Aleo CodeSprint – zVote.io

Project Description

zVote is a platform to organize private voting for DAOs on Aleo.
While Aleo's native privacy features enable voter addresses to remain private, zVote goes further by leveraging a unique voting system that **does not disclose results before a given time**.
Along with the right [electoral method,](#) it allows every vote to be made without knowing the previous ballots. **The goal is to enforce that voters express their true preferences** without being influenced.
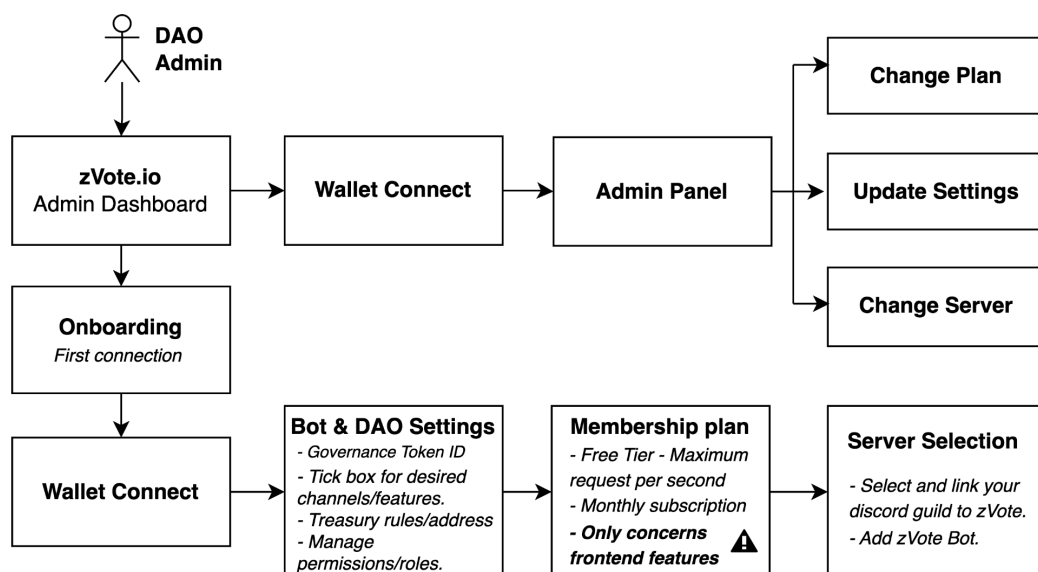zVote is divided in 2 interfaces:

- **Discord bot –** creates specific channels within a server to organize the DAO voting system and to redirect to the DApp when needed (zVote.io)
- **zVote.io DApp –** Allows discord bot onboarding, settings and all the on-chain actions.
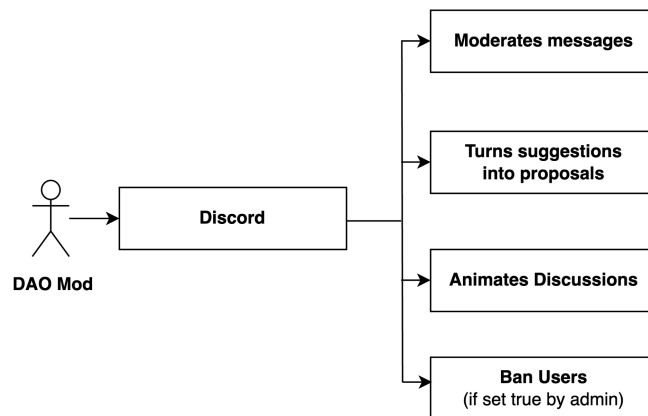
Users Persona

- **DAO admins –** Responsible for onboarding a Discord server on zVote.
- **DAO mods –** Turning members suggestions into proposals.
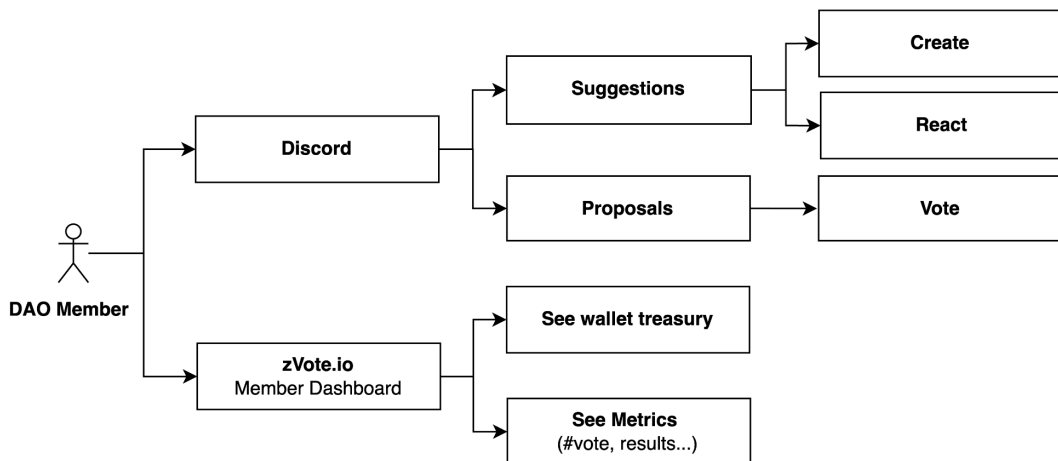- **DAO members –** Creating suggestions and voting for proposals.

User Flow

DAO Admin User Flow

DAO Mod User Flow

DAO Member User Flow

User Interfaces

Admin Dashboard

A DApp dashboard is the entrypoint for any DAO admin, where he can access the following features:

- **zVote Discord Bot** onboarding
- **DAO initialisation** through smart contract interaction
- **DAO settings management –** Governance ARC21 Token ID, toggle transparency for each DAO metrics
- **Discord Bot Membership** management

Target: Admins

Discord Bot

When zVote Bot enters the server, it creates the following channels:

- **Announcement -** When a new proposal is accepted (Type Announcement).
- **Suggestions -** Suggestion of proposals desired by the community members. React based voting system (upvote/downvote). Interactions for the admins to turn them into proposals to be voted. (Type Forum)
- **Proposals -** Exploration, discussion and voting interface around proposals. Redirecting to Members DApp using Discord buttons UI. (Type Forum)
- **Discussion -** Broader interactions space (Type Text)

Target: Owner, Admin, Member

Voting DApp

Discord UI buttons redirect to the **Voting DApp** where all the blockchain interactions happen:

- **Wallet connect -** Users are uniquely identified with their wallet. Held governance token permanently displayed .
- **Transactions -** Vote/Initiate proposal, signed using `aleo-wallet-adapter` and `aleo-sdk`.
- **Member Dashboard -** Token holdings, history, Active Member Amount (ZK compatible),

Target: Owner, Admin, Member

zVote Key Features

- **Self Executing Gouvernance -** Proposals can include automated execution of ARC21 token transfers from the treasury address. Tokens held within the treasury address can also remain private and only known by the DAO members.
- **Fair Vote -** Result revelation is delayed to a specific block in time. Hence voters don't know ongoing results.
- **Voting System (TBD) -** Implementation of [voting system](#) with better properties than trivial methods such as First-past-the-post.

Future Improvements

- **Quadratic voting mechanisms -** Mitigate whale effect. Instead of 1 vote = 1 token , x vote = x^2 token. Bottleneck: relies on tokenized KYC mechanism to ensure uniqueness of account for each voter.

- **Dynamic Voting System -** Ability to choose any desired custom [voting system](#): Randomized Condorcet, Majority judgment, Borda method… Bottleneck: current lack of interfaces implementation on Aleo. They would enable to dynamically switch the voting system, by providing the voting system program address as an argument.