

## **DAO Documentation**

The GofundmeDAO smart contract manages a decentralized autonomous organization (DAO) for crowdfunding campaigns. Members of the DAO have the ability to create campaigns, vote to approve or reject proposals, and execute approved campaigns.

### **Overview**

The GoEthMe contract comprises the following key components

**ERC721 Implementation:** This contract extends the functionality of the ERC721 contract and IERC721 interface, providing the structure for minting and issuing the SoulBound NFT token.

**ISoulNFT:** This interface provides a base of functionality for the Soulbound NFT token.

## **Contract Details**

### **State Variables**

**Id:** A public variable that holds the current campaign ID.

**soulNft:** An interface to the ISoulNft contract for managing Soul Bound Tokens (NFTs).

**token:** An instance of the WildlifeGuardian contract for creating the Wildlife Guardian Initiative.

**goethme:** An instance of the GoEthMe contract for creating GoFundMe campaigns.

**Admin:** The address of the admin who can remove members and approve campaigns.

**votingTime:** A uint256 representing the duration of the voting period in seconds.

**\_time:** A public variable that holds the time duration of a GofundMe campaign

**daoTime:** A struct containing the end time of the voting period for each campaign.

**Funder:** A mapping of campaign IDs to `GoFund` structs, storing campaign information.

**memberVotes:** A mapping of member addresses to the ID of the campaign they voted on.

**hasVoted:** A mapping of member addresses to campaign IDs and a boolean indicating status of their votes on the campaign

**Constructor:** Initializes the contract with admin address, the address of the goethme and wildLifeGuardian contract.

## **Functions**

**createGofundme:** Enables members of the DAO to create a new crowdfunding campaign and returns the ID of the campaign.

**Vote:** Enables members of the DAO to cast their vote {YAY or NAY} on an active campaign.

**removeMember:** Enables the admin to remove a member from the DAO by burning their SoulBound Token (NFT).

**approveProposal:** Enables the admin to approve a campaign for execution if the voting period has ended.

## **Errors**

**VotingInProgress:** Throws an error if an admin attempts to approve a proposal still undergoing a vote.

**OnlyAdmin:** Throws an error if anyone apart from the admin attempts to remove a member.

**NotYetTime:** Throws an error if the admin attempts to remove a member before the stipulated time frame.

**NotActive:** Throws an error if a DAO member attempts to vote on a campaign that is inactive.

**AlreadyVoted:** Throws an error if a DAO member attempts to vote twice on a campaign.

**VotingTimeElapsed:** Throws an error if the block.timestamp is greater than the voting period of a campaign.

**NotDAOMember:** Throws an error if the user does not own a SoulBound token.

**NotAdmin:** Throws an error if the user is not an Admin.

## **Usage**

This contract provides a secure and efficient way to create a Gofundme. It ensures that campaigns are only proposed by DAO members, campaigns are voted on by the DAO to determine its validity and approved proposals are executed within the DAO. DAO members' soulbound tokens are burnt after 30 days of inactivity by the DAO Admin thereby removing them from the DAO. The contract integrates properly with the GoEthME contract for Crowdfunding and the WildlifeGuardian Contract for the ISoulNFT required in managing the NFT.