Decentralized Social Media & NFT Marketplace for Content Creators

Category: Web3.0 Application

Outline

1. INTRODUCTION

1.1 PURPOSE

The purpose of this document is to build a decentralized social media network where each post can be minted as a NFT and showcased in the marketplace.

1.2 DOCUMENT CONVENTIONS

This document uses the following conventions.

ETH	Ethereum

1.3 INTENDED USE

- Designing and brainstorming new features.
- Planning project duration, sprints and estimating costs.
- Evaluating risks.
- Monitoring and measuring the team's success.
- Conflicting situations when involved parties have different visions of a well-executed product.

1.4 PROJECT SCOPE

The main goal of this application is to create a decentralized platform for content creators where they can present their talent and earn through it without being under the clutches of a central authority. It will also result in enhanced privacy of the user data as everything will be stored over the blockchain. The peer-to-peer mechanism will ensure secure transactions between users.

1.4 REFERENCES

- https://ieeexplore.ieee.org/document/9604559
- https://ieeexplore.ieee.org/document/8946141
- https://ieeexplore.ieee.org/document/9126007
- https://ieeexplore.ieee.org/document/9284655
- https://ieeexplore.ieee.org/document/8855083
- https://cointelegraph.com/magazine/2022/04/07/decentralized-social-media-next-big-crypto-thing

2. OVERALL DESCRIPTION

2.1 USER NEEDS

The primary users of this platform would be the content creators and artists. They can showcase their talent through media posts on this social media network. The posts gain attraction and popularity through likes and comments. Furthermore, these posts can be optionally minted as a NFT so that other users can bid for it and gain its ownership.

2.2 ASSUMPTIONS & DEPENDENCIES

3. System Features and Requirements

3.1 Functional Requirements

- Users can connect their cryptocurrency wallet to the web application.
- Users can update their profile details.
- Users can view other user's profile.
- A user can follow/unfollow other users.
- A user can remove a user from their followers list.
- Content creators can create posts which can be an image or a video.
- User gets all the posts of the followed users on the timeline
- There should also be a section where recommended and popular posts can be browsed by the user.
- The posts can be liked and commented on.
- The created posts can be minted to a NFT optionally to showcase it on the marketplace.
- The posts on the marketplace can be browsed by users.
- The posts on the marketplace can be filtered on the basis of various factors such as number of likes, comments, seller, etc.
- User interested in a post can bid for it.
- The seller can see the whole list of bids and can accept the one which meets the expectations.

- All the earned amount should be manually withdrawn by the user and not directly transferred to their wallet.

3.2 System Features

Software Requirements

- Solidity – To create smart contracts.
- Ethereum Virtual Machine & Rinkeby/Goerli test network – Network where smart contracts will be deployed.
- Python (Brownie) / Node.js (Hardhat) – Environment for testing and deploying the smart contracts.
- Next.js & Moralis – Front-end for the Web3 app.
- Any cryptocurrency wallet

3.3 Non-functional Requirements

- The private user data should be not exposed in any manner.
- The front-end along with the user posts should all be stored on the IPFS (Interplanetary File System).
- The smart contracts should first approve any other contracts interacting with it.
- It should work on multiple platforms efficiently.