NFTs in Finance: A Comparative Analysis of NFTfi and Figure Technologies through Distributed Innovation

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# Abstract

This report explores….

# Introduction

In the past few years, Non-Fungible Tokens (NFTs) have become widely known for digital art and collectibles. However, their potential use in the financial industry is now gaining more attention. Because each NFT is unique and can be verified on the blockchain, this technology is starting to be used in financial services—for example, in lending, tokenizing assets, and proving ownership.

This report looks at how NFT technology is being used in finance by comparing two real-world companies: NFTfi and Figure Technologies. NFTfi is part of the crypto and DeFi ecosystem, where people use NFTs as collateral to borrow cryptocurrencies. On the other hand, Figure Technologies is a fintech company that uses blockchain to manage traditional financial products like loans and real estate. Although they focus on different things, both companies use the core ideas of NFTs in their services.

To better understand how these companies innovate, based on the distributed innovation concepts studied in this course, we focus on Platform Eco and Web APIs as the two most relevant frameworks for analyzing how NFTfi and Figure Technologies apply NFT technology in the finance industry.

# Justification and Explanation

## Motivation

In this report, we have chosen to analyze NFTfi and Figure Technologies as two real-world examples of how NFT-based technology is applied in the finance industry. These companies were selected because they represent two different but complementary approaches. NFTfi works within the decentralized Web3 ecosystem, while Figure operates under regulated financial frameworks. Comparing them allows us to explore a broader spectrum of NFT use cases in finance, making our analysis more meaningful and relevant.

NFTfi, founded in 2020, is a lending platform that allows users to borrow cryptocurrency, usually ETH, by putting up their NFTs as collateral. This makes it one of the earliest and most well-known examples where NFTs are used for something beyond art or gaming. The entire process is managed by smart contracts, ensuring trustless transactions between borrowers and lenders. This reflects the core principle of decentralization, where value can be exchanged without middlemen. (Dow Jones & Company Inc, 2023)

One major reason for choosing NFTfi is its clear track record of growth and adoption. As of May 2025, the NFTfi platform has recorded over $68 million in loan volume in USDC alone, according to real-time statistics available on its official dashboard (NFTfi, n.d.). It has also expanded partnerships with popular wallets like MetaMask (MetaMask, n.d.), and it integrates with marketplaces such as OpenSea and Blur. These integrations not only demonstrate real adoption but also show how NFTs can be connected to broader financial networks.

Another reason we chose NFTfi is because of how open its ecosystem is. Everything happens on-chain, and all the transaction data can be viewed by anyone. The platform also provides open APIs and developer guides, which make it easy for others to build new tools or add new features. This matches the Web3 idea that different platforms can work together like building blocks. Since NFTfi also supports open-source projects and lets the community take part in decision-making, it serves as a strong example of how distributed and platform innovation can work in finance.

In contrast, Figure Technologies is a fintech company that applies blockchain and NFT-like tokens to institutional finance. Built on its own Provenance Blockchain, Figure provides services such as home equity loans (HELOCs), personal loans, and digital asset securitization. Each financial contract is represented by a unique token on-chain. Although these tokens aren’t officially called NFTs, they still have similar features such as being unique, traceable, and unchangeable. In this way, they follow the same logic as NFTs (Cotality, 2025).

We chose Figure because it shows how NFT principles can be adapted to a regulated, institutional setting. Unlike many DeFi platforms, Figure is registered with the SEC and works directly with banks, underwriters, and custodians. This allows us to contrast its top-down, compliance-driven innovation model with NFTfi’s bottom-up, user-led design. The contrast helps show how innovation strategy changes based on environment, target users, and regulatory constraints.

What’s more, Figure has raised over $12.5 billion in funding in just six years (Cotality, 2025). This makes it one of the most well-funded and operational blockchain startups in traditional finance. It has also partnered with major financial firms like Apollo (Apollo, 2021), showing that big institutions are beginning to take blockchain seriously in their operations.

A final motivation is the availability of high-quality public data. NFTfi’s loan data is visible on-chain and supported by dashboards like Dune Analytics. Figure provides whitepapers, use cases, and policy papers through Provenance.io, and is often cited in blockchain regulation literature. This makes both companies suitable for in-depth analysis using real examples and credible evidence.

In summary, NFTfi and Figure Technologies were selected because they offer a rich, contrastive case study on NFT adoption in finance, covering both DeFi and TradFi. Their technological models, target users, and governance structures differ, yet both demonstrate how NFT-based systems can unlock new types of financial value. Analyzing them helps us better understand how innovation is shaped by ecosystem dynamics, user needs, and regulatory environments. This analysis also aligns with the innovation concepts explored in this course, particularly the role of platform Eco and Web APIs in enabling interoperability and scalability.

## Technology Explanation

As we discussed in our mid-term report, NFTs are unique digital assets stored on a blockchain. Unlike fungible tokens like Bitcoin or Ether, which are interchangeable and equal in value, each NFT is unique and can’t be swapped directly for another (Popescu, 2021). This property makes them well-suited for situations where you need to show ownership of something specific, prove that it’s real, or keep a clear record of transactions. In finance, these qualities enable NFTs or similar tokens can be used to represent things like contracts, identity records, or financial products in a secure and programmable way.

NFTfi is a good example of how NFTs can be used in decentralized finance (DeFi). On this platform, users can borrow cryptocurrency by offering their NFTs as collateral. The borrower lists an NFT, and lenders make offers. Once both sides agree on the loan terms, the NFT gets locked in a smart contract until the loan is paid back. If the borrower fails to repay, the NFT automatically goes to the lender.

This whole process is fully decentralized and runs on the Ethereum blockchain. There’s no need for a bank or middleman to approve anything. Smart contracts handle everything, from locking the NFT to sending the loan and releasing the NFT after repayment. Users stay in control of their crypto wallets and use tools like MetaMask to interact with the platform. Every transaction is public on the blockchain, so it’s transparent and easy to track.

NFTfi supports common token standards such as ERC-721 and ERC-1155, which makes it compatible with a wide variety of NFTs from different marketplaces. These standards ensure that NFTs can be easily transferred, validated, and integrated into other Web3 services. NFTfi also offers public APIs and developer tools, allowing analytics platforms and third-party applications to interact with its lending data (Musan., 2020).

Through this approach, NFTfi is changing the way people see NFTs. Instead of just being seen as collectibles or digital art, they are now being used as tools for real financial purposes. However, the system still depends on how people value these NFTs, and that value can change a lot and is hard to make consistent. Most lenders on the platform are already familiar with crypto and know how to judge digital assets, which makes it harder for more traditional users to get involved.

On the other hand, Figure Technologies offers a more institutional application of NFT-like technology. It runs on Provenance Blockchain, a permissioned public blockchain designed specifically for financial services. Figure uses this system to tokenize real-world financial agreements like home equity lines of credit (HELOCs), personal loans, and asset-backed securities (Cotality, 2025). Each loan issued on the platform is represented as a unique token that captures ownership, payment terms, and transaction history.

These tokens aren’t always called NFTs, but they work in a similar way, and in some cases they are sold as NFTs, such as Figure’s sale of eNote mortgages in a blockchain marketplace (Martinez, 2022). Each one is unique, can be tracked, and can’t be changed once it’s on the blockchain. Even though they don’t use standard NFT formats like ERC-721, they follow the same idea and play a similar role in finance. That’s why they can be seen as a version of NFT technology made for institutions. This setup works well for financial agreements that need to be clearly recorded, checked, and traced over time. For example, when someone takes out a loan using Figure, a token is made to represent that specific contract. The token is kept on the blockchain and can be moved or traded if needed.

Figure’s system follows all the necessary regulations. Users have to go through steps like identity checks (KYC), credit reviews, and other background processes. Unlike NFTfi, which is open to anyone, Figure only allows approved users to take part. This makes it possible for Figure to work with banks, investment firms, and other big financial institutions that need everything to follow strict rules and be easy to audit.

The use of smart contracts in Figure’s system improves efficiency. They take care of issuing loans, setting repayment schedules, and handling asset transfers automatically. Everything is recorded on the Provenance blockchain, so each token has a clear and complete history (Provenance Blockchain, n.d.). This is really useful when assets are later grouped together or sold on secondary markets.

Another key innovation is that Figure supports splitting up loans into smaller parts. These smaller shares can be sold to different investors, and each investor gets their share of the repayments. This makes it easier for more people to join in on financial deals that are usually only for large institutions, like private loans or mortgage-backed securities.

Figure also provides a software development kit (SDK) and APIs, enabling banks and fintechs to build their own applications on the Provenance network (Provenance Blockchain, n.d.).These tools allow partners to automate loan servicing, monitor repayments, and manage compliance workflows directly on-chain.

While NFTfi and Figure differ in their target users and environments, where NFTfi serves crypto-native individuals and Figure supports institutional finance, they both show how NFT-based tokens can represent complex financial agreements in a secure, automated way. NFTfi emphasizes peer-to-peer lending and user control, while Figure focuses on scale, compliance, and enterprise infrastructure.

Ultimately, both companies use NFT principles to build digital trust. For example, a gaming NFT can be used as loan collateral, while a real estate loan can be turned into a token for investors. In both cases, these systems are changing how value and ownership are recorded, shared, and used in the financial world. As they evolve, such models may shape the future direction of digital finance, bridging gaps between decentralized networks and traditional institutions.

# Concept

## Relevance of Concepts

From Lecture 4, we know that a Web API is an "interface for web-based services to interact." In other words, users can not only access services through a website directly, but also interact with those services programmatically via the backend (i.e., by using code to access the services directly). In addition, as discussed in Lecture 4, Platform Ecosystems refer to the trend of companies shifting towards platform-based businesses, where a platform business means "using platforms to give different groups of people a way to interact and generate value from these interactions." Both of these innovation concepts are highly relevant to the two companies, and I will explain why in the following part.

Firstly, the platform ecosystem is very important for NFTfi. This company primarily facilitates peer-to-peer lending between users. While the internet is one of the most convenient tools for communication today, it is still challenging for strangers to find and connect with one another effectively. Furthermore, even if two strangers do manage to connect, they are unlikely to trust each other enough to engage in lending or borrowing transactions. However, by providing a platform ecosystem, NFTfi enables potential lenders to easily find borrowers and vice versa, solving both the discovery and trust issues. Without such a platform, NFTfi would need to rely on offline services, such as opening physical branches to attract investors and borrowers. This approach would significantly reduce the number of potential users, as it is neither convenient nor scalable. Moreover, with fewer participants, the number of successful transactions would also decrease. For example, originally there might be 10 potential borrowers, but without the platform, there may be only 1, leading to a significant drop in transaction volume. Another example that highlights the importance of the platform is the NFTfi marketplace website. Users can post their loan requirements, and other users can provide loans based on the posted NFTs. Without such a platform, lenders would question the reliability of these posts. But now, they can be assured that the posts are backed by actual NFTs and only need to evaluate the value of the NFTs themselves.

Similarly, the platform ecosystem plays a pivotal role in Figure’s business model. By offering this platform, Figure enhances market liquidity in two keyways: it allows loan originators to verify borrower funds via NFT validation, and it provides loan buyers with clearer insights into collateral composition (Figure, 2024). This platform-centric approach forms the foundation of Figure’s operations. Without it, the company would be unable to efficiently connect loan originators with capital providers. Compared to traditional financial institutions, Figure’s faster loan processing capabilities make it more attractive to both institutional partners and individual borrowers. For example, a lending institution using Figure Connect can instantly assess borrower eligibility through blockchain-based asset verification. Instead of waiting days for manual underwriting and documentation, the lender can rely on real-time NFT-based proof of funds, significantly reducing turnaround time. At the same time, loan buyers gain confidence in the quality and structure of collateral, because the asset composition is transparently recorded and traceable on the blockchain. This efficiency allows both sides to operate with lower risk and higher speed, which directly supports Figure’s platform-driven revenue model. In addition, since Figure’s revenue is closely tied to transaction volume, hence operational efficiency is crucial. Lastly, a digital platform enables the company to reach more users without relying on physical infrastructures. All of these ensure a seamless and rapid user experience which reinforces Figure’s commitment to speed and transparency in lending.

As for Web APIs, it plays a strategic role in NFTfi’s growth by promoting its core lending platform. According to the NFTfi API Key Request Form (NFTfi, n.d.), “the company offers free API access to developers who provide a well-defined and robust use case”. The API allows seamless integration with NFTfi’s digital ecosystem which enabling more efficient interactions with its transaction services. In addition to the API, NFTfi also offers a supporting Software Development Kit (SDK). Both of them are designed for developers who wish to build on top of the NFTfi protocol. The SDK supports the creation of automated strategies and facilitates the development of new applications that integrate directly with the NFTfi infrastructure. This developer-focused strategy is intended to foster third-party innovation, expand the platform’s utility, and attract more user. It reflects an Inside-Out Open Innovation model. In conclusion, APIs and SDKs are not direct sources of revenue; instead, they are used to increase user engagement and strengthen network effects around NFTfi’s core services.

Similarly, Web APIs play a critical role in Figure’s platform ecosystem. It is an inside-out open innovation, and Figure uses APIs to promote its existing digital lending products as well. Those APIs are designed primarily for institutional lenders which simplifies access to Figure’s home equity loan platform by providing standardized interfaces for services such as HELOC inquiries and pre-qualification. The availability of detailed user documentation further demonstrates the platform’s maturity and reliability which encourage potential partners to adopt its infrastructure. By integrating Figure’s APIs, lending institutions can streamline the processing of home equity loan applications, improving both speed and operational efficiency. Moreover, the platform ensures strong data security and compliance with financial regulations, thereby protecting sensitive borrower information (Figure, n.d.). This API-driven approach benefits both lenders and borrowers. Specifically, lenders can retain their internal systems and underwriting workflows while gaining access to Figure’s digital infrastructure, and borrowers enjoy a faster application experience. A tangible example is Movement Mortgage (Figure, 2022), which announced plans to integrate Figure’s Home Equity Line of Credit (HELOC) service into its offerings. This partnership enables customers to benefit from a fully digital, end-to-end lending solution powered by Figure’s platform

In conclusion, platform ecosystems are crucial for both NFTfi and Figure, because they are closely related to their core business models. Without utilizing this innovative distribution concept, their businesses might need to undergo significant changes. In addition, Web APIs also play an important role for both companies. Although neither of them directly profits from APIs, both have chosen to use them to provide better services, which in turn could attract more users.

## Discussion of Concepts

This section explores how two distributed innovation concepts—Platform Ecosystems and Web APIs—are specifically implemented in the two companies: NFTfi and Figure Technologies. By integrating INFO5992 course theories with practical case analysis, this discussion illustrates how these innovation concepts can be embedded in business logic and technical systems to support core operational goals, foster innovation strategies, and build scalable ecosystems.

3.2.1 NFTfi’s Application of Platform Ecosystem

NFTfi exemplifies the concept of a platform ecosystem in the context of decentralized finance (DeFi). The platform facilitates peer-to-peer lending between NFT holders (borrowers) and cryptocurrency holders (lenders), creating a decentralized lending market that operates without reliance on traditional financial intermediaries. As outlined in Week 6, platform ecosystems are designed to connect multiple user groups and generate value through mechanisms of value co-creation and network effects, supported by digital infrastructure and governance protocols. NFTfi embodies these principles in practice.

In the NFTfi ecosystem, borrowers start by listing their NFTs as collateral. Lenders then review these digital assets before making a decision. They usually evaluate each NFT based on its rarity, liquidity, and past market performance. Once both sides agree, the lending process runs through smart contracts.These smart contracts handle all key steps automatically. They take care of escrow, release loan funds, track repayment, and manage collateral in case of default. This setup does not require a central authority. As a result, it lowers the risk between users. It also improves transparency and makes the process more efficient.

NFTfi’s system follows the Search–Trust–Transaction–Delivery model described in Tutorial 6. Users start by exploring loan listings in an open and transparent marketplace (Search). They build trust through blockchain-based data and automated contract logic (Trust). When a match is made, the system finalizes the loan and transfers assets using smart contracts (Transaction). In the end, depending on whether the loan is repaid, the NFT is either returned or liquidated automatically (Delivery).

NFTfi plays a dual role in the platform. It acts as both the Platform Provider and the Platform Owner. It manages the technology infrastructure, sets governance rules, and maintains operational processes. Users on the platform also take on specific roles. Borrowers are Producers because they initiate loan requests. Lenders are Consumers because they provide capital. This setup creates a typical two-sided market. As more users join both sides, the value of the platform grows. This growth is driven by network effects that build on themselves over time.

To reach more users, NFTfi connects with widely used tools. It integrates MetaMask for wallet access and platforms like OpenSea and Blur for NFT verification. Even more importantly, NFTfi offers an open GraphQL API (NFTfi, n.d.). This API allows developers to pull real-time data on loans, collateral status, and smart contract activity. With this access, developers can build useful tools such as dashboards, loan optimizers, and risk scoring apps. These efforts expand the platform’s functionality. They also reflect ideas like user-driven and outside-in innovation, as discussed in Week 4.

By May 2025, NFTfi had enabled more than 69.7 million USD in USDC-based NFT loans. These included well-known collections like Bored Ape Yacht Club and Wrapped Cryptopunks (NFTfi, 2025). This number shows how well the platform structure works. It also highlights strong user engagement and NFTfi’s leadership in NFT lending.

The platform also encourages long-term participation. It does this through features like reputation signaling and community visibility. Borrowers who repay loans successfully build an on-chain credit history. This helps lenders assess behavior and reduce risk in future deals. Over time, a decentralized reputation system begins to form. This works alongside smart contract rules to promote fairness. NFTfi also highlights trending NFTs and active addresses. Doing this gives exposure to certain users or asset types. It motivates others to maintain strong reputations. These features help create a more informed and active lending market. In the long run, they make the entire ecosystem stronger and more trustworthy.

3.2.2 NFTfi’s Application of Web APIs

Web APIs are central to NFTfi’s strategy for scaling its platform and enabling community-driven innovation. Rather than monetizing its APIs, NFTfi adopts an Inside-Out Open Innovation approach, as discussed in INFO5992 Week 4. By exposing internal platform functions and data to external developers, NFTfi encourages the creation of new tools and services that enrich the ecosystem.

The platform’s GraphQL-based API provides granular access to active loans, repayment schedules, NFT metadata, and smart contract transactions (NFTfi, n.d.). This empowers developers to integrate NFTfi data into third-party wallets, dashboards, DeFi protocols, and NFT analytics platforms—thereby extending the platform’s utility far beyond its core interface.

NFTfi’s API architecture supports a decentralized innovation model where community contributions drive value creation. For example, Dune Analytics dashboards visualizing NFTfi loan data are powered by the public API. Wallet providers and risk modelers also use the API to assess borrower behavior and collateral health.

Beyond functionality, APIs enhance interoperability, which is a key value in distributed innovation. NFTfi’s API is not just a data tool—it is a strategic asset that attracts developer engagement, facilitates cross-platform integration, and accelerates the adoption of its lending protocol across the Web3 ecosystem. This aligns with INFO5992’s view that APIs are not simply middleware, but architectural enablers of scalable, collaborative, and distributed business models.

One clear example is the Dune Analytics dashboards made by the community. These tools track loan volume, default rates, and activity in popular NFT collections. They use data that comes directly from NFTfi’s open API. Developers and researchers can work with this data without needing backend access. This shows how APIs can spread platform use while keeping control decentralized. In fact, some DeFi apps are already using this data in their risk models and lending tools. These connections help bring NFT-backed credit into broader crypto finance. Without programmable, real-time API access, this kind of integration would be almost impossible. So in the end, NFTfi’s API doesn’t just add features—it helps change how credit and digital assets are understood in Web3.

3.2.3 Figure’s Application of Platform Ecosystem

Figure Technologies adopts a platform ecosystem strategy tailored to institutional finance, primarily through its Figure Connect product and blockchain infrastructure (Figure, 2023). Rather than reiterating its technical functions, this section focuses on how Figure enables platform-enabled value orchestration and ecosystem scalability.

Following the platform roles framework in INFO5992 Week 6, Figure coordinates multiple stakeholders: loan originators (Producers), institutional investors (Consumers), and itself as both Platform Provider and Owner. The uniqueness of Figure’s ecosystem lies in its enterprise-level integration of compliance, automation, and asset tokenization—resulting in reduced transaction costs, increased transparency, and high-volume scalability.

Figure’s platform supports fractional ownership of loan assets and gives users real-time insight into the composition and performance of collateral. This setup unlocks new investment opportunities and helps reduce the risk of concentrating capital in a single asset. Meanwhile, Figure Connect serves as the basic financial infrastructure layer. It integrates KYC, credit assessment, asset services and compliance into a fully connected system. This design demonstrates how the B2B platform ecosystem can still expand and remain transparent while meeting regulatory standards.

Unlike the open and user-led structure of NFTfi, Figure follows a more enterprise-centered model built around compliance. Its governance is tailored to meet the needs of institutions and regulatory authorities, which makes it highly suitable for large and low-frequency transactions. The platform also supports liquidity through its connection with securitization tools. These allow tokenized loans to be grouped and traded in the secondary market. In this way, capital can be effectively recycled and the system can develop without the need for new funds. This adds depth and flexibility to the entire ecosystem.

The uniqueness of Figure lies in its ability to be both a technical pillar and a trading platform. It provides a track for financial operations while connecting different participants (initiators, investors and service providers) into a unified process. This structure is closely consistent with the concept of the course, that is, the platform can achieve cross-boundary modular value creation. In short, Figure is not just offering infrastructure; it is orchestrating how value moves within institutional finance.

3.2.4 Figure’s Application of Web APIs

Figure’s blockchain infrastructure gives the platform a strong technical base, but it’s the Web APIs that make external integration possible at scale. These APIs are built for enterprise use, not for open community access like NFTfi’s. They focus on compliance and compatibility with existing systems. This lets partners—such as banks, loan service providers, and institutional investors—plug Figure’s services directly into their own workflows (Figure, n.d.).

These APIs cover important backend tasks like KYC checks, credit assessments, loan setup, settlement, and reporting. They take complex compliance steps and turn it into a programmable tool that can be used automatically without relying on humans. This method is highly in line with the concept of "platform as infrastructure" mentioned in our course. APIs are not merely an additional component, but a crucial part for the system to maintain connection and run smoothly.

Figure’s APIs are also directly linked to the source blockchain. Through this structure, we can track all things and record them safely. Trust among all parties is thus established. At the same time, the workload of manual inspections is minimized as much as possible, and cooperation among different institutions is made easier to carry out. In short, these APIs are not merely data pipelines; they are strategic tools that help Figure security expand, maintain compatibility, and support flexible innovation.

In addition to basic integration, Figure’s APIs can also audit and analyze the transaction after it is completed. They can enable institutions to obtain various detailed data, including how the loan process progresses, the flow of funds, and the assessment of the risk levels of different assets. This kind of information is very helpful to investors and compliance teams, especially when they need to verify the performance of assets but cannot directly obtain internal reports. These APIs not only support the main functions of the platform, but also make the entire loan process more transparent. They can also be compatible with both the traditional financial system and the blockchain network simultaneously. This dual design enables Figure to connect traditional finance with the new technologies of Web3.

3.2.5 Conclusion

In conclusion, both NFTfi and Figure Technologies have demonstrated how distributed innovation (through platform ecosystems and Web apis) can be effectively applied in different industries. NFTfi adopts an open and community-driven approach to establish a decentralized lending platform. It focuses on smart contracts and encourages external developers to join. On the other hand, Figure has adopted a more enterprise-centered path. Its platform emphasizes compliance, smooth integration and automation, all of which are built on strictly managed systems and standard APIs.

# Comparative Analysis

## Strategy & Architecture

Section 3.2.2 has already shown that NFTfi positions itself as a retail, permission-less “pawn-shop for pixels”: any wallet can pledge an ERC-721/1155 collectible and borrow stable-coins in a single MetaMask flow. The value proposition emphasises speed, censorship-resistance and borderless reach (NFTfi, n.d.). By May 2025 this openness had enabled roughly US$70 million in cumulative originations, most of them secured by so-called blue-chip collections (NFTfi, n.d.).

Figure Technologies, by contrast, presents the permissioned Provenance chain as a regulated rails replacement for mortgages, HELOCs and consumer instalment credit. Its purposion is to modernise custody, financing and capital markets, not to bypass them (Figure Technologies, 2024). The ideological divide produces an architectural divide. NFTfi orchestrates a two-sided marketplace: borrowers supply NFTs, liquidity providers supply USDC/ETH, and the protocol supplies escrow plus liquidation logic. Price discovery, risk analytics and refinancing bots are pushed to community builders through open smart-contract calls.

Figure can partically mirror the traditional correspondent-lending chain described in Section 3.2.4. Originators send loan files through Figure Connect APIs; warehouse lenders refinance pools; securitisation desks read the same on-chain asset records. Figure simultaneously plays the roles as owner, provider and compliance shield, collapsing settlement time while preserving familiar role boundaries (Figure, 2023).

## API Control

API philosophy makes each firm’s priorities explicit. NFTfi’s GraphQL endpoint is public, versioned on GitHub and gated only by a lightweight Google form that issues a free key (NFTfi, n.d.). Generous rate limits and the absence of a paid tier signal that the API is a growth lever, not a revenue line. Outside developers therefore swarm to build Dune dashboards, collateral-health Discord bots and automatic rollover scripts, expanding what Lecture 4 called the platform’s innovation surface area.

Figure’s REST/GraphQL stack sits behind NDAs, SOC-2 audits and whitelists (Figure, n.d.). Credentials are tied to institution-level JSON Web Tokens; every call is logged for audit, and sensitive endpoints embed KYC and AML hooks. Here the API is a pipe: a private conduit through which legacy loan-servicing software can call blockchain primitives without re-architecting. Monetisation flows through enterprise contracts and servicing spreads, not API traffic. The design sacrifices outsider tinkering but buys regulatory certainty and data confidentiality.

## Tokens & Regulation

Token design explains why the two governance models need such different risk rails. NFTfi loans are secured by collectibles whose prices swing with meme momentum. During the 2024 NFT crash average loan-to-value ratios slid below 40 per cent and defaults spiked (Musan et al., 2020). Liquidations occur via on-chain English auctions that chase falling floors, so lenders face mark-to-market losses within hours. Community proposals to add appraisal oracles show how pure code cannot fully hedge regulatory uncertainty: if supervisors eventually classify NFT-backed loans as securities, new licences or disclosures could be required (Dow Jones, 2023).

Figure tokenises income-bearing contracts—eNotes, mortgages, consumer receivables—whose cash-flows are valued with amortisation schedules and FICO models, not JPEG sentiment. In 2022 a pool of eNote mortgages was sold as NFTs to Apollo Global, proving that institutions will accept token form when underlying credit economics remain familiar (Apollo, 2021; Martinez, 2022). Compliance is baked in: borrower identities are hashed on-chain, and state-level lien releases are immutably timestamped. The trade-off is restricted participation—retail MetaMask users cannot touch Provenance assets—but the payoff is legal enforceability and access to deep capital pools.

## Growth Paths

Because their tokens and APIs attract different actors, their network effects diverge. NFTfi’s flywheel is volume-driven: more lenders lower APRs, drawing more borrowers, generating more open data for builders to visualise, which attracts still more users. The same openness, however, ties growth to the volatile aggregate capitalisation of the NFT market; when floors sag, collateral shrinks and the flywheel drags.

Figure’s flywheel is data-driven. Each additional loan enriches cohort performance history, compressing due-diligence time and required credit enhancement for the next securitisation. Because its asset classes map onto trillion-dollar mortgage and consumer-credit markets rather than niche collectibles, Figure’s ceiling is far higher, even if onboarding is slower (Cotality, 2025).

Signs of convergence are already visible. NFTfi is piloting whitelisted pools restricted to accredited lenders—an implicit nod to securities law (NFTfi, n.d.). Figure is exploring public, read-only Provenance feeds to entice fintech experimentation (Provenance Blockchain, n.d.). A plausible destination is a federated landscape where permissioned chains and permissionless rails interoperate via token bridges and selectively open APIs, letting art-backed collateral “graduate” into institutional securitisations once it seasons, and seasoned loan NFTs flow back to DeFi pools when risk-tolerant yield seekers emerge.

## Strategic Implications

The same NFT primitive—unique, programmable ownership—underpins two starkly different business logics. NFTfi maximises openness to harvest crowd-powered innovation; Figure maximises compliance to unlock institutional capital. API design is the lever that aligns each stack with its strategic aim: a playground API when community growth is paramount, a pipe API when auditability and contractual enforcement are non-negotiable. Neither stance is universally superior; each dominates under the trust and regulatory constraints of its chosen market. INFO5992’s platform lens reminds us that APIs are not neutral plumbing—they encode governance choices that decide who can innovate, how value is shared and where systemic risk is parked. The market is therefore unlikely to crown a single winner. Actors that can shuttle assets, identities and data fluidly across both open and closed networks, tuning their APIs like adjustable policy dials as regulations evolve, will be best placed to capture the next wave of NFT-enabled finance.

# Conclusion

This report has examined how NFTfi and Figure Technologies adopt NFT-based infrastructure in distinct yet complementary ways. While NFTfi represents a decentralized, open-source platform built for crypto-native users, Figure leverages blockchain to enhance traditional financial systems with a strong focus on compliance and institutional integration. Both companies demonstrate how NFTs—originally used for art and collectibles—are evolving into programmable financial instruments.

By comparing their strategies, APIs, and growth models, we find that NFTfi maximizes openness to encourage bottom-up innovation, whereas Figure prioritizes security and regulation to unlock institutional capital. NFTfi’s public GraphQL API acts as a growth engine, fostering community development through transparent access. In contrast, Figure’s enterprise-grade API architecture supports efficient backend integration and regulatory oversight.

Importantly, neither model is universally superior. Each is shaped by its market context—NFTfi thrives in high-risk, fast-moving DeFi environments, while Figure meets the rigorous demands of traditional finance. Convergence is emerging: NFTfi is piloting whitelisted pools, and Figure is exploring open data feeds. As regulations evolve, the most successful actors will be those who can bridge permissionless and permissioned environments through adaptive API strategies and interoperable design.

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# Contributions

|  |  |  |
| --- | --- | --- |
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| 490051481 | Lihang Shen | * Relevance of Concepts |
| 540291508 | Siqi Wu | * Justification and Explanation- Motivation * Justification and Explanation- Technology Explanation |
| 540521667 | Zeyu Yang | * Discussion of Concepts * Comparative Analysis |
| 510113726 | Fanyi Meng | * Discussion of Concepts * Comparative Analysis |