Blockchain Technical Blueprint

https://alienworlds.io/

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Preamble

It's 2055 — some of Earth's inhabitants have discovered a way to escape the raging pandemics on Earth.

The most advanced bitcoin mining community — the Federation — noticed a pattern in its algorithmic solutions. An advanced Alien race was sending messages through bitcoin mining algorithms, and the messages led to a big discovery.

A wormhole that allowed humans to travel to far flung exoPlanets.

The Federation travelled through the wormhole, gathering a unique supply of hyper rare Trilium as it went. The Federation's Trilium is the only supply in existence, and has a provable limited quantity. On the other side they found a new interstellar network with many inhabitable planets.

Today there are six planets within the Federation of Alien Worlds and a Metaverse is emerging where virtual and real worlds collide. To build a fair economy, everything in the Alien Worlds Metaverse was tokenised - from the Avatars explorers walk around in, to the Tools, and Weapons, explorers use in their daily adventures. Even Land, Minions and Artifacts have been tokenised and associated with an ancient Alien AI infrastructure.

Some enterprising explorers mine to earn their share of Trilium and unique items, some like to fight in the arena, while landowners rent their land to build new products and services to offer to the galaxy. The Federation also sends items to hard working explorers, to assist in their endeavours.

However, there are mysterious alien forces around …

And so your story begins …

Make your own destiny …

Purpose

Alien Worlds is a decentralised metaverse (i.e. extensible platform) running on the Ethereum, WAX and Binance Smart Chain blockchains. The metaversal currency - Trilium (token symbol TLM) - incentivises explorers to play games and must be staked by users to participate in governance. Planets within the metaverse are decentralised autonomous organisations which receive daily Trilium from the central metaverse smart contracts. Explorers engage through mining, acquiring and renting land, voting for Planetary governance to impact Trilium and NFT (Non-Fungible Token) payouts, and other strategic actions which are likely to proliferate over time as Planets offer their own games and NFTs.

Explorers accumulate and use rare and unique NFTs in their quest to earn more of the native token of the game, Trilium, and grow their influence.

More Planets can be created; this is intended to be done in a manner so as not to penalise existing Planets. Planets are the means by which blockchain communities can onboard onto Alien Worlds, get their own token and DAO, offer games and services into the ecosystem, and trade NFTs.

Blockchain

Alien Worlds runs on the Ethereum, WAX and Binance Smart Chain (BSC) blockchains. Ethereum is a useful blockchain for storing and accessing Trilium, whilst WAX is a game and NFT-focused blockchain. BSC is an attractive consumer-centric chain with a growing user base and inexpensive transactions.

On chain components include:
- Trilium token
- All non fungible tokens
- All core game play including the mining game, fighting game and further game actions such as quests
- DAO governance and voting including staking
- Database of Planets

Off chain elements include:
- Graphical elements including of NFTs (avatars and other gameplay modifying NFTs)
- User interfaces

- ○ Pack opening
- ○ DAO management interface
- ○ Mining and fighting game interfaces
- Additional games and activities that are not part of the core distribution of TLM and/or NFTs
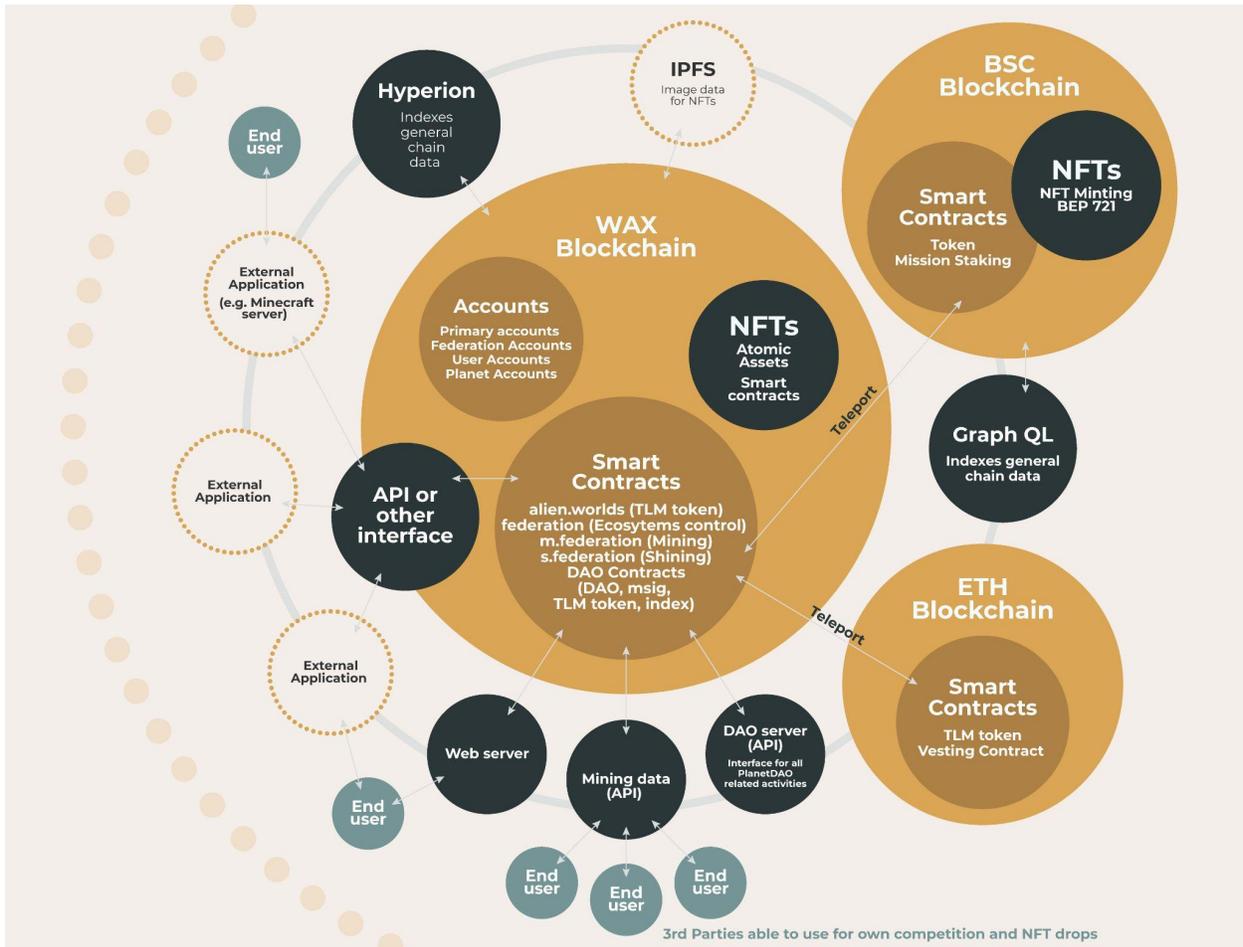
Figure 1: technical architecture
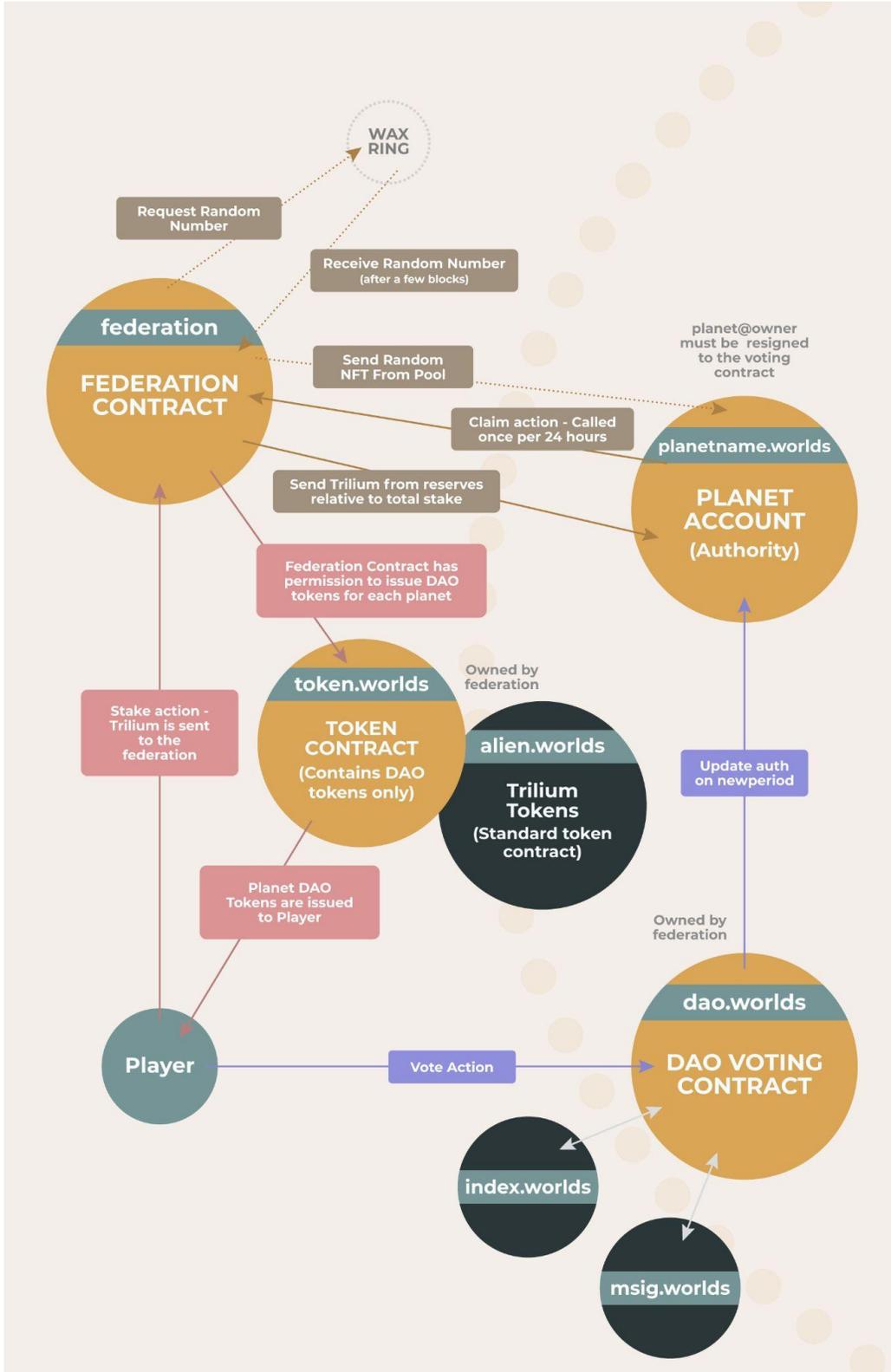
Figure 2: core game logic on WAX
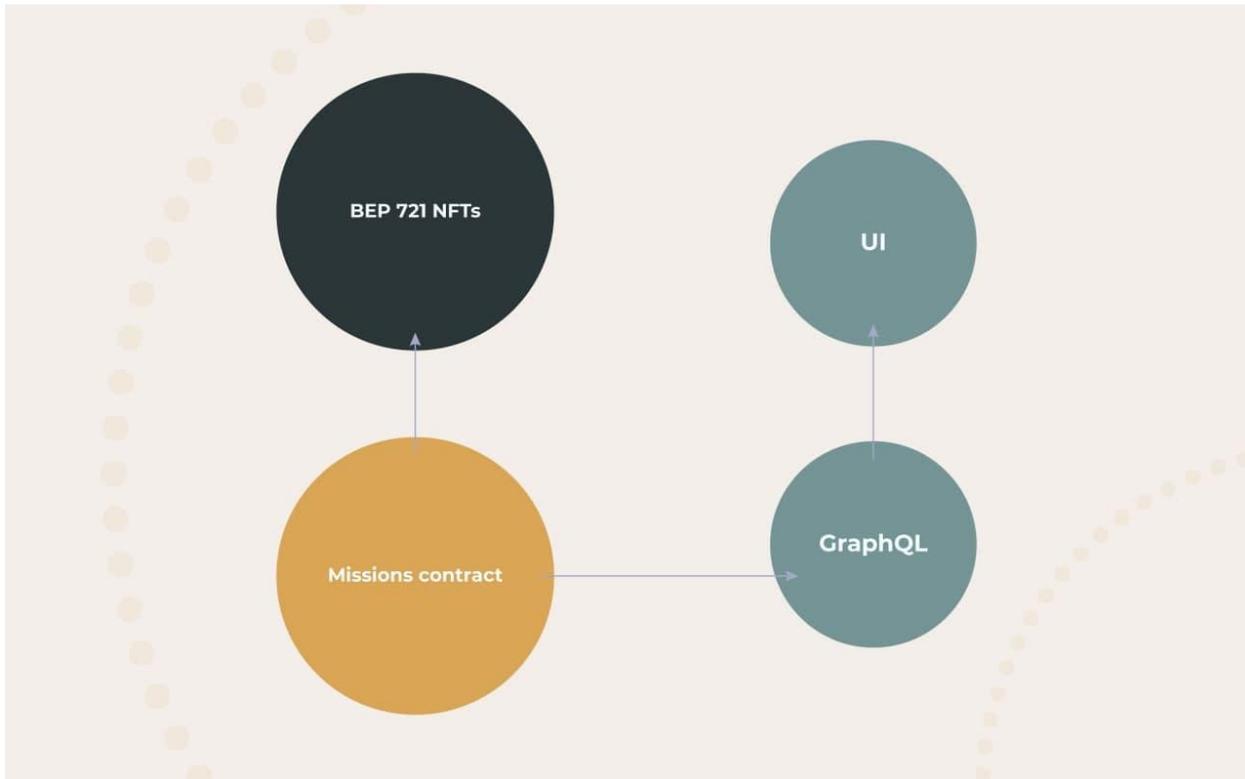
Figure 3: initial game functionality on BSC

Metaverse elements

Planets

Planets are the main locus of activity within Alien Worlds - they are where mining and game play occurs, and where governance happens. Each Planet sets its own resource strategy and games, and players vote for their own Planetary government with the power of their staked Trilium.

- At inception there are 6 Planets
- A Planet is represented by a WAX account and its corresponding smart contract
- New Planets can be created by the Federation. The terms and conditions of the Planet award will be negotiated between the community and the Federation. This may include, but will not be limited to, Tokens, Land and other NFTs
- The Federation will also provide the Planets with smart contracts to run their mining and fighting games

- Planets receive a daily flow of Trilium from the Federation which the Planets' Custodians choose how to allocate down to users
- Planets within Alien Worlds are Decentralised Autonomous Communities (DAOs)
  - Each Planet is a DAO with a dedicated member client portal for Planet token holders to vote for their Governors and allocate Trilium and NFT flows

Membership of Planets

Users become a voting member of a Planet by staking Trilium to that Planet. Users can stake Trilium to an unlimited number of Planets.

Staking to a Planet

- When a user stakes Trilium to a particular Planet (sends Trilium to a contract address), the contract sends a token for that Planet back to the user
- This therefore means that each Planetary DAO's token is 'backed' by the amount of Trilium staked to that Planet
- Each Planetary DAO's tokens can be swapped back 1:1 into Trilium at any time
- The Planetary DAO's token becomes the token governing that user's membership of a Planetary DAO

Planet Treasury

The Trilium balance held by the Planet DAO.

Daily Trilium Allocation from inflation

New tokens are minted by the smart contract "federation" through an inflation mechanism as illustrated in this table; new tokens never cease to be minted.

All the new tokens minted from inflation become the Daily Trilium Allocation.

The intention of the Daily Trilium Allocation is to disseminate Trilium to users continuously, rewarding activity that grows the metaverse.

$$\text{Daily Trilium allocation} = \frac{\text{RESERVE} * (13 + (NOP*1.9))}{100000}$$

Variables
NOP = Number of Planets[1]
RESERVE = Trilium still held in the Federation Trilium release account (5bn at inception)

80% of this Daily Allocation goes to Planets via the Daily Trilium Allocation to Planets and 20% goes to Landowners via the Daily Trilium Allocation to Landowners.

Daily Trilium Allocation to Planets (DTAP)

Every 24 hours a Planet may call the Federation contract once to get its new supply of Trilium.

The amount of Trilium each Planet can claim is given by:

TLM due to NFT component plus **TLM due to staked component**

Where:

$$\text{TLM due to NFT component:} \frac{0.8*\text{RESERVE} * (13 + (NOP*1.9)) * (NFTMOD)}{100000} * \frac{PNFTs}{APNFTs}$$

$$\text{TLM due to staked component} = \frac{0.8*\text{RESERVE} * (13 + (NOP*1.9)) * (1-NFTMOD)}{100000} * \frac{PST}{APST} + N$$

And:

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[1] If a new Planet were to be added, slightly more Trilium would be released overall per day. This is necessary to prevent existing Planets from being reluctant to allow new Planets to join the metaverse.

TLM due to NFT component + TLM due to staked component < 500,000

Variables:

Trilium staked to Planet
PST = Trillium staked to the Planet (P) when Planet calls the claim action
APST = Trillium staked to all Planets when Planet calls the claim action

NFTs received by explorers connected with the Planet[2]
PNFTs = Number of NFTs issued by the Federation for that Planet[3] since genesis, time adjusted to enhance the effect of recent performance
APNFTs = Stake weighted total (across Planets) of PNFTs
NFTMOD = Multiplier to the above two variables, which will be calibrated to balance competing strategies of passive yield versus active gaming

Note, there is a cap of 300k TLM that each Planet can be allocated per day, even if its staked TLM + NFT component would otherwise generate more TLM for the Planet. This is to prevent the emergence of one Planet becoming dominant over the metaverse.

Daily Trilium Allocation to Landowners (DTAL)

Four times a month (roughly every week) all Landowners of opened packs will receive a payment from the Daily Trilium Allocation to Landowners (DTAL).

The Land Rating (described under "Land" section) will determine the amount they receive.

To landowner = Daily allocation from notional locked box reserve * 0.2 * landrating / totallandrating

Core NFTs

Core NFTs are the NFTs created by the Federation (Alien Worlds' creators) at inception
  ● The Core NFTs within Alien Worlds are

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[2] The NFTs earned by miners of land on a Planet plus the NFTs earned by explorers fighting on behalf of a Planet
[3] That is, NFTs sent to explorers for mining on the Planet or fighting on behalf of the Planet

- - Land
    - Avatars
    - Artifacts
    - Tools
    - Weapons
    - Minions
    - Missions
  - The elements of the NFT that are recorded on chain are
    - Its name
    - Its attributes (including its visual representations and powers)
    - Who owns it
    - Its history of ownership.
  - NFTs in Alien Worlds are depicted as trading cards; these elements are described in the UI codebase

NFTs on WAX

The Core NFTs on WAX exist as a row in the database of the Atomic Assets smart contract (https://wax.bloks.io/account/atomicassets) on the WAX blockchain
- - The Atomic Assets smart contracts run the Atomic Assets protocol

NFTs on Binance Smart Chain

The NFTs on BSC are built on the BEP 721 standard. The NFTs on BSC exist as data in the state trie of BSC and their associated data is in a JSON file on an IPFS server.

Land

- Land is an NFT associated with (located on) a Planet
- Land ownership is represented by ownership of the NFT
- A land NFT defines modifiers which affect gameplay aspects such as:
  - Time between mining calls
  - Amount of Trilium that the land generates per mine
  - Probability that user receives an NFT per mining call
- Planets have a finite amount of land on them at inception
- Land owners can set a commission (which is the % of Trilium mining rewards the landowner receives)
- Unsold land is owned by the Federation until bought
  - Mining on unsold land (ie still owned by the Federation) has a default commission of 20%

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- ○ This 20% commission is collected into The Land Fund which pays out to a user upon the user opening a new Land pack
- ○ This is to incentivise opening land packs rather than hoarding them, since land is required for game play

Land NFTs have attributes used in the mining game - see section on Mining Game.

Land development and the Land Rating

Landowners will pay Trilium for upgrade items that modify various parameters of the Land. One of the parameters it is possible to upgrade is the Land Rating. A higher Land Rating yields more payout from the Daily Trilium Allocation to Landowners (DTAL).

The Land Rating of a Land NFT degrades over time and can be topped up for additional Trilium.

Avatars

- Avatars are NFTs
- Avatars do not confer powers within the core game elements and are collectibles for aesthetic value

Tools

- Tools are NFTs that explorers use to mine for Trilium on land
- Explorers may use up to 3 tools at a time
- Tool attributes include
  - Time delay between mines
  - Weighted chance of receiving an NFT
  - Proof of Work modifier
  - Representation of how much of the available Trilium mining pot the tool can collect
- Tool NFTs produce different mining modification when used on different parcels of land
- Rarer and shinier Tools can have increased powers

Tool NFTs have attributes which impact the mining game - see section on Mining Game.

Weapons

- Weapons are NFTs that are used in the core fighting game
  - Potentially any other battling game in the Alien Worlds universe
- They have an attack rating and a defensive rating
- Rarer and shinier weapons can have increased powers

Minions

- Minions are NFTs which explorers select to fight with in the core fighting game and potentially any other battling game in the Alien Worlds metaverse
- Their attributes are
  - an attack rating

   ○   a defensive rating
   ○   a move modifier that influences when the Minion can enter a contest or the amount of power needed to move or use the Minion
   ● Rarer and shinier Minions can have increased powers

Artifacts

   ● Artifacts are a diverse category of NFT that impact gameplay in a variety of ways
      ○   Affect explorer experience and can impact NFT stats
   ● Artifacts as an NFT type do not exist yet and are scheduled for release subsequently
   ● New artifacts may be introduced into the Alien Worlds ecosystem to change the meta dynamics and improve the explorer experience

Pack opening

Assets are created (ie created on the blockchain and attributed to an account) at the point at which the user opens the pack within which the assets are contained. The user opens a pack of NFTs by calling the on-chain action "open". When the user opens the pack, the NFTs in the packs are created (sometimes called "minted").

The Land Fund

Every time a user mines a piece of land, a default 20% (configurable) percentage of the Trilium mining reward is paid to the land owner; this is called "commission". This commission accrues every time a user mines on a Land NFT irrespective of whether that Land NFT has been purchased by a landowner. Prior to a Land NFT being purchased and opened, it is held in an account *open.worlds*. On Land pack opening, the Land NFT is transferred to the purchaser's account and the 20% mining commission (Trilium) begins accruing into the purchaser's account instead of the open.worlds account.

The Trilium accruing into the open.worlds account from mining on unopened land, goes into the Land Fund.

The Land Fund, when set to operational, pays out to users when they open a Land NFT as an incentive for purchasers of Land NFTs to open their Land packs rather than leaving them unopened.

The payout to an unboxing user from the Land Fund is a random percentage of all the Trilium in the Land Fund pot at that time, varying from 10% - 20% of the pot.

Asset ID - 'mint number'

All assets except land have their asset IDs ('mint number') created at the point when the user opens the pack the asset is contained within. Land NFTs have asset IDs that are already in place at the time the user opens the pack. This is because all Land NFTs have been 'pre-minted' because they exist on Planets, and have been distributed into the Land NFT packs for purchase by players.

Properties of NFTs

Rarity

Every item with the Alien Worlds Metaverse has a rarity level. These levels are (in order of least scarce to most scarce)

- Abundant
- Common
- Rare
- Epic
- Legendary
- Mythical

All items received by explorers have a chance of having any of these levels of rarity, according to a prescribed probability.

Shininess

Each NFT has a quality attribute which reflects its shininess. The shininess levels are (in order of least shiny to most shiny): -

- Stone
- Gold
- Stardust
- Antimatter

More shiny cards often have more power than less shiny versions.

All NFTs begin as Stone, and can be upgraded by the user.

Increasing shininess - "Shining"

- The user sends multiple NFTs and Trilium to a contract
- Contract sends back a new NFT with higher shininess
- The Trilium is burned; therefore users 'shining up' their NFTs is deflationary

Pricing shining

- The amount of Trilium required to be sent by the user in conjunction with the NFTs will be set so as to balance inflationary and deflationary dynamics
  - Shining is one of the mechanisms that will absorb Trilium supply

Explorers (users)

- Explorers require a WAX account (which gives them enough to CPU to initiate gameplay)
- Explorers have the choice to stake to a Planet (or more than one) or none at all
- They are onboarded through the WAX Cloud Wallet
- Explorers can set their own name (up to 18 characters)
- New Explorers are given a starter 'pack' of containing the following
  - Basic avatar
  - A shovel
- To begin acquiring Trilium through gameplay only, explorers mine Trilium
- New users will sign up for an account at https://all-access.wax.io/
  - They can also choose to be part of a DAO (ie stake their Trilium to a Planet account)

Trilium

Trilium is the native token of Alien Worlds and is used to stake to Planets and participate in core games. It exists on the Ethereum, WAX and BSC blockchains so that users can store Trilium on either chain subject to their preference and use it for the games constructed on WAX and BSC.

Amount of Trilium

- There is a finite supply of Trilium at 5 billion Trilium with inflation at 9% of supply in year 1, 7.64% in year 2 and declining year on year
- Inflation funds the Daily Trilium Allocation to Planets and the Daily Trilium Allocation to Landowners

Token contract - Trilium on Ethereum

An ERC 20 Trilium token contract exists on Ethereum which records balances and gives transfer functions. The TLM Ethereum token contract is

0x888888848B652B3E3a0f34c96E00EEC0F3a23F72

Token contract - Trilium on WAX

A Trilium token contract exists on WAX which does the same as the above. The WAX TLM token contract is

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Token contract - Trilium on BSC

A BEP 20 Trilium token contract exists on BSC which does the same as the above. The BSC TLM token contract is

0x2222227E22102Fe3322098e4CBfE18cFebD57c95

Cross-chain reconciling mechanism

The tokens governed by the Ethereum token contract and those governed by the WAX token contract must always sum to a notional cross-chain maximal figure of 10bn TLM.

When the user wants to transfer Trilium from one chain to the other, the transferred amount is added to the inaccessible balance on the starting chain at the same time as being deducted from the inaccessible balance on the destination chain.

Cross-chain reconciling mechanism - how balances transfer
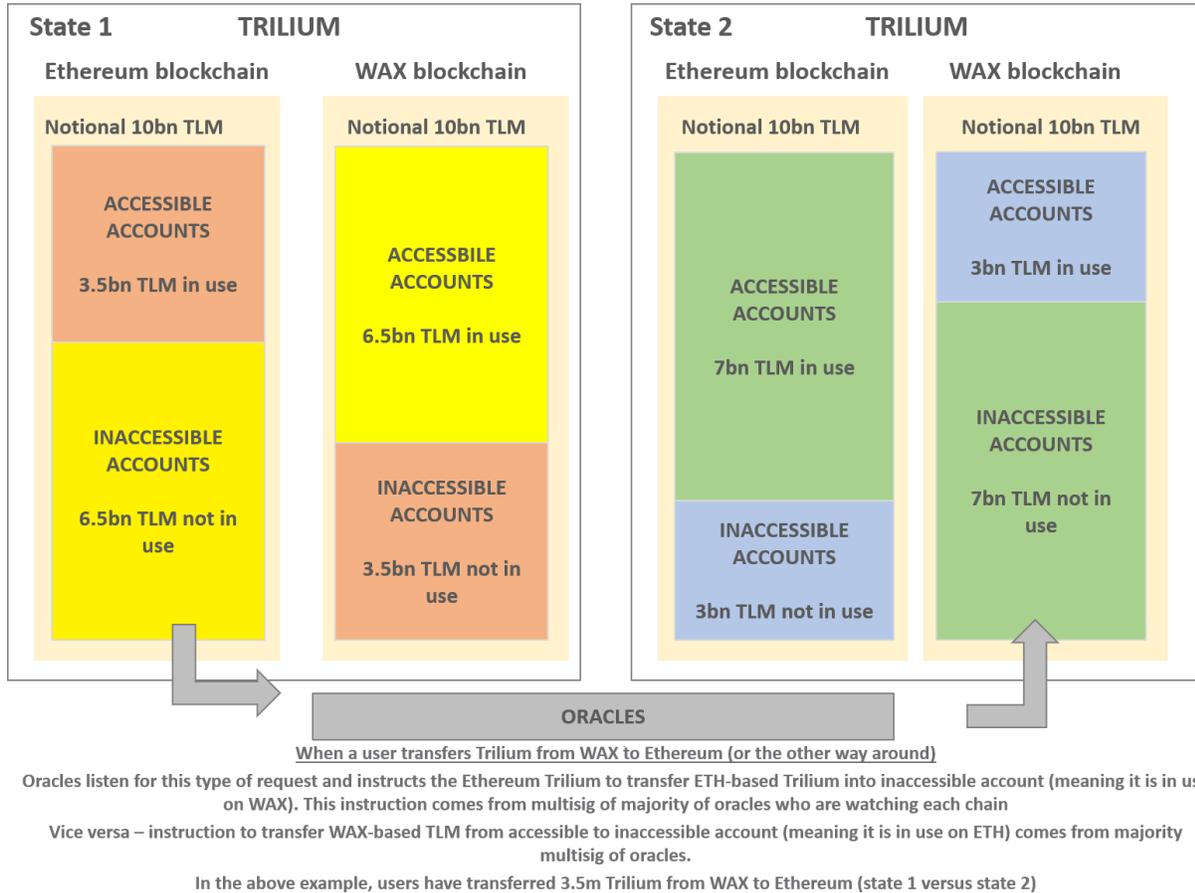
At any given time the sum of the accessible accounts across ETH and WAX will equal the notional cross-chain reconciling value of 10bn.

Cross-chain reconciling - oracles

An oracle (off-chain account recognised as a source of truth) will listen for a user requesting to move Trilium between chains. The user request makes the balance inaccessible on the source chain. The oracle then gives an instruction to the destination chain's Trilium token contract to move the corresponding balances into the accessible balance on the destination chain.

Majority of oracles required

The token contracts will require majority approval of multiple constituent oracles before sending instructions. Each oracle will have keys for both chains and those keys will be approved by each chain's token contract, so that once the token contracts register a majority of approvals, the transfer is made from inaccessible to accessible account.

Uses of Trilium

- Trilium must be staked by users to vote in Planet governance
- The Federation (and if they chose, Planets) will charge Trilium fees for gameplay such as the fighting game
- Trilium must be staked by Councillors to run as a candidate in Planet DAOs
- Trilium is required to participate in Nebula Events whereby users can obtain Legendary and Mythical items
  - Trilium fees go to Treasury and a proportion or all may be burned
- Trilium is required to participate in Quests
- Trilium can be used to shine NFTs
  - Some of which is burned

DAO structure

Explorers participate in decision-making about how Trilium flows by staking to a Planet and participating in that Planet's decision-making - by becoming a Planetary Custodian or voting for one.

Planetary DAOs

- Each Planet is governed by a DAO
- Each Planet's DAO Committee decides how to allocate its budget (ie its Planetary rewards) toward the following expenditures:
  - Mining rewards
    - Including any random components such as randomised NFT rewards for mining
  - Worker proposals
  - or any other purpose
- Each Planet is alloted a daily release of Trilium proportionate to the amount of Trilium staked by users to that Planet per the above formula
- It takes two days to unstake from a Planet
  - To prevent a whale Trilium holder from staking to a Planet just prior to Planet's Trilium allocation being calculated, and then moving to another Planet

Core games

Mining game

The mining game is a set of smart contracts available to Planets which they can offer to their explorers. It allows explorers to mine for Trilium and NFTs on Land on a Planet.

Each time the explorer calls the mining action, the explorer receives a Trilium payout. Additionally, sometimes, an NFT is paid out. The amount of Trilium and NFTs paid out depends on:

- First: How much Trilium is in the Planet's (where the Land is located) Current Mining Pot at time of mine (described below under 'The Planet's Mining Pots')
- Then, a formula which considers the type of Land and Tools being used (described under 'Amount of Trilium Paid Out')
- Finally, unless the miner is mining on Land he/she owns, a Trilium commission goes to the Landowner, and the rest is kept by the miner (described below under 'Commission to Landowner')
  - All NFTs are kept by the miner
- Additionally, there is a minimum time between mines which is a function of the Land and Tools being used (described below under 'Land and Tool Attributes - Impacts on Mining Frequency and Rewards')

The Planet's Mining Pots
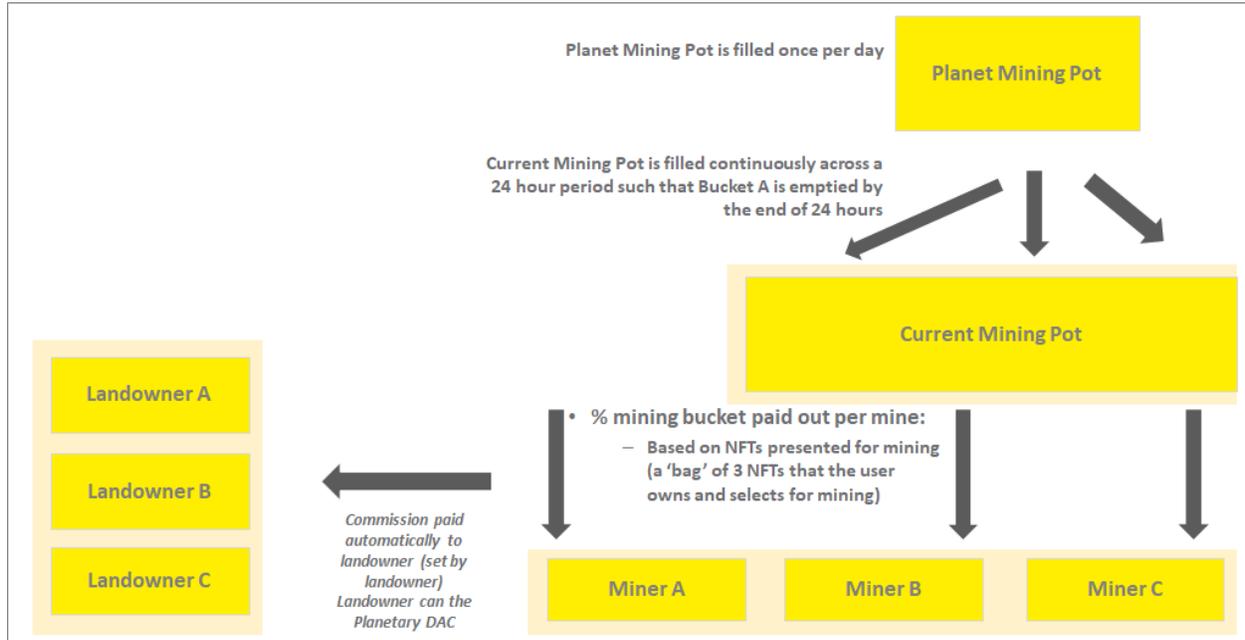
Trilium flowing into Planet Mining Pot depends on how much Trilium the Planet's DAO government has decided to allocate toward the mining game. The default is 80% of the DTAP being allocated toward mining rewards; the default will not be initially configurable but will be configurable at a later phase. At this later stage, the default 80% will only be alterable by a maximum percentage per week, so as to allow landowners on this planet time to adjust or respond to this.

Because Trilium rewards from mining are paid out as a percentage of the available 'pot' at the time a given mine is attempted, the Current Mining Pot exists to smooth mining payouts across the day. The Current Mining Pot is drip-filled from the Planet Mining Pot, and then the Current Mining Pot is the pool from which mining rewards are calculated.

The amount of Trilium paid out to a user on mining will be impacted somewhat by recently preceding payouts to miners, since the Current Mining Pot would have been newly depleted by a recent mine, but this effect is minimised by the Planet Mining Pot / Current Mining Pot system.

Amount of Trilium Paid Out

The Trilium payout from mining is determined by:

% of the Planet's mining Current Mining Pot at time of mine awarded to miner =

(Sum of Trilium Mining Power percentages of the Tools NFTs) * Trilium Mining Power Multiplier of the Land NFT

The Trilium Mining Power percentages of Tools and Trilium Mining Power multiplier of Land can be found in the [Appendix section](#)**.**

Number of NFTs Paid Out

You can either get 1 NFT per mine, or none. The chance of getting an NFT is determined in two stages:

Stage 1:

% chance of clearing stage 1 = (sum of Luck percentages of Tools NFTs) * Luck Multiplier of Land

The NFT Luck percentages of Tools and NFT Luck Multiplier of Land are described below.

Stage 2:

Mine actions that clear stage 1 are run through percent probabilities to determine the Rarity of the NFT paid out. There is also a null category with a probability attached, in which no NFT is paid out, even if the mine attempt clears stage 1.

Land and Tool Attributes - Impacts on Mining Frequency and Rewards

Explorers select a Land NFT (Land) to mine on and up to 3 Tool NFTs (Tools) to mine with.

Both Tools and Land have attributes which impact the Trilium and NFT rewards players get when they mine. Those attributes are charge time, Trilium Mining Power and NFT luck.

Charge time

The amount of time that must have elapsed since you last mined.
1) Tools: have a 'charge time' associated with them which is the time, in <u>seconds</u>, that must have passed since you last mined.
    a) If three tools are being used, the longest 2 charge times are added to derive the charge time. If two tools are used, the longer charge time and half of the shorter charge time are added together to give the total time that must have elapsed since last mine

2) Land has a charge time <u>multiplier</u>. The charge time in seconds given by the Tools is multiplied by the Land's charge time multiplier.

Trilium Mining Power (Power)

How fruitful it is to mine.
1) Tools: have a 'Trilium Mining Power' <u>percentage</u>; 'Trilium Mining Power' % of all Tools used in a given mine are summed
2) Land: have an 'Trilium Mining Power' <u>multiplier</u> which is multiplied with the sum of the Tools' Power percentages

NFT Luck

NFT Luck impacts the chance of receiving an NFT from a mining action.

NFT Luck is given by:
1) Tools: have an 'NFT Luck' variable; 'luck' of all Tools used in a given mine are summed
2) Land: have an 'NFT Luck' <u>multiplier</u> which is multiplied with the sum of the Tools' luck

Proof of Work Requirement

Finally, in order to prevent network abuse and disincentivise automation, successful mining attempts must supply proof of work. For an average user, this is all handled through the game interface without the user being aware of it, although for users mining on mobile devices with low computing power, the proof of work requirement may create a noticeable time lag.

However, for completeness the algorithms are given below.

The proof of work calculation is:

sha256(concat(account_name, first_8_bytes_last_mine_tx_id, nonce))

if wam first 2 bytes == 0, next 4 bits must be less or equal than pow reduction

if not wam first 3 bytes 0, next 4 lte pow reduction

Actual Values for Land and Tools

The actual values of these attributes for Land and Tools are listed here:
https://docs.google.com/spreadsheets/d/1BjpZQfG5JWnL5Vv_YMAi3LYytHJSBwhnLDp0Sc2zHCg/edit#gid=0

Commission to Landowner

Land is owned by a landowner if it has been bought (or held by a Federation contract if unbought). The landowner may choose to extract a commission from miners, in which case this is deducted automatically. By default, the commission is set to 20% on all Land NFTs and this is configurable by the landowner. The commission on Federation-owned land is held in a reserve.

Landowner-offered NFTs

Landowners who wish to make it more attractive for miners to mine on their land can both lower the % Trilium Commission charged as discussed above, but can also 'seed' their land with non-Core (non-Federation created) NFTs - these are called "Landowner-offered NFTs".

To offer an NFT, Landowners send NFTs to a contract, then define 'pots' of those NFTs each with their own probabilities attached, which must sum to 1. For example, the Landowner could put 1000 NFTs into pot 1 which would have a 75% chance of being drawn, 500 NFTs into pot 2 which would have a 15% chance of being drawn, 50 NFTs into pot 3 with a 7% chance of being drawn, and 5 NFTs into pot 4 with a 3% chance of being drawn (percentage probabilities, and number of NFTs are all for the Landowner to decide). There is a maximum of 10 pots the NFTs can be divided between.

A maximum of one Landowner-offered NFT would be paid out per mine, but a Landowner-offered NFT will not always be paid out:

- For a mine action to successfully result in a Landowner-offered NFT, the mine action must first have cleared Stage 1 described in "Amount of NFTs Paid Out" above
- A mine action that fails to clear Stage 1 (because, for example, the Tools used have poor NFT Luck attributes) will not be eligible for a Landowner-offered NFT
- If a mine action clears Stage 1, then the probabilities in the pots defined by the Landowner will be run to result in a Landowner-offered NFT payout

Landowner-offered NFTs must be created on the Atomic Assets contract (atomicassets) on the WAX blockchain and must not contravene the Dacoco Gmbh Terms and Conditions; in particular they must not be breaching copyright protections of the author, or contain offensive material. Landowners who attempt to offer NFTs that fail these tests may be blacklisted.

Fighting game

A fighting game will be offered to players.

Missions game

A missions game will be available on BSC whereby users can send spacecraft on missions of varying durations and receive a TLM and NFT reward.

The number of TLM offered as a reward for a given mission will depend on the number of other spacecraft going on the mission. One NFT will be awarded per spacecraft per mission to a maximum of 5 NFTs per account per mission.

Missions NFTs will have utility within the BSC part of the metaverse, in particular through crafting and enhancing mission power variables in subsequent missions releases, as described below at "Extensions to the Missions Game" section.

Mission durations will be 1 week, 2 weeks, 1 month and 3 months. During this time the TLM fee is locked and inaccessible to the user.

Sending a spacecraft on a mission incurs a TLM fee which is returned at mission end. Mission rewards must be actively claimed by the user when the mission has ended.

Permissions

NFTs

- NFTs that impact the Alien Worlds metaverse (ie mining and genesis games) are created by the Federation DAO
- Planet DAOs are able to create their own NFTs but in order for these to confer powers within the genesis games they must be permissioned by the Federation

Planets

- Planets can only be recognised by the Federation

Extensions

New game features are provided by the Federation to Planets as code updates; Planets must update their contracts.

As part of the Roadmap, the following gameplay elements and modifier are envisaged to be released.

Extensions to the Missions game

The missions game offered on BSC is planned to be extended to by adding the following

- Supercharged missions with the addition of BNB
  - Greater rewards when the user sends BNB alongside TLM on missions
- NFT staking
  - Modification to 'Mission mining power' and 'NFT luck' when the user stakes NFTs in addition to other fungible tokens
- Missions that alter mutable attributes of NFTs
- Missions that reward the user with NFTs that have gameplay utility in other core games

Interoperability - NFTs

Alien Worlds is a place where NFT collectibles can take on gameplay powers.

External collectibles

It is possible for NFTs built on Atomic Assets to be used to play Alien Worlds genesis games (mining, fighting).

The Federation would enable this by mapping the Atomic Assets template elements of the NFT in question onto Alien Worlds NFT-attributes systematically. In particular, we would use the

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card's template to tabulate the card's properties against attributes required in our gameplay and ascribe powers within our game to each card.

Example - GPK collectibles within Alien Worlds

- A player could set their GPK card as their avatar, giving the player specific defined attributes
- A player could select their GPK card as their fighter within a fighting game with attributes decided by the game owners.

Modifications to Land NFTs

- Ability to 'name' land
- Ability to sell advertising links on land through "Windows"
- Ability to change Land Rating with respect to DTAL and mining reward modifiers

Multiplayer games

Users should be matched with other users of a similar level using a rating system. Tournaments could be implemented at some future stage alongside squad matchups.

Minion extensions

- An offchain game element in which Minion NFTs can be sent to fight each other
- "Mana", a variable describing the users' power with deploying Minions, to be integrated into the game

Appendix

Table of Tools and Land and their attributes:
https://docs.google.com/spreadsheets/d/1BjpZQfG5JWnL5Vv_YMAi3LYytHJSBwhnLDp0Sc2zHCg/edit#gid=0