

Decentralized Charity Fund Allocation with Governance Voting

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Problem Statement: A global charity organization aims to introduce a decentralized platform for managing its donations and fund allocations. The organization wants to give its donors more control and transparency over how the funds are utilized. To achieve this, they propose a system where donors contribute to a central fund and vote on fund allocation proposals submitted by charitable projects.

The organization plans to create a smart contract that facilitates token issuance, proposal submission, and voting. Donors will receive voting power proportional to their contribution amount, and charitable projects can submit funding requests to the system. When a funding request receives more than 50% of the total voting power, the requested funds are automatically disbursed to the project's address.

System Features:

- Donors can contribute Ether to the charity fund and receive proportional voting power.
- Charitable projects can submit funding requests, including the project address, requested amount, and project description.
- Donors can vote on funding requests using their voting power.
- A request is approved if it receives votes representing more than 50% of the total voting power.
- Upon approval, the requested amount is disbursed to the project's address, and the contract maintains a record of disbursements.

Contract Interface:

- `constructor: function DecentralizedCharityFund()`
- `donate: function donate() payable`
- `submitFundingRequest: function submitFundingRequest(address projectAddress, uint256 requestedAmount, string projectDescription)`
- `voteOnRequest: function voteOnRequest(uint256 requestId) returns (bool)`
- `finalizeRequest: function finalizeRequest(uint256 requestId) returns (bool)`

- `getFundingHistory`: `function getFundingHistory() view returns (address[] memory, uint256[] memory, string[] memory)`