CSE528 - IBC Group Project

Decentralized Auction System

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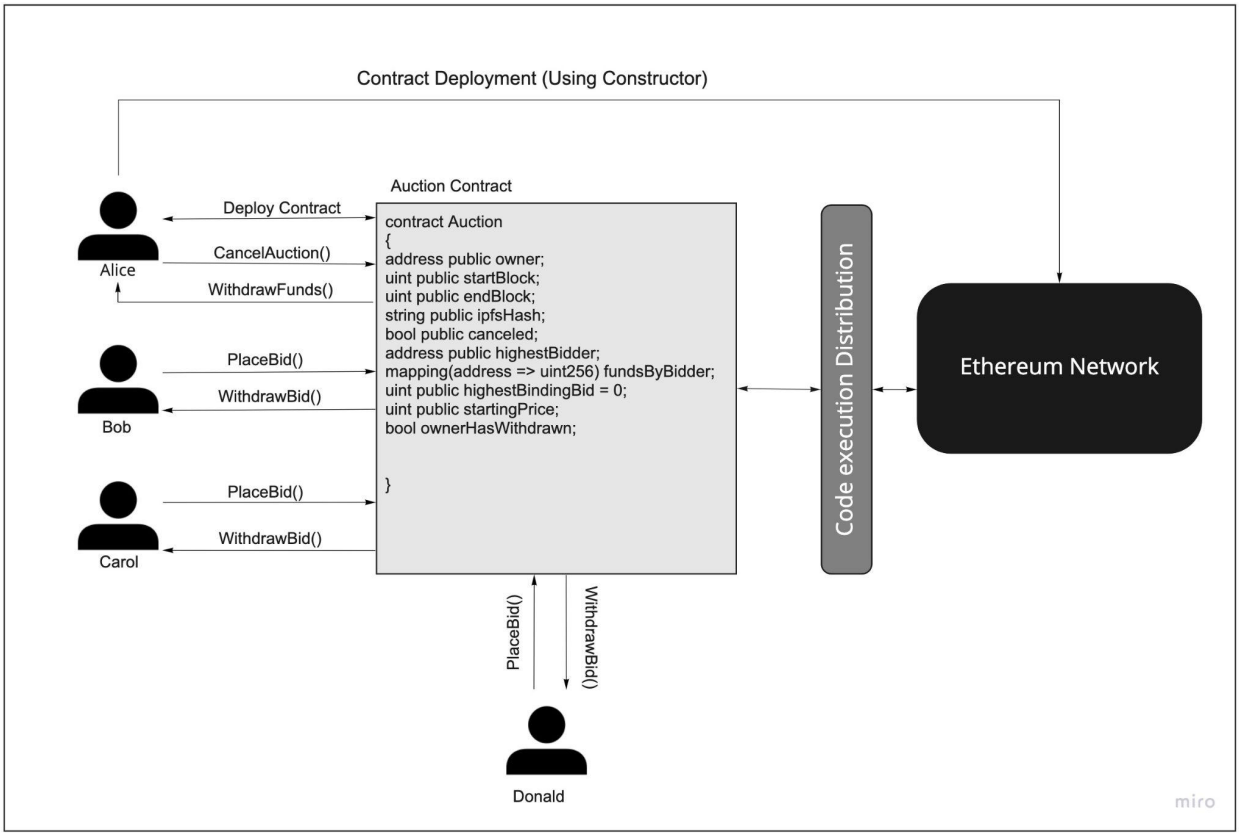
As mentioned in the project proposal, we started working on the workflow of the application. We also started writing the contracts for the same. We changed our platform from brownie to truffle for the project development.

Workflow Diagram of the Smart Contracts



In our application, any user can have an auctioneer or bidders role. Except for the auctioneer, all other users will automatically act as bidders. The auctioneer will not be able to bid on his own auction as he might manipulate the auction. The functionality of each role is as follows.

- Auctioneers
    - **Start Auction** - He will be able to start an auction by providing the auction's start time and end time, the auction title, ipfsHash details to auction, and starting/reserve price for the auction item.
    - **Cancel Auction** - He will be able to cancel the auction only if the auction has not ended.
    - **Withdraw Funds -** If the auction were completed successfully, the auctioneer would be able to withdraw the auction's highest bid.

- Bidder
    - **Place Bid -** He will be able to place the bid for any auction he likes.
    - **Cancel Bid -** After the auction has ended, the non-winning bidder will be able to withdraw the amount he bid.

In the above diagram, Alice is the auctioneer, and Bob, Carol, and Donald are the bidder. Alice deploys the contract,

Plan for the future

Now we will start creating the front end for our application on ReactJS using the truffle framework. Truffle framework will help us to connect smart contract(completed) with the javascript.

All the updated code is placed in the below-mentioned Github repository.

Github repo:
https://github.com/navneet-ag/Auction-System

Contributions:
Navneet Agarwal - Writing Contracts, Setting up Truffle
Nitin Gupta - Writing Contracts, Setting up Truffle
Swastik Jain - Writing Contracts, Setting up Truffle

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