

Picule Protocol - Project Description

Origin Story

In 2024, I embarked on my journey into the NFT space as a solo developer, creating my first NFT collection. This was a personal milestone, but it quickly revealed a fundamental challenge: how could I determine if there was genuine interest and investment potential in my work?

During my research, I connected with potential NFT investors and asked for their honest feedback. One investor's advice particularly resonated with me: "Create a token first, build an audience around it, and only then launch your NFT collection when you have established buyers." This conversation sparked a realization about the broader problems plaguing both the NFT and token launch ecosystems.

The Challenge I Faced

As an unknown developer entering the crypto space, I encountered several interconnected problems:

- **Trust Deficit:** Being a no-name developer meant potential investors had little reason to trust me with their funds, especially given the prevalence of rug pulls and scams in token launches
- **NFT Value Problem:** Most NFTs lack intrinsic value beyond artistic merit or pure speculation
- **Fragmented Launch Process:** Token launches and NFT drops operate in separate silos, missing opportunities for synergy
- **Investor Protection:** No transparent mechanism existed to guarantee that developer funds couldn't be withdrawn maliciously
- **Market Credibility:** The tokenized world and RWA (Real World Assets) trend has led people to forget about the fun and innovation that originally drove crypto adoption

The Innovation

My breakthrough came when I realized I could solve these problems by merging **NFTs**, **ERC-20 tokens**, and **crowdfunding** into a single, trustless ecosystem. Instead of running separate token launches and NFT drops, Picule Protocol creates a unified process:

How It Works

1. **ICO Phase:** Investors contribute ETH to fund a project's token launch
2. **Success Trigger:** When the funding goal is reached:
 - Liquidity is automatically added to a DEX pool using the standard AMM formula $x \times y = k$
 - **A single NFT is minted** for the project creator, containing permanently locked LP tokens
 - ERC-20 tokens are distributed to investors proportional to their contributions
3. **Failure Protection:** If the goal isn't met, investors can withdraw their funds completely

The LP Token Locking Mechanism

The revolutionary aspect lies in how LP tokens are handled. Rather than being burned or sent to address(0), LP tokens are locked within the NFT contract but remain active in the pool's total supply. This enables:

- **Commission Distribution:** Locked LP tokens earn trading fees from the DEX pool
- **Checkpoint System:** Rewards are calculated and distributed through a sophisticated checkpoint mechanism
- **Permanent Security:** LP tokens can never be withdrawn, preventing rug pulls forever

Technical Innovation: The Checkpoint System

The protocol uses an advanced checkpoint system to fairly distribute trading commissions. The formula for calculating tokens per share at each checkpoint is:

$$TPS_i = (C_i + T_i - O_i) / L \times 10^{18}$$

Where:

- TPS_i = Tokens per share for commission flow i
- C_i = Current commission for asset i
- T_i = Total claimed commission for asset i
- O_i = Old total commission for asset i
- L = Total LP tokens locked

Why This Solves Everything

For Investors

- **No Rug Pull Risk:** LP tokens are permanently locked and cannot be withdrawn
- **Immediate Token Access:** Receive ERC-20 tokens immediately upon successful ICO
- **Secondary Market Opportunity:** Can purchase NFTs on the marketplace if desired
- **Full Refund Protection:** Get money back if ICO fails

For Developers

- **Trust Through Code:** Credibility comes from smart contract transparency, not reputation
- **Ongoing Revenue:** Earn trading commissions indefinitely through NFT ownership
- **Community Building:** Create aligned incentives between token holders and NFT owners

For NFTs

- **Intrinsic Value:** Each NFT contains provable, locked liquidity value
- **Utility Beyond Art:** NFTs become yield-generating financial instruments
- **Transparent Pricing:** Market can price NFTs based on locked value and earning potential

Platform Architecture

Picule Protocol is a comprehensive one-man project consisting of:

- **Token Launch Manager:** Creates verified ERC-20, ERC-721, and Funds Manager contracts
- **ICO Contract:** Handles contributions, goal verification, and refund logic
- **Funds Manager:** Locks LP tokens in NFTs and manages commission distribution
- **Pair Contract:** Standard AMM pool with integrated commission tracking
- **Marketplace:** Lists only verified tokens and NFTs created through the platform

Security Through Verification

To combat scam tokens with malicious transfer logic, the platform implements strict controls:

- Only tokens created through Token Launch Manager are supported
- Pair creation is permissioned and allowed only through the ICO process
- All NFTs must contain locked LP tokens to be listed on the marketplace

The First Launch: MPC Token

To validate market interest and demonstrate the platform's capabilities, the inaugural ICO will feature my personal token (**MPC**). This serves as both a proof of concept and a way to bootstrap the ecosystem. Once successful, the platform opens to other creators who can launch their projects using the same transparent model.

Vision for the Future

This project represents more than just a fundraising mechanism - it's a paradigm shift toward trustless, value-backed NFTs and community-aligned token launches. By ensuring that even unknown developers can attract investment through code transparency rather than reputation, Picule Protocol democratizes access to crypto fundraising while protecting investor interests.

The 2024 designation on NFTs serves as a permanent reminder of when this innovation was conceived - a year when the crypto space needed a return to its roots of fun, innovation, and trustless systems.

This is a one-man project, entirely conceived, developed, and documented by a single developer passionate about solving real problems in the crypto ecosystem.