changing digital world?

3 - From your organisation's perspective, what do you perceive as the main challenges in audience engagement and generating revenue streams for museums, and how do you think innovative solutions like NFTs can address these issues?

4 - Considering the unique value proposition of NFTs, which includes accessibility, ownership, and authenticity, how do you think the adoption of NFTs in the art and cultural sector can revolutionise the way people engage with, collect, and appreciate art and cultural heritage?

5 - What challenges or barriers do you foresee in adopting NFTs as a part of museum collections or operations?

6 - How do you perceive the value of engaging with digital communities of artists, curators and collectors in the context of museums and cultural institutions? In what ways do you think reaching out to and collaborating with these communities could benefit museums, their collections, and their audience engagement strategies?

7 - From your perspective, do you think a purely digital presence of NFT collections is sufficient to attract and engage audiences, or is it necessary to integrate physical touchpoints within museums to complement the digital experience?

8 - From an organisational perspective, what key processes, knowledge and capabilities do you think museums and cultural institutions would need to develop and implement a successful NFT-focused digital strategy?

9 - In terms of organisational structure and resources, do you think it is economically viable for museums to build an in-house infrastructure and employ digital experts, digital curators, or professionals working in the NFT field? Or would partnering with external service providers be a more effective approach to ensuring a successful and sustainable collaboration in the digital realm?

10 - Could you describe your organisation's structure, specifically focusing on the roles and responsibilities of those in charge of funding streams, collection management, and decision-making processes? How are the various departments and their capabilities interconnected, and who would be the key stakeholders to engage with when considering the implementation of new initiatives or technologies, such as NFTs?

11 - In light of the traditional mindset and funding methods often associated with museums, do you believe it is feasible for these institutions to undergo a shift in their structures and approaches to embrace the digital world and its various stakeholders? How might museums navigate this transition, and what challenges could they potentially face?

Expert Interview Questions for NFT Artist

1- Introduction and Background: Can you tell us a little bit about yourself and your background in creating NFT art? How did you first become interested in this field, and what motivated you to create the works that you do?

2- Traditional Perspective: Can you also shortly describe your relation with traditional art and museums? Would you consider yourself art or museum enthusiasts?

3- Creative Process: Can you describe your creative process for creating NFT art? What tools and techniques do you use, and how do you approach the process of creating a new piece?

4- Artistic Style and Inspiration: Your work seems like a reproduction of old pieces with added layers. Could you explain your approach as an artist, and what is the story behind your significant style and what motivates you to create these pieces? Are the base layers real artwork produced by traditional artists, or do you create the base layer as well? (Maybe you can share an example work to visualise the process)

5- The Backend Process: Could you explain the minting process, contract types, ownership, and other technical details involved in creating and selling NFT art? (please explain through an example if possible)

6- Are you part of any digital communities that are focused on Web3 and NFTs? If so, can you talk about your involvement in these communities and how they have impacted your work as an NFT artist? Additionally, how do you think these communities are impacting the broader digital art world and the way people engage with art and artists online?

7- Are you familiar with DAOs and if yes how is your relation to them?

8- NFT Technology and the Art World: How do you think NFT technology is changing the art world? What new opportunities or challenges does it present, and how do you see the market for NFT art evolving over time?

9- Collaborating with Museums: You mentioned being interested in participating in NFT projects with museums. Can you talk about your vision for how NFT art could be used as a collaboration tool with museums, and what kind of benefits or opportunities it could provide for artists, collectors, and museum audiences?

10- Please provide your further insights in case they are not incorporated within the presented questions. Any suggestions or opinions related to the topic.

11 - Regarding your buyers or audience that is following your work: is there any common insight or feedback you receive from them in light of your signature style of combining old pieces with an innovative approach? Is there any particular reason why your works are popular?

Questionnaire for Digital Art Enthusiasts

1- Gender (Multiple Choice)
a.   Male
b.   Female
c.   Prefer not to say
2- Age (Multiple Choice)
a.   >25
b.   26-42
c.   43-59
d.   >60
3- Resident in (Multiple Choice)
a.   Europe
b.   US
c.   UK
d.   North America
e.   South America
f.   Asia
g.   Africa
h.   Australia
4- Which one(s) describe(s) your role or interest in the digital art ecosystem? (Check boxes)
•   NFT Collector or Trader
•   NFT Artist or Digital Creator
•   Digital Art Curator
•   Art Enthusiast or Visitor
•   NFT & Web3 Enthusiast
•   Investor or Funder for Cultural Institutions
•   Other...
5- How frequently do you engage with digital art or NFTs? (Multiple Choice)
a.   Daily
b.   Weekly
c.   Monthly
d.   Rarely
e.   Never
f.   Not yet
6- How often do you visit traditional museums or art galleries? (in physical space)(Multiple Choice)
a.   Regularly
b.   Occasionally
c.   Rarely
d.   Never
7- How often do you visit traditional museums or art galleries? (in their digital platforms/ websites) (Multiple Choice)
a.   Regularly
b.   Occasionally
c.   Rarely
d.   Never

8- Would you be interested in collecting digital versions of physical art collections of museums? (e.g. imagine you are in a digital collectibles shop instead of a gift shop and you have the chance to collect your favourite art piece created as an NFT version) (Multiple Choice)
a.   Yes
b.   No
c.   Maybe

9- If you answered yes or maybe to the previous question, what factors would influence your decision to purchase digital versions of physical art collections? (Check boxes)
•   Exact digital copy of the piece
•   Exclusive version (reproduction of the piece by a well known NFT artist)
•   Knowing that purchasing the piece will support the museum
•   Rewards coming with NFT token
•   Being a part of the history and museum collection
•   Other...

10- Would you be more inclined to purchase NFTs if they were associated with rewards, such as museum memberships, exclusive events, or other perks? (Multiple Choice)
a.   Yes
b.   No
c.   Maybe

11- Imagine that the NFT you purchased will be displayed under your name inside the physical museum. Would this motivate you to purchase? (Check boxes)
a.   Yes
b.   No
c.   Maybe
d.   Other...

12- Would you be interested to support your favourite museum by purchasing from their exclusive NFT collections? (Multiple Choice)
a.   Yes
b.   No
c.   Maybe

13- Do you believe NFTs showcased by traditional, reputable institutions would be more trustworthy than those available on open platforms like OpenSea?
a.   Yes
b.   No
c.   Maybe

14- Do you have any suggestions on what would motivate a digital collector to purchase an NFT from the museums? (open-ended)

15- If you are a digital artist/creator, would you be interested in collaborating with museums and their collections to create exclusive content?(Multiple Choice)
a.   Yes
b.   No
c.   Maybe

16- What suggestions do you have for museums to better engage with digital communities and incorporate digital art or NFTs into their collections or programs? (open-ended)

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