MINTplay: Community-Powered Crypto-Based Game Funding

A New Model for Sustainable Game Development Funding

1. Introduction

The game development industry faces persistent challenges in funding new projects. Traditional crowdfunding platforms like Kickstarter have demonstrated strong demand for direct developer support, with over $1.3B raised for games since 2009. However, these platforms offer limited ongoing value to supporters beyond one-time rewards. At the same time, distribution platforms such as Steam, limit game studios' ability to pre-sell a game ahead of launch.

This paper presents a novel crowdfunding mechanism that leverages NFT technology to create sustainable funding for game development while providing ongoing value to supporters through revenue sharing and in-game utility.

2. Background: NFTs and Gaming

2.1 Understanding NFTs

Non-Fungible Tokens (NFTs) are unique digital assets recorded on a blockchain. Unlike cryptocurrencies such as Bitcoin or Ethereum, each NFT is unique and cannot be exchanged on a like-for-like basis. Key properties include:

- Verifiable ownership and authenticity
- Transparent transaction history
- Programmable features through smart contracts
- Ability to carry metadata and rights

2.2 Current State of Gaming NFTs

The gaming industry's experience with NFTs has been mixed. Early projects focused primarily on speculation, leading to market volatility and public skepticism. Common problems include:

- Disconnect between NFT value and game success
- Over-emphasis on trading rather than utility

- Poor integration with gameplay
- Perception of "cash grab" projects

Current game crowdfunding operates through fixed-price tiers that fail to capture true market demand. Meanwhile, traditional NFT collections typically employ fixed supply models that create artificial scarcity and encourage speculation over utility. Our platform addresses these limitations through three core innovations: dynamic supply with algorithmic pricing, direct revenue sharing, and tangible utility.

3. Economic Mechanism Design

3.1 Primary Market Mechanism

The core innovation of our platform is an unlimited-supply NFT model where the price increases algorithmically with each mint. Unlike traditional NFT collections that create artificial scarcity through limited supply, our model allows anyone to mint at any time, but at a price determined by the current supply. This creates natural scarcity through price rather than arbitrary limits.

The price grows exponentially with each new mint, reflecting the increasing value of joining a successful project while ensuring early supporters get the best prices. Think of it like early-stage equity investment: early believers get better terms, but anyone can still participate later if they see value.

This formula is known as the bonding curve. For example, a bonding curve might look like this:

$$P(n) = b + m \cdot n \cdot (1 - e^{-kn})$$

Where:

- b is the base price (e.g., $50)
- m is the maximum slope (e.g., 100)
- k is the growth rate (e.g., 0.1)
- N is the current total supply of NFTs

Using these example parameters, the first NFT would cost just $51, making it easy for early supporters to join. By the 50th NFT, the price would reach $74, showing modest growth. The 100th NFT would cost $145, reflecting significant project momentum, with the 150th at $603, and the 500th at $2,017. This creates strong incentives for early adoption while maintaining accessibility.

The cumulative revenue function R(N) for any supply level N is given by:

$$R(N) = b \cdot N + m \cdot \frac{N(N+1)}{2} - m \cdot \left(\frac{e^{-k}}{(1-e^{-k})^2} - \frac{e^{-k(N+1)}(N+\frac{1}{1-e^{-k}})}{1-e^{-k}} \right)$$

With 1000 NFTs sold, and the scaling factors listed above, this would generate approximately $2.4M in total platform revenue. Platform revenue is to be split among the Studio, Publisher, and Platform, with most of the revenue going to the Studio, directly supporting future development.

3.2 Revenue Sharing Model

Beyond the NFT pricing mechanism, our platform creates fundamental value through direct revenue sharing. When players purchase or play the game, a portion of that revenue flows back to NFT holders. This transforms NFTs from pure speculation vehicles into productive assets with ongoing returns.

The revenue sharing works like a royalty system: 20% of all game revenue is distributed equally among NFT holders. This means each holder's share naturally dilutes as more NFTs are minted, creating another incentive for early adoption. However, the growing game revenue from increased marketing and community support can offset this dilution.

3.3 Tangible Utility

The platform enables game developers to attach tangible benefits directly to each NFT, creating immediate utility beyond economic returns. These NFTs serve as digital rights management for a wide range of benefits, both digital and physical.

At the most basic level, an NFT might represent a license key for the game itself, guaranteeing holders access to the final product. However, the possibilities extend far beyond simple access rights. Developers can attach exclusive in-game content such as character skins, or special items. Many NFTs have unique art attached, and these could as well. These digital assets become permanently linked to the NFT, tradeable alongside the token itself.

The utility can also bridge into the physical world. NFTs could grant rights to limited edition merchandise, physical collectibles, or even exclusive real-world events. For example, certain NFT tiers might receive numbered art prints, collector's editions, or access to developer meet-and-greets. These rewards would be redeemable at some point, and redemption status could be verified on-chain at the time of any trade.

This utility layer creates immediate, tangible value independent of the NFT's economic properties. When combined with revenue sharing rights, it produces a unique digital asset that offers both immediate benefits and long-term value potential. This dual value proposition helps stabilize the NFT's market value and provides additional incentives for long-term holding.

4. Market Dynamics and Self-Reinforcing Growth

4.1 Market Equilibrium Dynamics

The combination of continuous minting availability and revenue sharing creates a sophisticated market dynamic. At any point, the NFT's market value should theoretically reflect three components:

1. The present value of expected future revenue share
2. The utility value of tangible benefits
3. Any speculative premium the market applies

This creates natural arbitrage opportunities and price stability mechanisms. If secondary market prices rise too high above the current mint price, rational actors will mint new NFTs to capture the difference. Conversely, if prices fall too low, the revenue share creates a natural price floor based on expected game success and value of tangible benefits.

4.2 Self-Reinforcing Growth Flywheels

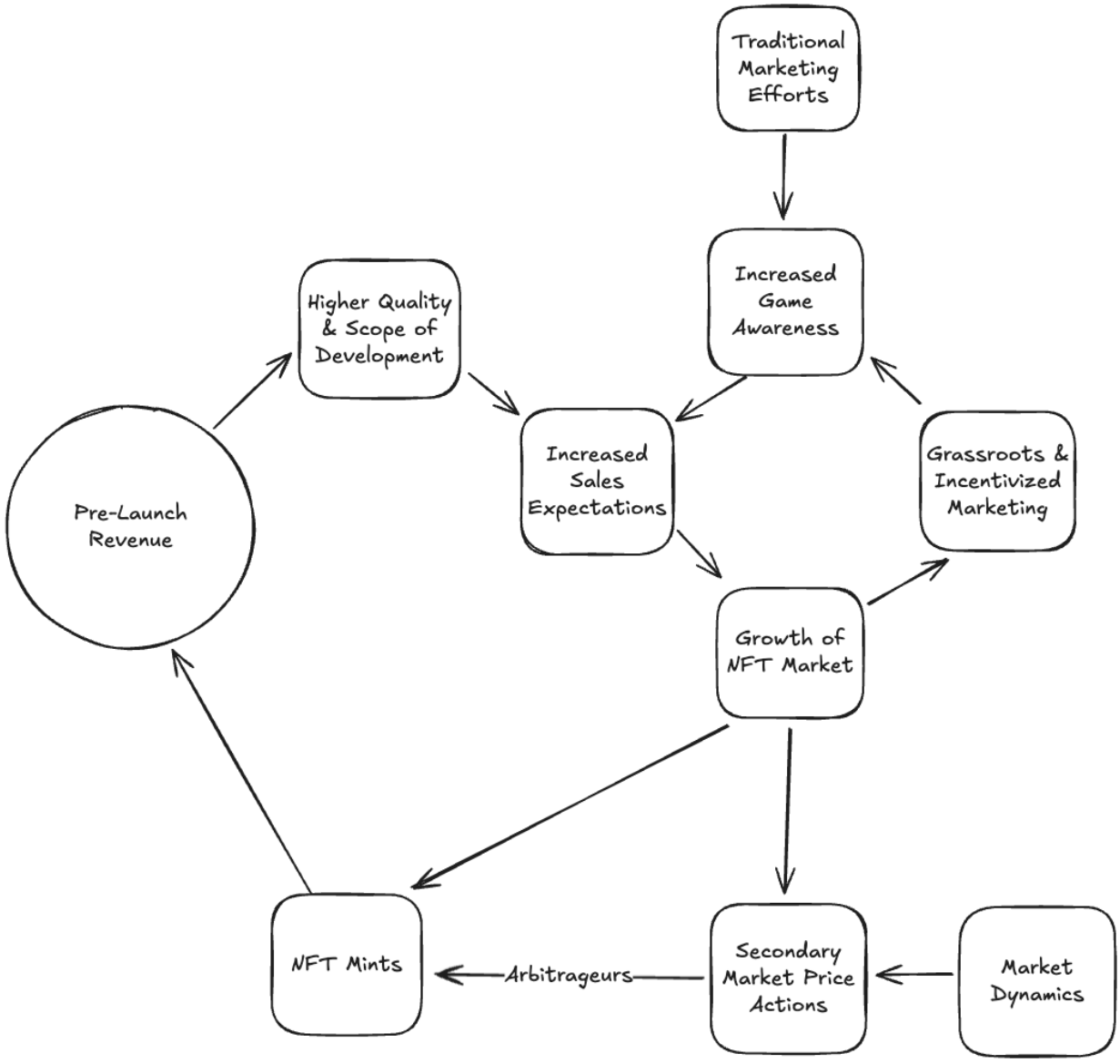
The platform creates a powerful feedback loop that amplifies traditional marketing efforts and creates sustainable growth momentum. This flywheel effect operates through multiple interconnected channels:

Traditional marketing efforts for the game drive initial awareness, but unlike conventional game marketing, each touchpoint has dual impact - increasing both game awareness and NFT market potential. As game awareness grows, it drives sales expectations higher, which in turn affects two key dynamics:

First, rising sales expectations directly influence the NFT market, attracting both gaming enthusiasts and crypto-native traders. This market activity creates additional visibility and grassroots marketing as NFT holders become incentivized promoters of the game. Their efforts then feed back into overall game awareness, creating the first positive feedback loop.

Second, as the NFT market grows, it triggers several reinforcing mechanisms:

- Secondary market trading creates price discovery
- Market dynamics drive arbitrage opportunities
- Arbitrageurs mint new NFTs when profitable
- New mints generate additional development funding
- Development funding improves game quality or scope
- Improved quality and scope drives higher revenue expectations



This entire system becomes self-reinforcing: higher revenue expectations drive NFT market growth, which generates more development funding through minting, which improves the game's potential, which in turn drives higher revenue expectations. The beauty of this model is that each participant's natural behavior benefits the entire ecosystem.

5. Conclusion

This platform represents a fundamental evolution in game development funding, combining proven crowdfunding demand with sophisticated market mechanics that align incentives between developers, publishers, and supporters. By creating assets that offer both immediate

utility and ongoing revenue participation, we enable access to upfront capital for game development while providing real value to all participants.

The system's self-reinforcing growth mechanics and natural stability mechanisms provide a solid foundation for transforming how games are funded and marketed. Through careful mechanism design, we can create an ecosystem where community support translates directly into development resources, and where every participant benefits from contributing to a game's success.