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Experiment 9

Mini Project Title

1. Abstract

The project aims to create a simple ngo donation website that enables users to donate Ethereum (ETH) or cryptocurrency based donation to a non-governmental organization (NGO) by connecting their MetaMask wallet. Through the integration of MetaMask, a popular Ethereum wallet, donors can effortlessly contribute Ethereum (ETH) to an NGO's cause via a user-friendly ngo donation website. Users can seamlessly contribute to the NGO's cause using blockchain technology, ensuring transparency and security in donation transactions.

2. Introduction

In recent years, blockchain technology and cryptocurrencies have gained significant popularity, enabling secure and transparent transactions. Leveraging this technology for philanthropic purposes, this project proposes a web-based solution that facilitates donations to NGOs using Ethereum (ETH) through MetaMask integration. The platform allows users to support the NGO's initiatives in a streamlined and secure manner. This project capitalizes on Ethereum's capabilities, leveraging MetaMask as a secure wallet interface, to create a user-friendly index page for donating ETH to an NGO. Traditionally, charitable donations often involve tedious processes, limited accessibility, and uncertainties regarding fund allocation. Donors seek assurance that their contributions are directed toward the intended cause. In response to these challenges, this project endeavors to revolutionize the donation landscape by providing a seamless and transparent platform. By integrating MetaMask and Ethereum's blockchain, we aim to create a trustful and efficient channel for individuals to support noble causes without the hurdles of conventional methods.

3. Methodology

Website Development:

- Design a user-friendly website with a simple and intuitive interface.
- Implement MetaMask integration to allow users to connect their wallets securely.

Smart Contract Development:

- Create a smart contract on the Ethereum blockchain to handle donation transactions.
- Implement function connect Metamask Button and donate ETH Button to receive ETH donations and store them securely.

Use Metamask:

- MetaMask is a popular cryptocurrency wallet and browser extension that enables users to interact with the Ethereum blockchain and its ecosystem of decentralized applications (dApps).
- It will help the user to donate eth to NGO and users and NGO can also check for transaction record on Sepolia Testnet etherscan page.

Testing:

- Conduct user testing to check the working of the blockchain based system.
- Ensure the platform is secure, functional, and user-friendly.

4. Technology Used to develop and Deploy application

- Frontend:

HTML

CSS

- Wallet connection:

JavaScript

- Wallet:

Metamask

5. Implementation Details

Code:

index.html

```
<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta http-equiv="X-UA-Compatible" content="IE-edge">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Document</title>

<link rel="stylesheet" href="style.css">

<script src="http://ajax.googleapis.com/ajax/libs/jquery/1.11.1/jquery.min.js"></script>

<script src="https://cdn.jsdelivr.net/npm/web3@latest/dist/web3.min.js"></script>

<script src="block.js"></script>

<style>

.topnav {

background-color: pink;

overflow: hidden;

width: 100%;

position: fixed;

top: 0;

}

/* Style the links inside the navigation bar */
```

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```
.topnav a {  
    float: right;  
    display: block;  
    color: black;  
    text-align: center;  
    padding: 22px 27px;  
    text-decoration: none;  
    font-size: 19px;  
    background-color: #FEDC56;  
    transition: background-color 0.3s ease;  
}  
  
/* Change the color of links on hover */  
  
.topnav a:hover {  
    background-color: #e75480;  
    color:pink;  
}  
  
.box {  
    margin:200px;  
    width: 560px;  
    height: 160px;  
    padding: 20px;  
    border: 2px solid orange;  
    margin-bottom: -500px;
```

```
margin-left:510px;  
  
background: radial-gradient(circle at 3.1% 8.2%, rgb(248, 250, 107) 0%, rgb(238, 148, 148)  
98.2%);  
  
}  
  
body {  
  
background-image: url('smiles.png');  
  
background-repeat: no-repeat;  
  
background-position: center;  
  
background-size: 560px;  
  
}  
  
.topnav h3 {  
  
float: left;  
  
margin: 0; /* Remove default margin for the heading */  
  
padding: 19px 22px; /* Adjust the padding to control size and spacing */  
  
font-size: 20px; /* Adjust the font size */  
  
color: black; /* Adjust the text color */  
  
}  
  
#connect-button{  
  
color: black;  
  
background-color: #FEDC56;  
  
padding: 10px 20px;  
  
text-align: center;  
  
float:right;
```

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margin-bottom: -1000px;

margin-left: 10px;

}

#send-button {

color: black;

background-color: #FEDC56;

padding: 10px 20px;

text-align: center;

float: left;

margin-bottom: -1000px;

margin-left: 10px;

}

#connect-button:hover, #send-button:hover {

background: radial-gradient(circle at 3.1% 8.2%, rgb(248, 250, 107) 0%, rgb(238, 148, 148)

98.2%);

}

#confirmation-status {

text-align: center;

display: none;

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```
font-weight:bold;  
}  
  
#confirmation-status img {  
width: 100px;  
height: 100px;  
}
```

```
.heading{  
font-size:20px;  
font-style:italic;  
font-weight:bold;  
}
```

```
</style>
```

```
</head>
```

```
<body>
```

```
<div class="topnav">  
      
    <h3>NGO Donation app</h3>  
    <a href="#news">News</a>  
    <a href="#contact">Contact</a>  
    <a href="#about">About</a>
```

```
<a href="#home">Home</a>

</div>

<div class="box">

    <p>Welcome to our donation website dedicated to alleviating hunger among children. With your support, we can make a significant impact on the lives of these young ones and provide them with a brighter future. Together, let's take a stand against child hunger and make a lasting difference. Click on <strong>Connect</strong> to connect to <strong>Metamask</strong> and provide your precious donations.</p>

</div>

<div id="confirmation-status">

    <p>Transaction is successful!</p>

</div>

<button id="connect-button">Connect Metamask</button>

<button id="send-button">Donate 0.01 ETH</button>

<script>

let account;

document.getElementById('connect-button').addEventListener('click', event => {

    let button = event.target;

    ethereum.request({method: 'eth_requestAccounts'}).then(accounts => {

        account=accounts[0];

        console.log(account);

        button.textContent = account;

        ethereum.request({method: 'eth_getBalance' , params: [account, 'latest']}).then(result => {

            console.log(result);

        });

    });

});
```

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```
let wei = parseInt(result,16);

let balance = wei / (10**18);

console.log(balance + "ETH");

});

});

});

document.getElementById('send-button').addEventListener('click', event =>{

let transactionParam = {

to: '0x8573f6ea2EC0b50052fa322519D62754E5C22bA1',

from: account,

value: '0x38D7EA4C68000'

};

ethereum.request({method: 'eth_sendTransaction', params:[transactionParam]}).then(txhash =>{

console.log(txhash);

checkTransactionconfirmation(txhash).then(r => alert(r));

});

function checkTransactionconfirmation(txhash) {

let checkTransactionLoop = () => {

return ethereum.request({method:'eth_getTransactionReceipt',params:[txhash]}).then(r =>{

if(r !=null) return 'Transaction is successful';

else return checkTransactionLoop();

});

}
```

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```
};

return checkTransactionLoop();

}

</script>

</body>

</html>
```

block.js

```
var web3;

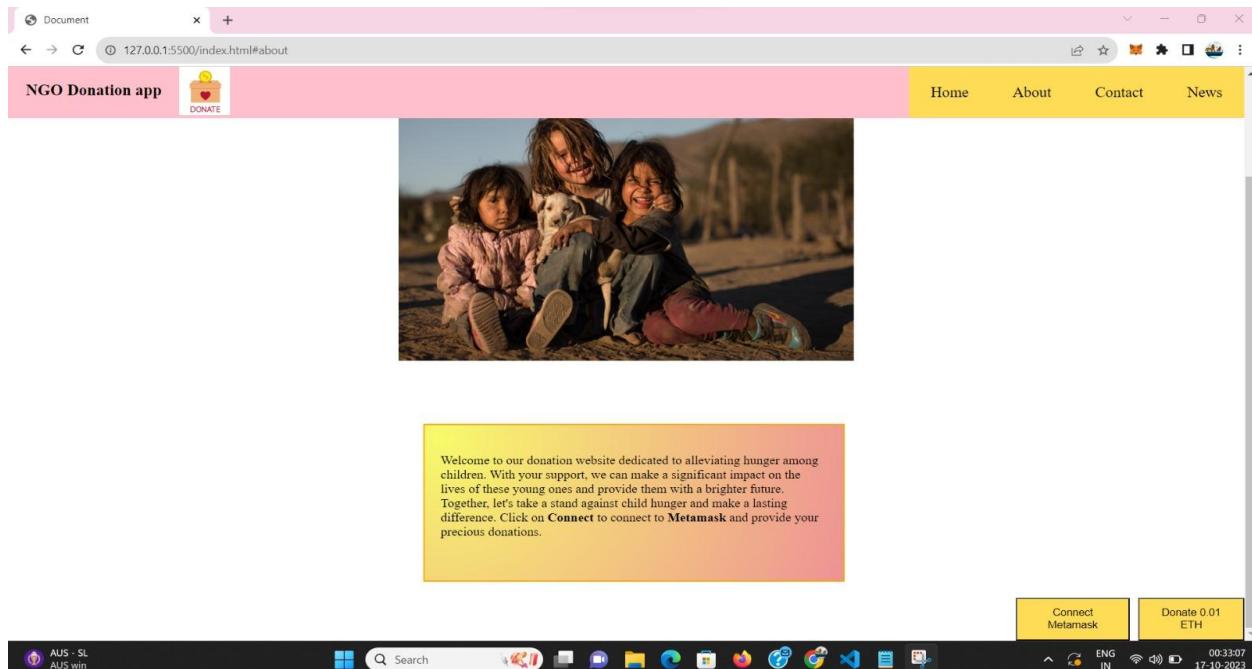
async function Connect(){

    await window.web3.currentProvider.enable();

    web3=new Web3(window.web3.currentProvider);

}
```

6.Output



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The screenshot shows a Windows desktop environment with a taskbar at the bottom. On the taskbar, there are icons for various applications like File Explorer, Edge, and Google Chrome. The system tray shows the date as 17-10-2023 and the time as 10:38:43. The desktop background is white.

In the center, there is a web browser window with two tabs open. The active tab is titled "Document" and has the URL "127.0.0.1:5500/index.html". The page content includes:

- A pink header bar with the text "NGO Donation app" and a "DONATE" button.
- A large image of three young children sitting on the ground, smiling and holding a small dog.
- A yellow callout box containing text about alleviating hunger among children and connecting to Metamask for donations.
- A yellow "Home" button in the top right corner.
- A yellow "Connect Metamask" button and a yellow "Donate 0.01 ETH" button in the bottom right corner.
- A separate "MetaMask Notification" window on the right side, featuring an orange fox logo, the text "Welcome back! The decentralized web awaits", a password input field, an "Unlock" button, a "Forgot password?" link, and a "Need help? Contact MetaMask support" link.

This screenshot is identical to the one above, showing the same web browser setup, desktop background, and MetaMask notification window. The only difference is the timestamp in the system tray, which now shows 10:39:08.

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Welcome to our donation website dedicated to alleviating hunger among children. With your support, we can make a significant impact on the lives of these young ones and provide them with a brighter future. Together, let's take a stand against child hunger and make a lasting difference. Click on **Connect** to connect to **Metamask** and provide your precious donations.

0x8573f0ea2ec0b50052fa322519d82754e5c22ba1

Donate 0.01 ETH

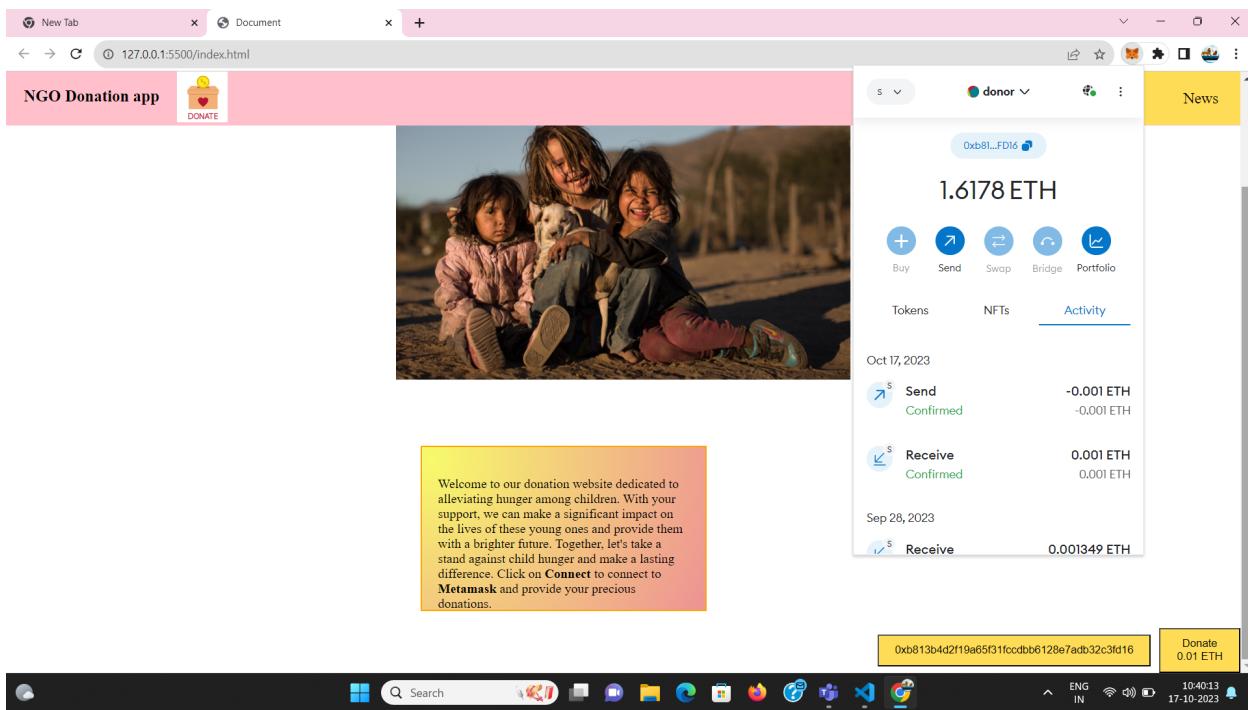
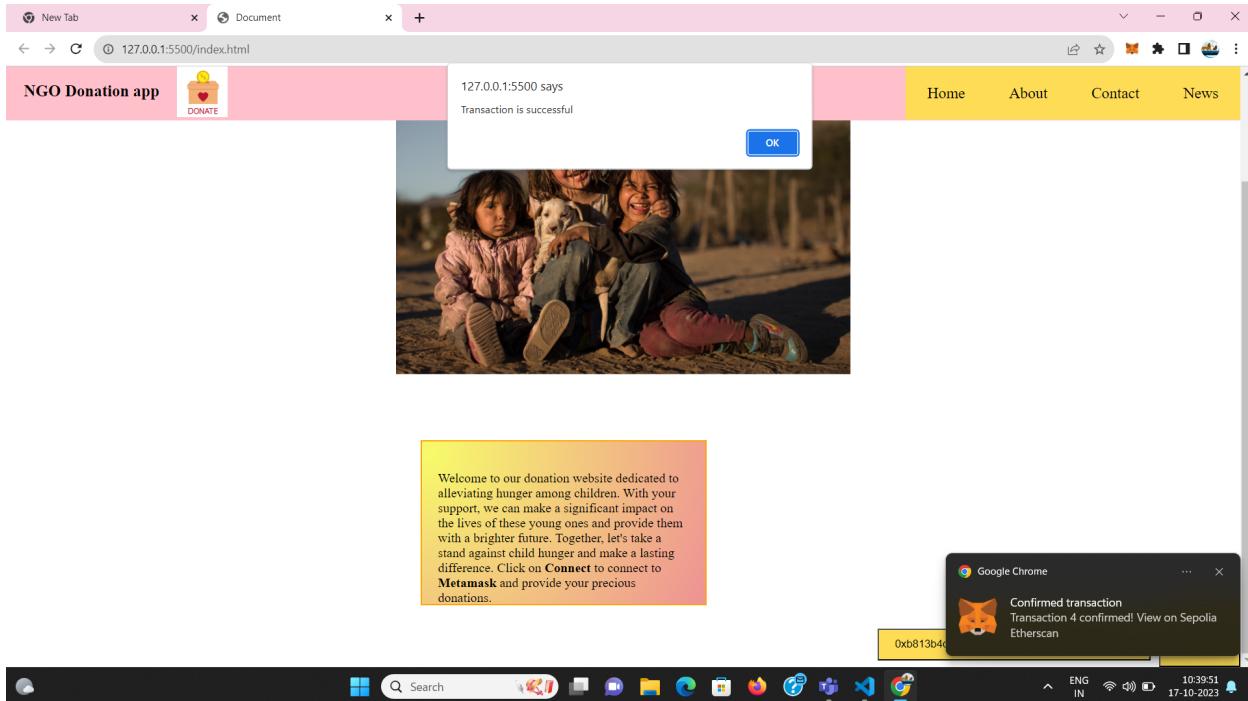
Welcome to our donation website dedicated to alleviating hunger among children. With your support, we can make a significant impact on the lives of these young ones and provide them with a brighter future. Together, let's take a stand against child hunger and make a lasting difference. Click on **Connect** to connect to **Metamask** and provide your precious donations.

0xb813b4d2f19a65f31ccdbb8128e7adb32c3fd16

Donate 0.01 ETH

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The screenshot shows the Etherscan interface for the address 0xb813B4d2f19A65F31FcCDB6128E7adB32C3FD16. The 'Transactions' tab is selected, displaying the following data:

Transaction Hash	Method	Block	Age	From	To	Value	Txn Fee
0x4f65b630552770bf6...	Transfer	4505204	39 secs ago	0xb813B4...32C3FD16	0x8573f6...E5C22bA1	0.001 ETH	0.0000315
0xd78fae9344133cd6d...	Transfer	4504845	1 hr 26 mins ago	0x8573f6...E5C22bA1	0xb813B4...32C3FD16	0.001 ETH	0.0000315
0x93a04ac7ba6320d6...	Transfer	4380433	18 days 20 hrs ago	0x8573f6...E5C22bA1	0xb813B4...32C3FD16	0.001349 ETH	0.00083171

7. Conclusion

This project proposes a simple and efficient way for users to donate Ethereum (ETH) to an NGO by connecting their MetaMask wallet. By leveraging blockchain technology, we aim to enhance transparency, security, and accessibility in the donation process. Also, the removal of intermediaries and the adoption of a decentralized approach significantly reduce transaction fees and processing times, optimizing the funds that reach the intended causes. Donors can have confidence in the efficient allocation of their contributions, motivating increased engagement and support. Further development and integration of this platform could revolutionize philanthropic efforts, encouraging more individuals to contribute to meaningful causes through cryptocurrency donations.

REFERENCES

<https://nevonprojects.com/ngo-management-system-using-blockchain/>

<https://decrypt.co/resources/metamask>

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