



**Axmint**

**White Paper**

[www.axmachine.io](http://www.axmachine.io)



## 1. Abstract

This whitepaper proposes a full overview of the standalone AxMachine DAO Chain blockchain, its key concepts, and its core principles. The following text outlines several major pain points common to the original AXM Coin cryptocurrency and how AxMachine DAO Chain can solve these lingering issues. The text also details how AxMachine DAO Chain complements the existing AXM Coin ecosystem via its incorporation of smart contracts. In addition, this whitepaper examines the technicalities of bridging the AXM Coin blockchain with the AxMachine DAO Chain and its capacity for interoperability. It also introduces the \$wAXM and \$AXM cryptocurrencies and thoroughly reviews their use cases within the AxMachine DAO Chain ecosystem. Finally, this whitepaper delves into the project's tokenomics and surveys the token's distribution, vesting periods, and release schedule.

## 2. Introduction

### 2.1 AXM Coin - The Original DAO Coin

AXM Coin is the native cryptocurrency of the AxMachine DAO blockchain platform, which is created to facilitate secure and transparent transactions. As the native asset of the AxMachine DAO ecosystem, AXM can be used for a variety of purposes, including payment for goods and services, as well as a means of exchange between different cryptocurrencies. The coin has a total supply of 250 million and a perfectly designed economy that serves rightfully all the participants.

One of the key features of AXM is its scalability. The AxMachine DAO uses a unique technology called AxRoutes, a proof-of-authority consensus mechanism that is designed to be more efficient and scalable than traditional proof-of-work mechanisms.



This allows the Upcomings Ecosystem to handle a significantly higher transaction volume than other blockchain networks.

In addition to its use as a means of exchange, AXM is also used as a utility coin on the AxMachine DAO platform. Developers and users can use AXM to access and utilize various features and services on the platform, such as voting on protocol updates and funding new projects.

Overall, AXM is a fundamental part of the Upcomings ecosystem, and its unique features and use cases have contributed to its popularity among investors and cryptocurrency enthusiasts.

## 2.2 The Unfortunate Shortcomings of AXM Coin

As the platform continues to add products and premium brand partners, product uses and trading volumes will grow substantially month over month. In order to increase the rate of adoption and liquidity AXM, is created to incentivize usage and serve as the governance coin for the platform. In the future when the launchpad is implemented, the developers and other participants will be rewarded with 3 % of the gross revenue.

**On-Chain Governance:** AXM will also serve as the governance coin for the whole ecosystem. AXM holders can stake their coins to gain voting rights for proposed changes to AxMachine DAO. Each user's voting rights for a given proposal will be equal to their share of staked AXM as a percentage of the total stake.

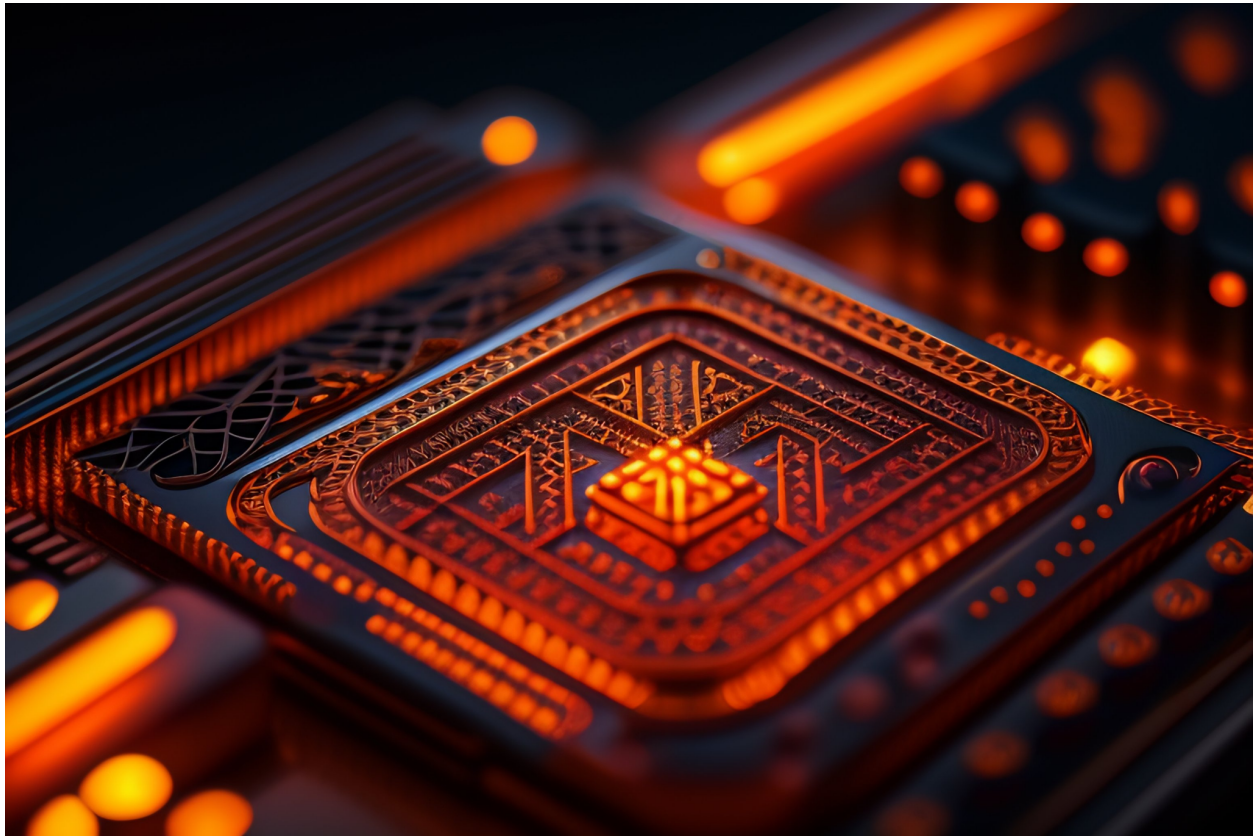
The first AXM vote proposal is expected to be the earning rate for liquidity miners, subject to change. As the voting process progresses and stabilizes, AXM holders will be responsible for creating new proposals to be voted on. Voting on proposals is expected to initially occur on a quarterly basis.

Similar to the governance mechanism of prominent DeFi projects like Compound and Uniswap, AXM governance voting will be conducted fully on-chain through smart contract calls. These community proposals will also serve as the testbed for community governance features to be implemented on the platform, to be voted on by holders of the coin.

## 3. Introducing AxMachine DAO Chain

An AxMachine DAO Virtual Machine built blockchain network with 2 modes of the main net and test net and POA algorithm. The chain is primarily focused to be a

user-developer-friendly ecosystem with a transaction confirmation ratio of 5 secs and



fees as low as \$0.01. The chain frames its operation under 2 major protocols AxMachine DAO rollup and Zk ( zero knowledge) rollup which grants permissions between the algorithm and node creation. The chain supports advanced smart contract development and asset development service with pre-load prompts and API to developers.

- AxMachine DAO Chain is an innovative Proof of Authority (PoA) blockchain solution focused on eliminating rising gas fee concerns and supporting short block time.
- AxMachine DAO Rollup & AxMachine DAO Zk protocols are mechanized to enhance scalability, and interoperability to produce better DAOs, & smart contract development experience.

- The protocols interact directly with pre-loaded prompts, API, and nodes. The POA algorithm supports the deployment of digital assets, NFTs, and smart Contracts in a secured environment.
- Identifying the significant drawbacks of popular blockchains, AxMachine DAO Chain aims to give an uninterrupted digital ecosystem by being user-centric.
- AxMachine DAO Virtual Machine (BSC & Ethereum) smoothly executes complex data, provides efficient results, solves all the problems it faces, and removes any scope of ambiguities.
- AXM coin is the driving factor of the Upcomings ecosystem, it gives rights to holders to participate in decision-making activities.
- AxMachine DAO's Lab is a multi-product development program that will work on all the valuable sectors of digital ecosystems like Web3 Games, centralized & decentralized exchange, NFT marketplace, etc.

It's important to note that the AxMachine DAO Chain project is a community-first blockchain that aims to empower AXM Coin holders and enthusiasts. AxMachine DAO Chain will ultimately provide AXM Coin users with access to blockchain games, NFTs, and the ever-growing DeFi ecosystem, one in which they can showcase their favorite DAO coin for a wide range of applications.

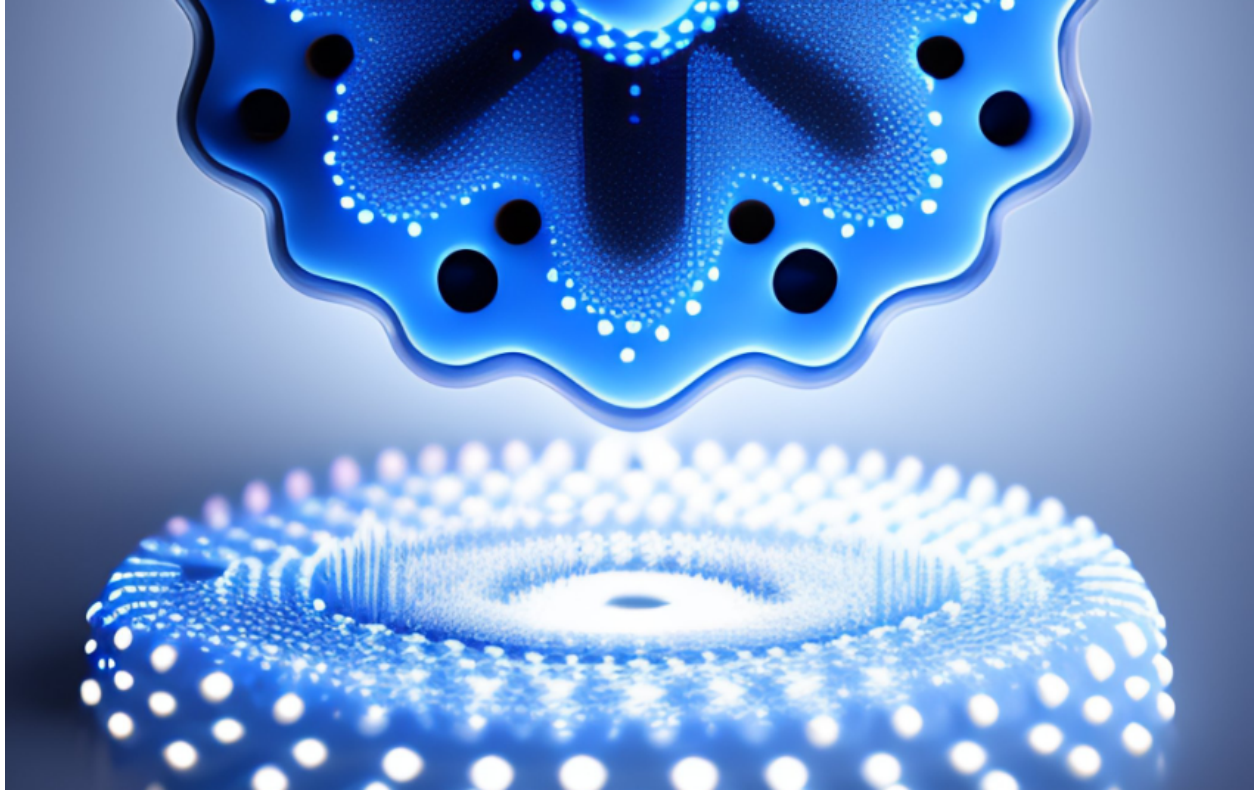
### **3.1 Solutions Brought by Upcomings Chain**

The main goal of AxMachine DAO Chain is to increase the use cases of AXM Coin by providing it with much-needed utility. AXM Coin users can achieve this goal by merely wrapping their tokens into Upcomings Chain smart contracts and receiving \$wAXM PoA tokens in return. \$AXM coins live on the AxMachine DAO Chain blockchain and will

allow users to access an ecosystem of DeFi products, NFTs, and GameFi, all indirectly powered by their original \$AXM Coins. Examples of potential use cases include:

- Participating in the NFT market through minting and exchanging NFTs by paying for gas with \$AXM.
- Partaking in lucrative GameFi opportunities and engaging with the growing blockchain gaming community.
- Joining decentralized exchanges to swap tokens and speculate on their value.
- Accessing advanced financial instruments such as staking, lending, borrowing, and liquidity mining.
- Taking part in the upcoming metaverse revolution through upcoming chain-powered NFTs.
- Participating in DAOs and funding entire communities.
- Gas Fee Royalty to the token creator of AxMachine DAO Chain

And many more...



In sum, AxMachine DAO Chain promises to transform the single-usage AXM Coin crypto into a DeFi powerhouse. With any luck, AXM Coin will be able to readily compete with many of the top smart contract platforms in the current blockchain environment.

### **3.2 Characteristics of AxMachine DAO Chain**

AxMachine DAO Chain relies on the POA and POS algorithm with reference to BSC and Ethereum Layer 1 framework to build its standalone,

AxMachine DAO chain will have a clone factor of EVM ad BSC format that which is BSC & Ethereum( AxMachine virtual machine) is at the core of the AxMachine DAO blockchain and plays an instrumental role in creating decentralized applications. In particular, it allows developers to build and deploy solutions and protocols much more quickly (as opposed to building them from scratch). Indeed, BSC & Ethereum-compatible protocols incorporate a robust and proven architecture and are thus a game-changer for DeFi product developers. And in addition to existing protocols,



AxMachine DAO Chain will propose its own smart contracts, thus building upon the extensive DeFi ecosystem.

Bitcoin and other payment-focused / store-of-value blockchains haven't been able to invoke the same demand as smart contract-capable platforms. In contrast, AxMachine DAO Chain's ability to improve Web3 ecosystem productivity promises to increase block space demand. This event will equally play a part in increasing demand for the native cryptocurrency of AxMachine DAO Chain, the \$AXM coin.

Given AxMachine DAO Chain's capacity for high throughput and decentralization, coin users will not need to suffer the same user concerns associated with many PoA tokens (including low transactions per second, public chain congestion, centralized mining, and high transaction fees). Moreover, Upcomings Chain will conserve a high degree of decentralization due to its PoS architecture.

AxMachine DAO Chain relies on a predefined number of validators to facilitate its Proof-of-Stake (PoS) consensus mechanism, a setup that leads to shorter block times and lower fees. In PoS, validator candidates with the highest number of tokens staked are allowed to become validators and produce blocks. The token also employs slashing scenarios, hence leading to security, decentralization, reliability, transparency, stability, and block finality.

### **3.3 Main Features of AxMachine DAO Chain**

AxMachine DAO Chain relies on the following key principles:

- **IBFT Proof-of-Authority (PoA) consensus:**

Community users can participate in the network which ensures a permissionless and decentralized blockchain.

- **BSC & Ethereum-compatible:**

Existing Ethereum smart contracts can easily be migrated to AxMachine DAO Chain without requiring any further modification.

- **Decentralized Governance:**

Community members (holders) can make proposals, delegate, vote on the blockchain parameters & events, and influence governance decisions.

- **Cross-chain compatibility:**

AXM Coin can be easily utilized on the AxMachine DAO Chain network by wrapping the AXM Coin via the AxMachine DAO Chain bridge, and sent back to the AXM Coin network as needed.

## 4. Background

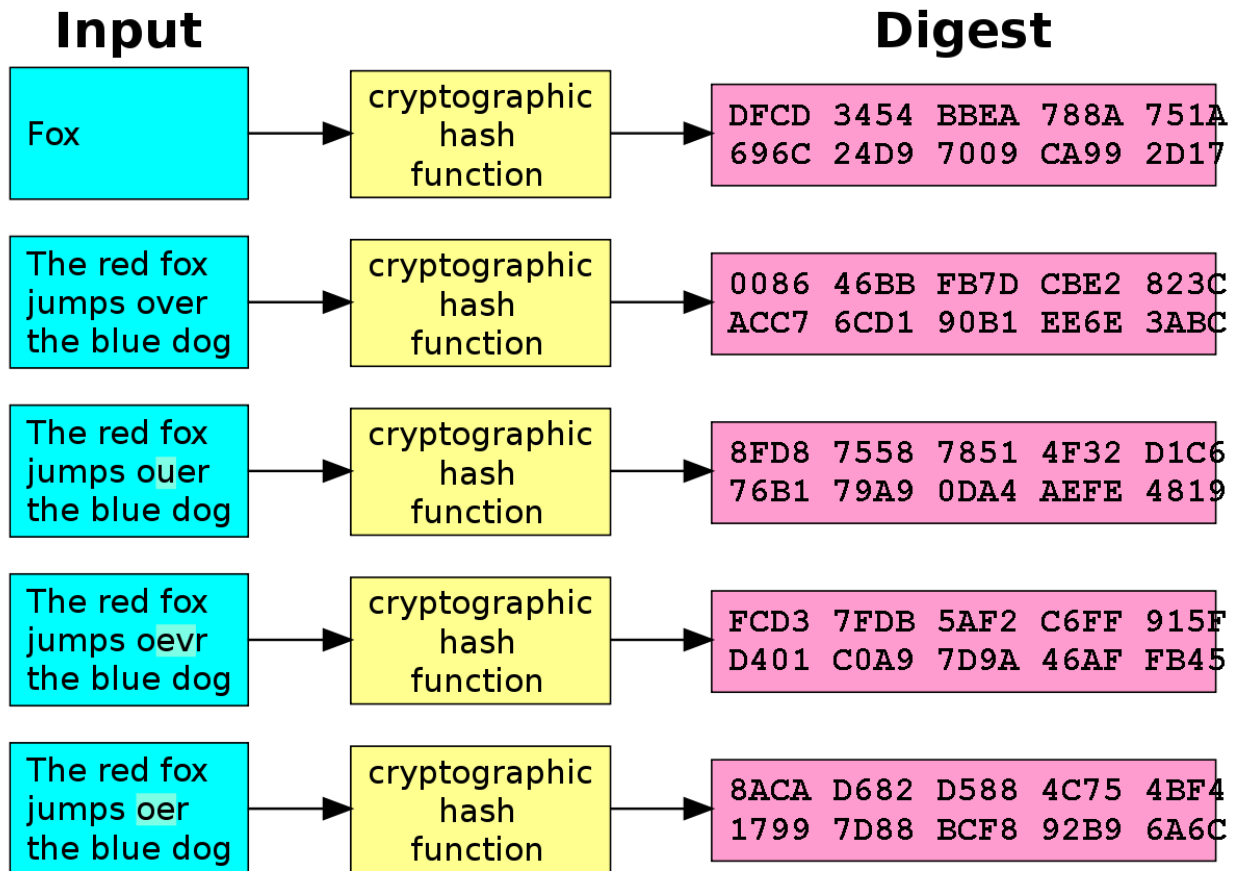
### 4.1 Cryptographic Hash Functions

An essential tool in blockchain technology is the cryptographic function that ensures transaction integrity and immutability. The hash function is the mathematical

algorithm that produces a fixed-size numerical output (called fingerprint or digest) consisting of input data. More specifically, a hash function can be denoted as:

$$H:\{0,1\}^* \rightarrow \{0,1\}^k$$

A hash function takes on the input of any size and produces a fixed k-length output. In addition, it must satisfy the following properties:



## 4.2 Digital Signatures

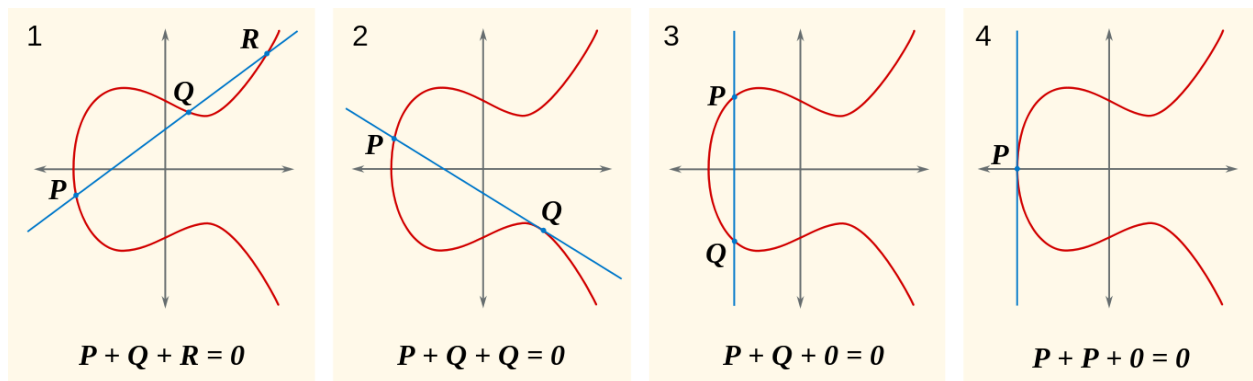
- It is easy to compute  $H$  regardless of input data size.
- Given any  $h$ , it is computationally infeasible to find an input  $x$  such that  $H(x) = h$ .
- Given any  $x$ , it is also computationally infeasible to find  $y$  such that  $H(y) = H(x)$  and  $x \neq y$ .
- It is computationally infeasible to find any  $(x, y)$  such that  $H(x) = H(y)$  and  $x \neq y$ .

SHA-256 and Keccak-256 are widely used in several blockchains, and they produce a hash (output) of 256 bits in size.

### 4.3 Secp256k1 Curve

Note that all elliptic curves are equations defined as  $y^2 = x^3 + ax + b$ . The code Secp256k1 is an elliptic curve used by several blockchains to implement public and private key pairs. For instance, we can define Secp256k1 as  $a = 0$  and  $b = 7$  (i.e., secp256k1 lives on the equation  $y^2 = x^3 + 7$ ).

Before a user generates a public and private key pair (pk, sk), he/she must first generate a sufficiently large random number (which is going to be sk) and use it to multiply with the private key by the generator point G as sk.G (which is going to be the pk).



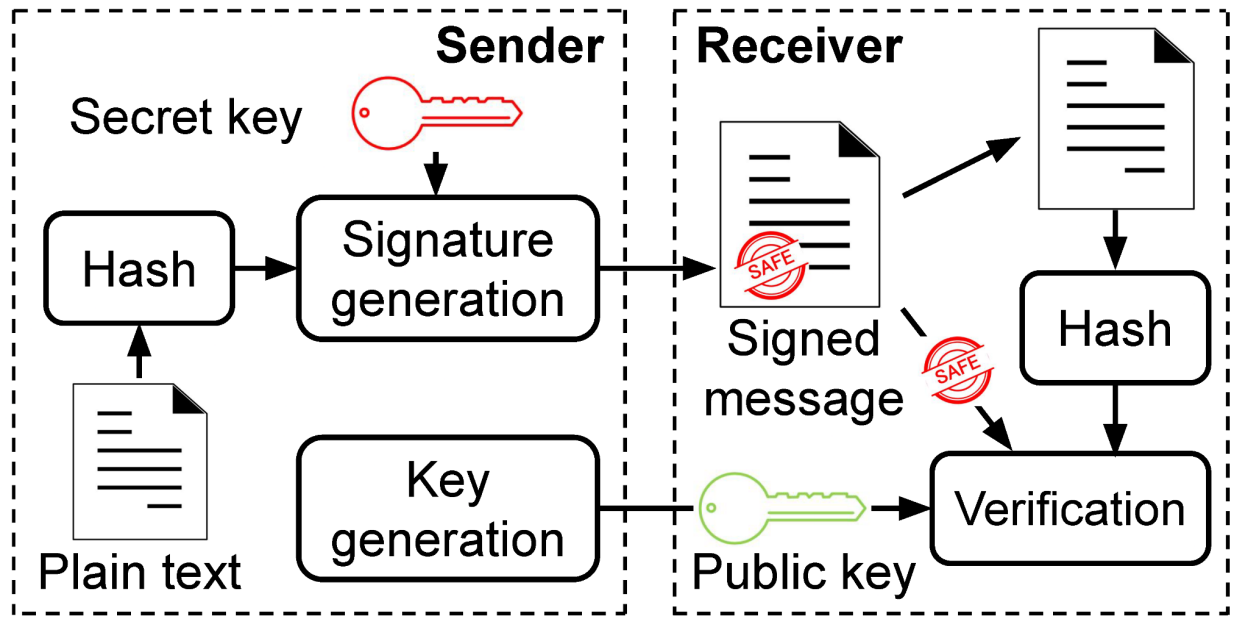
We use this number to define a point on the secp256k1 curve. Due to the underlying discrete log problem (DLP), no one can derive the private key from the

given public key and the generator point (as long as the key size is sufficiently large).

Note that for each value of  $x$ , the  $y$  component is squared in this equation leading to having two symmetric points across the  $x$ -axis. Hence, there are two values of  $y$  called odd and even numbers. Therefore, public keys can be identified by the  $x$ -coordinate and the parity of the  $y$ -coordinate. In the blockchain space, this feature is crucial, as it saves significant data storage.

## 4.4 ECDSA Signature Algorithm

Elliptic Curve Digital Signature Algorithm (ECDSA) is a cryptographic algorithm for creating digital signatures. More concretely



## 4.5 AxMachine Virtual Machine (BSC & Ethereum)

A virtual machine is a layer of abstraction between the executable code and the executing machine. This layer is necessary to improve the portability of software and to ensure that applications are separated from each other and from their hosts.

The AxMachine Virtual Machine (BSC & Ethereum) is a software platform that developers can use to build decentralized applications (dApps) on Ethereum. All Upcomings Chain accounts and smart contracts live in this virtual machine.

## 4.6 Consensus Protocols

The AxMachine virtual machine and BSC & Ethereum codes are designed using memory, bytes, along with blockchain concepts such as Proof-of-Authority (PoA) or Proof-of-Stake (PoS), Merkle tree, and hash functions. The purpose of the BSC & Ethereum is to determine what the total AxMachine state will be for each block in the blockchain.

## 4.7 Proof-of-Work (PoW) - Nakamoto Consensus

Proof-of-Work (PoW) is a decentralized consensus protocol that can be handled securely in a peer-to-peer network without requiring any trusted third party. It solves the difficulty of a Byzantine general problem in an open network where miners can generate arbitrary identities (also called a Sybil attack) to compete for the next generated blocks by solving a random hash puzzle.

In order to avoid a Sybil attack, PoW is used to force the miners to have and run predefined computational resources. Additionally, PoW protects the security of the blockchain from the longest chain attacks. Unfortunately, PoW requires a large amount of energy which keeps increasing as more miners join the network.

## 4.8 Istanbul Byzantine Fault Tolerant (IBFT)

IBFT is another Byzantine fault-tolerant protocol based on Practical Byzantine Fault Tolerance (PBFT). On a high level, Byzantine consensus is achieved deterministically as follows:

- A leader or bidder/proposer is selected.
- Each proposed block goes through several stages of communication between the nodes before being added and confirmed on the blockchain.

There are four types of messages which are exchanged between the nodes:

- Pre-Prepare, Ready, Commit: Used through ordinary consensus algorithms operations.
- Round robin: Used to select a new block producer when the current producer is suspected of failing or when the block has not been created within a specific time frame.

Additionally, there are two approaches in the BSC & Ethereum framework for choosing block producers:

- Round-robin: This is a block-producer selection strategy where a different bidder is chosen for every block-producing phase.
- Attached bidder: A new bidder is only selected whenever malicious behavior has been detected by the current bidder.

In these two approaches, every validator knows in advance which one of them is going to be the next block producer. This is because the decision is made through deterministic calculations based on node IDs. Similar to PBFT, IBFT also guarantees that there will be only one single bidder in each round.

Moreover, the bidder is required to get responses from the other nodes in order to continue executing its further tasks. This means that in the case of a network partition with more than  $n$  nodes (at least more than  $3n+1$  nodes), the protocol does not make any decisions not to break the consensus until the partition is fixed and their communication is timely synced. This also allows immediate finality where no forks are ever allowed to occur.

## 4.9 IBFT Proof of Authority (PoA)

In PoA, validators are responsible for creating blocks and adding them sequentially to the blockchain. All validators create a dynamic set of validators where validators can be added or removed from the cluster using a decentralized voting mechanism.

This means that validators can be included or excluded from a validator group if the majority (51%) of validator nodes voted to add/remove a particular validator from the set. Thus, malicious validators can be detected and removed from the network at any point in time, and new trusted validators can be added to the network.

All validators propose the next block in turn (by means of the round-robin leader selection). For a block to be validated/added to the blockchain, the overwhelming majority of the validators (i.e., more than 2/3) must approve that block. In addition to the validators, there are also non-validators who do not participate in block

generation directly but take part in the block validation process. IBFT PoA is the default consensus mechanism of the BSC & Ethereum framework

## 4.10 IBFT Proof-of-Stake (PoS)

The BSC & Ethereum Proof-of-Stake (PoS) implementation is intended to be an alternative to the existing IBFT PoA implementation by giving node operators the ability to easily select between the two when starting the chain. Epochs are considered to be specific timeframes (in blocks) during which a given set of validators can generate blocks.

The epoch length can be changed, meaning that the node operators can set the length of the epoch during instance creation. At the end of each epoch, an epoch block is created, and after this event, a new epoch begins. Validator sets are updated at the end of every epoch period. Nodes request a set of validators from the staking smart contract during the creation of an epoch block and store the resulting data in local storage.



This query and saving the cycle are recurring at the end of every epoch period. Fundamentally, this allows the staking smart contract to have full control over the addresses in the validator group, leaving only one task to the nodes. Each contract query is executed only once per period to obtain the latest information about the validator set. This removes the responsibility of dealing with validator sets from individual nodes.

#### 4.11 RAFT

Raft is a distributed consensus mechanism that relies on Paxos. The Raft protocol works with a node failure model where each error (e.g., missing messages, network partitions, or hardware-only failure) is considered a node failure.

Hence, it should run  $n \geq 2f+1$  where  $f$  is the maximum number of nodes that can fail and  $n$  is the total number of nodes. The Raft protocol first selects a leader among a set of nodes and then makes the leader fully responsible for receiving transaction requests and handling the copying of logs (i.e., blocks) on other nodes.

Each node can be either a candidate, a follower, or a leader. The leader selection procedure is deterministic, so the protocol cannot run until the leader is selected by more than half of the nodes.

#### 4.12 Comparison and Selection

IBFT protects the blockchain against various malicious attacks, while Raft only protects against node failures. If we assume that all nodes will never be corrupted, then Raft can be used without any concern.

However, if there is an assumption of only having partial trust in the validators, then it would be better to utilize IBFT. Since Upcomings Chain is decentralized and permissionless, it is going to run IBFT as its underlying consensus protocol.

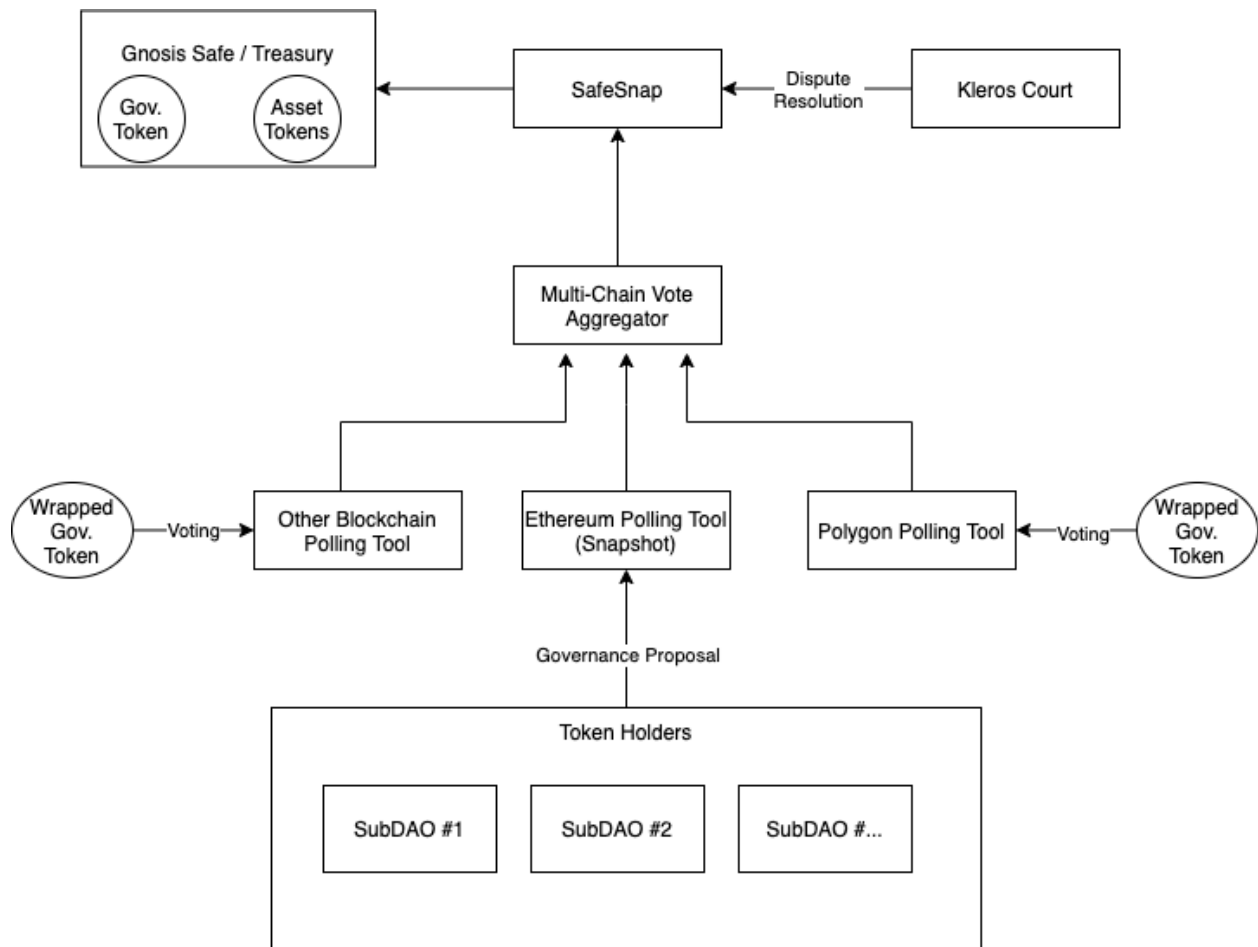
## 5. AxMachine DAO Chain Architecture

AxMachine DAO Chain uses the BSC & Ethereum framework to build a standalone blockchain. Consequently, it doesn't use Ethereum's "security as a service" features but rather relies on its own set of validators. It's worth noting that AxMachine DAO Chain disables two BSC & Ethereum features - its checkpointing mechanism and its mainchain contracts.

With this framework, our community of developers can build a blockchain network that better suits their needs and demands. They can achieve this because BSC & Ethereum employs a modular and extensible framework for creating EVM-compatible blockchain networks, sidechains, and global scaling solutions. After all, BSC & Ethereum is primarily used to launch new blockchain networks that are fully compatible with Ethereum smart contracts and transactions.

Finally, BSC & Ethereum uses the IBFT consensus mechanism since it provides for PoA and PoS. Likewise, the Upcomings Chain BSC & Ethereum blockchain invokes IBFT PoS with built-in system contracts. With the help of BSC & Ethereum, Upcomings Chain can employ the following features:

- Reuse existing Ethereum smart contract technology and its API.
- Users can interact with standard wallets via JSON-RPC.
- Developers enjoy Solidity/Vyper programming and full AVM support.
- Access to popular Ethereum tools, development tools, and libraries.
- Optimized UX when performing cross-network transactions.



- **Communication between networks.**

- Completely trustless and decentralized embedded Ethereum Bridge solution.
- Asset transfers from any AVM compatible network, particularly BSC and Ethereum magnets.

- Transferring of AMC20 tokens, NFTs, or local tokens in the shell.

- The ability to customize bridge functionality with existing plugins.

- **Special Functions.**

- Building network usability via the development of plugins

- The capacity to replace core functionalities with consensus plugins.
- Going beyond Ethereum smart contracts by incorporating Runtime

Thanks to the underlying BSC & Ethereum architecture, AxMachine DAO Chain can achieve full compatibility with Ethereum smart contract technology. It can also use IBFT PoS to ensure high network decentralization, security, and scalability.

## 5.1 AxMachine DAO Chain Layering Architecture

### AxMachine DAO Chain Layered Architecture

- **Libp2p:** This module always begins at the underlying network layer. Libp2p is modular, extensible, and fast. In particular, it provides an excellent foundation for more advanced features.
- **Synchronization & Consensus:** The separation of synchronization and consensus protocols enables modularity and the implementation of customizable synchronization and consensus mechanisms (depending on how the client operates). BSC & Ethereum also offers pluggable consensus algorithms out of the box.
- **Blockchain:** The Blockchain layer serves as the core layer for managing tasks within the BSC & Ethereum system.
- **State:** The State layer provides the logic for transitioning between states. It deals with how the state changes when a new block is added.
- **JSON RPC:** dApp developers use this layer as an API layer in order to interact with the blockchain.

- TxPool: The TxPool layer is a transaction pool and is tightly coupled to other modules in the system (as transactions can be added from multiple entry points).
- GRPC: The GRPC layer is crucial for enabling interaction with the operator. This layer ensures that node operators can interact with the clients easily, providing a usable and efficient UX.

## 5.2 AxMachine DAO Chain Cross-Chain Protocol

This AxMachine DAO Chain Cross-Chain Protocol is essential to linking the original AXM Coin blockchain to the AxMachine DAO Chain. This protocol requires a ratio of 1:1 \$AXM coin to enter or exit the AxMachine DAO Chain. When users peg their AXM Coin to the AxMachine DAO Chain, the AxMachine DAO Chain protocol mints a \$wAXM coin (\$wAXM).

Conversely, when a user destroys a \$wAXM coin, he can withdraw a AXM Coin from the Upcomings Chain chain using a ratio of 1:1. In this context, a cross-chain bridge protocol module will be utilized to achieve cross-chain transactions.

The primary features of the cross-chain protocol are:

1. Decentralized and secure cross-chain support of AXM Coin to AxMachine DAO Chain (via AXM Coin client).
2. A trustless key generation for threshold signature schemes. Generated private shares of the signing key will be used to calculate final signed transactions.
3. The private key shares will also be managed by the community and third-party partners to eliminate any risk of a single point of failure (i.e., centralization).
4. The protocol governance mechanism supports voting capabilities for organizations that run on the cross-chain protocol.

AxMachine DAO Chain Cross-Chain Protocol

### 5.3 AxMachine DAO Chain Design

As shown above, the Upcomings Chain Chain and the AXM Coin chain have a symbiotic relationship. In particular,

- Users can lock their AXM Coin on the cross-chain protocol to receive \$wAXM on the AxMachine DAO Chain blockchain.
- Users can use \$wAXM to deploy and interact with smart contracts, pay transaction fees, and participate in the governance of AxMachine DAO Chain.
- Users can destroy \$wAXM and reclaim their native AXM Coin.

### 5.4 Native Currency of AxMachine DAO Chain: the \$AXM

In addition to \$wAXM, AxMachine DAO Chain introduces a native cryptocurrency - the AxMachine DAO Chain Coin (\$AXM). This community-focused asset serves as a primary governance token for the AxMachine DAO Chain blockchain and comes with various use cases. It's worth noting that the entirety of the \$AXM coins supply will be pre-mined upon the release of the main net. The protocol will simultaneously mint a small amount of \$wAXM to serve as fuel for signing the initial bridging gas fees.

Users will have two distinct options to pay for transaction fees on AxMachine DAO Chain - \$wAXM and \$AXM. During the initialization phase of the AxMachine DAO Chain, it's expected that users will commonly use \$wAXM for this purpose. As the blockchain stabilizes, \$AXM will become the "go-to coin" for fueling transactions, smart contracts, and dApps.



# Tokenomics

**Total Supply: 25,00,00,000 AXM**

- **Seed Sale: 6%**
- **Presale: 4%**
- **Staking: 12%**
- **Scheduled minting: 30%**
- **Marketing: 5%**
- **Development: 11%**
- **Team Reserve: 21%**
- **Initial Developers reserve: 1%**
- **Contract Royalty: 10%**

## 5.5 AxMachine DAO Chain Configurations

- An IBFT PoS with built-in systems contracts will be used as a core consensus algorithm by Upcomings Chain.
- The average block time is expected to be 7 seconds.
- Initially, 21 nodes will be running to comply with BFT (Byzantine Fault Tolerance).
- Block size will be dynamic and decided by the Validator set.
- The expected number of validator nodes in the chain will be 21 at a minimum.
- AxMachine DAO Chain has pre-deployed contracts for staking. This allows for the staking of \$AXM coins, providing rewards to holders.
- If the block is not produced or accepted within the expected time, the next validator would take over the proposer's duty.
- There is no newly minted block reward for block production.
- All transaction fees will be valued in either \$wAXM or \$AXM.

## 6. VE Model for AxMachine DAO Chain

\$veAXM is a vesting and yield system based on the Curve's veCRV mechanism. By using this model, users may lock up their \$AXM for up to 4 years to get up to four times the amount of \$veAXM as a reward. (e.g. 100 \$AXM locked for 4 years returns 400 \$veAXMG). \$veAXM is not a transferable token nor does it trade on liquid markets. It is more akin to an account-based point system that signifies the vesting duration of the wallet's locked \$veAXM tokens within the protocol.



## 6.1 Voting Power

Each \$veAXM will have 1 vote in governance proposals. Staking 1 \$AXM coin for the maximum time, 4 years, would generate 4 \$veAXM. Users can trade in their \$veAXM tokens for \$AXM tokens, once the vesting period is over. In the meantime, the user can also increase their \$veAXM balance by locking up \$AXM coins, extending the lock end date, or both.

Worth noting is that \$veAXM is non-transferable and each account can only have a single lock duration. This means that a single address cannot lock \$AXM coins for different time lengths. For example, a user will be unable to lock one set of \$AXM for 2 years and then another set of \$AXM coins for 3 years. All \$AXM per account must have a uniform lock time.

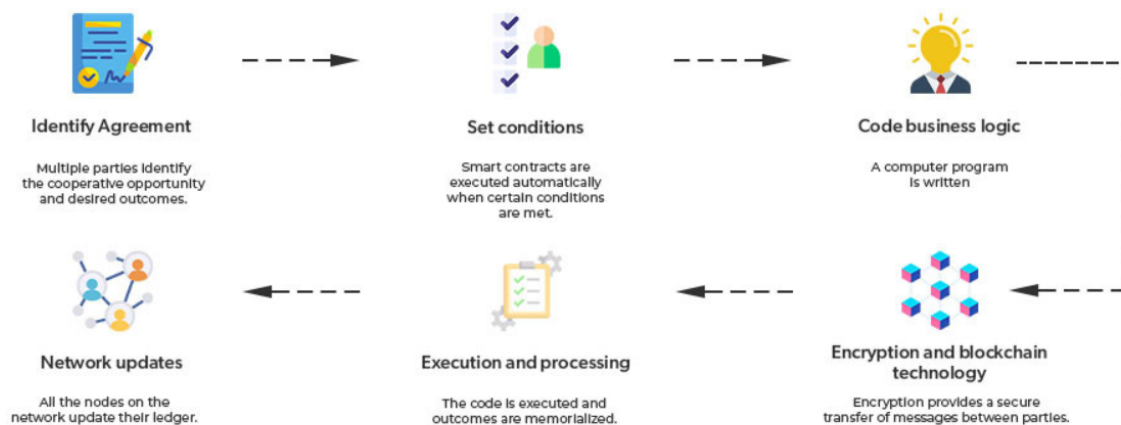
## 6.2 How to Use \$veAXM

\$veAXM tokens cannot be sold or transferred. Instead, they have other use cases, including:

- Earn extra airdrop of \$AXM coins;
- Receive random prizes/royalty rewards;
- Governance– vote on how the protocol gives out developer grants, etc.;
- Serve as a network validator: a certain number of veDC tokens will be required of all validators.

## 7. Smart Contracts of AxMachine DAO Chain

The management of the validator along with their selection, reward distribution, and staking are all performed by the smart contracts of the protocol. These contracts are deployed in the genesis block. In AxMachine DAO Chain, there are six different types of smart contracts.



- **Governance Contract** - manages validator proposals and votes.
- **Validator Set Contract** - ranks validators and decides which are to be elected or removed.
- **Vault Contract** - receives all the withdrawal fees from the chain bridge.
- **Staking Contract** - manages staking operations and the distribution of block rewards.
- **Slashing Contract** - manages disciplinary actions against validators who do not follow the predetermined rules of the chain.
- **Bridging Contract** - manages token exchange between the AXM Coin blockchain and the AxMachine DAO Chain.

## 7.1 Governance Contract

Blockchain networks are autonomous platforms that evolve on their own and provide transparency through peer-to-peer democratic community interaction. On-chain management is an approach for recommending and making changes to blockchains. In this type of governance, change initiation rules are commonly hard-coded into the blockchain protocol.

Community-selected validators suggest possible ideas through code updates and written suggestions. All chosen validators and regular users vote to accept/reject the proposed change. Under the governance contract, community members democratically vote on proposals that will advance the development of the

blockchain network. To be able to recommend a proposal, the user must have a sufficient number of \$AXM coin shares.

On the other hand, people with a certain amount of \$AXM coins can vote on proposals. There will also be an option to report management commitments to report misuse of contracts.

The following sample options are subject to change following community feedback:

- Minimum staking amount for being a validator
- Minimum staking amount for general user
- Minimum staking amount for giving a proposal
- Etc...

## 7.2 Validator Set Contract

This contract validates and stores the nodes that meet the requirements of becoming a validator. Furthermore, the contract lists the main validators and their addresses, the

last created and approved block, and classifies the blocks produced by specific validators.

### **7.3 Vault Contract**

All withdrawal fees from the chain bridge are sent to the Vault Contract.

### **7.4 Staking Contract**

This contract performs staking, reward calculation, and distribution of rewards to both users and validators. This contract also periodically updates the rewards received by the validators and shareholders.

The IBFT PoS consensus mechanism ensures decentralization and community participation. \$AXM holders, including validators, can stake their tokens “pegged” to a \$wAXM share.

### **7.5 Slashing Contract**

AxMachine DAO Chain adopts a slashing methodology similar to the one used by the Binance Smart Chain. In addition to enhancing the security of the AxMachine DAO Chain, slashing is used to safeguard its on-chain governance mechanisms from malicious or dishonest behavior via disciplinary actions.

AxMachine DAO Chain chain slash evidence can be submitted by anyone. It’s worth noting that each transaction submission demands a slashing proof and is subject to fees. That said, it also produces a higher reward if it is successful.

Two types of slashing behaviours are considered below:

- **Double-Signing:** Let us assume that two different block headers have the same height and the same parent block hash. If these two block headers are sealed by the same validator and different signatures are created, then this validator will be punished and jailed permanently.

- **Unavailable:** If a validator misses 48 blocks per 24 hours, it will be unable to receive rewards from the block fees. If a validator misses more than 96 blocks for 24 hours, the validator will be punished for 10,000 \$AXM coins and will be jailed for 3 days. During jail time, it will still be able to produce or validate blocks.

## 7.6 Bridge Contract

Stakeholders can call upon the Bridge contract to withdraw their native \$AXM and destroy the native token of the AV chain. The protocol will then transfer the redeemed token to the designated address of the original AXM Coin chain. The minimum reclaim value of the native token is 100 \$AXM.

When the transaction is synchronized, multiple operators (of the bridging signers) will sign and confirm the transaction and call upon the bridge contract to write data. After more than half of the operators confirm (by means of a digital signing procedure), the native token will be added to the reclaim address which is specified by the user.

## 8. AxMachine DAO Chain Staking

The AxMachine DAO Chain project will enable users to access three different token staking models in order to earn yields:

- Staking \$wAXM coins on the AxMachine DAO Chain blockchain will allow stakeholders to secure the native blockchain and receive \$AXM rewards.
- Staking \$AXM coins on the chain will provide additional \$AXM rewards.
- Staking \$AXM coins into the AxMachine DAO Chain Ve model will allow users to receive \$veAXM coins. They can select a vesting time between half a year and 4 years, with longer vesting periods granting higher \$AXM rewards and more \$veAXM in return.

The process of staking goes as follows:

1. Users wrap \$AXM onto the AxMachine DAO Chain to receive \$wAXM.
2. During the airdrop window, users receive a 1-time airdrop for this action in \$AXM coins in an amount equal to their \$wAXM.
3. Users can stake \$wAXM on AxMachine DAO Chain and receive \$AXM rewards.
4. Users can stake the \$AXM they received as rewards on the Ve model and receive additional \$veAXM rewards.
5. Users can stake \$AXM on AxMachine DAO Chain and lock up for a period of time to receive \$AXM rewards.

## 8.1 NFTs

AxMachine DAO Chain will provide its users with the capability to publish their own NFTs following the ERC721(ARC721) protocol. Since this proven NFT standard is widely accepted by marketplaces and metaverses, AxMachine DAO Chain NFT owners will be able to integrate their NFTs into the existing NFT landscape.

## 8.2 DeFi

As an EVM-compatible blockchain, DeFi protocols such as Uniswap and SushiSwap can be seamlessly integrated with AxMachine DAO Chain. \$wAXM and \$AXM are DeFi-capable cryptocurrencies that can be locked in various liquidity pools and provide rewards to their holders. Moreover, they will be able to use them as collateral on decentralized lending platforms, exponentially increasing the utility of their original AXM Coin.

In addition, several Layer 2 solutions found within the BSC & Ethereum architecture (including both ZK Rollups and Optimistic Rollups) will enable AxMachine DAO Chain to make improvements on their existing transaction speeds in DeFi and address some privacy concerns.

### **8.3 GameFi**

AxMachine DAO Chain will provide developers with the ability to build entire virtual worlds and blockchain games on the AxMachine DAO Chain smart contract framework. As a result, the \$wAXM and \$AXM cryptocurrencies will enable users to participate in virtual gaming economies and share digital resources in their favorite metaverses.

### **8.4 AxWallet**

AxWallet is a web3 wallet that allows users to securely store, manage, and exchange cryptocurrencies such as AXM Coin Bitcoin, Ethereum, and others. The wallet also allows users to add different networks too. AxWallet uses public and private keys to securely store and manage user funds on the blockchain.

### **8.5 AxCoin Exchange**

AxCoin is a centralized exchange platform that will allow users to buy, sell, and trade cryptocurrencies such as Bitcoin, Ethereum, and currencies on Upcomings Blockchain. As a new-age exchange, the platform will try to differentiate from existing exchanges by offering unique features and a user-friendly experience that meets the needs of your target audience.

### **8.6 Quantum Oasis ( QOasis )**

Quantum Oasis is the AxMachine DAO's Metaverse Land with 67500 different-sized NFT plots. Users can purchase and own virtual land, which can be used to create and showcase a variety of digital assets, such as buildings, artworks, and games.