

DITTO

The Creator-Owned Economy for Remixable Digital Creativity

Whitepaper — Version 4.3

Create Once. Earn Forever.

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1 Executive Summary

Digital creativity has become infinitely remixable, yet the economics of creativity have not kept pace. Every day, artists, designers, musicians, writers, and AI creators inspire derivative works that generate attention and revenue without sharing value with the people whose work made those creations possible.

Today’s platforms reward distribution rather than contribution. Attribution is inconsistent, royalties are rarely automated, and creators remain dependent on centralized platforms that control monetization, audience relationships, and payment infrastructure.

Ditto introduces a different model.

Ditto is a decentralized protocol for remixable digital creativity that transforms every remix into an economic relationship. Rather than treating derivative works as disconnected content, Ditto records creative lineage on-chain and automatically distributes royalties to the creators who contributed to that lineage.

Every creation becomes part of a living creative graph. Every remix strengthens that graph. Every future remix generates programmable royalty flows, executed transparently through smart contracts. The result is a creator-owned economy where attribution, ownership, and compensation are embedded directly into the protocol rather than left to platform discretion.

Ditto is built on Base, an Ethereum Layer-2 network, enabling low-cost transactions, transparent ownership records, and programmable royalty distribution while remaining compatible with the broader Ethereum ecosystem.

DITTO, the native utility token, powers generation, remixing, subscriptions, promotion, community incentives, and governance — serving as the economic engine that coordinates creators, users, infrastructure providers, and the protocol itself, rather than functioning as a speculative asset alone.

Ditto’s long-term vision extends beyond AI-generated images. The protocol is designed as foundational infrastructure for remixable digital media broadly, preserving attribution, provenance, and creator ownership across every generation of derivative work.

2 Vision

The internet made copying effortless. Artificial intelligence made creation nearly instantaneous. Neither solved the problem of ownership.

As creative tools become increasingly accessible, remixing has become one of the defining characteristics of digital culture. Every image, prompt, design, and future creative asset has the potential to evolve through thousands of iterations created by thousands of contributors.

Traditional platforms treat each version as an isolated piece of content. Ditto treats every version as part of a continuously evolving creative lineage. Instead of asking who uploaded a file first, Ditto asks a different question:

Who contributed to the creation of this work?

By recording creative relationships rather than isolated files, the protocol enables value to flow backward through the entire chain of creation — transforming creativity from a one-time transaction

into a continuously compounding economic network.

Our vision is to build the infrastructure layer for the next generation of digital creativity, where attribution is automatic, ownership is transparent, and every meaningful creative contribution can participate in future value creation.

3 The Problem

Digital creativity has evolved faster than the economic systems that support it. Artificial intelligence has dramatically lowered the cost of creation while simultaneously increasing the speed at which content is copied, remixed, and redistributed. Millions of derivative works are produced every day, yet the creators who inspired them rarely participate in the value those works generate.

Current creator platforms were designed around publishing rather than collaboration. Several structural problems persist.

Attribution Is Lost Once content begins circulating online, its origins quickly disappear. Original creators lose visibility as derivative works spread across platforms, making meaningful attribution increasingly difficult.

Remixes Create No Economic Relationship Derivative works frequently generate substantial attention and revenue, yet the creators whose work made those creations possible receive no automatic compensation. The economic connection between creative generations has never been built into internet infrastructure.

Platforms Capture Disproportionate Value Most creator platforms operate as centralized intermediaries that determine monetization rules, payment timing, audience access, and revenue distribution. Creators remain dependent on policies that can change without notice.

Payments Remain Fragmented Revenue typically moves through multiple intermediaries with settlement delays that can extend for weeks. Cross-border payments introduce additional friction, fees, and restrictions.

Creative Ownership Is Difficult to Verify Without immutable provenance, creators struggle to demonstrate originality, establish lineage, or verify ownership of derivative works. As AI-generated content becomes increasingly common, transparent provenance becomes even more important.

Why Blockchain Matters These problems cannot be fully solved through traditional databases. Attribution requires permanence. Ownership requires transparency. Royalties require programmable execution. Blockchain technology enables each of these properties simultaneously.

By recording creative lineage on-chain and executing royalty distribution through immutable smart contracts, Ditto removes the need for centralized trust while allowing creators to participate automatically in the long-term success of their work. Rather than replacing creativity, blockchain provides the infrastructure that allows creativity to become economically sustainable.

4 Why Existing Platforms Fall Short

Most creator platforms were designed to distribute content — not to preserve creative relationships. They optimize for engagement, advertising, or subscriptions, but do not treat remixing as an economic event.

Platform	Automatic Attribution	Remix Royalties	Creator Ownership	Instant Settlement
Instagram	No	No	Limited	No
TikTok	Limited	No	Limited	No
Patreon	N/A	No	Partial	No
OnlyFans	N/A	No	Partial	No
Traditional AI Platforms	No	No	Platform-dependent	No
Ditto	Yes	Yes	Yes	Yes

Ditto does not simply introduce another creator platform. It introduces a new economic model where every remix becomes a programmable financial relationship between creators — shifting the internet from a publish economy toward a participation economy, where value flows alongside creativity instead of stopping with the latest uploader.

5 The Ditto Protocol

The Ditto Protocol is a decentralized economic layer for remixable digital creativity. It establishes a permanent relationship between original works and every derivative creation that follows, enabling attribution, ownership, and royalty distribution to persist throughout the lifetime of a creative work.

Unlike traditional creator platforms, which treat each upload as an isolated asset, Ditto models creativity as an evolving network. Every remix references its parent creation, preserving a verifiable lineage that records how creative works evolve over time. Rather than relying on centralized databases or platform policies, these relationships are enforced through smart contracts deployed on Base.

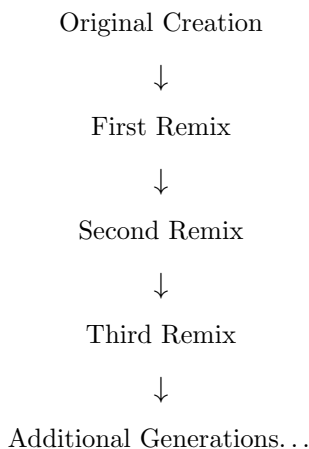
5.1 Core Design Principles

1. **Attribution Is Permanent.** Every published creation maintains an immutable reference to the work from which it originated, forming a verifiable chain of creative contribution that cannot be altered after publication. Every creator remains permanently connected to the future evolution of their work.
2. **Ownership Remains With Creators.** Creators retain ownership of their work. Ditto does not acquire intellectual property rights over creator content; the protocol records ownership and attribution while providing the infrastructure required for programmable royalty distribution.
3. **Royalties Are Automatic.** Whenever a remix generates revenue, royalty distribution occurs automatically. No creator submits invoices, no administrator approves payments, and no platform manually distributes funds — smart contracts execute every distribution according to immutable protocol rules.
4. **Settlement Is Transparent.** Every royalty payment can be independently verified on-chain. Creators can audit their earnings without relying on platform reporting.

5. **Economic Participation Scales With Creativity.** Traditional platforms reward audience size. Ditto rewards creative contribution. A creator who inspires thousands of future works continues participating in the economic value those works generate, regardless of whether they remain actively publishing — creativity becomes a long-term productive asset rather than a single transaction.
6. **Platform Fees Are Additive, Never Subtractive.** Ditto funds its own operations through small fees layered on top of platform-service actions — generation, promotion, subscriptions — paid by the person initiating the spend, never deducted from money owed to another creator (Section 8.7). Direct person-to-person value transfers, including remix royalties and tips, carry no platform fee at all. This distinction lets Ditto sustain itself without compromising the guarantee that creators receive everything they are owed.

5.2 The Remix Graph

Every creation published through Ditto becomes a node within a continuously expanding graph. Each remix creates a new node while preserving a reference to its parent.



Unlike traditional social platforms, previous works are never disconnected from future creations. As the graph expands, the collective value of earlier creative contributions expands with it.

5.3 The Royalty Engine

The Royalty Engine governs how value moves through the Remix Graph. Whenever a remix, subscription, tip, or supported economic event generates revenue, the protocol determines every eligible recipient and distributes funds automatically.

Recipient	Allocation
Original (Genesis) Creator	50%
Immediate Parent	30%
Grandparent	15%
Earlier Ancestors (pooled)	5%
Platform	0%

The protocol itself never receives a royalty allocation. All creator royalties are distributed directly to creators.

Because Ditto honors a create once, earn forever model with no cap on remix depth, the table above needs a precise rule for chains of arbitrary length — and for chains too shallow to have a grandparent or earlier ancestors at all. The protocol resolves this as follows:

- Earlier Ancestors refers to every contributor beyond the grandparent generation. The 5% allocation is split evenly across all such ancestors, however many generations exist.
- If a chain does not yet reach a given tier — for example, a first-generation remix has no grandparent and no earlier ancestors — that tier’s allocation rolls up to the nearest eligible ancestor, with the Genesis Creator as the ultimate backstop. This guarantees 100% of every royalty is always distributed, and that the Genesis Creator’s 50% floor never depends on chain depth.

Worked example: a work is six generations deep (Genesis → Parent → Grandparent → three earlier ancestors). The Genesis Creator receives 50%, the immediate parent 30%, the grandparent 15%, and the remaining three ancestors split the final 5% evenly — roughly 1.67% each. If instead the same work is only a first-generation remix, the 30% parent share is unaffected, but the 15% and 5% tiers — having no eligible recipient — roll up, leaving the Genesis Creator with 70% and the immediate parent with 30%.

This royalty structure is encoded into immutable smart contracts, ensuring predictable, auditable behavior for every participant regardless of how deep a creative lineage grows.

5.4 Why Lineage Matters

Creative work rarely emerges in isolation. Most creative expression builds upon existing ideas, styles, compositions, or communities. Traditional platforms ignore these relationships; Ditto recognizes them. By preserving creative lineage, the protocol transforms remixing from an act of copying into an act of collaboration — each new creation strengthens the network rather than replacing what came before.

5.5 Economic Events

The protocol recognizes multiple economic interactions, including publishing original works, remixing existing works, creator tipping, creator subscriptions, content promotion, and future protocol extensions. Each event is processed through the same attribution layer, ensuring ownership and royalty rules remain consistent across every supported feature. As additional creative formats are introduced — video, music, animation, writing, and interactive media — the attribution model remains unchanged, and the protocol scales without requiring a redesign of its economic foundation.

5.6 Settlement Layer

Economic events are settled using Base, providing low transaction costs and rapid confirmation times. Rather than paying creators in the native utility token, Ditto’s settlement architecture is designed to deliver value in ETH, reducing creators’ exposure to token volatility. Section 6.7 details the full settlement mechanism.

5.7 Protocol Extensibility

Although Ditto initially launches around AI-generated images, the protocol is designed as general-purpose attribution and royalty infrastructure. Future implementations may support photography, illustration, video, animation, music, writing, three-dimensional assets, interactive experiences, and AI-generated multimedia. Because attribution exists independently of file format, the protocol can

evolve without changing its underlying economic model.

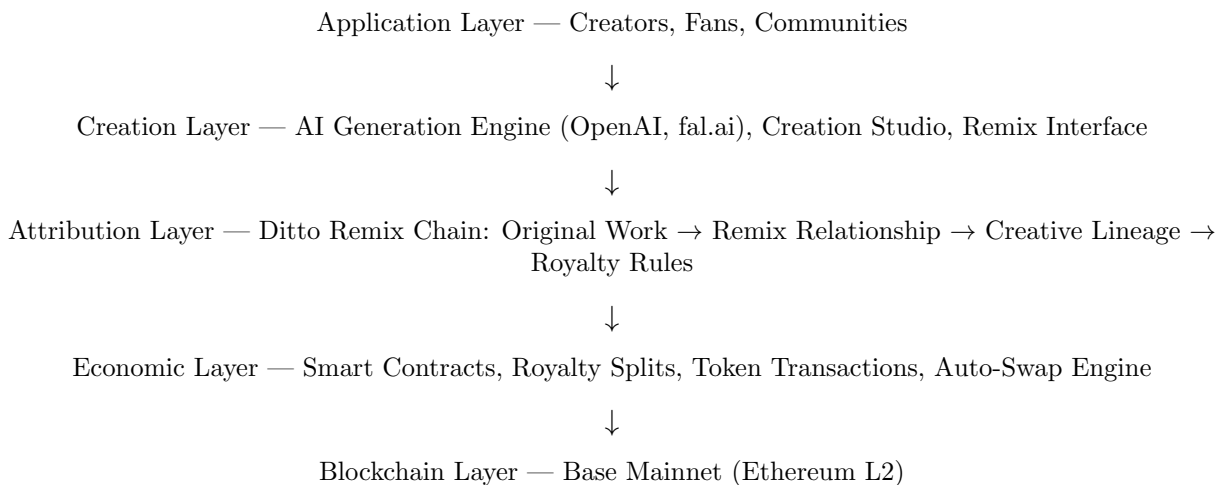
Why the Ditto Protocol Matters. The internet solved the problem of publishing. Artificial intelligence solved the problem of creating. The Ditto Protocol solves the problem of ownership and participation — embedding attribution, royalty distribution, and provenance directly into programmable infrastructure so that creativity becomes a persistent economic network rather than a sequence of disconnected uploads.

6 System Architecture

The Ditto Protocol combines blockchain infrastructure, AI generation systems, smart contracts, and decentralized settlement mechanisms into a complete economic layer for remixable digital creativity. The architecture is organized around four layers:

1. **Creation Layer** — AI-powered content generation and publishing
2. **Attribution Layer** — on-chain Remix Chain tracking and ownership records
3. **Economic Layer** — token utility, royalties, and automated settlement
4. **Application Layer** — creator tools, discovery, social interaction, and community features

6.1 Architecture Overview



6.2 Blockchain Infrastructure

Ditto is built on Base, an Ethereum Layer-2 network designed for scalable applications requiring frequent, low-cost transactions. Base provides Ethereum-grade security, lower transaction costs, faster confirmations, an established wallet ecosystem, and compatibility with existing Ethereum tooling — letting Ditto support high-frequency creative interactions without imposing expensive fees on creators. Base serves as Ditto’s settlement layer for the current phase of the protocol’s development, with a potential future migration to a dedicated, community-governed chain discussed in Section 11.5.

6.3 Smart Contract Layer

Smart contracts enforce creator ownership records, remix relationships, royalty distribution, token transactions, and settlement rules. Once deployed, these contracts operate according to predefined rules rather than platform discretion, removing dependence on centralized payment systems and ensuring predictable compensation.

6.4 Remix Attribution System

When a user creates a remix, the protocol stores the original creation reference, the parent creation reference, creator wallet addresses, the remix generation number, and the royalty distribution path (see Section 5.2 for the underlying Remix Graph model). Each new creation expands the creative graph while preserving every previous contribution.

6.5 AI Generation Layer

Ditto integrates multiple AI providers rather than depending on a single model:

Function	Technology
SFW AI Generation	OpenAI image models
Advanced Generation	fal.ai models
Future Models	Replaceable AI providers

This modular approach allows Ditto to adopt future improvements in AI capability without changing the protocol's economic foundation.

6.6 Creation and Remix Flow

User Creates Prompt → AI Generation Request → Content Created

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User Publishes Work → Creation Registered On-Chain

↓

Work Enters Remix Chain → Future Remixes Generate Royalties

When a user remixes an existing creation, the same pipeline applies: an existing creation is selected, the AI generates a new version, the parent relationship is recorded, royalty rules are attached, and the new creation itself becomes remixable — every remix opening another potential economic branch.

6.7 Settlement Architecture

Ditto separates token utility from creator payouts. Users interact with the ecosystem using DITTO; creators receive value through ETH settlement, reducing creators' exposure to token volatility while preserving DITTO's utility within the broader ecosystem: creators receive a familiar, immediately usable asset, while DITTO continues to coordinate protocol activity, access, incentives, and governance.

User Spends DITTO → Protocol Receives DITTO → Settlement Engine Processes Revenue

↓

DITTO Converted to ETH → ETH Distributed to Creators

This design preserves token utility inside the ecosystem while delivering stable creator earnings.

6.8 Auto-Swap Engine

The Auto-Swap Engine converts creator revenue into ETH automatically: aggregating pending creator balances, executing DEX swaps, optimizing gas usage, and distributing ETH according to royalty rules, using DEX aggregators, automated settlement, and batch processing. The objective is simple — creators should focus on creating, not managing financial infrastructure.

6.9 Storage Architecture

Creative assets require scalable storage. Ditto uses a hybrid architecture that keeps the blockchain responsible for what it does best — ownership, transparency, and settlement — while offloading media files, application data, and user experience to purpose-built infrastructure.

Component	Purpose
Blockchain	Ownership, attribution, payment records
Cloud Storage	Media files
Database	Application data
Backend Services	User experience and indexing

6.10 Social Layer

The Ditto application includes creator profiles, a discovery feed, comments, reactions, notifications, direct messaging, and creator communities — traditional creator-platform functionality, connected throughout to the underlying ownership and attribution layer.

6.11 Security Model

Security spans three domains: smart contract security (auditing, immutable royalty contracts, restricted administrative functions), account security (wallet authentication, signed transactions, nonce verification), and content security (AI moderation systems, human review processes, age-tier enforcement).

Architecture Philosophy. Traditional platforms separate creation, ownership, and payments. Ditto combines them: creation generates attribution, attribution creates ownership, ownership creates royalties, and royalties create economic participation — transforming creativity from temporary content into a persistent economic network.

7 Patent-Protected Infrastructure & Competitive Moat

Ditto is built around proprietary systems designed to solve fundamental challenges in digital creativity: attribution, ownership, value transfer, and automated economic participation. While many platforms enable creation and distribution, they do not provide infrastructure that preserves creative lineage or automatically rewards contributors throughout the lifecycle of derivative works. Ditto introduces multiple patent-pending innovations designed to establish a new standard for creative ownership and value flow.

7.1 The Remix Chain

Problem. Digital creativity is inherently iterative — most creative works are influenced by previous ideas, styles, references, and transformations. Existing platforms treat derivative works as disconnected uploads; once content is remixed, original creators often lose visibility, attribution, and economic participation.

Solution. The Remix Chain creates a permanent, verifiable lineage connecting original works with every derivative creation. Each remix maintains a parent creation reference, creator ownership information, remix generation history, royalty distribution rules, and the economic relationships between contributors — a living creative record that evolves with every new generation.

Traditional: Original Work → Copied Content → No Creator Connection

Ditto: Original Creator → Remix Creator → New Creator → Future Creators → Royalties Flow Back Through Lineage

This is the foundation of Ditto’s competitive moat, discussed fully in Section 7.6.

7.2 Automated Royalty Settlement Infrastructure

Problem. Creator economies require frequent, small-value payments. Traditional payment systems struggle with processing fees, cross-border restrictions, delayed settlement, and manual accounting.

Solution. Building on the Royalty Engine described in Section 5.3, Ditto’s settlement infrastructure automates the conversion and distribution of creator earnings, with no manual approval and no platform intermediary controlling distribution:

Economic Event → Identify Creative Lineage → Calculate Contribution Shares

↓

Execute Smart Contract Distribution → Creators Receive Payment

The creator does not manage payment infrastructure — the protocol handles it.

7.3 Invisible Commands

Problem. Blockchain transactions remain difficult for mainstream users: wallet connections, transaction confirmations, complex interfaces, and unfamiliar concepts like addresses and networks all create friction.

Solution. Invisible Commands let users execute blockchain actions through natural language — “tip 10”, “send 5 DITTO”, “reward @creator” — rather than navigating a crypto interface. The system detects the command, identifies the intended transaction, verifies requirements, and executes the transfer.

User Writes Natural Language Command → Command Detection → Intent Recognition

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Recipient Identification → Wallet Resolution → Transaction Execution → Confirmation

Safeguards. Because Invisible Commands translate natural language directly into fund movement, the system is designed to fail safe rather than fail silent. Low-confidence intent or recipient matches do not auto-execute; instead, the interface surfaces an explicit confirmation step showing the parsed recipient, amount, and action before anything reaches the blockchain. Transactions above a configurable value threshold require standard wallet confirmation regardless of how the command was issued, preventing natural-language convenience from becoming a way to bypass normal transaction safeguards. Recipient resolution is matched against verified wallet and handle records rather than free-text guesses, reducing the risk of misdirected funds. Finally, a short window between execution and final on-chain settlement allows erroneous transactions to be flagged and disputed before funds are irreversibly distributed. These safeguards are treated as core to the feature, not an afterthought: a natural-language interface to a wallet is a security surface as much as a convenience layer, and Invisible Commands is designed accordingly.

Invisible Commands create a bridge between Web2 behavior and Web3 functionality: users interact naturally, and the blockchain infrastructure operates behind the scenes — removing one of the largest barriers to mainstream adoption of decentralized applications.

7.4 Auto-Swap Settlement Engine

The Auto-Swap Settlement Engine, described technically in Section 6.8, is itself a patent-pending innovation: it allows users to transact using DITTO while creators receive ETH, without creators needing to manage token volatility, sell rewards manually, or understand decentralized exchanges. The novelty lies in the automated, rule-based conversion path from a volatile utility token to a stable settlement asset at the moment of royalty distribution, rather than in any single component of the pipeline.

7.5 Dual-App Architecture for Creator Safety and Compliance

Problem. Creator platforms must provide open creativity while maintaining safety, compliance, and appropriate user experiences. A single application architecture often creates conflicts between general audiences, mature content categories, and regulatory requirements.

Solution. Ditto separates experiences through a dual-app architecture: the main Ditto platform serves general creators, AI creativity, community interaction, discovery, and remix culture, while a separate age-gated experience serves mature creator categories with additional verification and specialized compliance systems. The underlying economic infrastructure remains unified while user experiences stay appropriately separated — providing clearer audience separation, improved moderation, better regulatory flexibility, and reduced platform risk.

7.6 Why the Combination Is the Moat

Many companies can build individual components — AI generation, a social feed, a marketplace. Few can recreate the entire ecosystem:

Component	Advantage
Remix Chain	Persistent creative lineage
Royalty Engine	Automated value distribution
Invisible Commands	Simplified blockchain interaction
Auto-Swap Engine	Creator-friendly settlement
Attribution Layer	Long-term provenance
Token Economy	Aligned incentives

The competitive advantage is not any single feature — it is the combination of systems working together, and the historical network of creative relationships that accumulates as more creators participate. Rebuilding a mature Remix Chain requires historical creative relationships, creator participation, attribution data, royalty history, and community trust — assets that only accumulate through real usage over time and cannot be shortcut or copied; they have to be built.

Intellectual Property Strategy. Ditto’s IP strategy focuses on protecting foundational infrastructure rather than limiting creativity. The goal is not to prevent innovation — it is to protect the systems that enable a creator-owned economy: creative lineage tracking, automated attribution, natural-language blockchain interaction, royalty automation, and settlement systems. As the ecosystem expands, additional intellectual property opportunities may emerge around future protocol capabilities.

8 Token Economy

DITTO is the native utility token that coordinates participation across the Ditto ecosystem. Unlike traditional platform currencies that exist only as payment mechanisms, DITTO connects creators, users, infrastructure providers, and the protocol through a shared economic system — enabling creative activity, creator monetization, network participation, ecosystem incentives, governance, and sustainable protocol growth. DITTO is designed around usage: as activity within the ecosystem increases, demand for the token increases through actual platform interactions.

8.1 Token Utility

AI Creation. Users spend DITTO to generate new creative works, introducing new content into the ecosystem and creating future remix opportunities.

Remixing. Users spend DITTO to remix existing creations. Because each remix creates a new branch in the Remix Chain, remix activity increases both creative participation and economic activity.

Creator Support. DITTO enables tips, rewards, community support, and exclusive creator access — letting fans support creators directly without traditional payment intermediaries.

Creator Subscriptions. Creators can build DITTO-powered communities offering premium content access, exclusive remix rights, community membership, and early access opportunities. The full subscription price a creator sets goes to that creator; the Subscription Platform Fee described in Section 8.7 is a separate charge paid by the subscriber on top of that price, not a deduction from creator earnings.

Discovery & Promotion. Creators may spend DITTO to increase visibility, creating additional token demand while giving creators more control over discovery.

Governance. DITTO holders may participate in future decisions on protocol improvements, ecosystem initiatives, community proposals, and treasury allocation, evolving alongside ecosystem maturity.

8.2 Token Supply

Total supply: 1,000,000,000 DITTO, on Base Mainnet. The supply is designed to support long-term ecosystem growth while providing sufficient liquidity for creators, users, and network participants.

8.3 Token Allocation

Category	Allocation
Creator Rewards	25%
Team	18%
Treasury	15%
Ecosystem Growth	12%
Liquidity	10%
Marketing & Community	8%
Infrastructure	5%
Monthly Creator Rewards	3%
Cultural Rewards	2%
Moderation Rewards	2%
Total	100%

8.4 Allocation Philosophy

The largest allocation goes to Creator Rewards, because creators are the foundation of the network — supporting early contributors, creative participation, community growth, and long-term engagement. The Team allocation aligns contributors with long-term protocol development through a structured vesting schedule. The Treasury supports development, partnerships, research, and future initiatives. Ecosystem Growth funds developer programs, creator incentives, community campaigns, and strategic integrations.

8.5 Vesting Structure

Team: 48-month vesting with a 12-month cliff and monthly unlock thereafter, aligning team incentives with long-term ecosystem success. Ecosystem & Community: distributed gradually to encourage sustainable growth rather than short-term activity. Treasury: released strategically based on ecosystem requirements and governance decisions.

8.6 Economic Flow

Users Create → Users Spend DITTO → Creators Earn → More Creators Join

↓

More Content Created → More Remix Activity → More Ecosystem Usage → Increased Token Utility

The objective is an economy where participation reinforces participation.

8.7 Burn Mechanism

Activity	Burn
Promotion / Boosting	100%
Generation Fees	50%
Subscription Platform Fees	50%

Each of these fees is paid by the user initiating the spend — the creator generating content, the creator boosting visibility, or the fan subscribing — as a charge layered on top of the activity, never as a deduction from a creator’s earnings. This preserves the 0% creator take rate described in Section 8.8 while still generating retained (non-burned) fee volume that funds protocol operations.

Burn mechanisms align token economics with ecosystem usage: as platform activity increases, more DITTO is consumed, a portion is permanently removed, and remaining supply decreases — tying network activity directly to token scarcity.

8.8 Protocol Sustainability

Because the protocol takes a 0% royalty on creator earnings and burns a majority of generation, promotion, and subscription platform fees, DITTO’s design deliberately avoids extracting recurring revenue from creators. Ongoing operational costs — compute, moderation infrastructure, and platform development — are funded during the early growth phase primarily through the Treasury (15%) and Infrastructure (5%) allocations, rather than through a transaction cut. As ecosystem usage scales, retained (non-burned) fee volume and treasury-directed reinvestment are intended to move the protocol toward self-sustaining operations without introducing a creator-facing take rate. This is a deliberate trade-off: it strengthens the creator-ownership narrative at the cost of a slower path to protocol-level revenue, and treasury deployment should be read with that trade-off in mind.

8.9 Value Accrual Model

Traditional: Creator → Platform → Platform Captures Majority Value

Ditto: Creator → Creative Network → Royalties + Participation → Ecosystem Growth

The token functions as the coordination mechanism connecting every participant, not as a claim on creativity itself — it represents participation in the infrastructure that enables creativity to become economically connected.

9 Creator Flywheel & Network Effects

Most creator platforms grow through audience accumulation. Ditto grows through creative participation. Every new creator, creation, and remix strengthens the network by adding new relationships, economic opportunities, and pathways for future creativity — the network of relationships is the asset, not the content itself.

9.1 The Ditto Flywheel

More Creators → More Original Creations → More Remix Opportunities

↓

More Creative Lineage → More Royalty Generation → More Creator Earnings

↓

More Creators Join → Network Growth

Unlike traditional platforms, where successful content often replaces previous content, Ditto allows previous contributions to keep generating value indefinitely.

9.2 Compounding Versus Linear Growth

Traditional platforms follow a linear model: create, publish, receive attention, and the content lifecycle ends. Ditto replaces this with a compounding model, where publishing leads to remixing, which leads to more remixes, an expanded creative network, and continuous economic activity. Every remix increases the value of the underlying creative lineage, and the original creator remains connected to every future generation of their work.

9.3 Aligned Incentives

Traditional platforms create a quiet conflict: the platform benefits from more content, while the creator benefits only from continued attention. Ditto aligns these incentives instead — creators benefit when their work inspires others, is remixed, and expands its creative lineage, rather than depending solely on continued attention.

9.4 User-to-Creator Conversion

AI-powered creativity dramatically lowers the barrier to creation, letting former viewers become experimenters, then creators, remixers, and community contributors. As more users create, the network expands; as the network expands, more creative opportunities emerge.

9.5 Community and Infrastructure Effects

Communities form around individual creators, creative styles, remix chains, and shared interests — built around participation rather than passive consumption, since every contribution carries attribution. Future versions of Ditto may extend participation to infrastructure providers as well: GPU providers could contribute compute to power AI generation in exchange for DITTO rewards, creating a decentralized infrastructure layer that turns unused computing capacity into creative output.

As the ecosystem grows, Ditto also accumulates increasingly valuable data on remix patterns, creative lineage, and community interactions — powering a discovery and recommendation system that optimizes for creative connection rather than pure engagement.

9.6 Why the Network Is Defensible

Section 7.6 lays out Ditto’s IP and infrastructure moat. The network effect described here compounds on top of it: every creator relationship, remix, and royalty payment adds to a body of creative-lineage data that has no equivalent on any existing platform. That data — not just the underlying code — is what a competitor would need to reproduce, and it can only be built through real usage over time.

10 Governance & Protocol Evolution

Ditto governance is designed to evolve alongside the ecosystem. The initial development phase requires focused execution by the founding team to build core infrastructure, establish security standards, and support early creator adoption. As the network matures, governance responsibilities gradually transition toward the broader Ditto community — with the goal of creating a sustainable system where creators, users, developers, and ecosystem participants collectively influence the protocol’s direction, not simply a token-voting mechanism.

10.1 Governance Participants

Future governance may include creators (creator incentive programs, royalty system improvements, discovery mechanisms, creator tools), token holders (protocol upgrades, treasury allocation, ecosystem initiatives, parameter adjustments), developers (protocol improvements, open integrations, infrastructure expansion), and community members (feedback, proposals, moderation participation, ecosystem initiatives).

10.2 Governance Transition Model

Phase 1 — Foundation Governance. Early governance remains team-led, focused on security, infrastructure development, smart contract management, product stability, and regulatory compliance, allowing rapid decision-making during early growth.

Phase 2 — Community Participation. As adoption increases, community participation expands through proposals, advisory groups, creator councils, and ecosystem voting — incorporating feedback from participants who actively use the network.

Phase 3 — Decentralized Governance. At maturity, governance may transition toward treasury management, protocol upgrades, ecosystem grants, incentive structures, and community initiatives being decided collectively.

10.3 Governance Areas and Safeguards

Future governance may influence protocol development (new features, additional creative formats, integration priorities), treasury allocation (creator programs, developer grants, partnerships, research), ecosystem incentives (reward programs, growth initiatives), and protocol parameters (fee structures, reward distribution, burn allocations).

Decentralized governance requires safeguards against harmful decisions: minimum-participation and defined-objective requirements for proposals, review periods and discussion windows before major protocol changes, and technical review plus security audits for critical infrastructure changes.

Why Governance Matters. The strongest networks are not controlled only by their creators — they are strengthened by their participants. Ditto’s long-term objective is an ecosystem where creators contribute creativity, users contribute participation, developers contribute innovation, and token holders contribute coordination, together forming a continuously evolving creative economy that can adapt as new technologies, formats, and communities emerge.

11 Roadmap & Development Phases

Ditto's roadmap is organized around ecosystem growth rather than feature releases alone, prioritizing infrastructure stability, creator adoption, economic activation, and progressive decentralization.

11.1 Phase 1 — Foundation & Mainnet Activation

Objective: Establish the core Ditto ecosystem and validate the creator-owned remix model.

Completed: AI creative generation infrastructure, Remix Chain implementation, on-chain royalty tracking, Base Mainnet integration, smart contract royalty distribution, creator profiles and discovery, feed and social interaction systems, wallet integration, content moderation infrastructure, and age-tier architecture.

Target: 100 active creators, verified remix activity, initial royalty transactions, and community feedback collection — measured through creator retention, remix frequency, royalty volume, and user engagement.

11.2 Phase 2 — Token Economy Activation

Objective: Introduce the economic layer connecting creators, users, and the protocol.

Milestones: DITTO token launch on Base, initial liquidity deployment, token utility activation, generation and remix payments enabled, and creator reward and community incentive programs activated.

Target: 1,000 active creators, a growing remix network, and sustainable token utility.

11.3 Phase 3 — Ecosystem Expansion

Objective: Scale adoption and strengthen network effects through expanded creator acquisition, a creator subscription ecosystem, advanced discovery systems, additional creative formats, and partnership and developer-ecosystem integrations.

Target: 10,000 active creators, large-scale remix activity, and an expanding creative graph.

11.4 Phase 4 — Global Creative Infrastructure

Objective: Expand Ditto beyond a single platform into a broader attribution and ownership layer covering music remix networks, video creation, 3D assets, virtual worlds, AI-generated media, and creative developer tools — infrastructure where all forms of remixable creativity can maintain attribution, ownership, and economic participation.

11.5 Phase 5 — Decentralized Ecosystem

Objective: Transition Ditto toward a community-driven protocol through community governance activation, treasury participation, ecosystem grants, developer programs, and protocol improvement proposals — building a sustainable creative infrastructure that can evolve beyond the founding team.

Milestones: DAO governance activation, treasury and ecosystem grant programs, and community-driven protocol improvement proposals. As the long-term expression of this governance maturity, the roadmap also includes **Ditto Mainnet — Power to the Creators:** a potential migration to a dedicated, community-secured blockchain, leveraging established, security-audited blockchain

infrastructure as a technical foundation and adapted for Ditto’s requirements, with an independent, economically secured validator set and a native bridge between Ditto Mainnet and Base/Ethereum for asset portability. This migration is deliberately framed as a long-term vision rather than a committed milestone: it would only be pursued once the protocol can credibly establish validator decentralization and network security independent of Base and Ethereum, preserving the security guarantees the protocol currently inherits from established infrastructure.

Roadmap Success Metrics. Ditto measures success through ecosystem health rather than vanity metrics: creator growth (active creators, retention, new creations published), remix activity (number of remixes, remix depth, lineage expansion), economic activity (creator earnings, royalty volume, token utility), and network growth (user participation, community engagement, developer adoption).

12 Risk Factors & Mitigation

Like any emerging technology platform, Ditto operates within a rapidly evolving environment involving technological, regulatory, economic, and market uncertainties. This section identifies potential risks and the approaches designed to reduce them.

12.1 Technology Risk

Ditto relies on multiple emerging technologies — blockchain infrastructure, smart contracts, AI systems, decentralized payments, and digital ownership systems. *Mitigation:* secure smart contract development, code reviews, testing environments, progressive feature deployment, infrastructure monitoring, and future security audits, within a modular architecture that lets individual components improve without a full system redesign.

12.2 Smart Contract & Security Risk

Smart contracts manage critical economic functions, including royalty distribution and creator payments; a vulnerability could result in financial loss or disruption. *Mitigation:* internal testing, external audits where appropriate, limited initial deployment scope, upgrade mechanisms with safeguards, and transparent contract verification, as an ongoing process.

12.3 Regulatory Risk

Regulation of digital assets, creator monetization, AI, and decentralized applications continues to develop globally, and changes could affect certain platform features. *Mitigation:* regional compliance strategies, clear user agreements, responsible token utility design, separation between creator earnings and token speculation, and continued legal review.

12.4 Token Market Risk

DITTO operates within the broader digital asset market, where volatility and liquidity fluctuations may affect user behavior. *Mitigation:* an economic model focused on utility-driven demand — creation, remixing, promotion, and community participation — rather than relying solely on speculation.

12.5 Adoption Risk

Success depends on attracting creators, users, communities, developers, and infrastructure providers, and building a new creative ecosystem requires overcoming established platform habits. *Mitigation:* clear creator advantages — automatic attribution, remix participation, transparent royalties, direct creator support, and ownership preservation — designed around incentives that reward participation rather than simply increasing engagement.

12.6 Competition Risk

The creator economy and AI ecosystem include significant competition from social platforms, AI generation companies, creator marketplaces, and blockchain applications. *Mitigation:* the integrated moat described in Section 7.6 — the Remix Chain, automated royalties, and accumulated creative-lineage data are substantially harder to replicate than any single feature.

12.7 Artificial Intelligence Risk

AI technologies are evolving rapidly, raising questions around model changes, content quality, copyright, and shifting AI regulation. *Mitigation:* a model-agnostic design that can integrate with evolving AI technologies rather than depending on a single provider.

12.8 Intellectual Property Risk

Digital creativity raises complex questions around ownership, attribution, training data, derivative works, and licensing. *Mitigation:* transparent attribution and creator participation, recording creative relationships while giving creators mechanisms to maintain visibility and economic participation as legal frameworks continue to evolve.

12.9 Content Moderation Risk

Any platform supporting user-generated content must address harmful content, policy violations, abuse, and misuse of creative tools. *Mitigation:* moderation systems built around community standards, reporting mechanisms, automated detection, and human review where necessary.

12.10 Liquidity & Economic Sustainability

Early-stage ecosystems may experience limited token liquidity, creator participation, and market depth. *Mitigation:* gradual ecosystem growth through creator incentives, utility-driven token demand, and sustainable reward mechanisms, with long-term success depending on genuine usage rather than short-term incentives alone.

12.11 Platform Dependency Risk

Ditto relies on external infrastructure — blockchain networks, AI providers, cloud services, and third-party protocols — and changes to those services could affect performance. *Mitigation:* modular architecture, with future development toward additional blockchain compatibility, multiple AI providers, and expanded infrastructure options.

Long-Term Perspective. Every emerging technology faces uncertainty. Ditto’s design does not aim to eliminate all risk, but to build systems that can adapt — combining transparent ownership, programmable economics, creator incentives, open infrastructure, and responsible development into a durable foundation for the future creative economy.

13 Legal & Compliance Framework

Ditto is designed as a technology platform enabling creators, users, and communities to participate in a decentralized creative economy. Because Ditto operates across emerging areas — blockchain, artificial intelligence, and digital media — the ecosystem must remain responsive to evolving legal and regulatory environments, prioritizing creator ownership, transparent attribution, responsible technology development, user protection, and regulatory adaptability.

13.1 Creator Ownership & Intellectual Property

As established in Section 5.1, creators retain ownership and control of their original creative works; Ditto does not claim ownership over creator-generated content. From a legal standpoint, ownership itself remains determined by applicable law, creator agreements, and platform policies — the protocol’s attribution layer supports this by preserving original creator identity, remix lineage, and contribution history as evidence, but does not substitute for it.

13.2 Remixing & Derivative Works

Remixing is a fundamental component of digital culture, but derivative creation can involve complex legal considerations — copyright ownership, licensing permissions, commercial usage rights, and creator agreements. Because remixing is central to how the protocol functions, Ditto defines a default license that applies automatically to every published creation, removing ambiguity about what permission a creator is granting when they publish.

Default Remix License. When a creator publishes a work to Ditto, that work is remixable by default: publishing automatically grants other users a license to create derivative works from it, including commercial use, without requiring a separate agreement. This default exists because the Remix Chain and Royalty Engine depend on remixing being frictionless — and unlike an open license granted outside the protocol, this license is not given away for free. Every derivative work carries automatic, enforced compensation back to the original creator through the Royalty Engine (Section 5.3), so granting the license is what activates the creator’s ongoing royalty rights rather than surrendering them.

Opting Out. A creator may disable remixing on a given creation at any time. Doing so prevents new remixes of that specific work going forward; it has no effect on remixes that already exist. Creators evaluate whether to allow remixing at publish time, with the understanding that permission already granted to existing derivative works cannot later be withdrawn.

Permanence of Existing Grants. Once a creation has been remixed, the license underlying that specific derivative relationship is permanent and cannot be revoked. This mirrors the permanence of on-chain attribution described in Section 5.1: a derivative work’s right to exist, and its creator’s right to continue distributing it, does not depend on the ongoing goodwill of the original creator. Royalty flows to the original creator continue for the life of the derivative work regardless of any later change to the original creation’s remix setting.

Scope and Limits. The default license covers derivative use of the creation as published on Ditto. It does not extend rights the original creator did not have to begin with — for example, if a creation itself incorporates third-party material outside the protocol, such as a copyrighted photograph, licensed music, or a trademarked character, the remix license does not override that

underlying restriction, and users remain responsible for ensuring the works they publish do not infringe rights held by others.

13.3 Artificial Intelligence & Content Responsibility

AI-assisted creation introduces emerging questions around content ownership, training data, attribution, authenticity, and disclosure requirements. Ditto supports responsible AI creativity through transparent attribution systems, creator participation, content policies, and abuse-prevention mechanisms, adapting as AI regulations evolve.

13.4 Token Utility Framework

DITTO is designed as a utility mechanism facilitating participation within the Ditto ecosystem — supporting creative generation, remix activity, platform interactions, community participation, and governance. The economic model is built around actual ecosystem usage, with token demand connected to network participation rather than external speculation.

13.5 Creator Payments & Settlement

Ditto separates protocol utility from creator earnings, as described in Section 6.7: users interact with the ecosystem through DITTO, while creator royalty settlement occurs through ETH-based payments.

13.6 User Protection & Data Considerations

Platform policies may address harmful content, copyright violations, fraudulent activity, abuse of AI tools, unauthorized use of personal likeness, and community misconduct, evolving as technology, regulation, and community needs change. Ditto aims to minimize unnecessary data collection while balancing blockchain transparency with user privacy, and may incorporate privacy-preserving technologies where appropriate.

13.7 Regulatory Adaptability & Geographic Expansion

The regulatory environment surrounding digital assets, AI governance, intellectual property, creator monetization, and consumer protection continues to evolve, and requirements vary by region. Ditto’s architecture is designed to remain adaptable as these frameworks develop, adopting region-specific approaches where necessary while maintaining its core principles of attribution, ownership, and creator participation.

14 Conclusion — The Future of Creative Ownership

The internet transformed how humanity shares information. Artificial intelligence is transforming how humanity creates. The economic systems surrounding creativity, however, have not evolved at the same pace. Creators continue to generate enormous cultural and economic value while lacking transparent ownership systems, persistent attribution, and participation in the future value created by their work.

Ditto introduces a new model — one where creativity is not treated as a static piece of content, but as an evolving network of contributions.

Creation Creates Relationships → Relationships Create Attribution



Attribution Creates Economic Participation → Participation Strengthens the Network

The future of creativity will not be defined only by original creation — it will be defined by evolution. Ideas will be expanded, styles transformed, and works remixed across communities and generations. The challenge is ensuring the creators who contribute to this evolution remain recognized and connected to the value it generates. Through Remix Chain attribution, programmable royalty distribution, creator ownership systems, token-based participation, and transparent settlement, the Ditto Protocol provides the infrastructure required to make this possible — transforming remixing from an informal cultural activity into a measurable economic relationship.

Ditto is not designed to be another content platform. It is designed to become foundational infrastructure for a new creator economy, where creators maintain ownership, users become participants, remixers become contributors, and communities become ecosystems.

As artificial intelligence continues to lower the barriers to creation, the number of digital works will grow exponentially. The future challenge will not be the ability to create — it will be knowing who contributed, who should receive recognition, how value flows, and how creators participate over time.

By combining blockchain infrastructure, creative lineage tracking, programmable economics, and community participation, Ditto builds the foundation for the next generation of digital creativity.

Every creation has an origin.

Every remix has a history.

Every contributor deserves recognition.

Ditto builds the infrastructure that connects them.

Create Once. Earn Forever.