## **Idea #1 - Deadman Switch for DAOs**

**Secret phrase for whitelisted Chainlink Functions capable ETH Address: already method smart move club remain predict winter flag stereo occur oblige**

**Private key: (team chainlink functions whitelisted address) 370a0709210f4ef67d047e619bbc1cea54fb044397612844bbc2c21d7ebdfe04**

**Problem:**

DAOs by nature very often have a core team of most involved members (“core” approx. 10%) and all other members less active and/or on the peripheral (chillers approx. 90%) [10 dots in a circle the middle and 90 dots on the outer circle image] DAOs often suffer from low engagement over time and potential intentional activity slowdown by colluding core. Therefore, DAOs are often at risk of treasury capture by the core, who can decide to collude, intentionally keep shutting down proposals/ignore the proposals and not sign the multisig authorizing the transactions, discouraging the chillers, driving down the activity/engagement and ultimately just seizing the treasury.

DAOs by nature follow the 90/9/1 rule, so DAOs often suffer from low engagement over time and potential malevolent behavior by a colluding core of heavy contributors. Therefore, DAOs are often at risk of treasury capture by the 1%, who can decide to collude, intentionally keep shutting down/ignore the proposals and not sign the multisig authorizing the transactions, discouraging the 99%, driving down the activity/engagement and ultimately just seizing the treasury.

**Example:**

Some of Olympus DAO forked DAOs that went inactive and assets were seized by the core and currently live DAOs at continuous risk of low engagement and potentially bad faith actors

**Solution:**

A Deadman’s switch that listens to see if the DAO is still active and liquidates the treasury sending the funds to the public goods fund if the activity isn’t there.

**Slogan/Motto:**

USE IT OR LOSE IT

**Contingencies/limitations and their solutions/explanations:**

1. Multisig can override and remove the Reaper: Yes, but if they do so, it will indicate the potentially malicious intent to the chillers so they can leave/rage quit | What if the core removes the Reaper and drains the treasury in the short span of time?
   1. Immutable final destination address HARDCODED
2. What if the final destination address gets hacked?
   1. In the future, the final destination could be configurable
3. What if the core decides to create a bunch of dummy proposals to bolster the metrics?
   1. While they can create dummy proposals and have them pass, and even engage with dummy accounts to spoof voter participation, this will be all on-chain, noticeable and people will be able to rage quit / leave the DAO during that period
4. Reaper is not a catch all solution to bad behavior but rather a public good oriented solution that is indicative of the potential ill intent and an infrastructural tool to help build trust and engagement incentives
5. Reaper just by being implemented can act as an indicator of a DAO caring about creating engagement and paying attention to activity

### **MVP**

Build on Polygon

Liquidation address is hardcoded to be a public goods fund (Gitcoin, Giveth or Protocol Guild)

Weighted Matrix of oracle fed metrics over a 30 day shifting window - Amendable by high quorum proposal

* Voter Participation (x > n%)
* Proposal Submissions (z > n)
* Proposal Passrate (y > n%)

The data is collected by and fed into the contract by Chainlink Functions snippet

Reputation scoring based on past performance: +0.5 for passing the activity check, -1 for failing the check. If the score falls below 0, the Reaper reaps the treasury

Reason for choosing the metrics: https://jisajournal.springeropen.com/articles/10.1186/s13174-021-00139-6

DAO configures:

Voter Participation: how many unique wallet addresses participate in the voting of proposals

Proposal Submission rate: how many proposals are regularly submitted?

Proposal Pass Rate: what percentage of submitted proposals pass

#### **Assumptions/How it works:**

#### Assume the DAO is on Polygon

#### Demo DAO is summoned on DAOHaus

* The treasury is in the (Gnosis) Safe wallet
  + Zodiac role modifier module is deployed assigning the smart contract a “shaman” status

#### Use Chainlink functions to pull the on-chain metrics data and feed the data into the weighted matrix (to offset the on-chain smart contract gas fees by off-chaining the computing aspect) - frequency of the interaction with Chainlink is customizable

* Pass the engagement/activity metrics data to the IPFS to store for DAO members’ and outsiders’ reference

#### In the contract compute the matrix output

* The value produced by Chainlink is then compared with the pre-set engagement/activity threshold value and produces a boolean of 1 or 0 (1 is reap, 0 is do not reap

#### If the outcome is reap, use CowSwap to swap all the assets into a stablecoin USDC and then liquidate the treasury sending all the funds to a public good address

* Set the liquidation address to Giveth fund address:

#### **Future Scope:**

* Configure liquidated funds destination address
* UI for DAOs to have visual indicators that Reaper is implemented and that Reaper has reaped the DAO’s treasury
* Incorporate more on and off-chain metrics with options of different oracles
  + Diversify information sources by using multiple oracles across multiple chains
* Allow for liquidation to return all funds to the origin address based on % (Would require a transaction guard)
  + Expand functionality to other issue areas like DeFi funds that don’t meet certain metrics can reassure their investors of automatic fund liquidation if the metrics are not met
* Expand to other DAO ecosystems/governance models
* Become multichain compatible
  + Integrate Optimism and a bleed: an added upper threshold. Upon dipping below the upper threshold the treasury starts bleeding x% of total treasury/time

Testnet compatibility list:

* DAO Haus: mainnet, goerli, gnosis, polygon, optimism, arbitrum
* Zodiac role modifier module: mainnet, goerli, sepolia, gnosis, polygon, mumbai
* Gnosis Safe: mainnet, goerli, sepolia, gnosis, polygon, mumbai
* Chainlink functions: mainnet, sepolia, polygon, mumbai
* CoWSwap: mainnet, goerli, gnosis

## Metric sources:

* collab land (maybe custom requests for auditing ?? extra time, only discord metrics)
* (pivot to dapps) arcx.money

## Chainlink Knowledge:

Chainlink functions:

https://docs.chain.link/chainlink-functions/getting-started

https://www.linkedin.com/in/millerbradleyd/

some guy called jared??

To add polygon mumbai testnet:

https://docs.unstoppabledomains.com/manage-domains/guides/add-polygon-to-metamask/

OR  
https://rpc.ankr.com/polygon\_mumbai

and add to metamask (use the above as rpc url as well)

Recorded:

FunctionsConsumer contract deployed to 0x350566fcE6ebE3B6F38070BC2aC8d40EA1c464b9 on mumbai

Created subscription with ID: 158

Owner: 0xBa4cbE22E488EaE5cc3e97B3Cc95120a0C9E7451

Balance: 1.0 LINK

1 authorized consumer contract:

[ '0x350566fcE6ebE3B6F38070BC2aC8d40EA1c464b9' ]

**Bounties to hit (up to 10):**

* **Chainlink (oracle component)**
  + **Chainlink Functions (5 bounties 2,000 each)**
  + **Connect the world with Chainlink (5 bounties 2,000 each)**
  + [**https://www.youtube.com/watch?v=nT07Ayr4dPw**](https://www.youtube.com/watch?v=nT07Ayr4dPw)
* **Giveth Donation Legos**
* **On-chain Governance for EVM DAOs (1 bounty 5000)**
  + **In this bounty, you will explore using the Internet Computer as a governance platform for DAOs on Ethereum or another EVM-compatible chain as a more powerful replacement for Snapshot.**
    - **The owner to contracts of the DAO on the Ethereum network can be set to an account controlled by the governance canister on the Internet Computer using Chain-key ECDSA.**
    - **The result of the voting can directly execute changes on Ethereum using Chain-key Signing and HTTPS Outcalls.**
  + **https://www.youtube.com/watch?v=wWaud\_IKSIM**
* **CoW Protocol** 
  + **Safe module for setting up your DAO treasury (shared? bounty 10000)**
    - **The goal for this bounty is to build a Safe (formerly Gnosis Safe) module using a new tool built by Zodiac, role modifiers. This new Zodiac module would allow DAOs to grant a role to certain address to unilaterally make calls to any approved addresses (for example: trading protocols, vaults, etc.), approved functions (for example: call swap from this contract only, call approve tokens from this contract only, etc.) and approved access roles. Implementing role modifiers creates the ultimate DAO treasury management setup. Such a module would allow any DAO to permission the activities of the treasury regarding trading**
  + **Open bounty for the most-innovative use of CoW Swap and/or CoW Protocol ($2500-5000)**
    - **Implement a swap (Make a call to convert the entire treasury to a stablecoin like USDC or DAI and then send it to the designated address)**
    - [**https://app.buidlbox.io/ethdenver/ethdenver-2023**](https://app.buidlbox.io/ethdenver/ethdenver-2023)
    - **CoW Swap's ERC1271 for DAOs (Buidl better tools for DAOs to manage or automate their treasury management)**
      * **With ERC-1271 integration into CoW Protocol, DAOs, smart contracts and the combination of both, are now able to sign messages as if they were EOAs (Externally Owned Accounts, like MetaMask). On CoW Swap, EOA users never pay for failed transactions because they sign messages to place their orders — but smart contracts don’t get these same benefits, since (before ERC-1271) they must place their order with an on-chain transaction (by calling the preSignature method). While this might have been a stopper in the past, using ERC1271 allows anyone to build any sort of tools that eases the management of DAO treasuries, their trading strategies, or even their buyback programs. We will award $7500 to the team that builds the most-creative demo of ERC-1271 automation tools for DAOs to be able to place orders on CoW Protocol – i.e. stop losses, Time Weighted Average Price (TWAP) orders, Good After Time (GAT) orders, etc. Attach a front end to the product and earn an extra $2500!**
* **Best Use of Polygon (2 bounties 5,000 each)**

**Judging criteria:**

* **Technical - max score of 100**
* **UX & Design - max score of 100**
* **Innovation - max score of 100**
* **Creativity - max score of 100**

**Polygon Bounty (Best Use of Polygon):**

**- Is it a useful product for the community?**

**- Does it have a robust README detailing why Polygon is a great technology choice for the project?**

**- Have the builders created something that raises the bar for UX in web3?**

**- Please show a \*\*steady commit trail\*\* and thought process e.g. sketches, discussion, issues on how you arrived at the decision to incorporate this feature.**

**- List any \*\*challenges or benefits\*\* you encountered in the developer experience.**

**MISC:  
extra empty wallet private key (approved for chainlink)** a31087790d252cf87e7cdde66dccab274bdd555a5ddf8b1b3efe24d8edcad331

Huntrr:

Freelance DAO software developer, with a background in sociology and computer science, and an interest in pushing the DAO movement forward. Previous experience as a Solidity instructor at an Ethereum coding bootcamp and freelance e-commerce development.