Blockchain based news-forum system

IMPLEMENTATION PROJECT – EASY

A new forum typically a hub for latest news feeds and information about latest things around the world. It shows news articles one various news topics like events, upcoming technology, public announcements etc. Users of the forum can publish news articles, comment on news articles and make their own subforum for niche topics to which other users can subscribe to. A good example for the same is the `Hacker News` forum from `Y Combinator`. You are free to choose what the data the ledger contains.

1 PROBLEM STATEMENT

Create a News forum for at most "M" users storing records for who published the news and it's edit log by the timestamp in the blockchain. The news forum will contain "T" validators who validate news articles that conform to certain standards as employed by validators which all users agree to. Each editor gets a fixed reward when aleast "k" validators validate the news and it gets added to the blockchain record. Each validator gets fixed rewards when atleast "x" users upvote a published news article (analogous to mining rewards).

2 DELIVERABLES

A github repository containing the code for the news forum system along with a project documentation report that list the details on how to use the platform and the features it has. It must allow creating, deleting and updating both user details and news articles. Each user is allocated a wallet to store rewards and can become a validator when submitted atleast 4 or more articles or has a reward more than 15% of the total mined rewards. Also transactions are timestamped and recorded on the blockchain. Your team is welcome to make changes to the scheme mentioned above or adapt your own policy for the news-forum platform, mention the same in your project documentation report explaining the changes.

3 OUTCOMES

Each non-trivial operations as listed below is registered as a transaction on the public blockchain.
- Create or delete a user in the forum.
- Update user details on the forum. (User has the option to make the profile anonymous or public)
- Create or update a news article. (A news article can never be deleted.)
- Issue rewards in the form of tokens to news editors and validators.
- News articles are shown to in the forum only when atleast T/2 validators validate a news.
- Rewards are issues to validators and editors based on the number of up-votes received on the news article. You can use your own metric to reward the editor and the validators.

4 MINIMUM DELIVERABLES (60 MARKS)

- Create a new user on the platform.
- Ability to create a news article on the forum.
- Ability to list available public news articles in the platform.
- Ability to upvote or downvote a news article.
- Project report mentioning the features and how to use them.

- Successfully demonstrate the use of blockchain based technology in the platform.

5   QUALITY ATTRIBUTES

- Forum must atleast scale to a 100 users.
- Word limit for the news article is atmost 200.
- "T" can be atmost 10 at any point of time and a shuffled after some period of time to other users of the forum who meet the "validators" criteria.
- "k" can be atmost 6.
- "x" may be limited to atmost 80 users and not more.
- A user can be banned or barred from publishing a news article if the last reward recieved is less than "z" amount. ($0 \leq z \leq 5$)

6   GRADING POLICY

- **80 marks** are awarded if the news forum works without glitch and meets the quality attributes mentioned above.
- **10 marks** are awarded for properly documenting and presenting the features of the news forum.
- **10 marks** are awarded for showing the news forum working for 100+ users with 15+ news articles.
- **10 marks** are awarded as **bonus** if articles can be filtered by tags or topics and users can create a new subforum with selected users for a new area of publishing or privatized article advertising.
- **10 marks** are awarded as **bonus** for new "useful" or "interesting" features that utilize the underlying blockchain or if as minimum as possible data is stored on the ledger. Any other "extra" or "useful" feature can also be worthy of bonus points.

7   DISCLAIMER

Before doing anything "extra" (which might fetch bonus marks), first, complete the basic expectations from your implementation.

Software tools are expected to display their results in a user-friendly manner; a user would never like to use a tool that simply spits out a bunch of numbers. So, display the results from your tool suitably possibly in a good web-based UI or the terminal in verbose user-friendly manner.

Discussion is healthy, copying is not. You are encouraged to discuss the projects with your peers, but you must implement the projects by yourself. If any two groups are found with "similar" pieces of code, both of them will be failed (with no concern as to who was the source). Copying from internet sources or open-source github repositories must be refrained from.

TAs may conduct a code-review after every milestone is reached or 15 days (which ever is earlier) so please be careful about plagiarism.