REPORT WRITE UP

for

BlockChain based News Forum

Prepared by

Group 15

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Content

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Introduction

A news forum is typically a hub for the latest news feeds and information about latest things around the world. It shows news articles on various news topics like events, upcoming technology, public announcements etc.

With blockchain technology,we've built a NewsForum app which provides a platform that is not only secure and transparent, but also decentralised, meaning that no single entity controls the flow of information.It also ensures that all news content is tamper-proof and verifiable, giving users the confidence to trust the information they are receiving. The platform also allows for community moderation, meaning that users can help to ensure that the news content is accurate and unbiased by upvoting.

Tech Stack used

We used **Truffle** as our developmental framework for building, testing, and deploying smart contracts. For Ethereum development , we've used **Ganache** as a personal blockchain that provides a local blockchain environment for testing smart contracts. We used **Metamask** to manage the Users Ethereum accounts.

For the frontend we used **HTML,CSS, BootStrap** for design, javascript to give some functionality.For the backend we used **javascript, nodejs** as the javascript runtime environment, **express framework, MongoDB database** with mongoose as object data modelling library(ODM) for MongoDB and nodejs.

Instructions to Run

1. Download the project from this repository (https://github.com/vyjayanthi22/NewsForum)
2. Install NodeJS and Truffle
3. Download Ganache
4. Open the downloaded repository on a text editor(say VS Code)
5. Open the terminal and use **npm server.js**
6. Now,go to the localhost http://localhost:3000/ where our code runs
7. Set up Ganache local wallet in MetaMask
    a. Login to MetaMask
    b. Manually setup Ganache by entering the details
    c. Open Ganache and import an account (by clicking on key symbol,which gives you an private key)
    d. Import the account into MetaMask, through clicking import account and then enter and save the above private key.
    e. Now, connect to this account in Metamask.

Functionality

USER of DApp : This DApp provides articles which could be seen by anyone who needs to view the info present in each post/article.But to access other functionalities like upvote,publish,validate an article,one must signup/login.

- **Signup** : Allows user to sign up into the App

- **Login** : Users could login into the App with the credentials used while signing up into account.

- **New Article** : To write an article/post ,users should use the 'new article' button which allows them to write the title, body of the post and submit it.Here the user could write the body only in less than 200 words

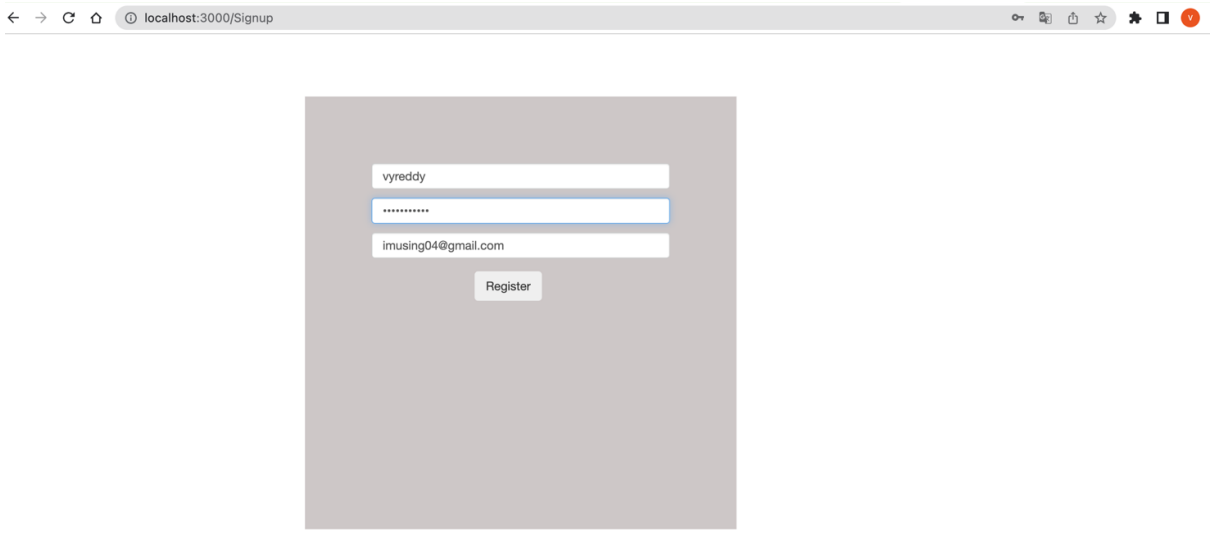
- **Upvote** : An user could upvote the articles he finds interesting/good once they login into the App.

- **View Profile** : It allows the user to view his login details ,view all his submitted posts, an option to make his profile anonymous/public.

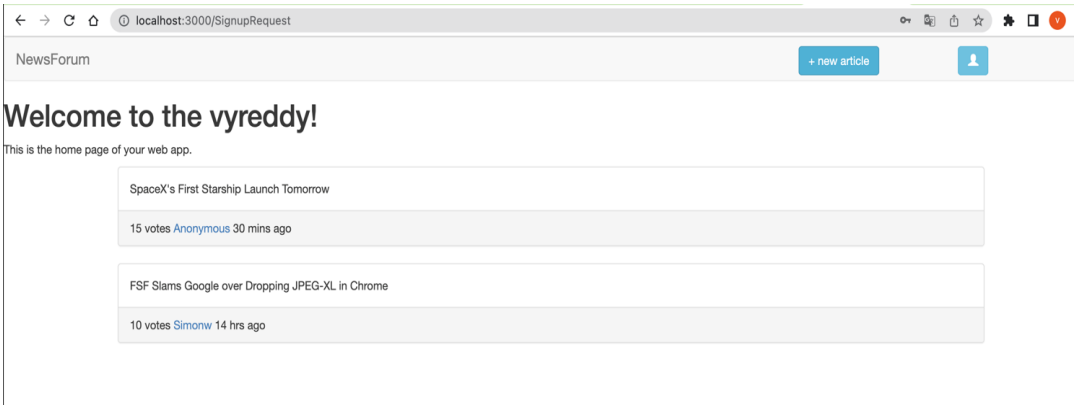
User Manual

1. This is HOME page of the App

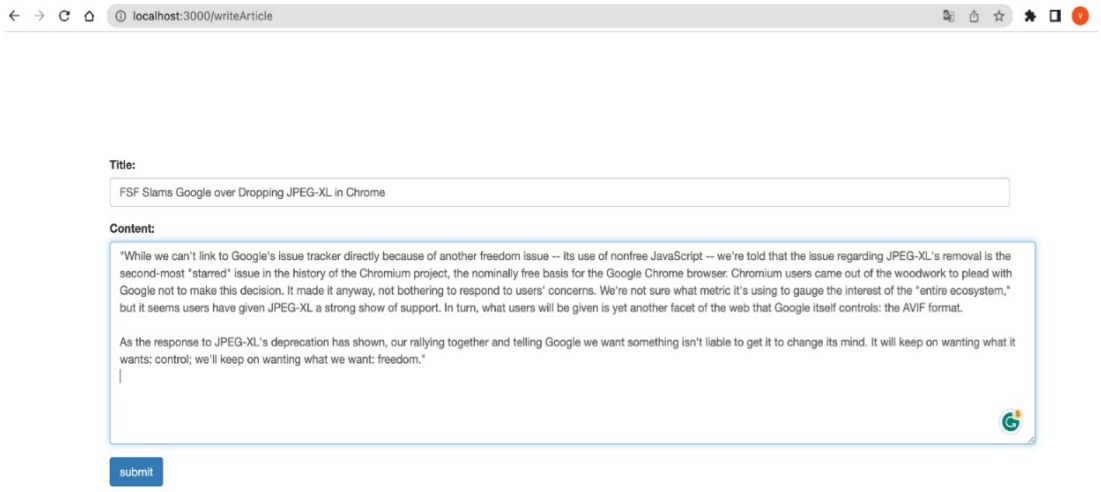
2. Here,the use could login/sign up



3. Only after the user logins/sign ups,he gets the option to write the new article



4. Here, On clicking new Article,user get the option to write article



5. On clicking submit,the article gets added into the submission pool. Now validators could view them.
6. Once they get validated articles will be displayed into the home page along with the title, username and time.

Smart Contract

The contracts directory contains a subdirectory for solidity contracts named as "contracts". The 'Article.sol' file includes a contract named ArticleContract, which contains structs for Users and Articles with their corresponding functions. The functionalities implemented are as follows:

- function submitArticle: used to submit an article to the validation pool by the user.
- function validateArticle: used to validate the article and if the minimum number of validations are received, mark it as validated.
- functions getValidatedArticles, getMySubmittedArticles, getMyValidatedArticles: these functions return the arrays corresponding to all validated articles, all the current user's submitted and waiting articles and the current user's validated articles.
- function upVote: increase the upvote count of a validated article and maintain that current user has upvoted for this article