

SingletonDAO: Multi-party Ownership System For A Single Asset

Christopher Hughes

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1 Introduction

SingletonDAO is a set of Ethereum smart contracts, interface, and a mobile wallet based largely on the Gnosis Safe multi-sig wallet and mobile-client. These smart contracts and corresponding interfaces allow a Gnosis Safe's signing functions to be assigned to holders of an NFT. This is achieved by augmenting the signing relays in a way that checks for the presence of an NFT in a signers account, if present, allows the account holder to sign transactions. Support for these functions are in the Gnosis Safe contracts currently. Soon, EIP-4337 also will bring the ability for Ethereum accounts to be abstracted in interesting ways to support new signing paradigms. Either of these use-cases are supported in the SingletonDAO mobile wallet, it's a white-label build of Gnosis Safe for iOS and it includes a set of tools that allows for the management of a single asset held in treasury. Proposals for the sale of the asset in treasury will be periodically presented to the user, and the tools for funding the treasury will allow stakeholders to send value to Safe using a crowdfunding like interface.

The Gnosis team has made this possible by implementing them in a project they call clubcard, this is part of the technology we are employing in this mono-asset DAO tool-set. SingletonDAO also includes the crowdfunding portal code, as well as process for presenting various bulletins for disclosure or voting notification services.

Simply put, SingletonDAO allows for the group ownership of an asset, and the life-cycle of the asset's management long term.

All of this is achieved by leveraging the module system of Gnosis Safe, coupling it with the issuance of NFT software to manage access.

SingletonDAO will have a commercial implementation, this software is capable of being packaged in a way to help others with digital asset fractionalisation. This is the use-case it's being built for but is a worthy piece of software for simple asset DAOs.

2 Conclusions and Future Work

From our experiments we can conclude that this is gonna rock ...