CSE528 - IBC Group Project

Decentralized Auction System

Navneet Agarwal	Nitin Gupta	Swastik Jain
2018348	2018251	2018269

Problem Statement :

As we know most of the auctioning platforms available online/offline are run by a centralized entity and face the issue of stringent rules and regulations set by that entity. Their application depends on proprietary software inaccessible to the general public which leads to a lack of transparency and unwanted added costs to the users such as commission fees etc. Another problem that arises in an e-auction is the lack of trust between the parties involved in the transaction. This may often create transaction misbehavior in cases like the seller might not deliver the commodity or the buyer might refuse to pay the agreed price.

Proposed System :

As discussed above, the auction system has many flaws. To tackle this problem we plan to use blockchain technology. The use of blockchain technology will provide a system that will be hard to falsify. In addition to that, the platform will be much more transparent, reliable, and scalable.
We aim to build an auctioning interface using solidity for assets where people can bid using cryptocurrencies, in our case ethereum (ETH). The clients would connect with the controller network and post an item/commodity of their choice on the platform for auction. The general public would be able to view these listed items on the platform. Each auction will have a set start and end time during which the users can post bids for the item using ETH. The anonymity of the bidders shall be maintained and only the highest bid at that time will be visible to the users for even higher bids. At the end of the auction, the user with the highest bid shall receive a confirmation that he/she has won the item in the auction and the rest of the users shall be reverted back to their bids. This way thus enables a secure system to enable users to sell and purchase items from each other.

Project Plan :

In the first two weeks, we will start by doing a literature review of the relevant work done for this problem. Then in the next two weeks, we will start exploring the implementation of smart

contracts, deciding upon the tech stack, and getting hands-on with those technologies. The next task would be to start with the implementation of our solution to the problem statement. We will start with the front-end implementation in the next two weeks and then continue with the back-end implementation of the project. This implementation phase will continue till the end of the semester as it will include multiple iterations.

References

- https://ieeexplore.ieee.org/document/8394569
- https://www.researchgate.net/publication/342217569_Secure_E-Auction_System_Using_Blockchain_UAE_Case_Study/link/5f1aa122299bf1720d5fda65/download