RAIN™

Whitepaper

Updated: October 2025
Version 1.3.2

Decentralized Prediction markets Protocol

Abstract: Rain is a decentralized prediction markets protocol designed to redefine how markets predict and incentivize future events. It combines robust decentralized prediction markets with innovative incentive-driven mechanisms, empowering participants to engage seamlessly across a broad spectrum of event scales - from major global occurrences to specialized niche scenarios.

Rain's automated market maker (AMM) architecture, decentralized oracle integration, and transparent pricing methodology transform outcomes into tradable and incentivized assets. This approach not only democratizes market creation and participation but also aligns incentives around real-world actions, enhancing collective forecasting accuracy and actively shaping desired outcomes.

1. Introduction

Current prediction markets, both centralized and semi-centralized, typically focus solely on significant global events, often neglecting broader market accessibility and versatility. Their restrictive architecture prevents effective market creation for diverse and varying scales of events, limiting both usability and practical impact.

Rain emerges with a transformative vision - offering a universally adaptable automated prediction markets protocol capable of handling events of any scale efficiently and elegantly. Its hybrid market architecture, inspired by advanced decentralized finance models, ensures fluid market dynamics, automated liquidity adjustments, and precise pricing, supporting events ranging from globally significant to highly specialized ones without compromise.

Leveraging a decentralized oracle system, with a built-in dispute process, Rain ensures outcome verification remains accurate, trust-minimized, and resilient. Initially built upon the Arbitrum blockchain, the Rain protocol is designed to evolve into a transparently governed system via the $RAIN governance token. It embodies a vision of democratized, accessible, and dynamic prediction markets that will shape a more predictable and incentivized future.

2. Overview

Rain operates as a fully decentralized prediction markets protocol, built to accommodate a diverse array of predictive and incentive-driven markets. It employs an Automated Market Maker (AMM) system that efficiently manages liquidity and share pricing. This innovative architecture enables frictionless market creation, participation, and resolution, functioning seamlessly irrespective of market size or liquidity conditions.

3. How Rain Works

To engage with Rain's decentralized prediction markets, participants follow a straightforward process, beginning with account setup and fund deposits, moving through market creation and participation, and concluding with outcome resolution and reward claims.

Getting Started: Login and Deposit

Before diving into prediction markets, users need to set up their account and deposit funds. Users can now make deposits of USDT, USDC, ETH, and BNB over Arbitrum, Ethereum, Base, and BNB networks. Once connected, funds can be deposited directly from a linked wallet or by sending them to a provided deposit address, with cross-chain deposits automatically handled by the protocol.

Market Creation and Setup

Any user can create a market on Rain by clearly defining an outcome with multiple possible options. A minimum of $10 liquidity is required to open a market. Creators also choose the market type and resolver at this stage.

Rain offers two distinct market types:

	Public Markets	Private Markets
Creation	**Everyone**	**Everyone**
Visibility	Displayed to all users	Requires a code to enter
Resolution	By the creator or by Delphi (AI oracle)	By the creator
Dispute Process	Yes, can be escalated to human oracles	Yes, can be escalated to human oracles
Fees	Standard fees + $1 extra if AI oracle is chosen as the resolver	Standard fees*

Market Outcome Resolution

Rain employs a decentralized and robust resolution mechanism designed for accuracy, trust-minimization, and resilience. For **public markets**, market creators can choose to have outcomes determined by Delphi, an advanced AI-based oracle developed by Olympus AI, ensuring impartial and data-driven results. Alternatively, the market creator can resolve public markets themselves. For **private markets**, the market creator acts as the sole resolver. A built-in dispute system ensures fairness and transparency across both market types.

Delphi: The AI Oracle

Delphi operates on a consensus-driven system to verify information. It employs a multi-agent architecture: five "Explorer Agents" powered by leading LLMs independently gather diverse information from the internet, and one "Extractor Agent" then analyzes these findings. An answer is only confirmed when at least three of the five Explorer Agents agree. This method filters out inaccuracies and delivers objective, trustworthy answers. Furthermore, Delphi is designed to always select one of the options listed, even if it's ambiguous or appears to be nonsensical, ensuring that a market never remains unresolved.

Note: Delphi is currently in its final development stages and consistently delivers accurate answers 96% of the time. This accuracy is expected to increase further as Olympus AI completes its development.

Dispute Process

If a participant believes the decided market outcome is incorrect, they can open a dispute. To do so, the disputer must put up collateral of 0.1% of the market volume or $1000, whichever is less.

The dispute process unfolds as follows:

- Initial Resolution: The outcome is initially resolved by either Delphi (for public markets if chosen) or the market creator (for public markets if chosen, or for all private markets).
- Dispute Window: After the initial resolution, participants have a set timeframe to file a dispute if they disagree with the resolution. Filing a dispute requires putting up collateral.
- Escalation to Human Oracles: If a dispute is filed, the resolution is escalated to multiple decentralized human oracles provided by Olympus AI for a final decision. The collateral put up by the disputer is held.
- If the disputing party is deemed correct by the human oracles, the disputer will receive their collateral back, and the 0.1% resolver reward will be sent to the human oracles.

If the human oracles decide that the original resolver was right, the collateral will go to that resolver (either Delphi or the market creator), and the 0.1% resolver reward will go to the human oracles as compensation for their service.
No Dispute Filed: If no dispute is filed within the set timeframe, the initial resolution stands.

Claiming Winnings

Once a market is resolved and the dispute window has closed without a successful challenge, participants can proceed to claim their winnings. The protocol automatically distributes payouts based on the final outcome and the share prices at the time of their wager.

No Refund Policy

Once funds are committed to a market, there is no refund mechanism. Participants should be aware that all wagers are final, irrespective of the market's outcome or any subsequent disputes.
Example Scenarios: To illustrate the full cycle of Rain's prediction markets, consider the following examples:

Scenario 1: Private Market (Creator as Resolver)

1. A user opens a private market, defining an outcome and putting up $550 as initial liquidity. They choose to be the resolver.
2. Other users participate in the market, wagering on their predictions.
3. The market outcome is resolved by the market creator.

4. A participant files a dispute, putting up $50 as collateral (assuming a market volume of $50,000, 0.1% of which is $50).
5. The resolution is escalated to human oracles provided by Olympus AI.

6. The human oracles determine the correct outcome.
   - If the disputer wins, they receive their $50 collateral back. The 0.1% resolver's reward is sent to the human oracles.
   - If the original resolver (the market creator) wins, the $50 collateral goes to them, and the 0.1% resolver reward goes to the human oracles.

Scenario 2: Public Market (Delphi as Resolver)

1. A user creates a public market, defining an outcome and providing initial liquidity. They select Delphi, the AI oracle, as the resolver.
2. Users participate by placing wagers.
3. Delphi resolves the market outcome based on its consensus-driven system.
4. No dispute is filed within the designated timeframe.
5. The initial resolution by Delphi stands. Participants can then claim their winnings, and the 0.1% resolver reward goes to Delphi.

Scenario 3: Public Market (Creator as Resolver with Dispute)

1. A user creates a public market, provides liquidity, and chooses to resolve the market themselves.
2. Participants place their wagers.
3. The market creator resolves the outcome.
4. A participant disputes the outcome, providing the necessary collateral.
5. The dispute is escalated to human oracles.
6. The human oracles rule in favor of the disputing party.
7. The disputer receives their collateral back, and the 0.1% resolver reward is sent to the human oracles.

Automated Market Makers (AMM) and Share Pricing

Rain utilizes an intuitive and transparent pricing mechanism. The total funds in a market are automatically distributed among outcome options, with each option’s price dynamically reflecting the proportion of total funds allocated to it. If 50% of the funds are placed on Option A, its share

price is automatically set to $0.50. As new funds flow into different options, prices are adjusted proportionally and automatically, maintaining continuous market equilibrium.

The share price of each outcome option, along with its corresponding payout multiplier (referred to as "Line"), is dynamically determined based on the proportion of funds allocated to that option. This reflects the market's current assessment of the probability of each outcome.

The relationship between share price and the Line is defined as follows:

Line (Payout Multiplier) = 1 / Share Price

The Line indicates the potential return for each unit of currency (e.g., $1) placed on a specific outcome. In essence, it represents the multiplier applied to the stake if that outcome is realized. For Example: If the Line is 4.2, each $1 placed on that option would yield a $4.2 payout upon successful resolution of that outcome.

Fees

The Rain protocol incorporates the following fees:

- 1.2% to the market creator
- 1.2% to the liquidity provider(s)
- 0.1% to the resolver (the market creator, or Delphi when chosen for public markets)
- 2.5% for buying back and burning $RAIN

Additionally, in public markets where the creator chooses the AI oracle as a resolver, an extra $1 fee is collected to ensure a minimum payment for the oracle.

Dispute Fee

If a participant believes the decided market outcome is incorrect, they can open a dispute. To do so, the disputer must put up a collateral of 0.1% of the market volume or $1000, whichever is less.

Incentive Markets

In addition to traditional prediction markets (primarily utilizing stablecoins like USDT), Rain will introduce incentive markets that complement traditional predictive functionalities. These markets uniquely enable participants to proactively create financial incentives to realize specific outcomes, fostering active engagement and tangible impact. This mechanism provides organizations and

communities a powerful tool to actively influence desired outcomes, such as reaching particular milestones or targets.

Liquidity-Preserving Exit Mechanism

Rain incorporates an advanced liquidity-preserving exit mechanism utilizing account abstraction, enabling participants to exit positions without withdrawing liquidity. This innovative method involves several detailed steps:

1. Position Entry: Users initially purchase shares via the market, with new shares minted and prices set according to the AMM formula.
2. Sell Order Placement: Users wishing to exit positions place conditional sell orders specifying their desired quantity and minimum acceptable price.
3. Internal Buyer Matching: When new buyers enter the market, the protocol matches them internally with existing sell orders.
4. Liquidity Integrity: All matched trades occur internally, preserving market liquidity.

4. Decentralization and Protocol Economics

Rain integrates elements of both Proof-of-Work and Proof-of-Stake mechanisms, creating a robust decentralized economy:

- Proof-of-Work: Contributors who create markets, provide liquidity, and resolve outcomes actively contribute "work" to the protocol, receiving direct rewards.
- Proof-of-Stake: Participants demonstrate "stake" by providing liquidity and staking tokens during disputes, ensuring commitment and accountability.

Rain is governed by a decentralized autonomous organization (DAO), allowing multiple third-party front-ends and embedding functionalities, demonstrating true decentralized control and governance.

5. Tokenomics and Governance

The $RAIN Token

$RAIN is the protocol’s native governance token, currently operating on Arbitrum. It is not required to use Rain’s app but will be essential for participating in governance and shaping the protocol’s future.

Token Utility

At launch, $RAIN is strictly a governance token. Users do not need to hold $RAIN to participate in markets. When the DAO will be established later on, only those who wish to contribute to the protocol's evolution - by submitting or voting on proposals - will need to hold the token.

The DAO will be able to decide on additional token utilities in the future. For example: Requiring a minimum token holding to create a market.

Deflationary Mechanism

Rain introduces a powerful deflationary component designed to reward holders as the protocol grows: 2.5% of the trading volume in every prediction market is used to buy back and burn $RAIN tokens.

This creates constant downward pressure on supply as usage increases, tying token scarcity directly to protocol activity and adoption.

Inflationary Mechanism

To support ongoing growth and incentivize contributors, Rain also employs a carefully controlled inflation model:

- No inflation during the first 3 months post-launch.
- Starting in month 4, the protocol will mint $50,000 worth of RAIN tokens daily.
- In months 4-12, the newly minted tokens will be allocated to the DAO.

These tokens are allocated to support:

- Team rewards
- Ecosystem development
- Marketing campaigns
- Strategic partnerships
- Community initiatives and contributors

This balance between deflation through usage and inflation through contribution creates a sustainable and incentive-aligned token economy.

Total Supply of $RAIN

The $RAIN token's initial total supply is 1.15 trillion tokens. Note that this is not the maximum supply. The protocol includes both an inflationary mechanism to support ecosystem growth and a deflationary mechanism where 2.5% of trading volume is used to buy back and burn $RAIN tokens. This deflationary pressure offsets the inflation, linking token scarcity to protocol activity and adoption.

Rain's In-app Credits System:

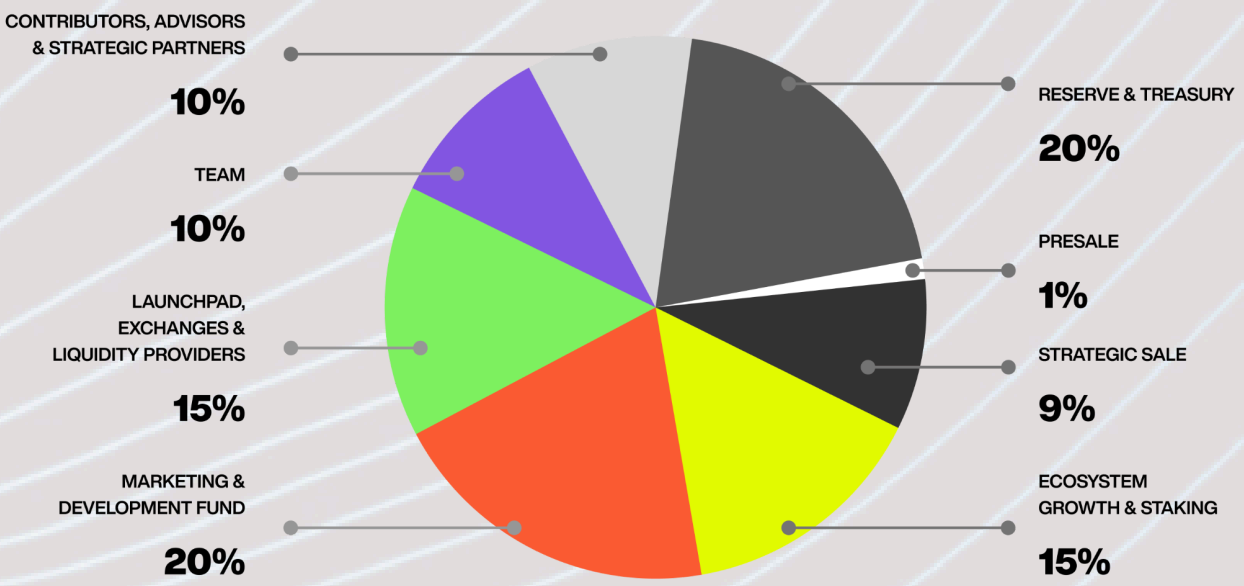
Rain will support an In-app credits system designed to reward users for various activities that contribute to the protocol's ecosystem.

- **Earning Points:** Users will be able to earn credits through actions such as depositing funds, trading, adding liquidity, and inviting other users.
- **Purpose of Points:** Accumulated credits may be used to convert into $RAIN tokens. Additionally, holding credits will grant holders a greater share in airdrops and other rewards.

Allocation: 2% (23 billion tokens) of the Ecosystem Growth & Staking allocation is designated for the In-app Credits System, released via a 12-month linear vesting schedule. Further details regarding the system's structure and conversion plan will be published later.

Token Distribution

Category	Allocation	Vesting Details	Notes
Presale (Mercury Miner, Private Sale, Credit Refund)	1%	18-month non-linear momentum vesting with monthly unlocks	Only 0.03% will be circulating by the end of the first month after TGE to ensure limited float and early protocol activity.
Strategic Sale	9%	8-month cliff 8-month vesting period	Full confidence in the project with 0% release at TGE.
Contributors, Advisors & Strategic Partners	10%	18-month vesting	Vesting-based rewards for those supporting early growth and long-term development.
Team	10%	1-month cliff 24-month linear vesting with monthly unlocks	No tokens at launch. Multi-year vesting to ensure alignment and long-term commitment.
Marketing & Development Fund	20%	19-month vesting Only 1% (of total supply) released at TGE	Used to fund operations, protocol development, marketing, campaigns, and user acquisition.
Launchpad, Exchanges & Liquidity Providers	15%	No lockup or vesting, used upon need	Supports liquidity provisioning, listings, and key exchange partnerships.
Ecosystem Growth & Staking	15%	12-month linear vesting with monthly unlocks	Used to reward users, fund staking incentives, community grants, and ecosystem expansion.
Reserve & Treasury	20%	18-month cliff 6-month linear vesting with monthly unlocks	Protocol-owned tokens for future use, managed by multisig or DAO governance over time.



6. Roadmap

Rain's strategic roadmap includes:

- **Q4 2025 - Platform Maturation**: Community bootstrapping, alpha version launch, burn mechanism activation, cross-chain support, official app launch, strategic partnerships and integrations, in-app credits launch, DAO governance rollout.
- **2026 - Ecosystem Expansion**: Curated liquidity provision for trusted creators, advanced analytics and discovery tools, institutional access & infrastructure

7. Conclusion

Rain introduces a sophisticated decentralized prediction markets protocol, significantly enhancing predictive accuracy, incentivization capabilities, and market accessibility. Its innovative decentralized architecture, combined with balanced tokenomics and community-driven governance, positions Rain as a foundational infrastructure for decentralized market predictions and incentives, driving widespread adoption and lasting impact.

8. Legal Disclaimer

Informational Purpose Only

This whitepaper is published solely for informational purposes by the Rain team. It does not constitute legal, financial, tax, investment, or any other professional advice. No part of this document shall be construed as a solicitation or offer to sell or buy any tokens, securities, commodities, or other financial instruments, nor should it be relied upon in making any investment decisions.

No Offer or Solicitation

The Rain whitepaper is not a prospectus, offering document, or financial promotion. Nothing in this document constitutes or shall be deemed to constitute an offer to sell or the solicitation of an offer to buy any $RAIN tokens or any other rights related to the Rain protocol in any jurisdiction. The distribution of this whitepaper and the offering or purchase of $RAIN tokens may be prohibited or restricted by law in certain jurisdictions.

Forward-Looking Statements

This document contains forward-looking statements regarding the Rain protocol's development, market adoption, token performance, automated market maker mechanisms, oracle integration, and ecosystem growth. These statements are inherently uncertain and subject to change. No assurance is given that such statements will prove accurate, and actual outcomes may differ materially. Rain assumes no obligation to update or revise any forward-looking statements except as required by law.

No Guarantees

The Rain protocol is under active development. Its features, tokenomics (including the deflationary buyback mechanism and inflationary minting schedule), governance mechanisms, and network integrations are subject to ongoing iteration. No guarantees are made regarding:

- The utility, value, performance, or tradability of $RAIN tokens
- The accuracy of the Delphi AI oracle or dispute resolution outcomes
- The continued operation or liquidity of any prediction market
- The achievement of intended economic effects from token mechanisms

Critical Protocol-Specific Risks

- No Refund Policy: Once funds are committed to a market, there is no refund mechanism. All positions taken in prediction markets are final and irrevocable, regardless of market outcomes or subsequent disputes. Participants must understand this fundamental protocol design before participating.
- Oracle and Resolution Risks: The protocol relies on AI-based oracle systems (Delphi) for public markets and market creators for private markets. Despite dispute mechanisms requiring collateral (0.1% of market volume or $1000, whichever is less), there is no guarantee of accurate or fair resolution in all circumstances. Private market participants must trust the market creator entirely.
- Market Mechanism Risks: The AMM pricing mechanism, while transparent, may result in unexpected price movements. Liquidity providers face impermanent loss risks. The protocol's fee structure (5% total fees per transaction) directly impacts returns.
- Technology and Security Risks: Rain is a decentralized smart contract-based protocol. Inherent risks include: Smart contract vulnerabilities or exploits, oracle manipulation or failure, blockchain network issues or congestion, loss of private keys resulting in permanent loss of access, unforeseen technical issues in dispute resolution systems, and cybersecurity threats

The Rain team makes no warranties regarding the protocol's security, reliability, or uninterrupted availability.

Market and Financial Risks

Participation in prediction markets or holding $RAIN tokens entails: Complete loss of capital invested, extreme price volatility, illiquidity in certain markets or conditions, market manipulation risks, speculative nature of prediction markets, and no guarantee of market demand or liquidity.

Regulatory Considerations

The regulatory status of prediction markets, decentralized protocols, and digital assets varies across jurisdictions and is evolving rapidly. Future regulatory developments may: Prohibit or restrict access to Rain, impact the utility or value of $RAIN tokens, require protocol modifications, and affect the legality of prediction markets in certain jurisdictions

Participants are solely responsible for ensuring compliance with all applicable laws and regulations. No regulatory authority has reviewed or approved any information contained herein.

Limitation of Liability

To the fullest extent permitted by applicable law, Rain, its developers, contributors, affiliates, and associated parties shall not be liable for any direct, indirect, incidental, consequential, or other damages arising from your access to or use of this document, Rain's platform, or $RAIN tokens.
Independent Advice Required
You are strongly advised to consult with qualified legal, financial, and tax professionals before: Engaging with Rai, acquiring or trading $RAIN tokens, participating in prediction markets, and relying on this whitepaper for any purpose.

Jurisdictional Restrictions

This document is not directed to or intended for distribution to any person or entity in any jurisdiction where such distribution would be contrary to law or regulation. Access to Rainmay be restricted in certain jurisdictions. It is your responsibility to determine whether your participation is lawful.

Acceptance of Risks

By accessing this whitepaper or participating in the Rain ecosystem, you acknowledge that you have read, understood, and accepted all risks described herein and agree to hold harmless all parties associated with Rain.