

## Crowdfunding Smart Contract

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### The Concept

The **CrowdFunding** contract represents a crowdfunding system implemented on the Ethereum blockchain. It allows individuals to contribute Ether (ETH) to a collective fund for a specified project or cause. Here's a breakdown of its functionalities and concepts:

#### Key Contract Components:

- **contributors:** A mapping storing the contributions made by each contributor.
- **manager:** The address of the contract creator, who initiates and manages the crowdfunding campaign.
- **minimumContribution:** Minimum amount required for a contribution.
- **deadline:** Timestamp indicating the deadline for the crowdfunding campaign.
- **target:** The targeted amount to be raised for the campaign.
- **raisedAmount:** The total amount raised in the campaign.
- **noOfContributors:** The count of unique contributors participating in the campaign.
- **Request:** A struct defining a spending request, with details such as description, recipient, value, completion status, voters, etc.
- **requests:** A mapping to store and access spending requests made by the manager.

#### Core Functions:

- **constructor(uint \_target,uint \_deadline):** Initializes contract variables including the campaign's target amount and deadline.
- **sendEth():** Allows users to contribute Ether to the campaign, subject to conditions like deadline and minimum contribution.
- **refund():** Enables contributors to request refunds if the campaign deadline has passed and the target isn't reached.
- **getContractBalance():** Retrieves the current balance of Ether stored in the contract.
- **onlyManager modifier:** A modifier limiting certain functions' access only to the contract manager.

- **createRequests():** Allows the manager to create spending requests for the raised funds.
- **voteRequest():** Enables contributors to vote on spending requests created by the manager.
- **makePayment():** Allows the manager to approve and execute payments for spending requests after the campaign is successful, based on majority voter support.

### **Crowdfunding Concept:**

Crowdfunding involves raising funds from a large number of individuals for a specific project, venture, or cause. This contract facilitates the process by allowing contributors to send Ether and tracks contributions transparently. Contributors can vote on how funds are spent, providing a democratic mechanism. The manager initiates spending requests, and based on majority voter support, the funds are released for the intended purpose.