

## NST Finance – Official Whitepaper (v1.0)

### 1. Introduction

NST Finance is a multi-chain decentralized application (DApp) designed to revolutionize how donation-driven ecosystems and node-based incentive networks operate. By combining transparent blockchain technology, referral-based growth, and sustainable tokenized rewards, NST Finance provides a secure, scalable, and fair environment for contributors, node operators, and community members.

NST Finance begins on the BNB Smart Chain (BSC), using USDT/USDC as the primary stablecoins, and will expand to multiple EVM-compatible chains and Solana in later phases.

### 2. Vision & Mission

NST Finance aims to create a decentralized, transparent, and incentive-driven donation ecosystem where:

- Contributors can support initiatives with verified on-chain transactions.
- Community members can earn rewards by referring others.
- Participants can grow their influence through node ownership.
- All data remains verifiable, immutable, and visible on the blockchain.

Our mission is to provide the most transparent donation + node incentive model in Web3, ensuring that every contribution, reward, and node distribution is publicly auditable and verifiable.

### 3. Core System Overview

NST Finance consists of four major components:

1. Donation Engine
2. Node Sales & Distribution
3. Referral Reward System
4. NST Token Reward Module

These components interact seamlessly under a single smart contract architecture, ensuring accurate data accounting and tamper-proof operations.

### 4. Blockchain & Multichain Strategy

#### 4.1 Phase 1 – BSC Deployment

NST Finance initially launches on BNB Smart Chain due to:

- Low transaction fees
- High TPS
- Strong user adoption
- Excellent stablecoin liquidity

Supported tokens:

- USDT (BEP-20)
- USDC (BEP-20)

#### 4.2 Phase 2 – Multi-Chain Expansion

NST Finance will expand to:

- Ethereum Mainnet
- Arbitrum
- Polygon
- Avalanche
- Solana (via a separate on-chain Program)

Each chain will have:

- A dedicated treasury address

- Identical business logic
- Unified backend indexing

## 5. User Roles & Identity System

### 5.1 Regular User

A wallet address that has connected but has not donated or purchased any nodes.

### 5.2 Donor

A user with at least one valid donation of 100 USD or more.

### 5.3 Node Holder

A user qualifies as a node holder if:

- They purchased  $\geq 1$  node, or
- They have donated  $\geq 2000$  USD (eligible for an automatic upgrade node)

Each address may own up to 5 nodes in total.

## 6. Donation Mechanism

### 6.1 Minimum Donation

The minimum valid donation is 100 USD. Donations below this threshold are rejected or classified as invalid.

### 6.2 Donation Tracking

All donations must store:

- Chain
- Token
- USD value
- User address
- Timestamp
- Source (donation or node module)

### 6.3 Donation Benefits

Donation amounts contribute to:

- Identity upgrades
- Automatic node upgrades
- Referral reward calculations

## 7. Node System

### 7.1 Node Price & Limits

- Price per node: 2000 USD
- Max nodes per user: 5
- Global supply: 100 nodes

### 7.2 Direct Node Purchase

Users may purchase 1–5 nodes at a time, respecting global and per-user limits.

### 7.3 Automatic Node Upgrade

Users automatically receive 1 free node when:

- Total donations  $\geq 2000$  USD
- Global node supply remains available

### 7.4 Node Acquisition Summary

Nodes can be obtained through:

- Direct purchase
- Donation upgrade
- Referral milestones

## 8. Referral & Reward Ecosystem

NST Finance uses a single-level referral system.

### 8.1 Binding Referral

A user is permanently linked to a referrer only on their first wallet connection using:  
<https://nst.finance?ref=0x1234...>

### 8.2 Node Referral Rewards

When a referred user becomes a node holder:

- Referrer receives 500 NST

When referrer accumulates 10 direct node referrals:

- Referrer receives 1 free node (up to the 5-node max)

### 8.3 Donation Referral Rewards

For every 1000 USD of cumulative donations from direct referrals:

- Referrer receives 100 NST

There is no limit to NST rewards.

## 9. NST Token Reward System

### 9.1 Reward Accumulation

All rewards accumulate in a user's on-chain NST reward balance.

### 9.2 Pre-Launch (Claim Disabled)

Before NST token launch:

- claimEnabled = false
- Claim button disabled

### 9.3 Post-Launch (Claim Enabled)

After token deployment:

- Admin sets NST token address
- claimEnabled is true
- Users can claim their NST rewards

### 9.4 Claim Mechanism

The contract:

- Transfers NST from reward pool to user
- Sets user reward balance to zero
- Emits RewardClaimed event

## 10. Smart Contract Architecture

### 10.1 Contract Responsibilities

- Handle donations
- Handle node purchases
- Manage referral logic
- Track NST reward balances
- Safely route funds to treasury

### 10.2 Core Data Structure

struct UserInfo:

- totalDonationUSD
- nodeCount
- referrer
- directNodeCount
- directDonationUSD
- nstReward

### 10.3 Key Functions

- donate(token, amount, referrerHint)
- buyNode(token, count, referrerHint)
- claimNST()

### 10.4 Admin Functions

- setTokens()
- enableClaim()
- setTreasury()

## 11. Backend Architecture

### 11.1 Indexer

Backend listens to all contract events:

- Donations
- Node purchases
- Upgrades
- Referral rewards
- NST claims

### 11.2 Database (PostgreSQL)

Tables include:

- users
- donations
- nodes
- nst\_rewards
- referrals
- leaderboard\_snapshots (optional)

### 11.3 API Services

- User dashboard data
- Node statistics
- Referral statistics
- Global metrics
- Leaderboards

## 12. Frontend Architecture

### 12.1 Tech Stack

- Next.js
- React
- TailwindCSS
- wagmi + viem

### 12.2 Core Pages

- Home
- Donate
- Node Sale
- Dashboard

- Leaderboard

### 13. Roadmap

#### Phase 1 – MVP

- BSC deployment
- Smart contract v1
- Donation + Node + Referral system
- Basic indexer + dashboard

#### Phase 2 – Expansion

- Multi-chain support
- Full leaderboards
- Multi-language UI
- Enhanced admin system

#### Phase 3 – Ecosystem Development

- NST token launch
- Governance mechanisms
- Mobile app

### 14. Legal Notice

This whitepaper does not constitute financial advice or a token sale document. NST Finance provides decentralized infrastructure and is not responsible for user investment decisions. Participation is voluntary and fully at the user's discretion.

### 15. Conclusion

NST Finance aims to build the most transparent and sustainable donation-driven Web3 reward ecosystem. Through nodes, referrals, and token incentives, NST Finance creates a long-term value structure powered entirely by blockchain verification and community engagement.