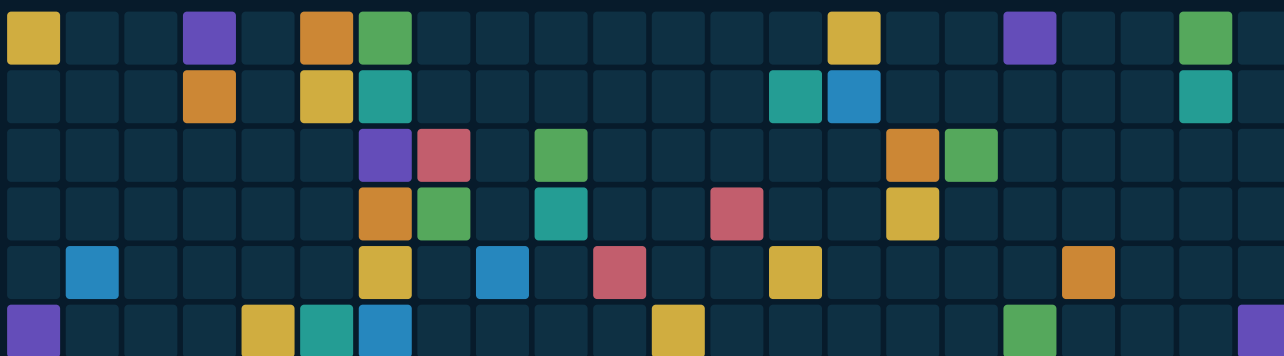


COLORCHAIN

PROTOCOL WHITEPAPER VERSION 1.2

A shared canvas where creative activity becomes verifiable on-chain history.

Product architecture, DYE token mechanics, distribution design, security assumptions, and public on-chain evidence for the Colorchain ecosystem on Base.



NETWORK

Base mainnet

DOCUMENT STATUS

Public draft

DATE

24 August 2026

SECTION 01

Executive snapshot

Colorchain is a live collaborative pixel canvas with transparent token mechanics and public on-chain activity.

CANVAS**3,000 x 3,000**

9,000,000 addressable coordinates

LIVE PLACEMENTS**526,757**

On-chain counter at 24 Aug 2026

CURRENT PRICE**1.058529 DYE**

Price for the next pixel

Product

Users connect a wallet, create or upload artwork, approve DYE, and publish packed pixel batches on Base.

Economic primitive

Every placement burns DYE. The next-pixel price rises with cumulative placement count, linking usage to scarcity.

Distribution

The initial supply is assigned to seven disclosed allocation wallets for team, rewards, community, growth, and reserve use.

Growth loop

Faucet, referral, and staking modules support onboarding and longer-term participation without changing DYE token rules.

Document status

This public whitepaper describes the Colorchain product, verified DYE mechanics, disclosed treasury allocation, and observable Base activity. It is not a security audit, investment prospectus, legal opinion, or promise of token value.

Core thesis

A shared canvas is socially valuable but usually controlled by a central database. Colorchain makes each edit attributable, durable, and economically accountable. The protocol does not sell exclusive ownership of pixels: it records creative actions and burns the utility token used to make them.

SECTION 02

Problem, principles, and scope

The design focuses on transparent collaboration rather than speculative ownership of individual pixels.

Fragmented digital murals

Collaborative canvases are compelling, but centralized databases can be reset, altered, or operated without transparent history.

Weak anti-spam economics

Free edits invite automation and low-cost vandalism. A rising burn cost makes repeated edits progressively more expensive.

Opaque contribution history

Off-chain logs depend on a single operator. Emitted blockchain events allow independent reconstruction of placement activity.

High Web3 onboarding friction

Network switching, token discovery, approvals, and gas can exclude new users. Product guides and faucet distribution reduce the first-use burden.

Design principles

- Verifiability: contract state and emitted placement data are the canonical on-chain evidence.
- Creative neutrality: the protocol validates coordinates and payment, not artistic merit.
- Scarcity through use: supply decreases only when users place pixels through the burn-enabled game contract.
- Progressive cost: every placement changes the price of the next placement.
- Operational practicality: packed batches reduce call overhead; server-side caches improve rendering without replacing chain truth.

Scope boundary

The current design does not mint NFTs for pixels, grant exclusive pixel ownership, promise token appreciation, or guarantee returns. Content moderation, governance, legal wrappers, and treasury controls require explicit policies beyond smart-contract code.

SECTION 03

Player experience

The user flow keeps creation in the foreground while wallet actions remain explicit.

01	Connect Connect a wallet and switch to Base mainnet, chain ID 8453.
02	Acquire DYE Import DYE, receive an eligible faucet claim, or acquire tokens through an external market.
03	Create Draw, erase, place text, or upload an image in the browser editor.
04	Prepare Save the selected pixels and review the batch, price, allowance, and wallet prompts.
05	Publish Send packed batches of up to 1,200 pixels. The contract burns the computed DYE cost.
06	Reconstruct The application reads placement events and rebuilds the latest canvas view using an indexed cache.

User-controlled actions Wallet connection, ERC-20 approval, token claim, staking deposit, reward withdrawal, and pixel publication all require explicit wallet interactions.	Operator-assisted services A Next.js service indexes events into Upstash Redis, exposes statistics, checks Telegram membership, and supports administrative cache repair. These services improve usability but introduce availability and access-control assumptions.
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The browser interface is not the source of token balances or payment truth. Users should verify contract addresses, transaction simulation, network selection, and wallet prompts before signing.

SECTION 04

System architecture

On-chain state provides settlement while off-chain indexing makes a high-resolution canvas practical to use.

LAYER	COMPONENT	RESPONSIBILITY	PUBLIC ASSURANCE
Experience	Next.js web application	Drawing tools, wallet orchestration, batching, guides, statistics, and module interfaces	Open web interface; users confirm all wallet transactions
Indexing	Events API + Redis cache	Loads placement logs, stores snapshots, resumes from the last processed block	Cache improves speed; Base logs remain the reconstruction source
Game	PixelGamePackedV4	Validates coordinates, computes per-pixel prices, burns DYE, emits batch events	Deterministic payment and event logic; address published in the evidence register
Asset	DYE ERC-20	Approval, transfer, permit, bridge support, totalSupply, and burnFrom	BaseScan Source Code Verified Exact Match; no token owner or discretionary mint
Distribution	Faucet and staking modules	Token onboarding, optional referrals, and time-locked participation rewards	Operational modules are separate from DYE token ownership and may be versioned
Settlement	Base mainnet	Transactions, event ordering, fees, and public explorer evidence	Inherits Base and Ethereum settlement assumptions

Data path

- User edits remain local until a signed transaction is submitted.
- Each pixel is encoded in 6 bytes: 12-bit x, 12-bit y, and 24-bit RGB color.
- The game contract burns the batch cost, emits coordinates, colors, and prices, then increments pixelsPlaced.
- The event indexer reconstructs the latest visible color for each coordinate and serves a fast canvas snapshot.

Canonical source

The displayed canvas is a derived view. Public Base events and contract state provide the authoritative inputs for independent reconstruction.

SECTION 05

Pixel economics

A deterministic curve prices every placement from the cumulative on-chain placement count.

$$P(n) = 1 \text{ DYE} \times (1 + n / 9,000,000)$$

n is the cumulative number of pixels placed before the next pixel. Solidity integer arithmetic applies at 18-decimal token precision.

CUMULATIVE PLACEMENTS	INTERPRETATION	NEXT-PIXEL PRICE
0	Protocol start	1.000000 DYE
526,757	Read-only live check, 24 Aug 2026	1.058529 DYE
9,000,000	One canvas-sized number of placements	2.000000 DYE
18,000,000	Two canvas-sized placement cycles	3.000000 DYE

Burn flow

For each submitted batch, the game contract calculates every pixel price, sums the cost, and calls DYE burnFrom on the user. A sufficient token allowance is therefore required.

State flow

The contract emits arrays of x, y, RGB color, and price values. It stores only the cumulative placement count, so event availability is essential for full canvas reconstruction.

Supply-scale intuition

At the stated 50 billion DYE initial supply, the linear curve can fund roughly 104 canvas-sized placement cycles if essentially all supply were eventually burned through gameplay. This is a mathematical design intuition, not a forecast of adoption, time, token price, or unique canvas coverage.

Important metric nuance

pixelsPlaced counts transactions' pixel entries, including repainting. It must not be presented as the number of unique coordinates filled. Likewise, totalSupply shows tokens not yet burned, not necessarily circulating supply.

SECTION 06

DYE token design

DYE is the payment and burn unit for creative actions across the Colorchain canvas.

INITIAL SUPPLY

50.0B DYE

Created at deployment on Base

LIVE TOTAL SUPPLY

49.99946B

Read-only snapshot at 24 Aug 2026

OBSERVED BURNED

542,183.13

Initial minus live total supply

PROPERTY	VALUE / DESIGN	PUBLIC EVIDENCE
Name / symbol	DYE / DYE	Returned by live Base contract calls
Decimals	18	Returned by live Base contract call
Token address	0xB5a992875328Efead6dDa50C45aD096efDf36CE5	Published by the application and explorer
Source verification	BaseScan Exact Match	Published Solidity corresponds to deployed bytecode
Core utility	Canvas placement payment followed by burn	Game state, token burnFrom, and emitted placement events
Administrative control	No owner, pause, or discretionary mint authority	Verified source and unavailable owner()/paused() calls
Bridge behavior	Authorized Superchain bridge mint/burn only	Cross-chain movement is separate from discretionary issuance
Treasury transparency	Seven designated allocation wallets	97.6072% of live supply held across the disclosed wallet map

No value promise

DYE is described as a functional token for protocol actions. This document makes no representation about market price, liquidity, profitability, tax treatment, or eligibility in any jurisdiction.

SECTION 07

Token allocation and treasury map

Allocation wallets are now disclosed and independently matched to live DYE balances on Base.

ALLOCATION	DESIGNATED ON-CHAIN WALLET	TARGET	LIVE DYE BALANCE	SNAPSHOT STATUS
Staking rewards	0xcc25f3fa97bdc238b6ad87f3588e27b65a677f56	30%	14,900,811,863.0052	99.188M deployed from bucket
Community tasks	0x7e89a71e94bb8db5c9c9a4fde64e97c174492d57	25%	12,500,000,000	Held in designated wallet
Marketing & partnerships	0x179646e05feb172736d0f9b764fc17eb63da029d	15%	7,500,000,000	Held in designated wallet
Team allocation	0x9d3909659977de325a6bc47ecb18c9de450afa9b	10%	5,000,000,000	Held in designated wallet
Strategic reserve	0x0f807b9533e30748cb28a96b710f914fc08e0bdb	10%	4,999,000,000	1.000M deployed from bucket
Drawing cashback	0xd5b5943741ca859a6820034eb8a8ac8e35d29941	5%	2,500,000,000	Held in designated wallet
Base airdrop	0xec19c75a24480bda4d50cc399c8e463d88945ac3	5%	1,403,297,781.42639	Active distribution bucket

Snapshot: 24 August 2026. The seven designated wallets hold 48,803,109,644.431578 DYE, equal to 97.6072% of live total supply. Approximately 1.19635B DYE is held outside these wallets and approximately 542,183 DYE has been burned. Balances are transparent holdings, not contractual vesting locks.

Current treasury management

Treasury allocations are currently managed by the independent developer through designated on-chain wallets. The wallets make balances and transfers publicly observable, while operational control remains with the wallet key holder. Multisig and programmatic vesting may be introduced as the project matures.

What is fixed at token level

The verified DYE contract has no owner, pause function, or discretionary mint authority. Treasury wallet control cannot change token code, metadata, or the original issuance rules.

What remains operator-managed

Designated wallets can transfer their balances. Separate Faucet or Staking owner roles, where deployed, govern only those modules and do not grant ownership of the DYE token.

SECTION 08

Distribution and onboarding

Faucet and referral mechanics lower first-use friction while remaining separate from DYE token issuance rules.

FUNCTION	CURRENT DESIGN	OPERATIONAL NOTE
Token claim	Eligible users request DYE through the product interface	The live interface and connected contract determine the current amount and cooldown
Optional referrer	A valid referrer may be linked during onboarding	Referral behavior is defined by the active module version
Referral rewards	The active module may reward eligible upstream participants	Payouts remain limited by configured values and available module balance
Distribution limits	Cooldowns and other limits reduce repeated automated claims	Parameters can evolve without changing the DYE token contract
Funding source	Tokens are supplied from designated community distribution allocations	Transfers remain publicly observable through disclosed wallets and module addresses

Operational principles

- The Faucet distributes existing DYE; it cannot modify DYE token code or create discretionary supply.
- Current values shown by the product and connected wallet transaction are authoritative for each claim.
- Module upgrades or address changes should be announced through the official website and community channels.
- Referral incentives require monitoring for automated farming, phishing, and coordinated abuse.

Versioned module policy

Faucet implementations are operational distribution components. Replacing a module does not replace DYE, change its original issuance, or alter the immutable token address used by the canvas.

SECTION 09

Staking design

The staking module supports fixed token-denominated rewards reserved for each accepted deposit.

PLAN	LOCK	DEFAULT REWARD	VESTING	MINIMUM
One week	7 days	1%	Daily, complete days	Amount must exceed 1,000 DYE
One month	30 days	5%	Daily, complete days	Amount must exceed 1,000 DYE
One year	365 days	100%	Daily, complete days	Amount must exceed 1,000 DYE

Deposit record

Each stake stores principal, fixed reward, rate, start, unlock, claimed reward, and withdrawal state.

Reserve check

A deposit is accepted only when the module balance can cover locked principal and reserved rewards.

Rate updates

Module rates may change for future deposits while existing stake reward amounts remain recorded.

Withdrawals

Vested rewards may be claimed by complete days; principal becomes available after the selected unlock.

Separation from token control

Staking is an optional user-custody module. Its owner or operator permissions do not create DYE mint authority and cannot modify the verified token contract. The live product should always show the connected module address and transaction details.

Reward risk

Rewards are paid in DYE from prefunded reserves. A token-denominated reward does not guarantee fiat value, liquidity, or a secondary-market exit. Users should review lock duration, module balance, and wallet prompts before depositing.

SECTION 10

Security, control, and developer custody

DYE token immutability is separated from treasury custody and operational module permissions.

SCOPE	OBSERVED CONTROL	PRACTICAL MEANING
DYE token	BaseScan Exact Match; no owner(), paused(), or discretionary mint function	No administrator can change token parameters or mint arbitrary DYE
Superchain bridge	Only the authorized SuperchainTokenBridge may perform bridge mint/burn	Cross-chain movement is protocol-controlled, not developer-controlled issuance
Pixel game	Pricing and burn logic are deterministic in the reviewed source	The game consumes approved DYE but does not control token issuance
Allocation wallets	Six standard EOAs and one EIP-7702 delegated account	The independent developer currently manages designated treasury balances
Faucet / staking	Operational modules may have separate owner permissions	Those permissions manage module configuration or eligible reserves, not DYE
Multisig / vesting	Not currently implemented for disclosed treasury balances	Optional custody upgrade if the contributor set or operational scale expands

Why the DYE token itself does not need a multisig

A multisig is useful when an administrator has powers to exercise. The verified DYE contract exposes no token owner and no discretionary parameter or mint controls. A multisig therefore applies to custody, not token immutability.

Where a multisig may help later

A multisig can reduce single-key risk for large treasury wallets and owner-controlled Faucet or Staking modules. Programmatic vesting can make scheduled distribution enforceable on-chain. These are optional governance improvements.

Current disclosure

Colorchain is presently operated by an independent solo developer. Treasury activity is observable through the disclosed wallets. Additional signers, shared custody, formal vesting, or a broader operating structure may be introduced as the project grows.

SECTION 11

Current product status

Colorchain is live on Base with an active canvas, verified DYE token, public market, and disclosed treasury map.

COMPONENT	PUBLIC STATUS	EVIDENCE
DYE token	Live on Base	Verified Exact Match source, public address, and live totalSupply
Collaborative canvas	Live	526,757 cumulative placements at the 24 Aug 2026 snapshot
Pixel pricing and burn	Active	Next-pixel price and cumulative burns are readable from public contract state
Trading	Active	Aerodrome DYE/WETH pool provides public on-chain price discovery
Treasury allocation	Disclosed	Seven labeled wallets hold 97.6072% of live total supply at snapshot
Faucet	Operational module	Current claim configuration is surfaced through the connected product flow
Staking	Optional participation module	Lock, reward, reserve, and withdrawal behavior are described in this document
Community channels	Active	Official website, X, Telegram, and domain email are published

Public release principles

Colorchain publishes one canonical DYE address and records production activity on Base. Operational modules may evolve independently, while token and market addresses remain publicly verifiable. Material user-facing changes should be announced through official channels.

Snapshot discipline

Balances, placement counts, token supply, market conditions, and operational parameters can change after publication. Readers should confirm current values through the official website and linked block explorer before acting.

SECTION 12

Risk disclosures

Users and reviewers should evaluate the protocol with the same caution applied to any early-stage Web3 application.

Smart-contract risk

Bugs, incorrect assumptions, token incompatibility, or malicious dependencies could cause loss or blocked operations.

Admin and treasury risk

Owner roles can change faucet and staking parameters and move eligible funds. Key compromise or unilateral decisions may harm users.

Liquidity and market risk

DYE may have limited or no reliable market liquidity. Market price can be volatile, manipulated, or unavailable.

Staking solvency risk

Rewards depend on prefunded reserves. Token-denominated rewards do not guarantee purchasing power or secondary-market exit.

Chain and RPC risk

Base congestion, reorgs, outages, fee changes, or RPC failures can delay transactions and canvas reconstruction.

Indexer and availability risk

The rendered canvas depends on event ingestion, caching, hosting, and correct start-block configuration.

Content risk

An open canvas can contain unlawful, abusive, copyrighted, or misleading content. Moderation and reporting procedures are not defined here.

Regulatory and tax risk

Token distribution, referrals, staking, and access may be regulated differently across jurisdictions and may create tax obligations.

Sybil and abuse risk

Faucet/referral incentives can attract automation, farmed identities, phishing, and coordinated manipulation.

Documentation mismatch

Different contract versions, defaults, product copy, and live deployments may diverge and mislead users or reviewers.

User responsibility

Users must verify official domains and contract addresses, understand wallet approvals, simulate transactions where possible, maintain private-key security, and comply with applicable laws. Nothing in this document is financial, legal, or tax advice.

SECTION 13

Contract and evidence register

Public links distinguish immutable token rules, operational modules, treasury custody, and market activity.

COMPONENT	NETWORK / ADDRESS	PUBLIC EVIDENCE
DYE token	Base / 0xB5a992875328Efead6dDa50C45aD096efDf36CE5	BaseScan Exact Match; initial 50B issuance; no owner or discretionary mint
Pixel game	Base / 0x25F596463406c4979104a823ccB554d178f31f07	Live bytecode; DYE address matches; public placement count and price
DYE / WETH market	Aerodrome / 0xAD4099cAE2525cCfA7361A1b755535d01146c3A9	Active Base pool and public on-chain price discovery
Treasury map	Seven designated on-chain wallets	Balances independently matched; 97.6072% of live supply held across disclosed wallets
Operational modules	Versioned through application runtime configuration	Faucet and staking roles remain separate from token ownership
Website	https://www.color-chain.com/	Live product, guides, tokenomics, community links, and hosted PDF
Official contact	info@color-chain.com	Domain-based project contact

Evidence interpretation

- Exact Match verification proves that published DYE source corresponds to deployed bytecode; it is not a security audit or endorsement by Base.
- Allocation wallet balances prove current custody and distribution visibility; they do not create vesting restrictions.
- The liquidity pool proves that DYE is publicly tradable, while liquidity depth and market conditions remain variable.
- Operational module addresses can be versioned separately without changing the DYE token contract.

Canonical publication rule

The website, PDF, BaseScan profile, official social posts, and application interfaces should use the same DYE address, pool address, allocation labels, supply language, and contact details.

SECTION 14

Official links and document notes

A concise directory of public Colorchain sources and the interpretation limits of this document.

RESOURCE	OFFICIAL LINK / ADDRESS
Colorchain website	https://www.color-chain.com/
DYE token on BaseScan	https://basescan.org/token/0xb5a992875328efead6dda50c45ad096efd36ce5
DYE token contract	0xB5a992875328Efead6dDa50C45aD096eDf36CE5
Pixel game contract	0x25F596463406c4979104a823ccB554d178f31f07
DYE / WETH pool	https://dexscreener.com/base/0xad4099cae2525ccfa7361a1b755535d01146c3a9
Base network explorer	https://basescan.org/
X	https://x.com/Colorchainweb3
Telegram	https://t.me/Color_Chain_com
Email	info@color-chain.com

Document notes

- Token, balance, placement, and market values are timestamped snapshots and may change after publication.
- Smart-contract addresses and official links should be verified through [color-chain.com](https://www.color-chain.com) before use.
- This document describes product mechanics and public evidence. It is not an audit, legal opinion, tax advice, or investment recommendation.
- No statement in this whitepaper guarantees token price, liquidity, rewards, availability, or future development.

Version

Colorchain Protocol Whitepaper v1.2 - public draft dated 24 August 2026. The current hosted version is available through the official Colorchain website.