Project Thumbs: A New Paradigm in NFT Collecting

Version 1.0
February 2026

Abstract

Project Thumbs represents a fundamental shift in how NFT collections operate on the Sui blockchain. Rather than forcing collectors into blind purchases with unpredictable outcomes, Thumbs introduces a **discovery-based minting system** where users can preview and reshuffle their NFT before committing to mint. Combined with **Dusty**, an integrated wallet cleanup utility that converts token dust into SUI, Project Thumbs delivers both a compelling collecting experience and practical blockchain utility.

Built entirely on-chain with Sui Move smart contracts, leveraging Walrus for decentralized storage, Cetus for DeFi integration, and Pyth for real-time pricing, Thumbs demonstrates how user-centric design can redefine digital collectibles.

1. Introduction

1.1 The Problem with Traditional NFT Minting

Most NFT projects follow a “mystery box” model: collectors pay upfront without knowing what they’ll receive. This creates friction, disappointment, and a gambling-like experience that alienates mainstream users. The result is high mint rates followed by rapid abandonment when collectors receive undesirable outcomes.

1.2 The Thumbs Solution

Project Thumbs flips this model entirely:

- **Preview Before Minting**: Every NFT is assembled from hand-drawn components and displayed to the user before any transaction
- **Unlimited Reshuffles**: Don’t like what you see? Click reshuffle as many times as needed—no cost, no commitment

- **Dynamic Pricing**: Each combination is algorithmically priced based on rarity, special components, and matching traits
- **True Ownership from Day One**: All minted NFTs are fully on-chain Sui objects with decentralized storage via Walrus

This approach transforms collecting from speculation into intentional curation.

2. The Collection: Thumbs NFTs

2.1 Generative Art System

Thumbs NFTs are assembled from a layered art system with the following components:

- **Background**
- **Body**
- **Clothes**
- **Face**
- **Head** (hair, hats, accessories)

Each component exists in multiple variations, creating **millions of unique possible combinations**. All artwork is hand-drawn with a consistent, playful aesthetic that emphasizes character and personality over photorealism.

2.2 Trait Rarity & Special Components

Not all components are created equal. The system includes:

- **Normal components**: Standard pieces that appear in most random generations
- **Special components**: Ultra-rare pieces with unique visual flourishes marked explicitly in metadata

The algorithmic pricing system accounts for these rarities, ensuring truly rare combinations command higher prices.

2.3 Dynamic Pricing Model

Each NFT's mint price is calculated dynamically server-side based on:

1. **Component Base Price**: Sum of all individual component prices (configured per-component)

2. **Special Component Bonuses**: Additive bonuses for multiple special components (2 specials = +$2.00, 3 = +$4.00, 4 = +$8.00, 5+ = +$16.00)
3. **RPG Stat Pricing**: Each stat (Strength, Intellect, Vitality, Luck) contributes exponentially: $0.05 × 2^(value-1), where values 1-5 result in $0.05, $0.10, $0.20, $0.40, $0.80 respectively
4. **Maxed Stats Bonuses**: Additive bonuses when stats reach max value of 5 (2 maxed = +$2.00, 3 = +$4.00, 4 = +$8.00)
5. **Combo Bonus**: Multiplicative bonus when NFT has both special components AND maxed stats (special count × maxed stats count)

All price calculations happen server-side and are validated on-chain during minting, preventing client-side manipulation while maintaining transparency.

2.4 On-Chain Metadata

Every Thumbs NFT includes:

- **Name**: Algorithmically generated unique character name
- **Serial Number**: UUID for global uniqueness tracking
- **Traits**: Full list of selected components with rarity indicators
- **Stats**: Invisible RPG-style attributes stored on-chain
- **Image**: Decentralized storage via Walrus with permanent blob IDs
- **Mint Number**: Sequential on-chain mint counter
- **Creation timestamp** and **creator address**

3. Ultra Mode: Rewarding Loyal Collectors

3.1 Eligibility

Ultra Mode is an exclusive feature unlocked for collectors who hold **10 or more Thumbs NFTs** in their wallet. This creates a natural progression system that rewards community commitment.

3.2 Ultra Mode Benefits

When activated, Ultra Mode significantly boosts the probability of rare and special components appearing during reshuffle operations. Internally, the system applies weighted selection from admin-configured probability tables, giving Ultra collectors access to combinations that would be statistically improbable in normal mode.

3.3 Technical Implementation

- **Token-based authentication**: Ultra Mode sessions are cryptographically signed with wallet signatures and validated server-side
- **Server-side validation**: All Ultra Mode API requests validate token authenticity before applying boosted weights
- **Session persistence**: Ultra Mode remains active across browser sessions via sessionStorage until user disconnects or token expires
- **Admin controls**: Probability weights are configurable via admin panel, allowing fine-tuning of rarity distributions

4. Dusty: Wallet Cleanup Utility

4.1 The Token Dust Problem

Active blockchain users accumulate small token balances over time—airdrop remnants, failed swaps, test transactions. These "dust" balances clutter wallets and have negligible value individually but represent real value in aggregate.

4.2 How Dusty Works

Dusty automates the cleanup process:

1. **Automatic Detection**: Scans user's wallet for all token balances
2. **Multi-Token Swap**: Builds a single transaction that swaps all detected tokens into SUI using Cetus DEX
3. **One-Click Execution**: User approves one transaction; all dust converts to clean SUI
4. **Non-Custodial**: Dusty never holds user funds—everything flows directly through on-chain swaps back to the user's wallet

4.3 Fee Structure

Dusty charges a **0.5% fee** on the final SUI amount received. This fee:

- Funds ongoing development of Thumbs and Dusty
- Covers infrastructure costs
- Supports future feature development

The fee is transparent, competitive with manual swap fees, and significantly more convenient than executing multiple individual swaps.

4.4 Supported Assets

Dusty integrates with the Cetus protocol to support swaps for all tokens with available liquidity pools on Sui. This includes major ecosystem tokens, stablecoins, and project-specific tokens.

5. Technical Architecture

5.1 Blockchain Layer: Sui Move

Project Thumbs leverages Sui's object-centric model and Move programming language for:

- **NFT minting and ownership**: Each Thumbs NFT is a unique Sui object with distinct ObjectID
- **Kiosk integration**: NFTs are automatically placed in user's Sui Kiosk for seamless secondary market trading
- **On-chain pricing validation**: Mint transactions verify calculated prices against on-chain state
- **Secure asset transfers**: Move's resource model prevents double-spending and ensures atomic transactions

5.2 Storage Layer: Walrus

All NFT artwork is stored on **Walrus**, Sui's decentralized storage network:

- **Permanent storage**: Blob IDs are immutable and permanently accessible
- **Deletability configuration**: Devnet/Testnet uploads are deletable for testing; Mainnet uploads are permanent
- **Direct blob embedding**: NFT metadata points directly to Walrus blob IDs, eliminating IPFS gateway dependencies

5.3 DeFi Integration: Cetus Protocol

Dusty's swap functionality is powered by **Cetus**, a concentrated liquidity AMM on Sui:

- **Optimal routing**: Automatically finds best swap paths for each token
- **Aggregator SDK**: Batch multiple swap operations into single transaction
- **Slippage protection**: Configurable slippage tolerance to prevent value loss

5.4 Price Oracle: Pyth Network

Real-time USD/SUI price conversion uses **Pyth**:

- **High-frequency updates**: Sub-second price feeds ensure accurate USD pricing
- **On-chain verification**: Price data is cryptographically signed and verifiable
- **Failover redundancy**: System can fall back to cached prices if oracle is temporarily unavailable

5.5 Frontend: Next.js + React

The web application is built with:

- **Next.js 16**: Server-side rendering for optimal SEO and performance
- **Suiet Wallet Kit**: Seamless wallet connection supporting all major Sui wallets
- **SWR for data fetching**: Automatic revalidation and caching of blockchain data
- **Supabase**: Off-chain database for artwork metadata, admin configurations, and analytics

6. User Flows

6.1 Minting a Thumbs NFT

1. **Connect Wallet**: User connects via Suiet, Sui Wallet, or other supported wallets
2. **Generate Preview**: System assembles random NFT from component library
3. **Reshuffle (optional)**: User clicks reshuffle unlimited times until satisfied
4. **View Price**: Dynamic price calculated and displayed in both USD and SUI
5. **Mint**: User approves transaction; NFT is minted and placed in their Kiosk
6. **Confirmation**: Transaction link provided with NFT details and ObjectID

6.2 Using Dusty

1. **Navigate to Dusty Page**: User opens `/dusty` from main navigation
2. **Connect Wallet**: Same wallet connection as minting
3. **Scan Wallet**: System detects all token balances automatically
4. **Review Swap**: Preview shows all tokens to be swapped and estimated SUI output
5. **Execute Swap**: User approves single transaction; all tokens swap to SUI

6. **Receive SUI**: Clean SUI balance appears in wallet (minus 0.5% fee)

6.3 Activating Ultra Mode

1. **Mint 10+ NFTs**: Collect at least 10 Thumbs NFTs in wallet
2. **Navigate to Ultra Page**: Access `/ultra` route
3. **Verify Eligibility**: System checks on-chain NFT count
4. **Sign Token**: User signs cryptographic message to generate Ultra Mode session token
5. **Activate**: Ultra Mode toggles on; return to minting with boosted probabilities

7. Future Development

Continuous Improvement

Project Thumbs is committed to ongoing refinement and enhancement based on community feedback and user experience insights. Development focuses on sustainable, incremental improvements rather than ambitious promises with fixed timelines.

Game Mechanic (In Development)

A game mechanic is in early planning stages that will leverage the invisible RPG stats (Strength, Intellect, Vitality, Luck) already stored on-chain in each Thumbs NFT. This system will:

- Provide additional utility and rewards for NFT holders
- Make the existing stat attributes meaningful beyond pricing
- Create engaging on-chain interactions
- Reward long-term collectors

Details and timelines will be shared with the community as development progresses. The focus remains on delivering quality experiences rather than rushing features to market.

8. Tokenomics & Economics

8.1 NFT Supply

There is **no hard cap** on Thumbs NFTs. The collection is designed for:

- **Infinite scalability**: Millions of unique combinations ensure no supply constraints
- **Organic scarcity**: Rarity is determined by trait distribution, not artificial caps
- **Demand-driven minting**: Supply grows naturally with collector interest

8.2 Revenue Model

Project revenue comes from:

1. **NFT Mint Fees**: Difference between dynamic price and base cost
2. **Dusty Swap Fees**: 0.5% of all swapped value
3. **Potential future features**: Premium services, API access, etc.

Revenue is allocated to:

- Fund ongoing development and feature expansion
- Cover infrastructure and hosting costs
- Support marketing and community growth
- Build treasury for future ecosystem projects
- Compensate the founder and potential future team members

8.3 Fee Transparency

All fees are published on-chain and in the UI:

- Mint prices displayed before transaction
- Dusty fee shown in swap preview
- Gas costs estimated and displayed to users

8.4 Creator Royalties

Thumbs NFTs include a **5% creator royalty** on all secondary sales. This is implemented via:

- **Sui Transfer Policy**: Royalties are enforced on-chain using Sui's native transfer policy system
- **Tradeport SDK Integration**: Royalty rules are added using Tradeport's royalty_rule package
- **Kiosk Compatibility**: All NFTs are locked in Sui Kiosks, ensuring royalty enforcement across all compatible marketplaces

Royalties support ongoing development, ecosystem growth, and long-term sustainability of the project.

9. Team & Vision

Founded by Barna Szoke

Project Thumbs is led by **Barna Szoke**, a product designer focused on user experience. The project embodies a design-first philosophy: technology should serve users, not the other way around.

Vision

To demonstrate that NFT projects can be:

- **User-friendly**: No confusing mechanics or hidden costs
- **Value-driven**: Every feature solves a real problem
- **Sustainable**: Built for long-term community growth, not pump-and-dump speculation
- **Accessible**: Low entry price and transparent pricing for all collectors

10. Community & Support

Social Links

- **X (Twitter)**: https://x.com/thumbsnftsui
- **Website**: https://www.thumbs-nft.xyz/
- **Discord**: https://discord.gg/Kb62nTkEN5

Free Mint Claims

Post about Project Thumbs on X, tag `@thumbsnftsui`, and claim a free mint. This incentivizes organic growth while rewarding early supporters.

NFT Marketplace

All Thumbs NFTs are tradeable on secondary marketplaces:

- **Tradeport**: Full integration with royalty enforcement via Tradeport SDK
- **Any Sui Kiosk-compatible platform**: NFTs are locked in Sui Kiosks, ensuring compatibility with all major Sui marketplaces

The 5% creator royalty is automatically enforced on all secondary sales through Sui's transfer policy system.

11. Security & Privacy

Smart Contract Security

- All Sui Move contracts follow best practices for resource safety
- No admin functions that can modify minted NFTs
- Pricing validation prevents manipulation
- Kiosk transfers are atomic and secure

Data Privacy

- No personal data collected beyond wallet addresses (public blockchain data)
- Ultra Mode tokens are self-custodied and expire after session
- Supabase data is access-controlled with row-level security policies

12. Technical Specifications

Blockchain

- **Network**: Sui Mainnet (with Testnet/Devnet support)
- **Smart Contract Language**: Move
- **NFT Standard**: Sui Kiosk-compatible objects

Storage

- **NFT Images**: Walrus decentralized storage
- **Metadata**: On-chain + Supabase for indexing

Integrations

- **DEX**: Cetus Protocol v1
- **Price Oracle**: Pyth Network

- **Name Service**: SuiNS for address resolution
- **Wallets**: Suiet, Sui Wallet, Ethos, others via Wallet Standard

Performance

- **Image Generation**: ~2-3 seconds per reshuffle
- **Mint Transaction**: ~1-2 seconds finality on Sui
- **Dusty Swap**: ~2-3 seconds for multi-token swap

13. Conclusion

Project Thumbs reimagines NFT collecting as a deliberate, transparent, and rewarding experience. By eliminating blind minting, introducing dynamic pricing, and bundling real utility (Dusty), Thumbs sets a new standard for what NFT projects can and should be.

Built on Sui with best-in-class integrations (Walrus, Cetus, Pyth), Project Thumbs is technically robust, user-friendly, and designed for long-term community growth.

Welcome to Thumbs.

Disclaimer: This whitepaper is for informational purposes only and does not constitute financial advice. NFTs are speculative assets; users should do their own research before purchasing.