

Permutation 3: Sigil

This a non-technical description of the Permutation 3 project SIGIL

SIGIL, focuses on building an infrastructure for artists to mint dynamic NFT collections around the Hashes ecosystem.

This requires:

- A Sigil management contract, to interact with The Hashes Collections NFT v1 contract
- A Javascript API library hosted on ipfs for use by artists to pull in dynamic feeds for their projects.
- Simple documentation

SIGILS seeded from DAO HASHES are dynamic, their appearance changing according to changes in selected external data.

Generative artists wanting to mint a collection on the SIGIL contract can draw from any number of the following criteria across three categories to feed into their work.

- **Static data** - the data and metadata encoded into each HASH
- **Dynamic data** - based on the relationship of each HASH to The HASHES ecosystem
- **Wallet data** - holders OG status

As these dynamic external attributes change, so the appearance of the SIGIL changes.

Artists will be free to select from a range of inputs, so that each collection becomes a unique representation of the relationship between different dynamic data as well as the artist's visual interpretation of the data.

Static. Individual Hashes data

- The Hash - always used as the seed
- Hash Binary
- Binary Stats
- DAO/NonDAO
- Seed Phrase (and stats such as number of words/letters)
- The rarity of the seed phrase - PROBABLY DONT NEED THIS
- Whether any seed words are on a banned list (if so, the seed phrase cannot be made visible in a piece)

Dynamic. Reveals relationship to Hashes ecosystem

- Number of HASHES in wallet

- The proportion of DAO/non DAO in wallet
- Whether HASH was minted on that wallet or bought on secondary
- If bought on secondary (above or below mint price)
- Whether HASH is for sale (above or below mint price)
- Number of days held
- Snapshot voting record
- WHETHER WALLET HAS INSTIGATED A PERMUTATION
- Does wallet own Perm 2 NFT?
- IN THE FUTURE WHETHER THEY HOLD OTHER HASHES COLLECTIONS - NOT SURE IF THIS IS POSSIBLE?

Wallet data - revealing owners OG status

- Age of wallet
- Number of transactions
- ETH Turnover

IT WOULD BE INTERESTING TO HAVE THE POSSIBILITY TO CHECK FOR OTHER SPECIFIC NFTS IN THE WALLET - PUNK/APE ETC - COULD THIS BE DONE BY HAVING AN EXTERNAL LIST THAT WE COULD ADD CONTRACT ADDRESSES TO AT A LATER DATE? - THIS COULD ALSO PERHAPS BE THE MECHANISM FOR CHECKING WHETHER THAT WALLET HAS OTHER HASH MINTED COLLECTIONS IN IT - AS ABOVE

An artist can choose any combination of data sets to input into their collection, the only fixed criteria being that The HASH is used as the seed.

Also...

The SIGIL changes if it or its HASH is moved to a different wallet (and changes back when in the same wallet). How it changes is based on the artist's decision.

Difference between DAO and non-DAO Hashes

Non-DAO HASHES can only draw from static data and have no dynamic capability.

DAO HASHES can mint one SIGIL from each collection. Non-DAO can only mint one per HASH.

Notes from Adam re SIGIL work

Based on your requirements, it seems to me like the Solidity work would be ~2 weeks to build only the Sigil management contract. Here's what I'm thinking for this contract:

- it would be ownable (implements openzeppelin ownable)

- implements the interface [ICollectionNFTEligibilityPredicate](#)
- checks whether hashes ID < 1000, if yes allow minting (dao hash). otherwise check list of sigil nft contracts to see if this non-dao hash has already been used to mint. I would need to think a little more about how this scales, it might need a tweak such that the gas doesn't grow indefinitely as the total number of sigil nft contracts grows
- implements the interface [ICollectionNFTMintFeePredicate](#) (will just return 0 since this could be an optional function used by the creator)

The meat of the work here seems to be on the javascript/API side.