Aavegotchi Whitepaper v1.1

Provably-rare DeFi-staked Crypto Collectibles, powered by Aave

Abstract

Aavegotchis are rare crypto-collectibles living on the Ethereum blockchain, backed by the ERC721 standard used in popular blockchain games such as Cryptokitties, Axie Infinity, and Cryptovoxels. Rumor has it that Aavegotchis are actually the ghosts of liquidated yield farmers determined to return and bring honor to their familia.

Aavegotchi introduces many innovations into the blockchain gaming sphere, including DeFi token collateral stakes, dynamic rarity, rarity farming, DAO-governed game mechanics, and an open metaverse with smart contract interoperability and in-world town hall style voting.

Just like the original Tamagotchi introduced the world to digital pets, Aavegotchi introduces the world to playable NFTs, backed by digital value.

1. Introduction

The non-fungible token space (NFT) has seen explosive growth since the beginning of 2020, with total sales volume exceeding more than 100M USD, the majority happening in the last six months. Source: NonFungible

Similarly, the Decentralized Finance (DeFi) ecosystem has seen unparalleled growth in 2020, with Total Volume Locked (TVL) surging from 600 million USD to more than 6 billion USD, as of August 19, 2020. Source: DeFi Pulse
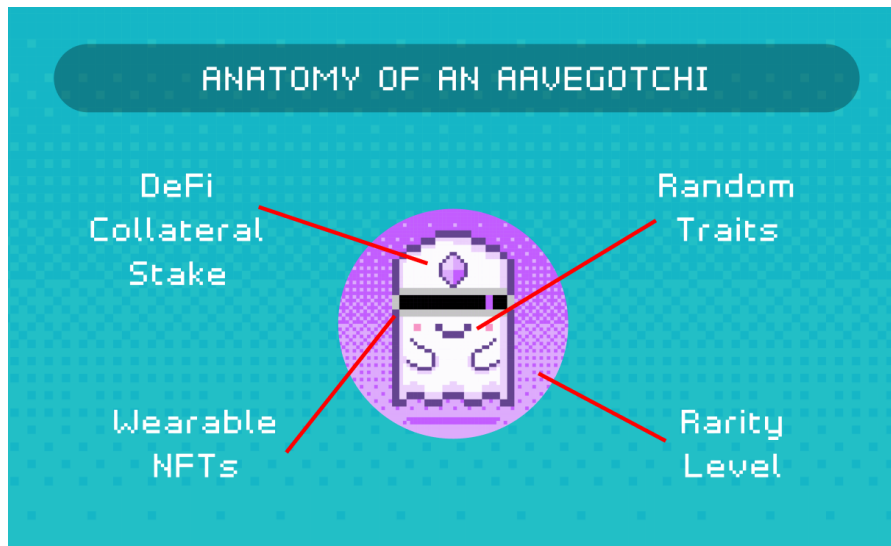
Individually, each space is experiencing massive exponential growth, but as of yet no project has emerged that leverages the explosive potential of both combined.

Until now.

Introducing Aavegotchi: DeFi-staked NFT collectibles.

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2. What exactly are Aavegotchis?

Aavegotchis are NFTs staked with DeFi-enabled ERC20 tokens powered by Aave, known as aTokens.

Aavegotchis possess three attributes that determine their overall value and rarity within the Aavegotchi universe -- **spirit force, traits, and wearables.**

2.1 Spirit Force

Between the Nether Realm and the world of humans lies a third space -- the Ether Realm. Powerful wizards known as Summoners have built arcane magical Portals that allow humans to summon Aavegotchis from the Nether to the Ether. However, to complete the process, Aavegotchis must be staked with a certain amount of Spirit Force, known in the human realm as Aave-backed ERC20 tokens, or "aTokens".

Technically speaking, each Aavegotchi ERC721 NFT manages an escrow contract address that holds their aToken Spirit Force. aTokens generate yield via Aave's LendingPool, which increases the quantity of aTokens held in the wallet. Thus, the Aavegotchi's Spirit Force grows over time, as it is held by its owner.

Aave offers many such tokens; popular examples include aDAI, aUSDT, aLINK, aLEND, and aSNX.
(View the full list at https://app.aave.com/)

The minimum Spirit Force of an Aavegotchi is initially defined by its Base Rarity Score -- the unique combination of traits assigned to an Aavegotchi when it is summoned. Although these traits may change over time, the minimum stake remains fixed through the lifetime of an Aavegotchi. There is no upper limit for the collateral stake.

Transferring an Aavegotchi to a new owner also transfers its Spirit Force (the staked collateral).

If the owner of an Aavegotchi desires to completely remove the Spirit Force stake, the Aavegotchi will be ejected back to the Nether Realm forever and the collateral will be returned to the owner.

2.2 Traits

Aavegotchis possess multiple traits that influence their rarity, their performance in mini-games, and the wearables they can equip. Some are generated randomly upon summon, some depend on user interactions with the Aavegotchi, and some are even defined by the Aavegotchi community.

Randomly-Generated Traits

Upon summon, every Aavegotchi is assigned several random trait values using the Chainlink VRF random number generator. Trait values are distributed on a bell-curve, and each trait is assigned a value of Common, Uncommon, Rare, or Mythical, depending on its rarity.

Chart 1 - Trait Range and Rarity Probabilities

Rarity Type	Range (Low)	Range (High)	Percentage
Common	25-74	25-74	50%
Uncommon	10-24	75-90	30%
Rare	2-9	91-98	16%
Mythical	0-1	99-100	4%

Aavegotchis possess seven traits initially, although these may be extended in the future via voting in AavegotchiDAO.

Unlike other games, in Aavegotchi, there is no "optimal" trait. Each attribute (except for eye shape and eye color) has different effects in different mini-games. For example, Aavegotchis with higher energy may perform well in races, but would not perform well in a meditation mini-game.

Chart 2 - Aavegotchi Personal Traits by Rarity

Trait	Mythical (low)	Rare (Low)	Uncommon (low)	Common	Uncommon (high)	Rare (high)	Mythical (high)
Energy	Zen	Serene	Sleepy	Calm	Energetic	Hyper	Turnt
Aggressiveness	Nonviolent	Peaceful	Gentle	Neutral	Combative	Warlike	Based
Spookiness	Cuddly	Impish	Unnerving	Scary	Creepy	Terrifying	Ghastly
Brain Size	Smol	Tiny	Small	Normal	Big	Huge	Galaxy
Eye Shape	Single Dot	Flat Line	T Eyes	Round Eye	Anime Eye	Awesome Eyes	Collateral
Eye Color	TBD	TBD	TBD	Collateral	TBD	TBD	Rainbow

Kinship

Kinship is your Aavegotchi's feeling of loyalty towards you. It is not randomly assigned, but rather starts at a fixed value upon summon and increases or decreases based on various factors, such as how long the Aavegotchi has been with the same owner, and how often the owner interacts with it.

Typically, longer ownership equals higher kinship, but neglecting your Aavegotchi for long periods of time will lower its kinship level. Aavegotchis aren't just vessels to store your crypto bags. They're living, breathing ghosts, and they need your affection!

High kinship levels can boost your Aavegotchi's performance in mini-games, and may also act as a multiplier for GHST rewards on governance and rarity farming. Low kinship levels will have the opposite effect.

Some ways to boost your Aavegotchi's kinship level:
● Aavegotchis are born with a sense of civic duty. Bring your Aavegotchi to City Hall and let it vote in AavegotchiDAO;
● Aavegotchis may be ghosts, but they have voracious appetites! Feed your Aavegotchi consumables to see its spooky smile;
● Aavegotchis love trying on new clothes. Equip your Aavegotchi with new wearables to forge a lasting bond;
● Aavegotchis love to play! Take your Aavegotchi out for a romp in the Aavegotchi Realm and level it up playing mini-games.

Experience

Aavegotchis receive experience (XP) for voting in AavegotchiDAO and playing mini-games. Aavegotchis can also be sacrificed to remove their collateral stake and transfer it to another Aavegotchi. The recipient will receive a percentage of the sacrificed Aavegotchi's accrued XP. Exact percentage will be determined by the AavegotchiDAO.

Level

Aavegotchis "level up" as they gain more XP. Every few levels, Aavegotchis receive one Spirit Point that can be allocated towards increasing or decreasing a certain trait. Some wearables can only be worn by Aavegotchis of a certain level.

Haunt

Like pioneers to the New World, Aavegotchis travel from the Nether Realm to the Ether Realm in groups known as Haunts. The initial Haunt contains 10,000 Aavegotchis. Thereafter, new Haunts must be approved for travel by the AavegotchiDAO. Some wearables can only be worn by Aavegotchis belonging to a certain Haunt.

2.3 Wearables

In addition to managing the aToken escrow, Aavegotchis also extend the ERC998 Composables standard, which allows them to manage child ERC721 or ERC1155 NFTs, known as wearables in the Aavegotchi ecosystem.

An Aavegotchi sporting fab wearables

Not every wearable can be equipped by every Aavegotchi. Some wearables may be exclusively equipped by Aavegotchis staked with certain collaterals, those of a certain level, and those with certain traits.

Some wearables can increase or decrease certain traits of an Aavegotchi. For example, equipping a sword may slightly boost an Aavegotchi's aggressiveness, whereas equipping a Bob Marley shirt may decrease its energy level.

Wearable slots available at launch include:
- Head
- Face
- Eyes
- Feet
- Hand (left)
- Hand (right)
- Hands (both)
- Pet

Chart 3 - Wearable Rarity and BRS Bonus

Rarity Type	Quantity	BRS Bonus
Common	1000+	+1
Uncommon	500-999	+2
Rare	250-499	+5

Legendary	100-249	+10
Mythical	10-99	+20
Godlike	1-9	+50

Wearables can be equipped or unequipped at any time. Equipping/unequipping wearables may affect the overall rarity of an Aavegotchi.

Once AavegotchiDAO is launched, new wearables can be added by tokenholder votes.

2.4 Consumables

Consumables can be used to temporarily boost Aavegotchi stats, for example before participating in a mini-game. As the name implies, they will be burned and removed from the Aavegotchi's inventory after usage.

3. What gives Aavegotchis value?

The valuation of an Aavegotchi comes both from its intrinsic value and from its rarity score.

3.1 Intrinsic Value

Intrinsic value is the denominated value of the Aavegotchi's Spirit Force (staked collateral). If the Aavegotchi is staked with 10 aDAI, then the intrinsic value would be 10 aDAI, plus whatever extra aDAI has accrued from the Lending Pool.

Initially, only ERC20 tokens listed on the Aave platform (aTokens) will be available as collaterals. However, once AavegotchiDAO launches, the community will be able to vote on which new collaterals to allow.

3.2 Rarity Score

Rarity score is determined by calculating the rareness of each Aavegotchi's traits and equipped wearables within the Aavegotchi universe.

Unlike other NFT games, rarity is not a fixed value in Aavegotchi -- it can change over time as Aavegotchis level up and equip different wearables. Thus, a rare Aavegotchi one week could become less rare, and vice versa, depending on the overall distribution of traits and wearables within the Aavegotchi universe. This enables a novel concept known as "rarity farming".

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4. Rarity Farming

Rarity farming is a novel game mechanism introduced in Aavegotchi designed to encourage and reward thoughtful gameplay and active participation from users. Players get rewarded in GHST tokens for training the rarest Aavegotchis.

4.1 How it works

As explained above, each Aavegotchi possesses a Base Rarity Score (BRS) derived from the overall rarity of its traits and equipped wearables.

Base Rarity Score is derived by the following formula:

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BRS = traitValue >= 50 ? traitValue : 100-traitValue
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In addition to this Base Rarity Score, Aavegotchis also possess an overall **Absolute Rarity Score** derived from the particular rarity of their traits in the overall Aavegotchi ecosystem.

For example, if many players have trained their Aavegotchis to have maximum Energy Level, then the Absolute Rarity Score (ARS) for Energy Level - TURNT would be lower than that of Energy Level - WASTED.

Absolute Rarity Score is calculated in terms of percentiles out of 100 for each of the Aavegotchi traits, so if only 5% of all Aavegotchis possess a certain trait, then that trait would receive a bonus of 95 to its ARS.

The Total Absolute Rarity Score for an Aavegotchi is the sum of:
- Base Rarity Scores for all traits
- Base Rarity Scores of all equipped wearables
- Absolute Rarity Score for all traits

Chart 3 - Calculation of Traits Absolute Rarity Score

Trait	Rarity	Value (Number)	Value (Name)	Base Rarity Score	Absolute Rarity Score
Energy	Common	61	Calm	61	40th percentile (60% possess)
Aggressiveness	Uncommon	78	Combative	78	80th percentile (20% possess)
Spookiness	Common	27	Neutral	73	45th percentile (55% possess)
Ethereality	Rare	6	50%	94	90th percentile (10% possess)
Brain Size	Mythical	100	Galaxy	100	97th percentile (3% possess)
Wizard Hat (wearable)	Rare			10 (rare)	
Wizard staff (wearable)	Godlike			50 (godlike)	
Total Base Rarity				466	
Total Absolute Rarity					352
Final Rarity Score					818

In each period (length determined by AavegotchiDAO), the rarest Aavegotchis will receive a distribution of GHST rewards (derived from all sales involving GHST) that can be claimed by their owners.

The given rarity of an Aavegotchi in the overall Aavegotchi Universe is constantly shifting as players summon more Aavegotchis, equip more wearables, and level up their Aavegotchis. Thus, players must make strategic decisions on how they train and equip their Aavegotchis.

There is currently no limit to how many interactions an Aavegotchi can perform each period, but if bot activity became a problem then the AavegotchiDAO could vote to add circuit breakers to reduce bot activity.

5. Aavegotchi Universe

The Aavegotchi Universe encompasses all the elements that allow Aavegotchis to operate, including Portals, the GHST utility token, AavegotchiDAO, and the Aavegotchi Realm.

5.1 Portals

Portals are the gateway between the Nether and Ether realms. Anyone wishing to summon an Aavegotchi must first acquire a Portal via the official Aavegotchi Dapp, or an external marketplace.

Each Portal contains 10 variants of Aavegotchis with randomly-generated traits.

Of the ten variants inside a portal, **only one Aavegotchi can be summoned per Portal.**

To claim an Aavegotchi, the user must stake the required amount of Spirit Force to the Portal. If the owner removes this initial stake, the Portal collapses and the Aavegotchi is lost forever (burned).

Initially, Portals will contain a random assortment of supported collaterals, but as more collaterals get added, new Portals staked with specific collaterals will be added. These "collateral-specific" Portals may require more GHST to purchase than random Portals.

The first Haunt of Aavegotchis will have 10,000 Portals. Thereafter, the AavegotchiDAO will vote on whether to create additional Haunts.

5.2 GHST token

The native digital cryptographically-secured utility token of the Aavegotchi ecosystem (**GHST**) is a transferable representation of attributed functions specified in the protocol/code of the Aavegotchi ecosystem, which is intended to be used solely as the primary utility token within the ecosystem.

GHST is a non-refundable functional utility token which will be used as the medium of exchange between participants in the Aavegotchi ecosystem. The goal of introducing GHST is to provide a convenient and secure mode of payment and settlement between participants who interact within the ecosystem on the Aavegotchi ecosystem, and it is not, and not intended to be, a medium of exchange accepted by the public (or a section of the public) as payment for goods or services or for the discharge of a debt; nor is it designed or intended to be used by any person as payment for any goods or services whatsoever that are not exclusively provided by the issuer. GHST does not in any way represent any shareholding, participation, right, title, or interest in the Company, the Distributor, their respective affiliates, or any other company, enterprise or undertaking, nor will GHST entitle token holders to any promise of fees, dividends, revenue, profits or investment returns, and are not intended to constitute securities in Singapore or any relevant jurisdiction. GHST may only be utilised on the Aavegotchi ecosystem, and ownership of GHST carries no rights, express or implied, other than the right to use GHST as a means to enable usage of and interaction within the Aavegotchi ecosystem.

GHST is to be used as the base ecosystem currency for the purchase of various digital assets, such as Aavegotchi Portals, wearables, consumables and collectibles. As an indication of commitment to the ecosystem and safeguard against malicious behaviour, players are also required to stake GHST to mint REALM, the land parcels of the Aavegotchi Realm.

GHST is inherently transferable to other users, and also fully exchangeable with various supported ETH and ERC20 tokens, such as DAI, LEND (AAVE) and others.

Why does Aavegotchi need its own token?

GHST provides the economic incentives which will be consumed to encourage participants to contribute to the Aavegotchi ecosystem. There are various elements within the Aavegotchi ecosystem which utilises GHST as the medium to align incentives between the AavegotchiDAO, Aavegotchi holders, and GHST holders. Players purchase and spend GHST in order to summon and train Aavegotchis. A portion of that value generated is transferred directly back to the AavegotchiDAO to continue funding development of the Aavegotchi ecosystem, and the remainder will be distributed as token incentives to reward wise governance of the AavegotchiDAO, as well as for rarity farming rewards.

GHST is an integral and indispensable part of the Aavegotchi ecosystem because without GHST, this closed loop would be impossible, and incentives between AavegotchiDAO, Aavegotchi owners, and GHST holders would not be aligned because there would be no incentive for users to expend resources to participate in activities or provide services for the benefit of the entire Aavegotchi ecosystem.

GHST Token Economics

GHST will be distributed in two main phases -- via the initial token distribution event, and via governance rewards and rarity farming.

The Token Distribution Event is planned to begin in late Q3 2020 or early Q4 2020. It will consist of three phases: a Private Round, Pre Sale Round, and Token Bonding Curve. During the Pre Sale Round, GHST will also be created and distributed to the Ecosystem Fund and Team Fund.

- **Private Round**
  - The Private Round is open to participants from permitted jurisdictions who perform KYC and are able to contribute a minimum of 20K DAI to be redeemed for GHST tokens.
  - The total vesting period is 365 days, with an initial release of tokens on the 180th day after the close of the pre-sale round, followed by a linear drip release over the subsequent 185 days thereafter.
  - 5,000,000 GHST tokens will be distributed, at a price of 0.05 DAI / GHST.
  - Funds raised during the Private Round will be allocated to the Pixelcraft Studios to ensure successful development of the Aavegotchi game.
- **Pre Sale Round**
  - The Pre Sale Round is open to participants from permitted jurisdictions who perform KYC. There is no minimum contribution to participate in the Pre Sale.
  - The vesting period is the same as the Private Round.
  - 500,000 GHST tokens will be distributed, at a price of 0.1 DAI / GHST.
  - Funds raised during the Pre Sale will be used to bootstrap liquidity in the Token Bonding Curve reserve pool, at a reserve ratio of 100%.

- **Token Bonding Curve (TBC)**
  - The Token Bonding Curve is open to participants from permitted jurisdictions who perform KYC. There is no minimum contribution to participate in the Token Bonding Curve.
  - Tokens purchased from the TBC are not subject to any lockup or vesting period, and can be claimed immediately after purchasing from the Curve.
  - There is no maximum supply of GHST distributed via the bonding curve. As supply increases, the price of subsequent GHST purchased from the Curve increases, according to a mathematical function. Likewise, when GHST are sold back into the Curve, the supply of GHST will be reduced and the price of subsequent GHST tokens will be lowered.
  - Funds raised from the TBC will be available for Pixelcraft Studios via a tap mechanism controlled by GHST token holders. More information about the tap mechanism and the TBC can be found at https://fundraising.aragon.black/.
- **Ecosystem Fund**
  - The Ecosystem fund consists of 1,000,000 GHST locked according to the same schedule as the Private Round.
  - Unlocked Ecosystem funds can be deployed via proposals made to the AavegotchiDAO V2.0 and above, for legitimate use cases such as funding development by non-Aavegotchi core team members, promotion and marketing of AavegotchiDAO, and any other use case the AavegotchiDAO deems useful.
- **Team Fund**
  - The Team Fund consists of 1,000,000 GHST locked according to the same schedule as the Private Round. However, once funds have been fully unlocked, they will distributed according to a 3 year vesting schedule, and the remaining funds will be locked into a new vesting contract for another two years and drip-released to the Aavegotchi core team.
  - Team Funds are primarily used to incentivize core Aavegotchi team members to contribute full effort to the project, as well as to compensate external advisors.

In particular, it is highlighted that GHST: (a) does not have any tangible or physical manifestation, and does not have any intrinsic value (nor does any person make any representation or give any commitment as to its value); (b) is non-refundable and cannot be exchanged for cash (or its equivalent value in any other virtual currency) or any payment obligation by the Company, the Distributor or any of their respective affiliates; (c) does not represent or confer on the token holder any right of any form with respect to the Company, the Distributor (or any of their respective affiliates), or its revenues or assets, including without limitation any right to receive future dividends, revenue, shares, ownership right or stake, share or security, any voting, distribution, redemption, liquidation, proprietary (including all forms of intellectual property or licence rights), right to receive accounts, financial statements or other financial data, the right to requisition or participate in shareholder meetings, the right to nominate a director, or other financial or legal rights or equivalent rights, or intellectual property rights or any other form of participation in or relating to the Aavegotchi ecosystem, the

Company, the Distributor and/or their service providers; (d) is not intended to represent any rights under a contract for differences or under any other contract the purpose or pretended purpose of which is to secure a profit or avoid a loss; (e) is not intended to be a representation of money (including electronic money), security, commodity, bond, debt instrument, unit in a collective investment scheme or any other kind of financial instrument or investment; (f) is not a loan to the Company, the Distributor or any of their respective affiliates, is not intended to represent a debt owed by the Company, the Distributor or any of their respective affiliates, and there is no expectation of profit; and (g) does not provide the token holder with any ownership or other interest in the Company, the Distributor or any of their respective affiliates. The contributions in the token sale will be held by the Distributor (or their respective affiliate) after the token sale, and contributors will have no economic or legal right over or beneficial interest in these contributions or the assets of that entity after the token sale. To the extent a secondary market or exchange for trading GHST does develop, it would be run and operated wholly independently of the Company, the Distributor, the sale of GHST and the Aavegotchi ecosystem. Neither the Company nor the Distributor will create such secondary markets nor will either entity act as an exchange for GHST.

5.3 AavegotchiDAO

Aavegotchi follows in the footsteps of successful DeFi protocols such as Compound and Synthetix by following a process of "gradual decentralization", beginning with the founding team, Pixelcraft Studios organizing a DAO-governed token distribution event (DAICO) and culminating in placing governance of Aavegotchi, including all game mechanics, smart contracts, and funding, under the auspices of the AavegotchiDAO, but subject always to the prevailing regulatory environment. This will be accomplished in three phases.

AavegotchiDAO V1.0 (GENESIS)

The first iteration of AavegotchiDAO will be launched in tandem with the GHST token distribution event. GHST token holders will be able to vote on increasing/decreasing a "tap" mechanism that transfers funds from the token bonding curve (TBC) reserve to Pixelcraft to support development. When the time comes to migrate at AavegotchiDAO METAMORPHOSIS, token holders will also vote to perform the migration.

Token holders will not receive rewards in GHST for active participation in this iteration of AavegotchiDAO.

AavegotchiDAO V2.0 (METAMORPHOSIS)

AavegotchiDAO METAMORPHOSIS is the second iteration of AavegotchiDAO, and is charged with managing simple game mechanics of AavegotchiDAO, such as the total supply of Aavegotchis, adding new collaterals and deciding on their functions, and adding new wearables

created by the community. When the time comes to migrate to AavegotchiDAO OASIS, the AavegotchiDAO will again vote to perform the migration.

Token holders **will** receive rewards in the form of GHST for active participation in this iteration of AavegotchiDAO.

AavegotchiDAO (OASIS)

Although AavegotchiDAO OASIS is the final iteration of AavegotchiDAO's evolution, it is only the beginning of the realization of a DAO-governed game. All decisions related to Aavegotchi game mechanics, REALM mechanics, ecosystem spending, and even smart contract upgrades will be voted on by the AavegotchiDAO.

Token holders **will** receive rewards in GHST for active participation in this iteration of AavegotchiDAO.

Chart 4 - Comparison of AavegotchiDAO Functions

Function	GENESIS V1.0	METAMORPHOSIS V2.0	OASIS V3.0
Resource management	Control flow of development funds to Pixelcraft via tap mechanism	Deploy revenue received from GHST and Development Fund	Deploy revenue received from GHST and Development Fund
Call smart contract	No smart contract calls	Can execute smart contracts	Can execute smart contracts
Can upgrade smart contracts	No upgrades	Can upgrade certain mechanics	Can upgrade all Aavegotchi smart contracts
Governance	Simple token-based governance	Aavegotchi ownership + staked GHST	Aavegotchi ownership + staked GHST
Platform	Aragon	Custom dapp front-end	Aavegotchi Realm
Rewards	None	GHST rewards for voting	Outcome-based GHST rewards
Layer	Ethereum Base	Ethereum Base	L2

Pixelcraft Studios

Pixelcraft Studios Pte. Ltd. is a blockchain focused game development company and legal custodian for the Aavegotchi brand responsible for initially building and launching AavegotchiDAO as well as ensuring the successful achievement of the Aavegotchi development roadmap.

L1 or L2?

AavegotchiDAO V1.0 will reside on the base layer of Ethereum. Taking into account high gas costs and congestion of the network, voting on V1.0 will be infrequent and only necessary for decisions related to Pixelcraft funding, and migration.

For METAMORPHOSIS and OASIS, we are researching new technologies that allow L2 voting to directly alter L1 smart contracts. These technologies are very new and many have not launched on the Ethereum Mainnet yet, but we are confident the community will persevere and find a way to scale DAO governance effectively.

5.4 Aavegotchi Realm

The Aavegotchi Realm is a 2D pixelated metaverse for Aavegotchis, where Aavegotchis can encounter each other, participate in mini-games, call smart contracts, and participate in governance of the AavegotchiDAO.

Owners of Aavegotchis can stake GHST token to unlock parcel tokens within the Aavegotchi Realm known as REALM. In addition to building out their parcel visually using a parcel editor, REALM holders will also be able to call smart contracts directly from their parcels, unlocking an entire new universe of possibilities.

Aavegotchi Realm acts as the social layer for AavegotchiDAO, enabling event-based, gamified governance. Aavegotchis will convene in a pixelated town square to review proposals, debate and cast votes -- all in real time.

To date, most DAOs have focused on technical and incentive-based approaches to address voter apathy. While AavegotchiDAO makes use of those emerging best practices, it also leverages social engagement to deliver a delightful voting experience that could redefine what it means to "participate in a DAO".

5.5 Mini Games

What's the fun of owning an Aavegotchi if you can't play with it? One of the core experiences of the Aavegotchi game will be exploring the Aavegotchi Realm overworld with friends and pitting your Aavegotchis against theirs. Winning Aavegotchis will earn the accrued Spirit Force of their opponents (not including the initial balance), and gain XP based on the amount of Spirit Force earned.

Some mini-games will be played using simple RNGs, whereas others will offer more immersive, player-controlled experiences.

Each mini-game will use different Aavegotchi traits to enable fair gameplay for a wide variety of trait distributions. For example, a HYPER-AGGRESSIVE Aavegotchi may perform well in an Aavegotchi Fight Club, but may not be well-suited to a cake-baking mini-game.

Have an Aavegotchi that isn't suited well to any mini-game currently offered? Jump in and develop one! To help support developers building Aavegotchi mini-games, AavegotchiDAO V2.0 will manage a Development Fund that has been set up for supporting development work carried out within the Aavegotchi ecosystem. As long as mini-games conform to trait distribution standards, they can reward winners with XP.

6. Tech architecture

Aavegotchi smart contracts are written in Solidity and leverage the Diamond Standard to enable easy upgradeability.

The main Aavegotchi smart contract inherits from the ERC721 and ERC998 standards to enable asset composability.

Some Aavegotchi functionality (daily check-ins, Aavegotchi waste disposal) does not make economic sense to be put on-chain due to high gas fees, and therefore may be implemented on a Web2 database such as Google Cloud or AWS, or a sidechain such as Matic or xDAI.

Aavegotchi contracts will also implement a lock system to prevent front-running on NFT marketplaces such as OpenSea, where Aavegotchi owners could list their Aavegotchis for one price and remove collateral/wearables just before selling.

Appendix: Aavegotchi Ecosystem Flow of Value
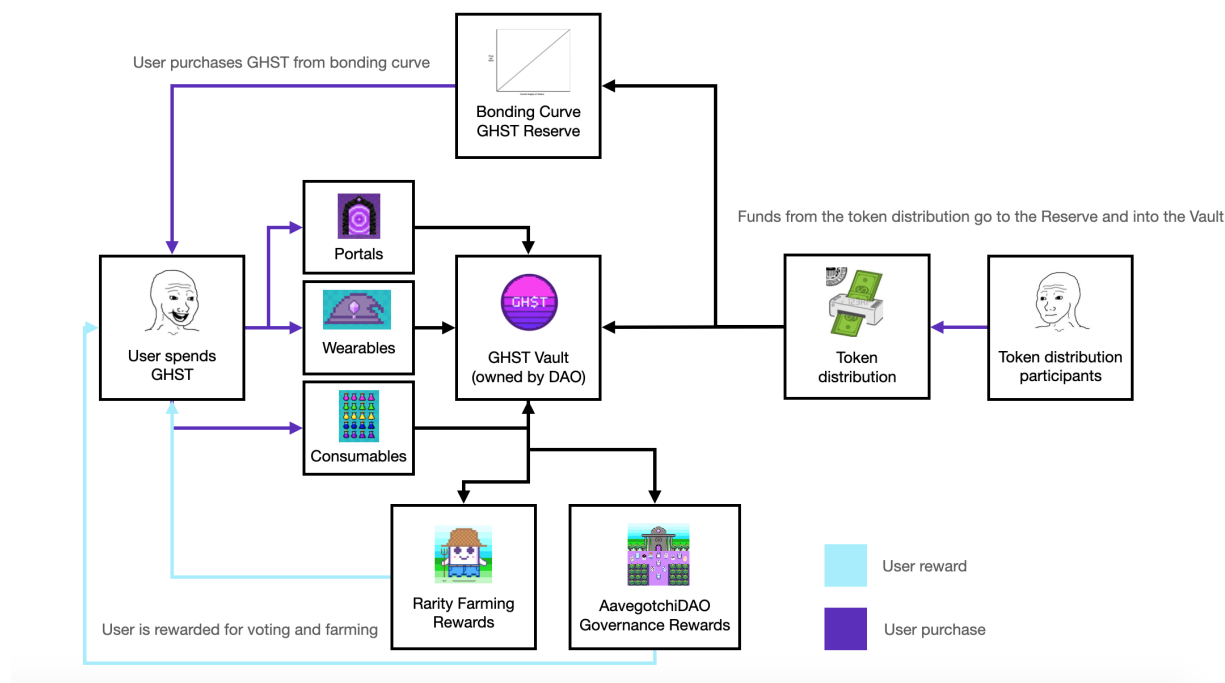
In the Aavegotchi ecosystem, value first flows from token distribution participants into the token distribution mechanism (bonding curve) to generate GHST token.

Upon Mainnet launch, GHST token will be redeemable for various digital assets, such as Aavegotchi Portals, wearables, consumables and collectibles, which will drive value into the community-owned vault.

To incentivize wise governance, a portion of sales conducted via GHST will be set aside as rewards for users which have actively participated in voting in the AavegotchiDAO.

Players will also get rewarded with GHST for participating in "rarity farming", the summoning and training of rare Aavegotchis.

Disclaimer: This document is a work-in-progress and may be updated without announcement. None of the information contained within is investment advice.