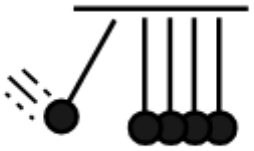


Matter Games

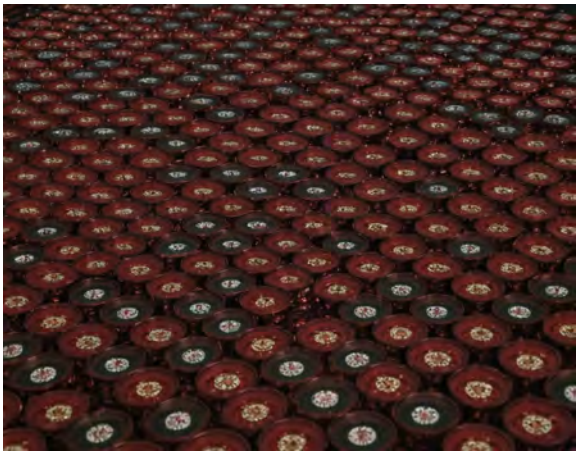
Whitepaper v0.9.2 (beta)

Project Overview

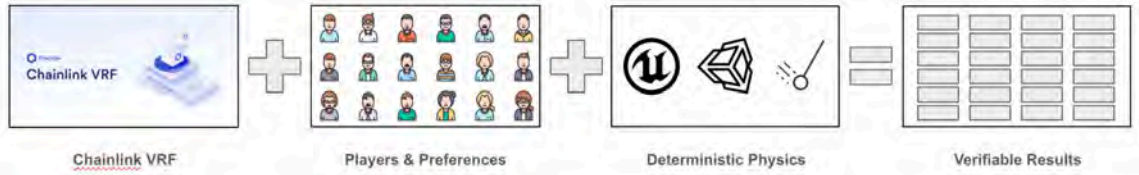
We are a gaming studio committed to providing revolutionary, secure, real-time experiences for users to gamble on in the metaverse. Our innovation lies in combining a cryptographically secure random number generator, **Chainlink VRF, with deterministic physics engines** to deliver exciting and innovative gaming experiences.

Project Explanation

Imagine a roulette gambling game. A typical game might use pre-recorded video for each possible option the ball can take, so 37 videos (0-36).



We would like to make the experience more exciting, so each game looks completely different without having to prerender millions of videos.



In order to ensure fairness and security, we generate a huge random number (2^256-1) which is 78 digits long. This random number is fed into the physics engine, meaning the same result (0-36) will always come out for that random number, but the simulation itself could look vastly different.

The innovation comes from scaling up this framework so that vastly more interesting games can be played out in the simulation, all whilst retaining fair and secure results.

Tokenomics

Total Token Supply	1,000,000,000	100%
Additional and/or cross chain liquidity Provision	300,000,000	30%
Team allocation	160,000,000	16%
Marketing	150,000,000	15%
Community development & initiatives	150,000,000	15%
Community contribution event (token sale)	110,000,000	11%
Eth LP Seeding	60,000,000	6%
Airdrop allocation	50,000,000	5%
Treasury	10,000,000	1%
Advisor Allocation	10,000,000	1%
Token Launch Price	$0.01	
Launch FDV	$10,000,000	
Launch Mcap	$2,200,000	

Our token “matter” facilitates revenue sharing for holders and the governance rights allows the community to shape the game offerings to best meet the gaming demands of the community.

As such Matter Games will be an open, fair and fun community driven gaming platform.

What are the key problems our project addresses for consumers in today's gaming market?

1) Security and Fairness: Game play is managed by interacting with our contracts straight from your own wallet. So there's no need to worry about sharing your financial information with us. Hosting the games without the use of any backend servers ensures the games themselves are fair, and verifiable with Chainlink VRF. The physics engine allows games to be rerun with the verified random inputs to verify the same game outcome.

2) Payment and Withdrawal Options: Running games on a public ledger, payments are instant and permissionless, straight to the customers wallets.

And all transactions are publicly verifiable.

3) 3. Game Selection: At Matter Games we pride ourselves on creating new innovative games using our deterministic physics engine. We are also a decentralised entity, with a governance token that lets participants vote on subjects like what games the community would like to see, keeping our games fresh and in demand.

Token Utility

1) Games that are played using our native token will reward gamers for doing so.

2) Revenue from games will be used to purchase matter Token off the open market. 50% of these coins will be redistributed to stakers, the other 50% will go to the treasury for expansion.

3) Governance

   The token will be able to be used to vote on community game design and other relevant strategic decisions.

Token Sale

Community contribution event (token sale)	110,000,000	11%

Token Launch Price	$0.01
Launch FDV	$10,000,000
Launch MCAP	$2,200,000

Appendix

What is Chainlink VRF

Chainlink Verifiable Random Function (VRF) is a decentralized oracle service that supplies smart contracts with a secure and verifiable source of randomness. Unlike traditional random number generators (RNGs) that may produce predictable or manipulable outcomes, Chainlink VRF ensures its randomness is both unpredictable and provably fair. This feature is particularly suitable for blockchain applications that depend on high degrees of security and unpredictability.

How Chainlink VRF Works

- Request for Randomness: A smart contract requests randomness from Chainlink VRF by calling a function and providing some seed data. The seed does not influence the outcome of the randomness; it merely ensures the uniqueness of the request.
- Generation of Proof: The Chainlink VRF node generates a random number alongside a cryptographic proof, verifying the number's generation in a tamper-proof manner through a Verifiable Random Function. This cryptographic method ensures that the output (the random number) can be verified using the generator's public key.
- Verification and Delivery: Upon receiving the random number and its cryptographic proof, the smart contract independently verifies the proof against the public key of the Chainlink VRF node before accepting the random number as valid. This step confirms that the number was generated securely and deterministically, free from manipulation.
- Usage: Verified randomness can be utilized within the smart contract application, such as in decentralized gaming platforms for fair character generation or loot box openings, financial products for randomized outcomes, or any application requiring secure, fair, and verifiable randomness.

Key Features of Chainlink VRFx`

- Security: Cryptographic proof ensures the randomness cannot be tampered with or predicted, even by the oracle service or the developers of the requesting smart contract.
- Transparency: On-chain verification of the random number and its proof enhances transparency and trust in the process.

- Decentralization: Utilizing Chainlink's decentralized network of oracles, VRF ensures the source of randomness is not centralized, minimizing points of failure and potential manipulation.

What is a Deterministic Physics Engine

A deterministic physics engine is a system used in computer simulations, games, and other computational physics applications. It ensures that the outcome of any set of physical interactions is always the same under identical initial conditions and inputs, regardless of the hardware or software environment. This predictability is essential in networked games and simulations where fairness and consistency are critical.

Key Characteristics of Deterministic Physics Engines

- Repeatability: Generates the same outcome from the same initial conditions every time, ensuring consistency across different sessions and platforms.
- Fixed-Point Arithmetic: Utilizes fixed-point arithmetic to prevent slight differences in calculations on various systems, ensuring consistent results across different computing architectures.
- Synchronized States: Enables devices in multiplayer games to simulate the game state independently in lockstep, reducing network bandwidth requirements and enhancing performance.
- Frame Rate Independence: Ensures the simulation's outcomes do not depend on hardware speed or rendering load, maintaining fairness and consistency across devices.

Applications

- Multiplayer Games: Provides a fair gameplay experience by ensuring all players see and interact with the game world in the same way.
- Scientific Simulations: Enables reproducible results in simulations requiring precise physical calculations, beneficial for engineering or physics research.
- Replay Systems: Facilitates accurate game session or simulation replays, with the deterministic engine ensuring the same inputs always result in the same outputs.

Project Description

- Technology Overview: Describe the blockchain technology, consensus mechanisms, and other technical foundations of your project.

- An L2 smart contract will manage each round of betting per game/experience. Various types of competition structure will be possible, delivered by typical smart contract functions. A simple example would be a lottery.
- There would be a period of the game where users would join the pool.
- Once that phase has closed, a random number will be generated by Chainlink VRF.
- MatterGames will then take the random number & player information & run the game experience from anywhere in the world. Once the game is finished those results will be published back to the blockchain.
- End users will also be able to watch the experience in their own browsers/devices.
- Once the result has run, anyone will be able to re-run the experience on their own device, just by clicking a link, to verify that the game has not been tampered with.