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BLOCKCHAIN
(TWITTER DAPP)

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Introduction

This report presents the development of a decentralized application (DApp) called "Mini Twitter DApp." This application is part of the Atelier 5 project, which leverages blockchain technology through smart contracts written in Solidity, along with a frontend developed in HTML, JavaScript, and Web3.js.

The purpose of this DApp is to allow users to create, edit, like, and comment on posts in a decentralized environment, where the data is stored immutably on the Ethereum blockchain.

Project Objectives and Technologies

Objectives

- Develop a decentralized social media application.

- Implement smart contracts to manage posts, likes, dislikes, and comments.

- Create a web interface to interact with the blockchain.

Technologies Used

- **Solidity**: Used to write the smart contracts for managing posts and interactions.

- **Web3.js**: JavaScript library to interact with the Ethereum blockchain from the frontend.

- **HTML/CSS/JavaScript**: For building the user interface.

Smart Contract Overview

The smart contract, written in Solidity, provides the core functionalities for the DApp, such as publishing posts, editing posts by the author, liking, disliking, and commenting on posts. The contract includes the following functions:

- **publishPost**: Enables users to create new posts.

- **editPost**: Allows the post author to edit their message.

- **likePost** and **dislikePost**: Users can like or dislike posts.

- **addComment**: Adds a comment to a post.

Frontend Application

The frontend is built using HTML and JavaScript, with Web3.js to interact with the smart contract. Users can connect their Ethereum wallet, publish and edit posts, as well as like, dislike, and comment on posts.

The full source code of the project, including the Solidity smart contract and the frontend application, can be found at the following GitHub repository:

https://github.com/OmarNouih/BLOCKCHAIN

Deployment and Testing

The Mini Twitter DApp was deployed on a local Ethereum test network, using MetaMask for wallet interactions and Ganache as a local blockchain network for testing.

The functionalities of the application, including posting, editing, liking, disliking, and commenting, were tested to ensure proper integration with the smart contract.

Screenshots

Below are screenshots of the application interface, showing the functionalities of creating a post, editing a post, liking/disliking, and adding comments.

Figure 1: Mini Twitter DApp Interface

Figure 2: Example Post with Like, Dislike, and Edit Options

Conclusion

The Mini Twitter DApp showcases the potential of blockchain technology to create decentralized social media applications. Using Solidity and Web3.js, we successfully implemented a basic DApp that allows users to create, edit, and interact with posts in a trustless environment.