



help



DECENTRALIZED
CROWDFUNDING PLATFORM

BY AIBEK, AIZADA, VALERIY



https://github.com/KhanOfTheMoon/Blockchain_final



2026



OUR DREAM TEAM



AIBEK



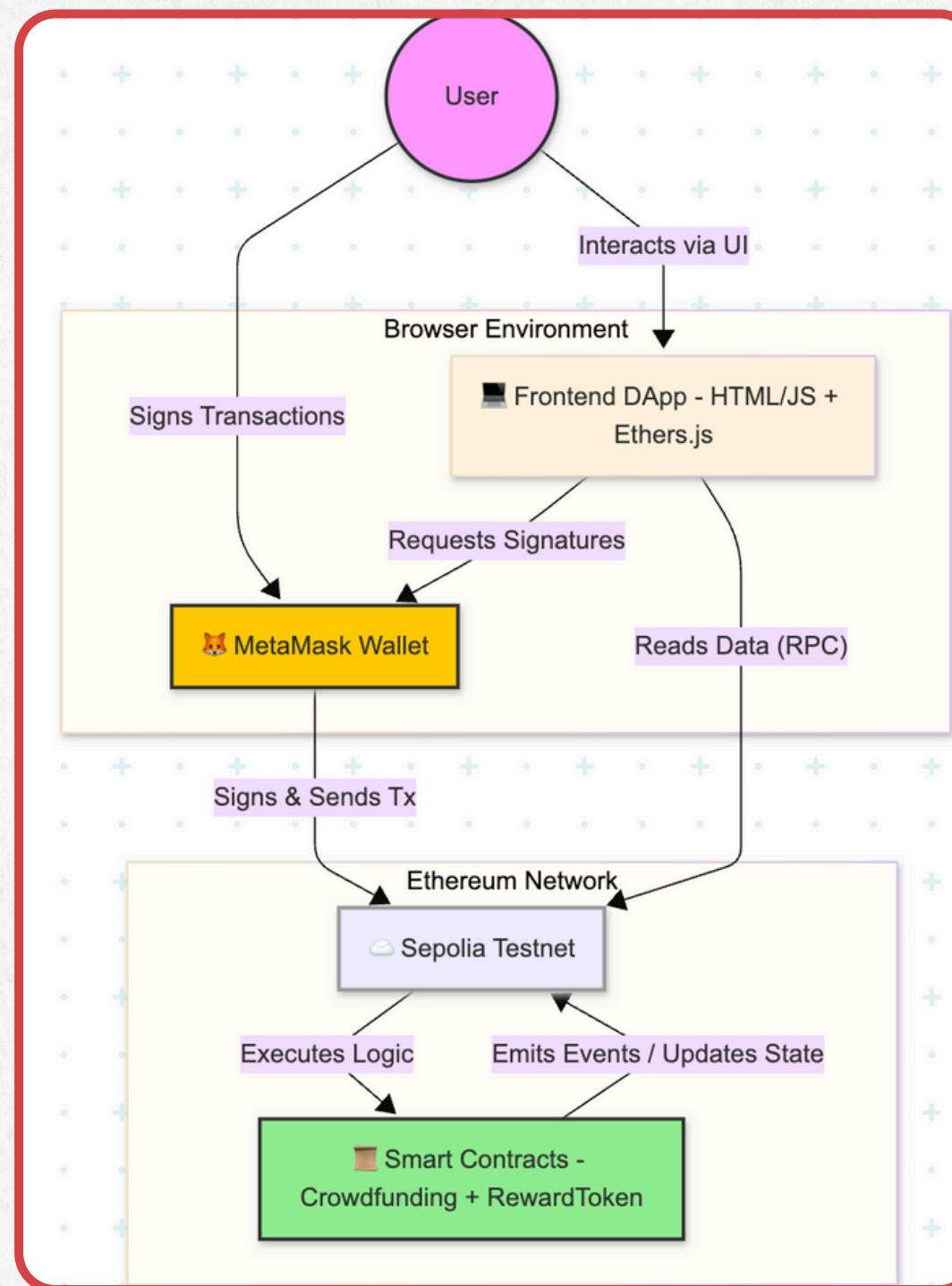
AIZADA



VALERIY

PROJECT OVERVIEW & ARCHITECTURE

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GOAL

A DApp allowing users to create fundraising campaigns and receive "RewardTokens" (RWD) for donating ETH.

TECH STACK

- Smart Contracts: Solidity 0.8.20 (Hardhat Framework).
- Frontend: Vanilla JS, Ethers.js (v6).
- Network: Ethereum Sepolia Testnet.
- Wallet: MetaMask Integration.



SMART CONTRACT STRUCTURE

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CORE LOGIC: CAMPAIGN STRUCTURE

- The Campaign struct stores vital information for each project.
- campaigns mapping enables O(1) access to data.

```
struct Campaign {  
    string title;  
    address payable creator;  
    uint256 goalWei;  
    uint256 deadline;  
    uint256 raisedWei;  
    bool finalized;  
    bool successful;  
}  
  
uint256 public campaignCount;  
mapping(uint256 => Campaign) public campaigns;
```





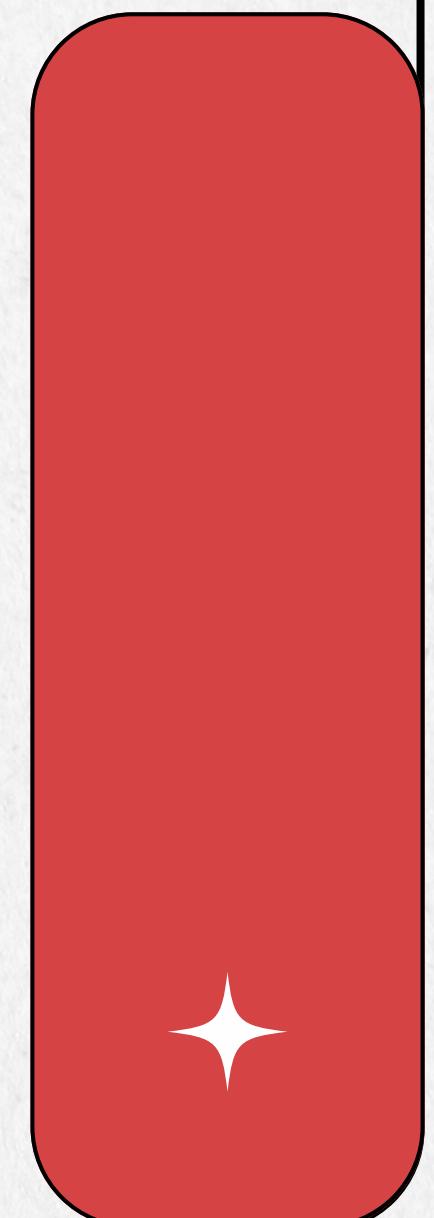
CONTRIBUTION & REWARD LOGIC

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CONTRIBUTIONS & TOKEN REWARDS

- Users donate ETH and automatically receive ERC-20 Reward Tokens.
- Rate: 1 ETH = 100 Reward Tokens.
- Checks deadline and finalized status before execution.

```
function contribute(uint256 id) external payable nonReentrant {  
    c.raisedWei += msg.value;  
  
    uint256 rewardAmount = 0;  
    if (address(rewardToken) != address(0)) {  
        rewardAmount = (msg.value * rewardPerEth) / 1 ether;  
        rewardToken.mint(msg.sender, rewardAmount);  
    }  
}
```





FRONTEND INTEGRATION (WEB3)

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FRONTEND-BLOCKCHAIN INTERACTION

```
connectWallet: async () => {
  if (!window.ethereum) return alert("Install MetaMask");
  AppState.provider = new ethers.BrowserProvider(window.ethereum);
  AppState.signer = await AppState.provider.getSigner();
  AppState.address = await AppState.signer.getAddress();

  AppState.cfContract = new ethers.Contract(
    CONFIG.CROWDFUNDING_ADDRESS,
    ABIS.CROWDFUNDING,
    AppState.signer
);
```

- Using Ethers.js v6 for wallet connection and contract calls.
- BrowserProvider connects to the window.ethereum object (MetaMask).

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DESIGN & SECURITY DECISIONS

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KEY DESIGN & SECURITY DECISIONS

- Reentrancy Protection: Used OpenZeppelin's ReentrancyGuard on the contribute function to prevent recursive attacks.
- Access Control: Used Ownable pattern to restrict administrative functions (e.g., setting the reward token address).
- Checks-Effects-Interactions: State is updated (`raisedWei += msg.value`) before external calls (minting tokens).
- Testnet Only: Strict checks to ensure deployment on Sepolia, not Mainnet.





DEPLOYMENT & TEST ETH

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DEPLOYMENT & EXECUTION

- Network: Sepolia Testnet.
- Crowdfunding Address:
0x14B2bfDbF6413FaF3448b28a49028
73f99290c0b
- RewardToken Address:
0x0cbC71037f588fC662868B062a6d
69AC5CbDcc48
- Test ETH: Obtained via Google Cloud
Web3 Faucet and Alchemy Sepolia
Faucet.

SCREENSHOT

```
PS C:\Users\Valeriy\Desktop\Desktop\ДЗ\Blockchain\FINAL> npx hardhat run scripts/deploy.js --network sepolia
[dotenv@17.2.3] injecting env (2) from .env -- tip: ⚡ add observability to secrets: https://dotenvx.com/ops
[dotenv@17.2.3] injecting env (0) from .env -- tip: ⚙️ enable debug logging with { debug: true }
TOKEN_ADDRESS = 0x0cbC71037f588fC662868B062a6d69AC5CbDcc48
CROWDFUNDING_ADDRESS = 0x14B2bfDbF6413FaF3448b28a4902873f99290c0b
```



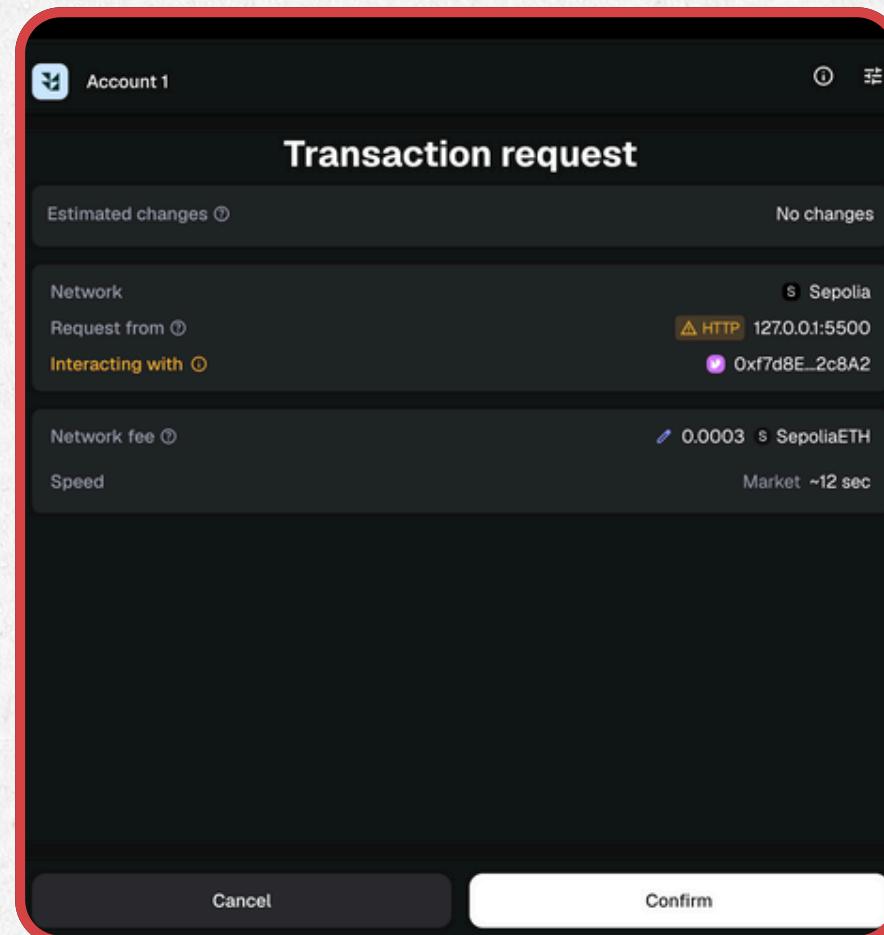


USER INTERFACE (DEMO)

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APPLICATION INTERFACE

1. Dashboard:
2. Active Campaigns:
3. MetaMask Popup:

The CrowdStarter dashboard interface. It includes:

- ETH BALANCE: 0.0225 ETH
- Reward TOKENS: 1.7 RWD
- Launch a Campaign section with fields for Campaign Title, Goal (ETH), Duration (seconds), and a Create Campaign button.
- Active Campaigns section showing three campaigns:
 - #4 Test tset: FAILED, Goal: 0.03 ETH, Raised: 0.004 ETH, Deadline: 07.02.2026, 23:42:36
 - #3 Test Campaign3: SUCCESS, Goal: 0.002 ETH, Raised: 0.003 ETH, Deadline: 07.02.2026, 23:02:00
 - #2 Test Campaign2: SUCCESS, Goal: 0.01 ETH, Raised: 0.01 ETH, Deadline: 07.02.2026, 22:11:24

A detailed view of a campaign. It shows:

- Campaign ID: #5
- Campaign Name: Test Campaign5
- Status: ACTIVE
- Goal: 0.001 ETH
- Raised: 0.0 ETH
- Deadline: 08.02.2026, 21:03:48
- A input field for amount: 0.01
- A blue "Donate" button



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THANK YOU
FOR
ATTENTION

https://github.com/KhanOfTheMoon/Blockchain_final →

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