

An NFT Ecosystem, with On-chain Governance, on the Binance Smart Chain.



Authors:

Oscar Chambers, Co-Founder and Developer

Barney Chambers, Co-Founder and Developer

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Introduction

Crypto Waifus is an NFT platform, with on-chain governance, leveraging the Binance Smart Chain. The Crypto Waifus platform has a set of Smart Contracts, with functionality to mint distinct sets of uniquely identifiable digital assets, known as “NFTs” (Non-fungible Tokens), conforming to the ERC721 token standard.

Each digital asset minted by the Crypto Waifus smart contracts represents ownership of a procedurally generated anime waifu character, and inherits the robust, cryptographic security of the Binance Smart Chain. By using the ERC721 token standard, Crypto Waifu NFTs function as ownable, on-chain assets, which can be bought, sold, stored, viewed by others, or used as a platform for further functionality via the ERC721 standard.

The Crypto Waifus platform is thoughtfully designed, such that on-chain governance may be adopted when the community reaches a sufficient size. By adopting a modified-to-suit fork, of the now gold standard on-chain governance rule-set of the Compound protocol, Crypto Waifus is primed to switch to complete on-chain governance, enabling its community to take control of future aspects of the platform.

Crypto Waifus use a soft-minting method, forked from Polkamon, to minimise the expense of minting the NFT. By adopting the soft-minting method, users of the Crypto Waifus protocol may choose their favourite NFTs to mint, and thus reduce the total cost of minting. The Binance Smart Chain was selected to host the protocol, due to its cheaper usage fees when compared to its rival Ethereum - further reducing the cost of minting NFTs on the platform.

Business Model, Technical Specification and Roadmap.

What is an NFT?

A non-fungible token (NFT) is a unique asset, represented within the blockchain data-structure. NFTs have traditionally been used to represent ownership of a variety of non-material items and property, such as art, computer files or collectibles. In the context of Crypto Waifus, NFTs represent a limited collectable set of distinct, digital waifu characters. The Crypto Waifu characters' attributes are decided by a metadata hash, which is encoded within the NFT's data-structure. Each NFT is generated by a pseudo-random algorithm, implemented by the Crypto Waifus NFT platform.

NFTs are ownable, transferable and storable - so like traditional collectables, they have the functionality to be leveraged as a functional store of wealth, the basis for a marketplace, or as a reward for some form of participation. NFTs inherit the robust cryptographic security of the blockchain data-structure, and are hence incredibly resistant to malicious attack.

NFTs can also be used to represent authority or permission in a distributed autonomous organisation. An address that holds a particular NFT can be granted particular permissions by virtue of their holding. With this in mind, NFTs open the door to exciting on-chain governance prospects.

What is the Binance Smart Chain?

The Binance Smart Chain (BSC) is a blockchain protocol, capable of running smart contract-based applications. BSC runs in parallel with Binance's native Binance Chain (BC), enabling high transaction throughput cheaply, and turing-complete smart contract functionality.

The Binance Smart Chain emulates the Ethereum Virtual Machine (EVM), a distributed computer capable of executing smart contracts with cryptographic assurance. However, the Binance Smart Chain out-performs the Ethereum Blockchain in two main faculties.

- a) The Binance Smart chain can execute 300 transactions per second; a 10x improvement of Ethereum's 30 transactions per second. The speed at which BSC completes transactions greatly improves transaction wait-times. It also provides some assurance of viability over the long-term as scalability becomes an increasing concern.
- b) The Binance Smart chain is significantly cheaper than Ethereum when executing functions of identical smart contracts. The gas cost of BSC was 11.7 Gwei, whereas Ethereum was 107 Gwei, at the time of writing this whitepaper.

For these two reasons, Crypto Waifus will launch its protocol and NFT platform on the Binance Smart Chain.

Crypto Waifu

Specification

Crypto Waifus are a distinct set of collectible NFTs, which implement the ERC721 standard. Each Crypto Waifu NFT has a set of encoded values to describe its attributes and record its legacy.

ERC721 NFT ID:

Every NFT is identified by a unique uint256 ID inside the ERC-721 smart contract. This identifying number SHALL NOT change for the life of the NFT.

UNIQUE METADATA:

A unique Bytes32 hexadecimal value used to infer the attributes of the NFT's waifu character, such as the character's appearance and personality.

GENERATION BITS:

The first two hexadecimal characters of the unique metadata Bytes32 serve as a generation identifier. This provides headroom for up to 256 possible generations of Crypto Waifu NFT characters. This value was chosen, to ensure the freedom to create many special collections of Crypto Waifus.

PERMISSIONABLE MINTING:

The minting smart contract specifies a mutable minter role, intended to be delegated to a governance smart contract in the future. This will enable the Crypto Waifus community to vote on future aspects of the project, including the conditions under which Crypto Waifu NFTs and future collections are minted.

Waifu Minting

The Crypto Waifu minting process takes inspiration from the Polkamon project. Crypto Waifus are soft minted by the Crypto Waifu DAO, enabling users to choose their favourite waifus to mint permanently to the blockchain. This reduces the fees of minting NFTs that are undesirable, and reserving gas fees for the minting of the most desirable Crypto Waifu characters.

The cost of soft-minting a Crypto Waifu is 1 \$UWU token, the native token of the Crypto Waifus project. Once soft-minted, the user can commit to finalising the minting process by paying a small gas fee to the Binance Smart Chain. 50% of the UWU token is burned on minting, the other 50% is sent back to the DAO to fund further advancements in the protocol.

Once the gas fee is paid, the Crypto Waifu smart contracts complete the minting of the Crypto Waifu NFT and attribute ownership of the NFT to the minting user.

The Crypto Waifus website and collections gallery constructs the waifu character from the NFTs unique metadata, and displays it to the user. The Crypto Waifus website implements an API to integrate the Crypto Waifus NFTs to major NFT platforms. From there, users can trade, store, or view their NFT character on popular NFT platforms, or on the Crypto Waifus website.

On-Chain Governance

The Crypto Waifus project forks the Compound Governance Protocol. With some compatibility adjustments to facilitate the ERC721 standard, the Crypto Waifus project is set to adopt on-chain governance by the community whenever the community is of sufficient size.

On-chain governance will facilitate decentralised proposals and voting on the future direction of the Crypto Waifus NFT protocol - the results of which will dictate modifications to the behaviour of the protocol, without the need for a central authority to intervene.

On-chain governance will be used to vote on future generations of Crypto Waifus, the rate at which they are minted, and the conditions under which they are minted. The governance protocol may be extended with further smart contract implementations, or reverted back to a central authority, depending on the voting action of the community.

Final Thoughts

The Crypto Waifus team is excited for the bright future of our NFT ecosystem. We cannot wait to explore the opportunities that NFTs have brought to digital collections and the prospect of adopting on-chain governance to an NFT-based community.