

SolanaDino: Enter the Dinoverse



Whitepaper

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1 Introduction

1.1 What is Dino

Dino is the ultimate key to enter the Dinoverse. It is issued as a fungible token which allows for the minting of Dino NFTs through a process which creates, incubates, and hatches eggs. The Dino NFT is intended to have a game dynamic to it whereby the NFT's are characters in a game, and provide additional capability within a game.

1.2 What is metaverse

Metaverse is a term used to describe a shared virtual environment. This virtual environment can cover a variety of different worlds. (Berry, 2021) While no one knows for sure what the metaverse will look like, some of its characteristics are already established. It will facilitate a shared virtual experience that has many composable elements that are transferable to different worlds e.g., user owned assets like avatars and other digital goods.

Without central control by a big company, a government or an individual; blockchain technology allows the creation of an open standard for digital money and digital worlds. Cryptocurrencies and NFT's can be used as the base building blocks to build worlds that are governed and monetized by the use of smart contracts. One where players can login with their self-sovereign identity and truly own the assets that they are entitled to.

This allows for a fully composable player environment that effectively has no limits to its use cases.

1.3 Vision

The ultimate goal is to create a Dino metaverse. It will consist of different components to cater to a wide range of audiences. The main component will be a Dino game where players can interact with each other while using their own Dino NFT's as their in-game character. They will be able to participate in tournaments in a decentralized manner to earn rewards in the form of tokens.

Essentially creating a 'play-to-earn' model where players are rewarded for their time and contributions to the community. There are a few good examples of successful 'play-to-earn' cryptogames, for example Axie Infinity, that prove that this business model is viable. However, one bottleneck for Ethereum based cryptogames is the level of congestion on the network resulting in them having to resort to L2's or custom scaling solutions. Dino takes a different approach by establishing the Dinoverse on Solana with the aim to become among the first cryptogames on this high performance network.

1.4 Our approach

To realize this vision, the project is divided into 4 stages. Each stage represents an essential part of the Dino metaverse.

1.4.1 Stage 1 – Dino Marketplace

The first stage revolves around community & token creation. A marketing campaign is started to attract people and incentivize them to help build a vibrant community. During this stage a Dino trading platform is created that provides an accessible way for people to speculate on Dino assets. The Dino token experiences its first price discovery which sets the initial valuation of the Dinoverse.

1.4.2 Stage 2 – Dino Staking

During the second stage the initial staking contract is created. This marks the introduction of the mysterious Dino Egg token. Dino Eggs are earned by staking Dino tokens. The 'staking & reward' is the first implementation of the 'play-to-earn' model which will continue to be adopted in later stages.

1.4.3 Stage 3 – Dino NFT's

The third stage introduces the most important feature to the Dino metaverse: 'the release of the Dino Egg NFT and the Dino NFT'. The trading platform will expand and support all Dino tokens & NFT's allowing new community members to easily be acquainted with the early metaverse. Dino Egg NFT can be hatched to get a uniquely generated Dino NFT. Dino Egg NFT will be a 1:1 swap of Dino Egg tokens which rewards early stakers.

1.4.4 Stage 4 – Dino Entertainment System

With a vibrant community, interactive trading platform and unique NFT's all the fundamentals have been set in preparation for the final building block of the Dino metaverse, 'The Dino Entertainment System'. Dino Entertainment System will be an online platform where you can interact with your Dino NFT in a virtual environment.

2 Dinoverse

2.1 The Dino Dex

The Dino Dex is the main platform where people can trade Dino & Egg tokens and all Dino related NFT's. Initially forked from a Serum Dex UI, it will evolve throughout the different stages to become a market aggregator for any Dino-related asset.

Serum is a protocol and ecosystem that brings unprecedented speed and low transaction costs to decentralized finance. The Dino Dex composes with Serum's on-chain central limit orderbook to share liquidity and power markets-based features for users.

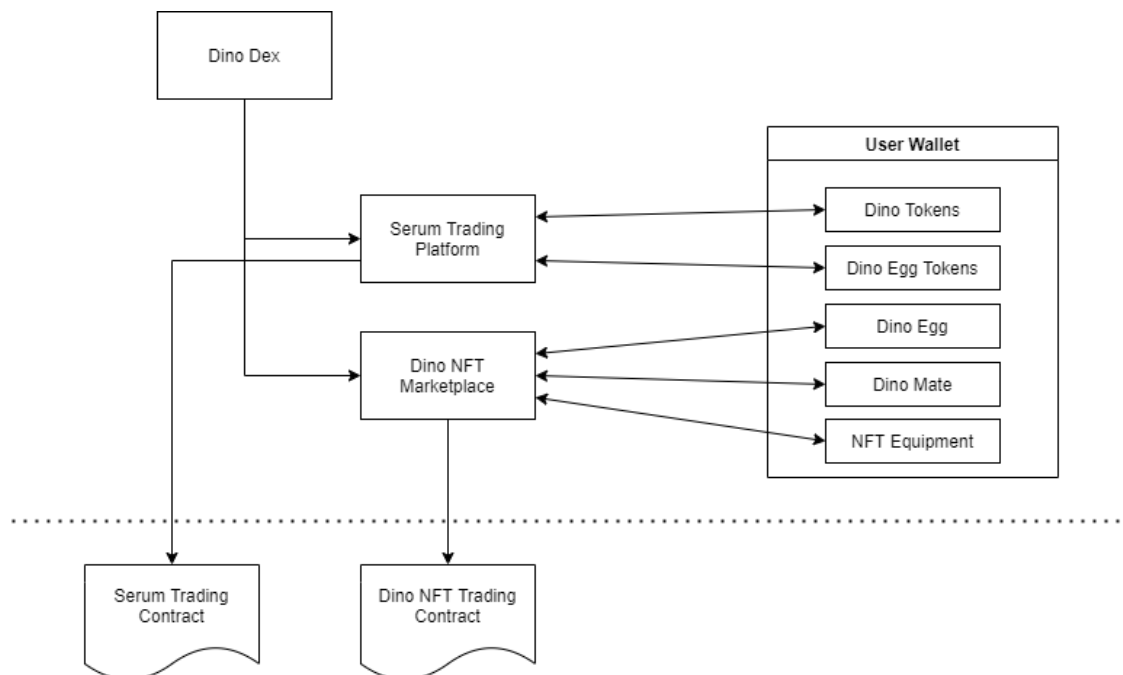


Figure 1 Dino Dex diagram

2.2 The Love Shack

2.2.1 Dino Token Staking

The release of the Love Shack marks the birth of the Dino Egg token (\$DINOEGG). A mysterious token that plays an essential role in the minting process of uniquely generated Dino NFT. The Love Shack is a web application that interacts with a staking contract where users can earn \$DINOEGG tokens by staking their \$DINO tokens. There is no minimum or maximum amount users can stake. The amount only affects the rate at how fast \$DINOEGG tokens are generated.

Initially this contract allows \$DINO tokens to be staked to earn \$DINOEGG at a rate of 1 \$DINOEGG per 100k \$DINO staked over 30 days. However, this rate will be cut by a third every 65 days starting on the 28th of September. This rate rewards early stakers with more \$DINOEGG tokens, yet continues to provide an endless stream.

```

reduceRate (Integer rate, Integer reduct)
(1) x = calculateUnixInterval();
(2) if x mod(1) = 0 then
(3)   return rate · reduct
(4) else
(5)   return rate
(6) end if

```

As \$DINO single token rewards are cut in a third, a new way to earn \$DINOEGG will be introduced through providing liquidity to the \$DINO and \$DINOEGG markets. Using a farming rewards contract and an AMM LP (TBD), rewards of \$DINOEGG will be given to liquidity providers of these tokens initially just with \$DINO.

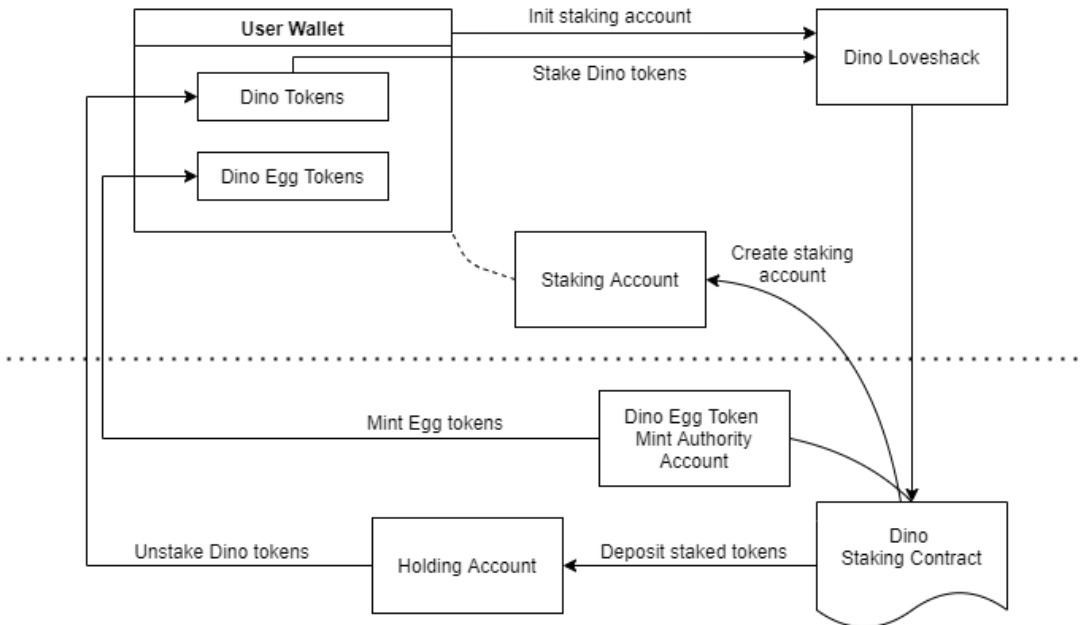


Figure 2 Love Shack Dino token staking diagram

2.2.2 Dino Egg NFT

After earning \$DINOEGG tokens users can exchange them for a Dino Egg NFT. The Love Shack provides a mechanism that can turn 1.00 \$DINOEGG token into a Dino Egg NFT. Users can also choose to submit multiple \$DINOEGG tokens for a chance to get a Dino Egg NFT of a higher rarity. These Egg NFT’s are not true NFT’s, but rather non-divisible tokens of a certain rarity type. There will be levels of egg rarity that are given based on a combination of randomness.

This Randomness can be achieved by using a VRF (Verifiable Random Function). ‘A VRF is a pseudorandom function that provides proof that its outputs were calculated correctly.’ This is necessary to stay resistant from randomness exploits. We aim to collaborate with Chainlink or Switchboard to use their trusted VRF. A solution specifically developed for smart contracts.

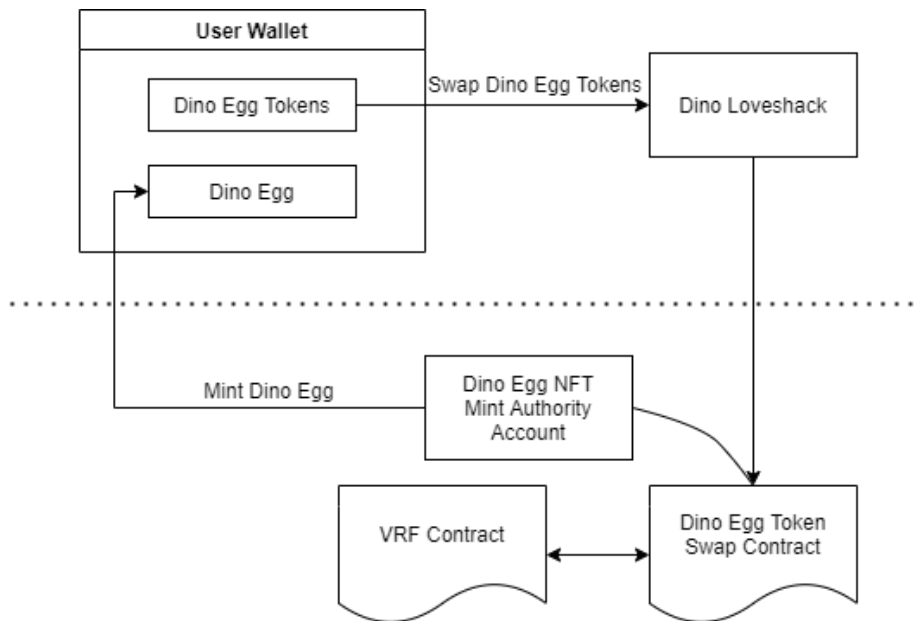


Figure 3 Egg token to Egg NFT swap diagram

2.3 The Incubator

The Incubator is the final step for users to get their hands on a Dino NFT. Dino Egg NFTs can in fact be hatched into a generative Dino NFT. This has a similar dynamic to turning a \$DINOEGG token into Dino Egg NFT - with the rarity of the egg combined with a stroke of luck. Each Dino NFT has a unique set of traits and features. The different traits that a Dino NFT has will be based around their elemental properties. For the Dino itself the skin, background, body features and wearables are the main dynamic properties. *More information on the different rarity types will follow.*

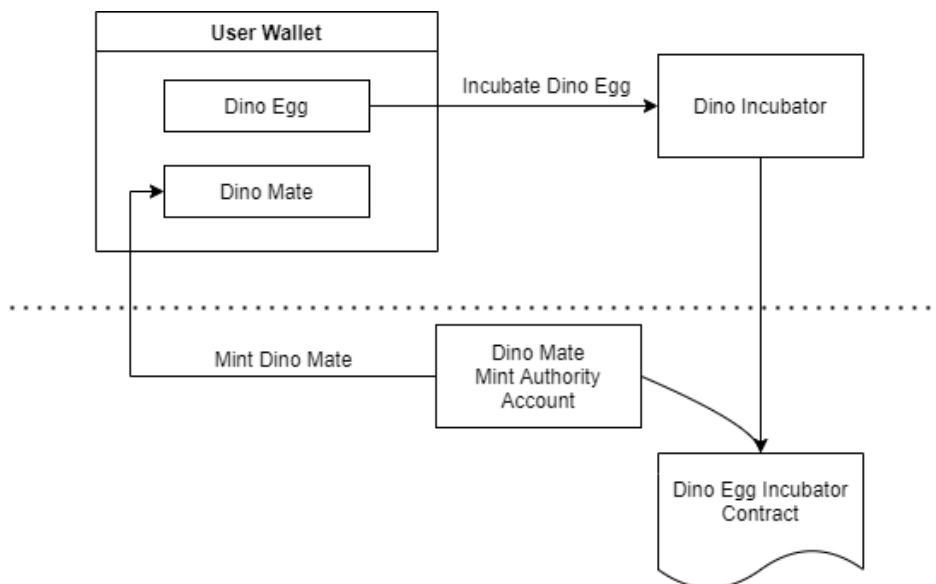


Figure 4 Dino Incubator diagram

2.4 Dino Entertainment System

Equip your unique Dino NFT with your favorite NFT equipment and join a Dino themed online platform. Show off your wares and participate in tournaments in a competitive online environment. *More details on the Dino Entertainment System will be released in the future.*

2.4.1 NFT equipment

The Dino NFT hatched from a Dino Egg is not their final form. NFT equipment specifically and custom made for Dino's helps bring more customization. This part is essential for a fun and constantly refreshing experience. NFT equipment also makes it possible to boost stats, giving the Dino entertainment system an extra interesting feature. Unlike the Dino NFT, NFT equipment will be earned through community raffles or tournament rewards.

3 Solana

3.1 Solana features

'Solana is a web-scale blockchain that provides fast, secure, scalable, decentralized apps and marketplaces.' (Genesis Block, sd) One of Solana's core innovations which makes it very promising is the use of 'Proof-of-History'. 'Proof-of-History' provides a way to cryptographically verify passage of time between two events, essentially creating a way to encode data as time. In practice, this allows the network to process many transactions every second since transactions don't have to wait till a 'block' is filled. In addition, Solana also uses 'Turbine' protocol. 'Turbine' breaks data in smaller packets making it easier to transmit data between nodes.

3.2 Solana vs Ethereum

The chosen blockchain for the Dino metaverse is Solana. Another possibility would be Ethereum but the insanely high gas fees and the network congestion would be a heavy bottleneck for the metaverse. Axie Infinity, another widely popular metaverse, solves these bottlenecks by creating an Ethereum sidechain called 'Ronin'. A sidechain is a separate blockchain which runs in parallel to Ethereum and operates independently. It makes the metaverse more scalable and minimizes congestion but also makes it less decentralized.

Solana eliminates those bottlenecks and provides a faster & elegant solution without needing a sidechain. However, Solana is a small network with a much smaller NFT market compared to Ethereum. But this can also be seen as an opportunity, being among the first NFT games on Solana will definitely put Dino in the spotlight.

The fast & cheap transactions offer a great foundation for the trading platform and competitive events. This is essential for an optimal experience.

4 Token Economy

4.1 Dino token

Dino token (\$DINO) is the native currency of the Dinoverse. It provides the first stepping stone in obtaining a Dino NFT. Initially created with a fixed supply of 500 000 000 tokens. Throughout the different phases Dino tokens will be distributed and burned.

The Dino token distribution is projected as follows:

- 10% development team.
 - 33% unlocked at TGE. Semi-annually vesting over 1 year.
- 10% marketing services and liquidity on the trading pools
 - 60% unlocked at TGE. Remaining utilized for new exchange listing relationships.
- 20% airdrops and distributions for community members
 - Distributed in phase 1
- 40% ecosystem incentive fund
- 15% foundation
- 5% partners and collaborators
 - Remaining utilized when partnerships are established.

One function of Dino token as a payment token on the Dino DEX to trade NFT's. Another one is as a utility token in the staking and hatching contracts. The fee paid for hatching a Dino Egg NFT will be burned, further decreasing the circulating supply of Dino. The ecosystem incentive fund will be used to create a vibrant ecosystem for \$DINO. With a dynamic flow of \$DINO flowing into the Dinoverse and \$DINO being burned and cycled back during hatching & swapping.

4.2 Dino Egg token

Dino Egg Token is fully controlled by a smart contract. It is designed so that nobody has a central authority except for the staking contract. Therefore, the total supply is unlimited and only the contract has the authority to mint tokens. Every 65 days the earning rate will be reduced by 66%. This will eventually have a deflationary effect on the circulating supply of \$DINOEGG. When users swap \$DINOEGG with Egg NFT in the Love Shack, the \$DINOEGG will be burned in the process further limiting the \$DINOEGG circulating supply.

Dino Egg token will have its own market on the Dino DEX.

5 Roadmap

5.1 Stage 1 - Initial token distribution / community creation (Finished)

- Public and community airdrops through Discord and Twitter.
- Weekly community events.
- The release of the \$DINO and Dino DEX.

5.2 Stage 2 - Dino Staking / Liquidity mining (July - October)

- The release of the Dino Love Shack that enables \$Dino staking to become the owner of a mysterious \$DINOEGG.
- Introduction of new ways to earn \$DINOEGG through providing liquidity.

5.3 Stage 3 - Dino Egg NFT minting / Incubating (October - November)

- The Love Shack v2 release for \$DINOEGG to Dino Egg NFT swapping.
- Dino honorary NFT's uniquely customized for Dino partners.
- Dino Egg NFTs hatching into Dino NFT's with the DINO Incubator. This will have a similar dynamic to turning DINOEGG into Dino Egg NFT - with the rarity of the egg combined with luck.

5.4 Stage 4 - Dino Entertainment Future (November - ...)

- Take your Dino NFT with you and equip your own wearable NFT's in a Dino themed online platform.

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