Fair.fun

Revolutionizing Memecoin Launches on Sui blockchain

Adam Boubabda, Walid Sofiane, Alper Özyurt, Arda Özenç, Franco Sainas

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Abstract

Fair.fun is a platform designed to create fair, secure memecoin launches on the Sui blockchain. It neutralizes exploitative practices such as sniping and rugging, ensuring a trustworthy ecosystem for genuine users. With our pre-launch auction system and post-launch token distribution, we foster fairness, enhancing Sui's standing in the memecoin market.

1 Executive Summary

Memecoin markets on Sui are booming, attracting diverse participants. However, malicious actors like snipers and rugging developers undermine the ecosystem. **Fair.fun** addresses these issues with a novel protocol that ensures fair token launches, empowering genuine users and strengthening the Sui ecosystem.

2 Introduction

Sui blockchain's growth, driven by its parallel transaction execution and Move programming language, positions it as a leader in DeFi and gaming. With over $150M in Total Value Locked (TVL) and surpassing Solana in transaction volume, Sui is ideal for memecoin enthusiasts. However, as liquidity migrates, exploitative actors are expected, which Fair.fun addresses proactively.

3 The Problem

Malicious Actors:

- **Snipers:** Bots instantly buy new tokens to dump them, siphoning liquidity from genuine users.

- **Rugging Developers:** Developers exploit early buying positions to extract value through short-term and long-term rug-pulls, draining liquidity and harming trust.

These actors exploit their early positions, limiting their losses to fees. For example, the top sniper on Solana has siphoned over $4M.

4 Our Solution: Fair.fun Protocol

4.1 Pre-Launch Auction

To neutralize snipers, we introduce a fair pre-launch auction. Developers submit token creation inputs, and pre-buyers bid to secure ranks. Key auction mechanics:

- Bids in SUI and auction fees determine rank.

- Fees increase as time passes, and withdrawal is allowed with a small fee to prevent spamming.

The formula for pre-buyer ranking is:

$$\text{Rank}_i = \left(\frac{b_i(t)}{q_i}\right) \times \left(1 + 0.1 \times \frac{T - t}{T}\right)$$

where $b_i(t)$ is the bid at time t, and T is the total auction time.

4.2   Post-Launch Distribution

Once the pre-launch auction concludes and the token is officially launched, our protocol focuses on ensuring a smooth distribution of tokens to prevent immediate dumping by both the developer and pre-buyers. This is achieved by implementing a controlled and randomized unlock mechanism that adds unpredictability to the token distribution, while promoting organic market growth.

- **Token Distribution in Batches:**
  Rather than delivering the entirety of their token allocation all at once, both the developer and pre-buyers receive their tokens in several batches. Each batch represents a random percentage of their total allocation, adding unpredictability to the distribution process and preventing planned dumps.

- **Unlock Conditions:**
  The unlocking of each batch is controlled by three critical factors: a random market capitalization (Mcap) threshold, a random time threshold, and the amount of liquidity to be unlocked. All three conditions must be satisfied for a batch to unlock.

  - **Random Market Cap Threshold:** The Mcap threshold is determined based on the token's performance in the market. A minimum Mcap must be achieved before any tokens unlock, ensuring that liquidity is available and that the token is performing well. This incentivizes pre-buyers and the developer to support the project and drive engagement, as token performance directly influences their ability to access their holdings.

  - **Random Time Threshold:** In addition to the Mcap threshold, a random time threshold is set. This introduces an additional layer of unpredictability, preventing participants from anticipating exactly when their tokens will unlock. The random time condition mitigates the risk of coordinated dumping by making it difficult to predict when a batch will be available for sale.

  - **Random Liquidity Unlock Percentage:** The amount of liquidity that is unlocked when both the Mcap and time thresholds are met is also random. This third axis of randomness ensures that even if both other conditions are satisfied, participants cannot predict how much of their tokens will become available. The unlocked percentage may vary, introducing more unpredictability and reducing the likelihood of manipulation.

- **Rank-Based Distribution:**
  The timing and amount of token unlocks are influenced by each pre-buyer's rank in the auction process. Higher-ranked pre-buyers, who secured their positions by bidding more aggressively, typically face stricter unlock conditions, such as higher Mcap thresholds and longer wait times. This ensures

that those who paid more to secure early positions cannot immediately dump their tokens, allowing for more balanced and organic market growth.

- **Later Unlocks for Early Buyers:** Early buyers, typically higher-ranked in the auction, experience slower unlocks. This helps prevent early buyers from immediately selling off large amounts of tokens, reducing the risk of price crashes.

- **Earlier Unlocks for Lower-Ranked Buyers:** Conversely, lower-ranked pre-buyers will typically see earlier token unlocks, allowing them to participate more quickly in the market and promote organic growth.

- **Randomness to Prevent Exploitation:**
  The combined use of random market cap, time, and liquidity unlock thresholds makes it difficult for malicious actors to exploit the system. Since market conditions, timing, and the unlocked amount are all unpredictable, any attempt to manipulate the market to trigger unlocks would involve significant costs and risk. This three-axis randomness also ensures that no participant has a clear advantage in predicting unlocks, fostering a fairer environment.

- **Decay of Market Cap Threshold:**
  To ensure that tokens are eventually distributed and to avoid indefinite lockups, the random Mcap threshold gradually decays over time. This means that if the token's performance does not reach the initial Mcap target, the threshold will lower over time, allowing tokens to unlock eventually. This prevents tokens from being locked indefinitely, while still incentivizing positive market performance.

In summary, our post-launch distribution mechanism prevents immediate token dumping through a dynamic, three-factor unlocking process. By distributing tokens in batches and incorporating randomness across market cap, time, and liquidity unlock percentage, we ensure a fair and secure launch that fosters organic growth.

5 Business Model

Revenue Streams:

- **Auction Fees:** Part of the fees is reinvested into the token using a Dollar-Cost Averaging (DCA) strategy.

- **Staking:** Pre-buy funds are staked in platforms like Aftermath, earning yield during the auction period.

- **Withdrawal Fee:** A small fee applies to withdrawals, protecting protocol wallets.

Figure 1: An illustration of how we leverage the 3 axis of randomness

6   Team Expertise

- **Adam:** ETH Zurich, Uniswap Foundation Fellow, Sui Foundation Award.

- **Walid:** EPFL Financial Engineering, SUI research awards, Data Science intern at Cadena Platforms.

- **Alper:** EPFL CS, IronNode, 4x blockchain hackathon winner.

- **Arda :** EPFL Bachelor student mechanical engineering
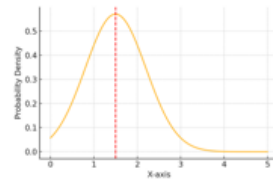
- **Franco:** EPFL-ETHZ Cyber Security

- **The developer :**
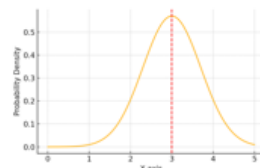
- **Pre-buyer 1 :**
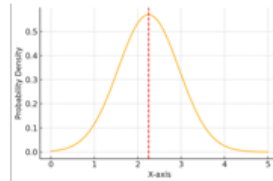
- **Pre-buyer 2 :**

... (for the total number of pre-buyers)

Figure 2: An illustration fo the probability distribution of the time condition unlocking for the dev and the prebuyer