Draft EAVE Whitepaper

John Whitton

Dec 2021

Abstract

Emerging Assets growing Web3 adoption is driving a new economy.

The challenge: how do we manage the virtual worlds' financial systems, scale their infrastructure to accommodate billions of users (human and machine), and govern them over time.[1]

EAVE is building a multi-chain web3 engine to power this economy.

In 2021 we have seen the market cap for emerging (digital) assets triple from $784 Trillion to $2,291 Trillion [75][2]. We have seen an explosion in Non Fungible Token (NFT) adoption[1] with the top 10 NFT's valued over 1 Million ETH ($3.6 Billion)[76] and an individual Beeple NFT being sold for $69 Million [4]. To support this we have also seen a 10x adoption of emerging chains from 3.04% to 37.6% of Total Value Locked (TVL)[77]. The explosion of demand for NFTs (plus DeFi) pulled forward demand for more scalable Layer 1 and Layer 2 blockchains earlier this year."[1]

In 2022 networks with likely breakout potential include play-to-earn games and decentralized social network[1]. We are also seeing a shift in funding and tokenomics with a focus on community governance through Decentralized Autonomous Organizations (DAOs) and projects ongoing self funding via their treasury which manages Protocol Owned Liquidity(POL). Emerging (faster cheaper) Chains are enabling this growth and driving new economic models.

What is produced in digital economy are ideas, incentives, and infrastructures.[3].In Web3, cryptocurrencies and NFTs are the digital goods of the new economy, DeFi is the native financial system, Layer 1 networks are the rails that power everything, and DAOs are how the frontier gets governed.[1].

This is very different from what has historically been produced in the material economy and needs a different tool set and mindset to empower it.

EAVE: Emerging Asset Value Engine

Contents

1 Overview

For the purpose of this paper the term emerging assets can be thought of as web3 digital assets which include cryptocurrencies, non fungible tokens and native tokens.

Multi-chain: With the emergence of decentralized finance, a diverse financial ecosystem has been created using web3 technology. This started with Bitcoin[7], which provided a decentralized value storage and remittance platform. Then, Ethereum's [8] EVM[9] enabled a programmable decentralized platform, paving the way for innovative decentralized financial(DeFi) models and applications. Recently, we have seen this vision evolve even further by the open source community through new EVM platforms such as Binance Smart Chain[10], Avalanche[11], Fantom[12], Polygon[13], Harmony[14] and Polkadot[**?**] which provide secure low cost EVM compatible platforms for emerging assets.

Note: here we focus on EVM compatible chains however other web3 platforms with RUST based smart contract development tools such as Terra[15], Solana[16], Polkadot[17] and Near[19] are also seeing rapid adoption. EAVE's intial focus will be on EVM compatible chains. For a review of work done on RUST based chains see EAVE Parachain Design[20] or EAVE's Parachain github

Web3 Engine: The open source nature of web3 as well as the talent and passion of the community has, and will continue to, lead to rapid innovation in web3 protocols. DeFi: has evolved from simple AMM's to complete financial product suites with forks and innovation on emerging chains capturing significant adoption. Automated Market Makers(AMMs) such as Uniswap[21], Balancer[22], and Curve[24] have been replicated and morphed into projects such as SushiSwap[26], MDEX[31] and PancakeSwap[32], providing a broader multi-chain, multi-asset DeFi ecosystem. NFT Adoption and Play to Earn and Social Networking are further driving adoption.

Digtial Economy: Decentralized Autonomous Organization (DAO's) are changing the way projects get built and maintained. Key focus areas include tools for governance, treasury management and a shift towards Protocol Owned Liquidity (POL). Projects that once would do multiple funding rounds (Seed, Series A, Series B, etc) are now moving to a more organic funding of protocol development through their treasury. We are also seeing a move towards Protocol Owned Liquidity (rather than relying solely on external liquidity providers) which enables more autonomy for the Protocol.

EAVE is building a multi-chain, web3 engine to power the digital economy.

1.1 Opportunity

Help emerging chains drive adoption by providing the web3 infrastructure to power the emerging digital economies.

Trading: Emerging chains are seeking to drive both liquidity and utilization of their native token and their platform. They are also bridging multiple assets to there chain which have the same peg. For Example Ethereum and Binance Smart Chain both have representations of ETH, BUSD and BTC and platforms such as Harmony are now bridging these assets to their chain and need a settlement layer for this. Traders and Liquidity providers are seeking a capital efficient trading engine (Decentralized Exchange) on these emerging chains.

DeFi: New and existing protocols need better DeFi Primitives to build upon and further adoption. Requirements include lending protocols, nft marketplaces, better treasury management specifically around driving more Protocol Owned Liquidity (POL) and governance. A DeFi Engine can satisfy these requirements and better align incentives throughout the ecosystem.

Liquidity: Asset Custodians such as Centralized Exchanges which act as custodians of Digital Assets, Layer 1 Platforms and DeFi Protocols which have large treasuries to manage and Liquidity Providers which seek better returns all require tools to better manager their liquidity. Combined with the above Trading and DeFi engine automatic portfolio balancing and staking derivatives will enhance both the flow of liquidity and the return on this liquidity for these larger organizations.

NFT and the Metaverse: Creator Communities, Play to Earn Gaming, Social Networks and Fantasy Sports are areas where we anticipate continued web3 growth and adoption. Providing the infrastructure the web3 infrastructure to manage these virtual worlds and their digital assets, especially on emerging chains which are driving new models with their fast cheap platforms, offers the opportunity for considerable upside.

1.2   Solution

Summary: Web3 multi-chain infrastructure to manage the virtual worlds' financial systems, scale their infrastructure to accommodate billions of users (human and machine), and govern them over time.[1]

Open Source: The web3 open source community facilitates rapid iteration and development upon existing codebases. EAVE leverages existing protocols open source code bases and consolidates, iterates and improve upon them. Initially we plan to draw inspiration from the Uniswap, Sushi Trident, OlympusDao and Curve CodeBases. Moving forward Shoyu, DeFi Kingdoms, Axies Infinity and Loot offer a good baseline for NFT launchpads, gamification, play to earn and NFT metaverse capabilities.

Multichain via EVM Compatibility: EAVE's web3 solidity code base allows us to rapidly deploy onto emerging chains.

Key Features

- Easily deploy to multiple EVM compatible emerging chains

- Efficient Trading via multiple bonding curves for constant product, stable swaps and liquidity bootstrapping

- Gamified DeFi to increase adoption

- Product Suite to improve synergy, efficiency and incentives

- Automated Portfolio Balancing and Yield Stacking to increase returns

- Liquidity Owned Protocol, diversified treasury management, emerging asset reserved currency

- Infrastructure for the growing creator community including Play 2 Earn, Social Networking, Gamification, Metaverse

Key Phases

Figure 1: EAVE SOLUTION

- **Trading Engine:** is a multi-chain DEX launched on emerging block chains offering fast cheap trading and settlement. It uses a constant product trading pools and includes liquidity provider and protocol trading fees. The initial pools will consist primarily of native tokens from multiple chains as well as stable coins.

- **Gamified DeFi Engine:** introduces a lending protocol, a reserve currency and NFT launchpad. It provides higher yield through yield stacking. It improves trading with enhanced routing and more efficient gas fees provided by a multi-pool token management layer. New trading pool types supporting stable swaps, concentrated liquidity, weighted pools, oracle based pool and a framework for developers to add their own pools such as liquidity bootstrapping pools and adaptive bonding curves. Gamification is also introduced to increase adoption and offer new incentives around NFT's.

- **Liquidity Engine:** provides a yield engine to help liquidity providers earn the highest yield by automatically re-balancing their portfolio. It introduces franchise pools and liquidity strategies to allow Centralized Exchanges, Layer 1 Blockchains and Protocols to increase yield on the assets they hold. It also introduces an API layer to enable cross-chain aggregration to ensure the best trades and jump API's TO enable the flashing of assets across chains and enables the easy deposit of these assets into liquidity pools.

- **NFT Metaverse Engine:** builds on the NFT Launchpad and introduces an NFT metavers allowing new gaming worlds, fantasy sports arenas and real world AR gaming. NFT derivatives provide loan callateralization and fractional ownership of NFTs. A dedicated settlement chain actinga as a hub to support cross-chain NFT and Token Bridging. Additional multichain for rust based chains such as terra, solana, polkadot, near, etc.

2 Economics

2.1 Digital Assets Economics

What is produced in the materials economy are tangible, discrete, finite supply goods. For example, plates, screws, toaster ovens, shirts. The price mechanism can determine the optimal distribution of material goods, because these goods are adequately measured by the criterion of price-quantities.

What is produced in digital economy are ideas, incentives, and infrastructures. Price is not an adequate criterion to measure these goods, because such goods are not purely tangible, discrete, or finite and thus cannot be measured purely quantitatively. Price is only one among many competing forms of coordination that are produced by a digital economy, and by no means the most determinate.

The economic goods produced by a materials economy are material goods, while the economic goods produced by digital economy are focal point goods. Focal points are the more and less optimal solutions to coordination problems in the absence of direct communication. This means that communication must be largely tacit or implicit. The optimality of a focal point is measured by the criterion most relevant to the specific problem that it attempts to solve for. But all specific coordination problems and their specific criterion are aspects of the overall, objective coordination problem of human affairs in general.

We can think of digital economy as a market for focal points. And this is hardly the same as a market for memes, or virality. It is actually quite the opposite. The meme is defined by mimesis- how effective its imitation, simulation, and copying. The focal point, by contrast, is defined by originality- how effective it grounds absolute, unique shared organization in the absence of ability to directly communicate. Focal points are the origin of memes; the latter are temporal derivatives of the former.

The digital economy is related to the materials economy, because the former generates the distributed self-governance layer of the latter. An efficient materials economy with optimal distribution of goods, is not possible without internal market self-regulation. It is not possible for corporations to function without effectively virtuous corporate governance. This is only possible through distributed negotiation of objective social norms, which are focal points. As Thomas Schelling and Michael Polanyi emphasize, these focal points are often tacit or implicit, rather than explicitly codified.

2.2   Reserve Currency Economics

NOTE: The following content was drawn primarily from the Olympus Whitepaper, Economic Productivity in Digital Media[3]

The idea that internal coordination is equally, if not more significant than price coordination was independently discovered[6] and implemented in EAVE. This is very concisely expressed in the (3, 3) 'meme.' As already noted, (3, 3) is more accurately defined as a focal point, rather than a meme. The (3, 3) is the focal point solution in the payoff matrix that describes the incentive structure of the EAVE.

	Stake	Bond	Sell
Stake	(3, 3)	(1, 3)	(-1, 1)
Bond	(3, 1)	(1, 1)	(-1, 1)
Sell	(1, -1)	(1, -1)	(-3, -3)

Figure 2: Game Theory Collaboration 3x3

EAVE essentially has three aspects to its rule-set:

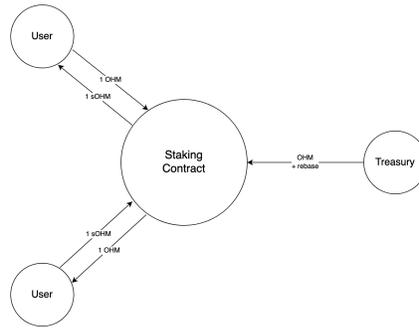- **staking** (internal coordination)

Figure 3: Staking

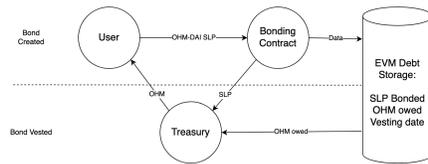- **bonding** (price coordination)

Figure 4: Bonds

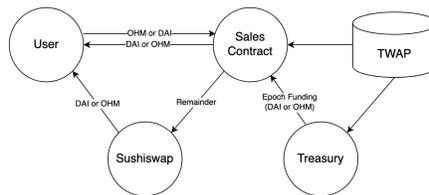- **treasury** (reserve backing)

Figure 5: Sales

And this rule-set is governed by three main levers:

- **Rewards rate** and **APY** (internal measure of internal coordination)

- **Bond control variable** (internal measure of price coordination)

- **Premium over RFV** (price measure of internal coordination)

The policy levers are the main way that the DAO self-regulates irrational, runaway reflexivity in market conditions. The policy levers then act as focal points that either counteract or work with external market forces in order to maintain internal productivity.

Rule-set:

Staking (internal coordination): the (3, 3) is a win-win situation in which both players stake their $EAVE tokens. In return for taking them out of circulation, the staker receives compounding rewards based on the rewards rate, which is controlled by the DAO's policy team. The (3, 3) focal point basically states that internal coordination- universally agreed upon, positive sum, cooperative behavior- is more economically productive than price coordination- zero sum, competitive behavior. Internal coordination forms a demand sync, which draws in economic value proportional to network effects. Price coordination is also a win-win equilibrium, but to a lesser degree than the internal coordination equilibrium. Internal coordination is the generalization of economic demand, whereas price coordination is the generalization of economic supply. Internal coordination theory represents a distributed demand-side economics, or a supply-side self-governance, as opposed to centralized governance.

Bonding (price coordination): The bonding focal point (1,1) is also a win-win situation, to a lesser degree. Bonding is when a buyer purchases EAVE tokens from the protocol, at a discount from the market price. The buyer provides another asset (a stable coin, LP token, or Ethereum) to the protocol treasury in return for the EAVE token. The discount is determined by market forces and by the bond-control variable, which is controlled by the policy team. The bond-control variable sets a certain bond capacity or a target limit for much of the given asset the treasury wants to take in over an allotted time. As the amount of bond sales gets closer to the capacity limit, the discount of the bond decreases in order to ensure that the treasury accumulates the right amount. The price coordination equilibrium is the generalization of economic supply.

Treasury (reserve backing): The money from the bond sales goes into the treasury reserves. These are the reserve assets that back the value of each $EAVE token. The Risk-Free Value (RFV) is an amount of stable coin that backs each $EAVE token that is minted and sold through bonding or through rewards distribution. The treasury must contain this RFV amount of stable coin for each $EAVE token it mints into circulation. The Market Value of Backing

per Token metric, is the treasury reserve backing that is made up of other treasury assets besides stable coins, which therefore may have more volatility.

Policy levers:

Reward rate: this measure determines the amount of new $EAVE that is minted for stakers. The percentage of $EAVE that is staked then determines the APY. The amount of bond sales together with the reward rate determines the rate of supply growth. Every $EAVE token that is minted must be backed by one unit of risk-free value. The reward rate combined with the percentage of total $EAVE supply staked, gives the APY, or annual percentage yield. The APY is the primary internal measure of internal coordination. It is the inverse measure of the health of the DAO. When the DAO is doing really well the APY will be lower, because the reward rate will be lower (which means the protocol has been in existence for a longer time), and there will be a high percentage staked (which means that there is long-term internal confidence).

Bond control variable: this measure is partially controlled by the policy team in order to incentivize the precise kind of treasury composition that the DAO wants. There are considerations of what kind of reserve assets the DAO wants to back the value of $EAVE, such as: liquidity provider assets versus stable coin assets versus layer 1 assets versus other tokens. Each kind of asset has different properties as reserve backing, and these must be weighted in aggregate for healthy growth and adequately stable reserve backing. The bond control variable is the internal measure of external price coordination because it sets the discount rate for buying directly from the protocol, rather than buying from a third party market maker. Thus, the bond control variable is the way that the DAO internally measures and regulates the $EAVE price value in virtue of its optimal treasury composition.

Premium over RFV: this is the value that each $EAVE token trades for above the amount of stablecoin value backing each token. This is a multiple, comparable to a price to earnings multiple that is familiar to value investors in legacy finance. The premium is the external / price measure of internal coordination; the reason that $EAVE trades for a price over the RFV is because there is an external market perception of efficient internal coordination of EAVE contributors. This external perception reflects investor confidence that the percentage of $EAVE staked will remain high, that contributors will continue to work for the DAO, that the protocol will continue to expand its network to form new partnerships, and that demand for $EAVE will continue to increase. Thus, the premium over RFV is thus a measure of the economic productivity of the DAO, and its expected future cashflows. This measure is set by the market, and not directly by the DAO policy team, but it can be influenced by policy levers.

How These Aspects Create an Economic Flywheel
This is an *idealized prototype* of the economic flywheel mechanism, meant to be pedagogical rather than precise in detail. It gives an intuition for how the protocol self-regulates and aligns incentives of the three main parties- market/bonders, stakers, DAO policy team. This model shows how the implementation generalizes the economic forces of supply and demand, in order to work with or counteract reflexivity in the market. The bolded terms are the main levers that the DAO can use to internally affect market conditions.

The reward rate combined with amount of bond sales sets the rate of supply inflation,

- higher supply → price decrease

- price decrease → lower premium over RFV

- lower premium over RFV → price increase (as price reverts to standard multiple)

- price increase → more unstaking / selling

- more unstaking / selling → higher APY

- higher APY → more demand / staking (3, 3)

- more demand / staking → price increase

Why This Economic Flywheel Is A Virtuous Cycle
The fundamental questions for the economics of decentralized finance (DeFi) are: where does value creation in decentralized finance originate? Or, what constitutes economic productivity in decentralized finance? Or, what economic good is produced by decentralized finance? Essentially the problem is a.) how to break the circularity of capital flow in DeFi, b.) how to connect DeFi to the broader financial system, and c.) how to articulate the source of economic value in DeFi. Only by answering these questions can decentralized finance be more than a degenerate art form, and be raised to the status of legitimate, economically productive activity.

The reserve asset treasury model or "protocol owned liquidity" model (DeFi 2.0) initiated by EAVE gives the first answer to these questions, through risk free value or intrinsic value, which is familiar to legacy finance. Although it takes a different form in decentralized finance.

What grounds the flywheel of fundamental value creation is internal coordination which can be summarized as:

- Because there are significant rewards to internal coordination (staking),

- Then there will be significant rewards to price coordination (bonding),

- Then there will be significant growth of treasury assets (revenues),

- Which provides ensurance that there will be significant rewards to internal coordination.

This virtuous cycle relies upon the foundation of internal coordination as **economic productivity**, within a specifically digital economy. The third element beyond supply and demand- internal coordination- allows the DAO to exercise policy levers and control treasury composition, in order to offset the runaway reflexivity of irrational market forces. This is what provides the investor confidence that staking will continue to be a profitable financial strategy. It is this third element that paradoxically breaks the vicious circularity and gives foundation for virtuous circularity and substantive reflexivity (rather than irrational, chaotic reflexivity) that benefits the market. Through internal coordination, the DAO has the means to self-regulate and self-govern market conditions for itself and for a whole ecosystem of interdependent, interoperable protocols.

In order to have an adequate theory of economic productivity in digital economy, we must have a good description and explanation of what internal coordination (3, 3), as economic productivity is. And a good explanation of exactly why it is more important than price coordination (1, 1). In order to do this, we look at the history of economic theories of value. We show that value and productivity in digital economy is a certain combination of prior value theories in the next section.

EAVE was created through internal coordination or entrepreneurship. It was created as an innovation from algorithmic stablecoin models. The algorithmic stablecoin model is essentially to have an over-collateralized basket of reserve assets that ensures the stablecoin will maintain its dollar peg, by always correcting the market when the value goes above or below its price peg. The innovation of $EAVE over this model is to create, not a stable coin, but a floating price reserve asset that is backed by risk-free value of treasury assets, rather than pegged to the US dollar. The price of $EAVE therefore can command a premium over the risk-free value of its treasury backed assets. This premium over the risk-free value can be considered a measure of economic productivity in digital economy. And it can be considered as analogous to a price-to-earnings multiple in the conventional stock market.

3 Trading Engine

The Trading Engine will be released in a phased roll out both from a functionality and a multi-chain perspective. The initial set of features focus on simple trading functionality with additional functionality around incentives and capital efficiency being added over time.

Liquidity Management: Ability to create liquidity pools and add and remove liquidity. The initial focus will be to have pools supporting native tokens and stable coins. This will start with a simple constant product bonding curve *(i.e. a [50:50 RATIO] Provide $100 worth of EAVE $100 worth of ONE).*

Liquidity Provider Trading fees: Initially a flat transaction fee will be charged for all pools *(e.g. 0.25% of all trading fees go to Liquidity Providers).*

Protocol Trading Fees: Initially a flat fee (e.g. 0.05% of all trading fees go to Token Holders) will go to a Token Holder wallet. Moving forward this will be distributed to taken Holders using a staking methodology where EAVE Tokens are staked to receive xEAVE tokens. The trading fees will be swapped to EAVE using the trading engine and the tokens will then the EAVE tokens will be distributed to the xEAVE holders increasing the value of xEAVE. This is similar to the SushiBar[27].

Analytics: will be provided providing metrics such as Total Value Locked (TVL), Trading Volume and yield percentages.

4 DeFi Engine

The DeFi Engine is the second phase of the EAVE roll out. It builds upon and enhances trading functionality and adds additional DeFi primitives such as a Lending Protocol, Reserve Currency, NFT Launchpad and gamified DeFi Experience to drive adoptions.

Lending Protocol: deposit your tokens and earn lending fees or borrow

Reserve Currency: a free-floating reserve currency that is backed by a basket of assets. See Reserve Currency Economics for design details.

NFT launch pad: Provides the ability for creators to create and list there NFTS and create their own marketplaces. Technical design will be similar to opensea[?] but with a focus on emerging chains.

DeFi Gamification: Gaming application creating a virtual world which leverages the Trading and DeFi Engine Primitives. See DeFi Kingdoms[67] for a reference implementation.

Aggregation (intra-chain): Aggregation API which checks multiple on-chain trading engines as well as offline bookmakers. Similar to paraswap[59] and 1inch[?].

Yield Farming: Earn fees from Staking, Trading, Flash Loans as well as bonding. This combines elements of sushi yield farming with Reserve Currency Bonding and staking principals similar to YEARN and CRV[46].

Staking Derivatives: provides the ability for to re-use staked tokens or provided liquidity as collateral for other financail primitives for such as lending and bonding. Reference implementations include lido[49] and acala[50] for staking and onsen[48] for liquidity.

Front End Integrations

- Wallet Integration with DEX (e.g. Harmony One Wallet)

- Mobile Application

- Gamified DeFi Application

- Additional Wallets integrated for signing

Trading Enhancements:

- **Universal Token Management:** provides the ability to track the user's deposits via artificial balance, which is used to account for their idle funds, while the same funds are simultaneously applied to strategies (similar to Sushi's bentobox [37] and balancer's vault[29]).

- **Use Case Specific Bonding Curves:** utilizes the separation of bonding curve and universal token management similar to sushi's trident[38] and leveraging bonding curve logic similar to shell[41], saddle[42], dodoex[25], univ3[40], Liquidity Bootstrapping Pools[43][28] and others.

  - Hybrid Pool (Stable Swap)[38][41][42]
    e.g Provide & swap assets of similar nature, renBTC - wBTC
  - Weighted Pool (Arbitrary Ratio)
    e.g Provide $100 worth of Kanga & $100 worth of ONE
  - Concentrated Liquidity Pool (Customizable Price Range)[40]
    e.g Set price range of DAI/USDC between $0.99 - $1.01 and provide liquidity. Earn platform fees only when they are trading in that selected range.
  - Oracle Pricing Pool (Oracle Base Pricing[25]
    e.g. swapping BTC for ETH exchange rate is determined by price oracle not the amount of each token in the pool.
  - Additional Pools - Adaptive - Build your own
    Ability to build new bonding curves to support new Pool types. e.g. liquidity bootstrapping pools[43], fixed price pools that can be used for token launches

- **Improved Incentives:** liquidity gauges[51][48], pool specific transaction fees[30]

- **Price Oracle Support:** ability to support price oracles both on chain similar to Uniswap V3 Oracle [52] and external data from a decentralized oracle network.[53]

- **More Efficient Routing:** swaps query all kanga pools and use gas costs, fees, price impact and graph topology to determine best swap[38]

- **Limit Orders:** A limit order is a request to buy or sell an asset at a predetermined price. As distinct from a market order, which executes immediately after an order is placed, a limit order will not execute unless the asset reaches the price set by the user.[54]

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5 Liquidity Engine

The Liquidity engine provides additional capabilities to help Asset Custodians, such as Centralized Exchanges, Layer 1 Platforms and DeFi Protocols, earn additional income on the assets they are holding as custodian. This combined with the reserve currency bonding capabilities will provide a robust set of tools for Treasury Management.
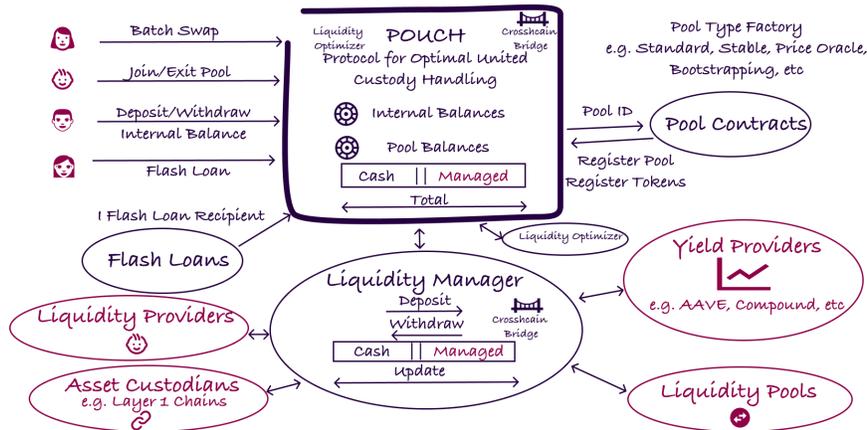

Figure 6: Liquidity Engine Overview

Liquidity Engine Features

Portfolio re-balancing: yield engine which automatically re-balances liquidity to ensure highest yield. This is similar to Yearn's vaults[55] and strategies[56].

Franchise pools: Asset Custodians (blockchains and centralized exchanges) earn yield on their assets.These pools will allow institutions to whitelist liquidity providers and swappers.[38]

Liquidity manager: Allow Asset Custodians to use their deposited tokens in the vault through an Liquidity Manager, putting capital to work when it is not being used as swap liquidity.[57][58]

Aggregation and jump API's: Cross-chain aggregation similar to paraswap[59] and 1inch[60] and adding cross-chain functionality. Flashing of assets cross-chain into pools, similar to zapper[61] but including cross-chain and leveraging the trading engine. See http://one-jump.kanga.finance/.

Automation capabilities: scheduling capabilities to enable custom trading and allocation strategies to be automated. Similar to keep3r[62] and substrate[63].

6 NFT metaverse engine

NFT metaverse engine[69][70] builds on the NFT Launchpad and introduces an NFT metaverse allowing new play to earn gaming worlds, fantasy sports arenas and real world AR gaming. NFT derivatives provide loan collateralization and fractional ownership of NFTs.
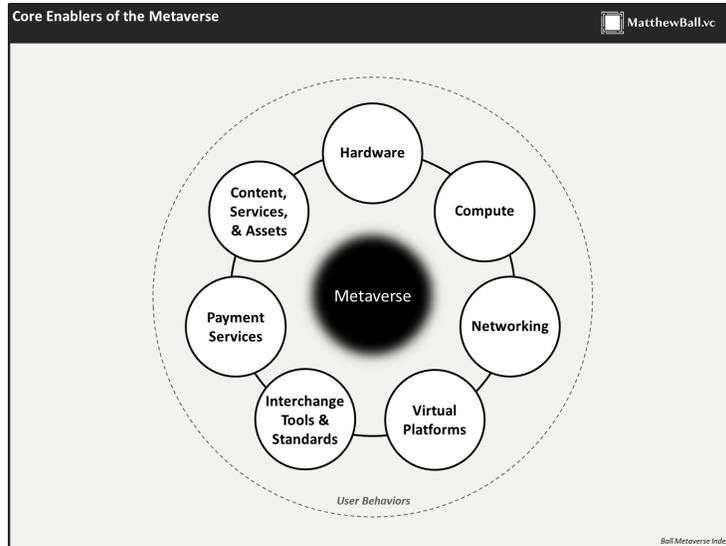

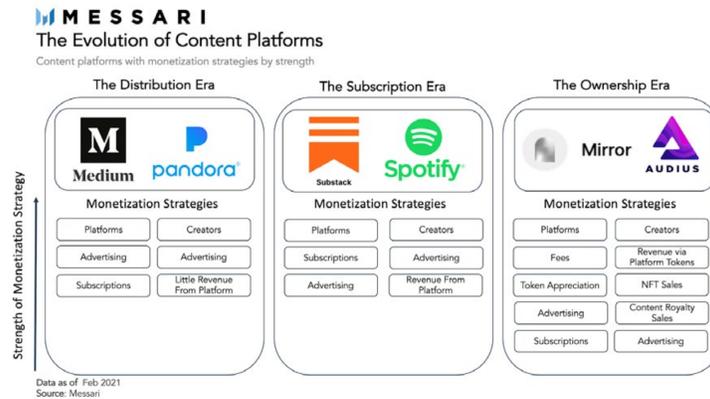Figure 7: Framework for the Metaverse [70]

Figure 8: Evolution of Content Platforms[**?**]

NFT Metaverse Features

NFT MarketPlace: Provides the ability for creators to create their own marketplaces and communities and monetize their NFT's. Similar to opensea[65][64] but in a more decentralized manner with inclusion of emerging chains.

NFT Metaverse Gaming Foundation: provides a base layer for gaming similar to the Loot Project[68] but with multiple foundations for different use cases and the ability for individual items (e.g. wearables) to be represented as NFT's and become part of a collection (e.g. a hero's character can add wearables, weapons, etc)

NFT Metaverse DEFI Gamification: gamification of DeFi similar to DeFi Kingdoms [67] but with broader DeFi support provided by the DeFi Engine and additional NFT driven incentives.

NFT Virtual Gaming Infrastructure - including Fantasy Sports: provides the ability to create fantasy players, teams and rosters and drives NFT value based on real world activities such as player stats and team results.

Play to Earn: A game universe built around ownable digital assets unlocks direct monetization of the work product of gamers.[72][73]
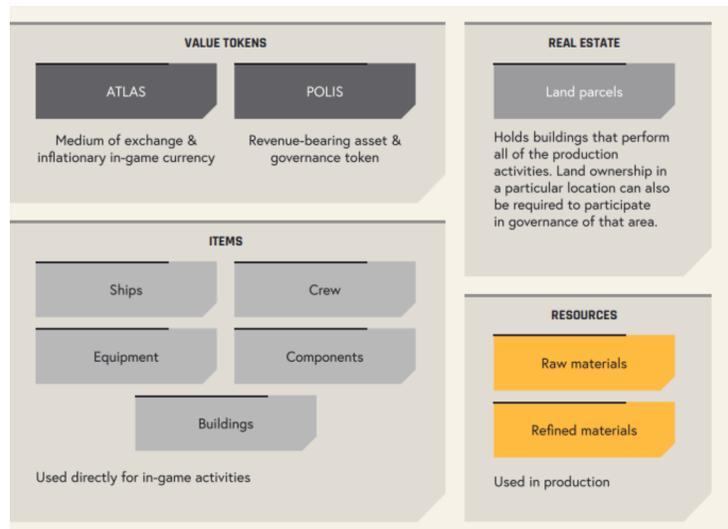

Figure 9: Atlas Play to Earn Economy[**?**]

Social Networking Support : Enables Social Networks including identity, community tokens, revenue sharing and fan tokens unlock a whole new value stream for the entertainment industry (film, music, sports in particular (Fan Tokens[1]))
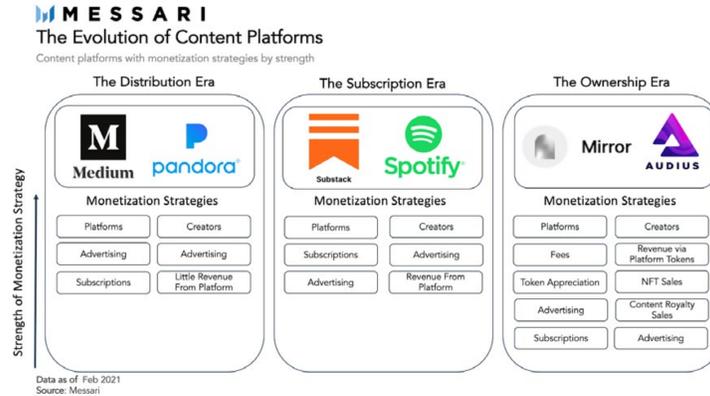

Figure 10: Atlas Play to Earn Economy[1]

NFT Financialization: loan collateralization, fractional ownership of NFTs and the abilty to bundle a collection of NFTs from a single collector, and tokenize access to the portfolio.(Messari NFT Financialization [1])
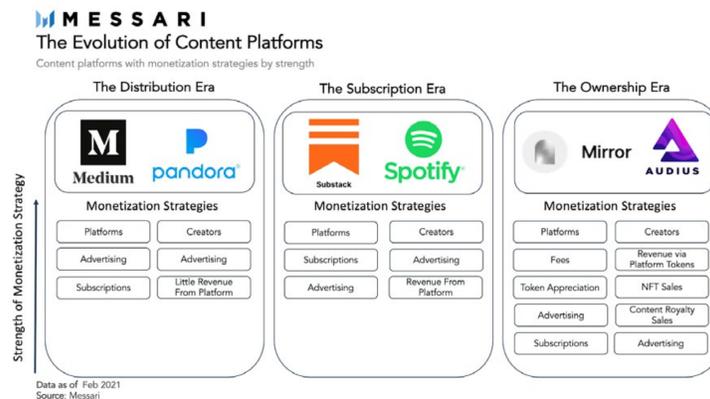

Figure 11: Atlas Play to Earn Economy[**?**]

7 Settlement Platform

The settlement platform is a dedicated settlement chain acting as a hub to support cross-chain NFT and Token Bridging. Additional multi-chain for rust based chains such as terra, solana, polkadot, near, etc. Please see https://eave.network and EAVE Parachain[20].

Infrasructure Features

Settlement Platform: Dedicated Settlement Chain as a hub supporting NFT and Token Bridging

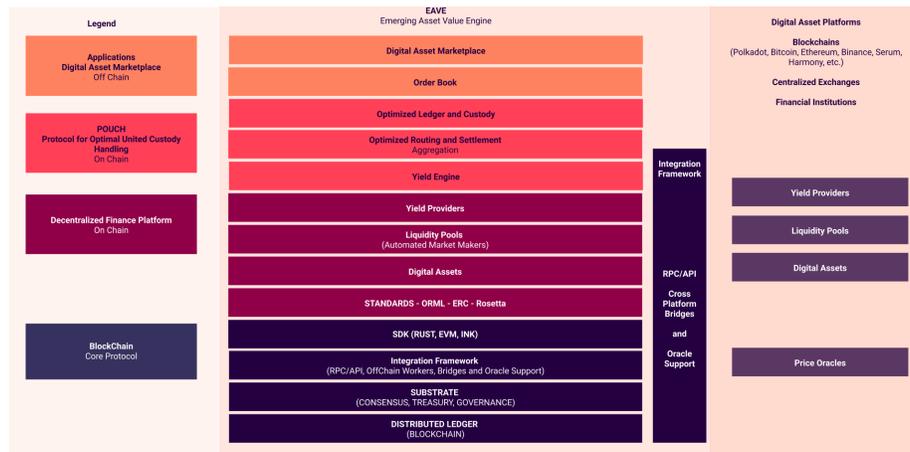**Rust Chain Support:** Support for non-EVM chains like terra, solana, polkadot, near, etc.

Figure 12: EAVE Settlement Platform[20]

8   Launch and Tokenomics

8.1   Launch Phases

(a) Trading
Engine

(b) DeFi Engine
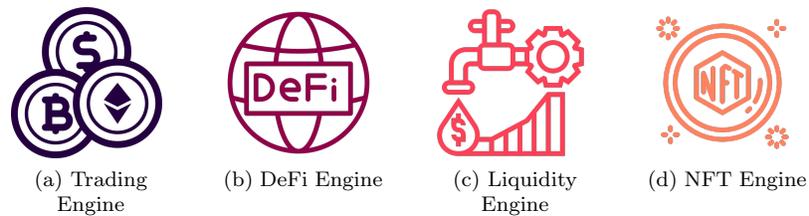
(c) Liquidity
Engine

(d) NFT Engine

Figure 13: Engines

Figure 14: Functionality

8.2   Multi-chain Rollout

Multi-chain Rollout Goals

- Release on 3 chains in Q1 2021

- Achieve $20Million Liquidity Per Chain

- Daily Transaction Volume of $5 Million per chain

Gamified and Mobile Friendly

$121 Billion
Cryptocurrency
Daily Trading Volume

$7.08 Billion
DEX
Daily Trading Volume

$100 Million
EAVE Protocol
Daily Trading
Volume

As of Dec 16, 2021
Cryptocurrency Trading Volume, DEX Trading Volume Trading Platforms TVL
Target 1.5% of DEX Volume by Q2 of 2022

Target Trading Platforms

- Harmony
- Avalanche
- Polygon
- Celo
- Fantom
- Polkadot ParaChain
- Binance Smart Chain
- Huobi EcoChain

Daily Trading Protocol Fees = $50,000

4. Market/Why Now

Figure 15: Emerging Chains

Comparisons on Harmony Protocol

(HARMONY #20 in TVL)

Protocol	Reward Token	Trading	DeFi Platform	Lending	Reserve Currency	Liquidity Engine	Yield Engine	NFT Metaverse	TVL $	Daily Volume $
KANGA	✓	✓	✓	✓	✓	✓	✓	✓	TBD	TBD
DEFI Kingdoms	✓	✓	✓	✗	✗	✗	✗	✓	203M	64M
Sushi	✓	✓	✓	**	✗	✓	✓	Market Place	81M	6.7M
Tranq	✓	✗	✗	✓	✗	✗	✗	✗	65M	N/A
Euphoria	✓	✗	✗	✗	✓	✗	✗	✗	43M	N/A
Viperswap	✓	✓	✓	✗	✗	✓	✓	✗	31M	5.7M

Fully Diluted Valuations as at Dec 16th : DeFi Kingdoms $4,169M, Sushi $1,377M , Tranq $170M, Euphoria $78M Viper $510M
TVL on Target Chains : ETH $155B, BSC $16.8B, Avalanche $12.6B, Polygon $5.2B, Fantom $4.9B, Celo $710M, Harmony $597M
**Indicates Planned Future Rollout
5. Comparisons

Figure 16: Harmony Emerging Chain example

8.3 Tokenomics

DRAFT VERSION ONLY
This is a draft version and will be modified.

What is the EAVE Token
EAVE's goal is to provide the following

- Token Holders - Highest Yield possible - to provide Universal Basic Income

- Liquidity Providers - Highest Yield Possible

- Traders - Best Value (lowest slippage) trades

- Token Allocation (including vesting)

- Distributed Ownership (multi-sig wallet)

- Token Issuance (Rewards)

- Token Staking (Token Holder Rewards)

- Multi-chain Harmony Rewards Allocation

- Per Block Issuance

- Vesting Contracts

- Team, Seed, Treasury, PreMint, Rewards Allocation

EAVE Supply - 1,000,000,000 Tokens

Minting and Distribution

The total supply of KANGA Tokens will be minted at the launch of the KANGA. They will be stored in the KANGA Foundation with the following distribution plan (subject to change):

EAVE Contributors - 23%

- 23% will be reserved for the EAVE Team and Contributors and Investors*

PreMint - 7%

- 7% will be minted at time of token launch

  - 2% public sale
  - 2% liquidity provisioning
  - 3% Kick Start Development and Community Engagement

EAVE Treasury - 20%

- 20% will be reserved for the KANGA Treasury - 2% will be minted at time of launch

  - 10% Protocol Development
  - 6% Community Engagement
  - 4% Liquidity Provisioning

Kanga Multichain Rewards - 50%

- 50% (Liquidity Providers, Traders, Partnerships)

  - 10% will be allocated to the Harmony Chain
  - 40% will be allocated via governance as multiple chains are onboarded.
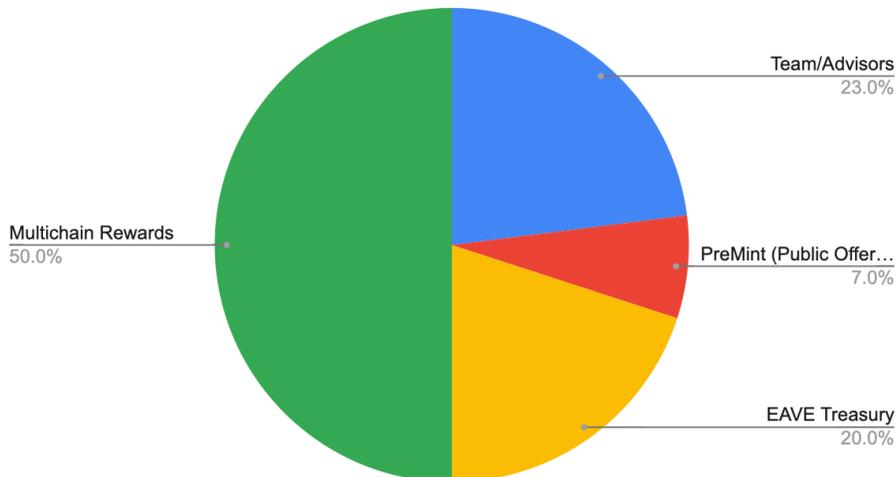

Figure 17: Token Allocation

Category	Percentages	Unlock
Team/Advisors	23%	10% Unlocked 90% locked released over 4 years
PreMint (Public Offering, Liquidity & Kickstart)	7%	100% unlocked
EAVE Treasury	20%	10% unlocked 80% 4 locked released over 4 years
Multichain Rewards	50%	100% locked released over 4 years
EAVE	100.00%	

Figure 18: Token Unlock

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