Number Go Up Whitepaper

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1. Introduction

Number Go Up is an innovative blockchain-based strategic memecoin game designed to harness the fun and excitement of memecoins while integrating advanced blockchain technology and gameplay mechanics. Unlike traditional memecoins, Number Go Up strategically combines ERC-505 token standards, NFT collectibility, and robust off-chain architecture to offer a compelling player-driven economy that incentivizes long-term participation, strategic decision-making, and active community engagement.

The unique proposition of Number Go Up is that every token owner actively influences their leaderboard position and earning potential through strategic token management, staking, and marketplace participation. The game's inherent incentive structures encourage thoughtful, strategic actions over short-term speculation, promoting sustainable community growth and token utility.

2. ERC-505 Token Standard

ERC-505 combines the efficiency of batch minting from ERC721A with Pandora Labs' ERC404 hybrid concepts, removing the 10,000-token limitation, enabling high supply and efficiency for meme-driven communities.

2.1 Dual Asset Binding

ERC-505 binds each whole Number Go Up token to an NFT glyph, offering both ERC20 fungibility and ERC721 collectibility while optimizing transaction efficiency.

2.2 Glyph System and Rarity

Each glyph has sequential IDs and deterministic rarity tiers:

- Legendary: 3%
- Epic: 9.7%
- Rare: 15.5%
- Uncommon: 24.9%
- Common: 46.9%

2.3 Stack Architecture & Bitmask Optimization

ERC-505 uses bit-packed "stack" structures for efficient NFT operations. ERC-505's stack structure reduces gas costs significantly through better storage and management.

Unset
<pre>struct Stack {</pre>
address owner;
uint64 startId;
uint32 stackSize;
<pre>bool isStaked;</pre>
}

Glyph Stacking Structure (Bitmask Storage)



2.4 FIFO Queue Mechanics

Tokens follow a FIFO queue, strategically influencing sale and staking dynamics.

- Tokens join at the queue's end.
- Front tokens are sold first.
- Staking removes tokens; unstaking moves them forward.



2.5 ERC404 Limitations & ERC721A Innovation

ERC404 tokens limit supply (~10,000 tokens) due to expensive NFT mint/burn processes, making them unsuitable for meme economies. ERC721A's batch minting allows multiple NFTs to mint in one efficient transaction, significantly lowering costs.

ERC-505 surpasses ERC404's limitations using ERC721A's batch minting, enabling efficient high-volume minting operations and significantly reducing transaction costs. Furthermore, our ERC-505 token standard leverages ERC721A's innovation, allowing a high-supply, gas-optimized structure suitable for the Number Go Up ecosystem.

2.6 DeFi Integration

ERC-505 integrates seamlessly with DeFi platforms via optimized DeFi compatibility through targeted exemptions, facilitating seamless interactions with AMMs and yield platforms.

- Exemption system ensures AMM compatibility.
- Optimized transfers reduce fees.
- Smooth interaction with lending and yield platforms.

3. Glyph Transfer Exemption System

A sophisticated exemption mechanism enables DeFi and institutional compatibility by allowing pure ERC20 interactions, governed securely through a role-based access system, and bypassing NFT glyph interactions:

Unset

```
mapping(address => bool) public isGlyphTransferExempt;
```

Benefits include AMM compatibility, reduced complexity, and gas optimization.

4. Off-Chain Infrastructure

Number Go Up utilizes secure AWS infrastructure to deliver reliable real-time scoring, leaderboards, and protection against manipulation, ensuring high integrity and user experience.

5. Game Mechanics

5.1 Potato Points & Leaderboard

Glyph IDs determine Potato Points, influencing leaderboard ranking and daily rewards.

5.2 Staking & Multipliers

Staking enhances player strategy by granting multipliers based on glyph rarity, significantly impacting player decisions and long-term strategies.



5.3 Queue Optimization

Strategically managing staking and unstaking can optimize sales strategies and player rankings.

5.4 Future achievements & Unlocks

In the future, players will earn additional rewards, achievements, badges, and limited-time boosts for hitting game milestones.

6. Tokenomics

6.1 Overview

- Total Supply: 1,000,000 tokens
- 25% Game Rewards Pool (including 5% partnerships)
- 75% Liquidity Pool via Uniswap

6.2 Airdrops

Daily distribution of tokens incentivizes continuous player engagement. 500 daily tokens are distributed based on points, unclaimed tokens roll over into the next day's airdrop.

6.3 Rationale Behind Tokenomics

Tokenomics structure ensures sustainable value growth, promotes active participation, and facilitates liquidity and market health, protecting long-term ecosystem viability.

6.4 Upcoming Tokenomics Expansions

Future plans include Dynamic Airdrop Scaling, Buyback & Burn mechanisms, and Time-Locked rewards to encourage sustained participation and long-term holding.

7. Security and Governance

Number Go Up governance leverages secure role-based access control for all critical operations, particularly exemptions and token mechanics changes. Clear governance processes ensure transparent, secure, and community-focused decision-making.

8. Developer Integration

Robust, standardized developer documentation enables seamless integration and innovation within the Number Go Up ecosystem.

9. Conclusion

Number Go Up strategically blends blockchain innovation, engaging gameplay, sustainable tokenomics, and secure governance to redefine the memecoin landscape, creating lasting value for all stakeholders involved.