Cmpe483 BULOT Lottery Smart Contract Project2

Hande Sirikci

Nursima Celik

Tahir Kaan Ögel

Contents:

1. Project Descirption:

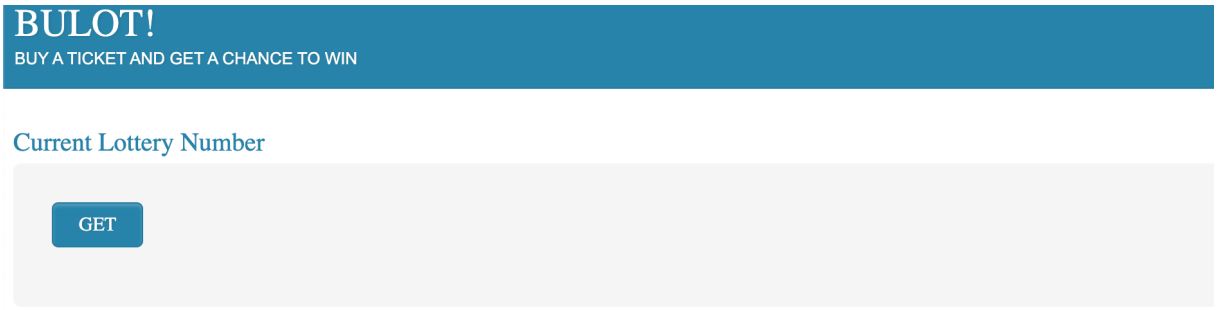
This project is a web based user interface for the Lottery Project we have developed in Homework1. This project runs on the Bloxberg Network. Anyone having a metamask account is able to use this web browser interface to interact with our Lottery smart contract.Now open the test-script “test-bulot.js” in a texteditor and pass the resulting contract addresses from remix inside the designated variables “bulotAddress” and “erc20Contract” . Also make sure that the test-file and the abi-Files of the contracts are inside the same directory where the geth console is running.

2. Implemented Functions:

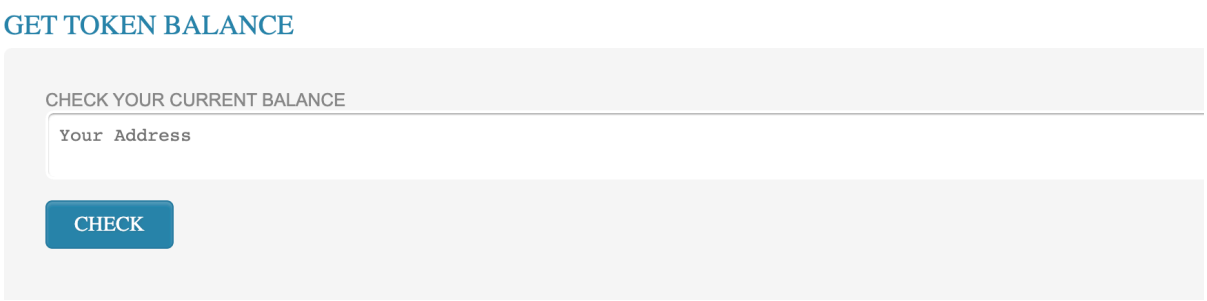
Since this project is based on the smart contracts of our last project we simply build a user interface to actively and intuitively use our contracts. The javascirpt code build an connection to our smart contracts and metamask and then handles user input and user action. That means that user input parameters into specified fields and then trigger contract call with a designated button.

Our Code is taking the inputs of the users and passes them as parameters to the smart contract function. We created a user input field and button for every smart contract function a user can use. The following screenshots of our UI show the appearance of input field and buttons.

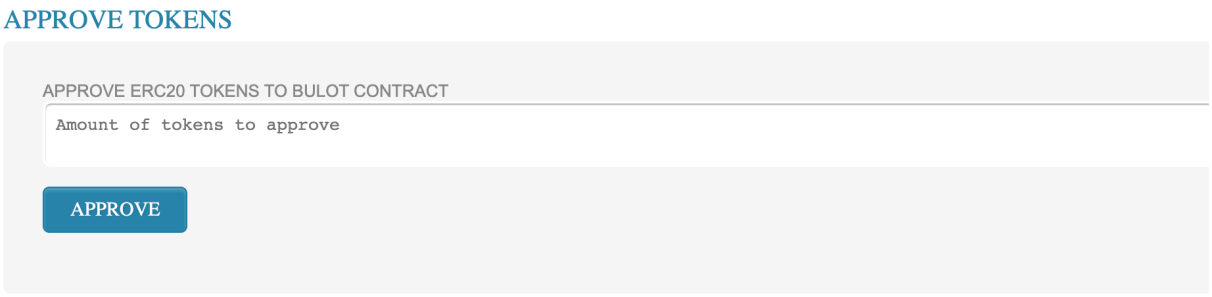
1. Get current Lottery number: This dynamically returns the current lottery number and displays it. We call the getCurrentLotteryNo function in our Bulot smart contract.



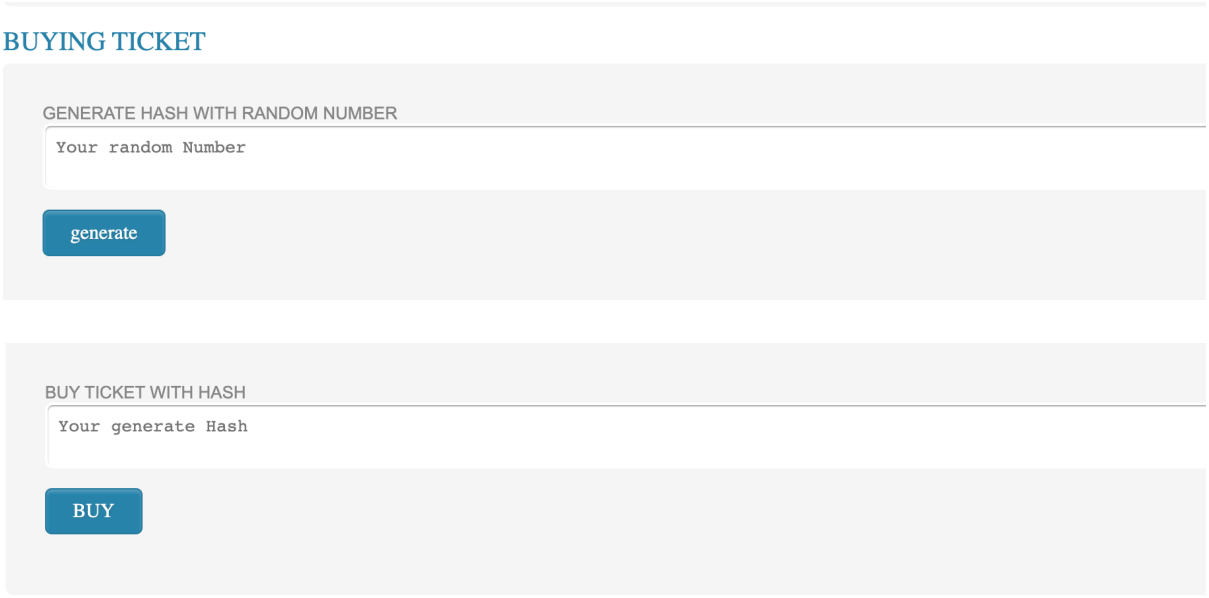
2. Get Token Balance: This dynamically returns the current token balance of the inputted address and displays it. We call the balanceOf function in our ERC token smart contract.



3. Approce tokens: This approves token to make them useable to buy lottery tickets. It takes the wished amount of tokes as input. We call the approvefunction in our ERC token smart contract

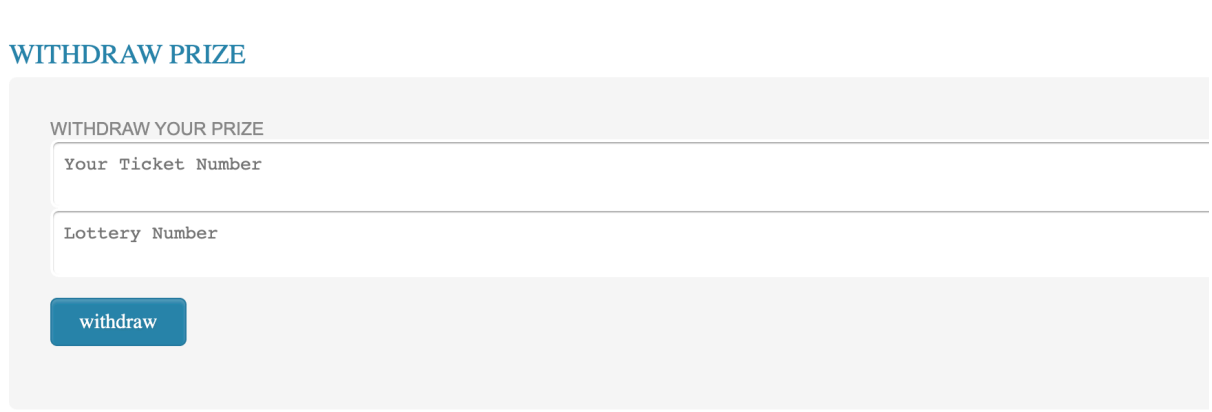


4 Buying tickets: This section includes two functions. First the generating of a hash which is created by inputting a random number. The hash is displayed and can then be inputted into the section below to buy a ticket with it. We call the getHash and buyTicket functions in Bulot smart contract

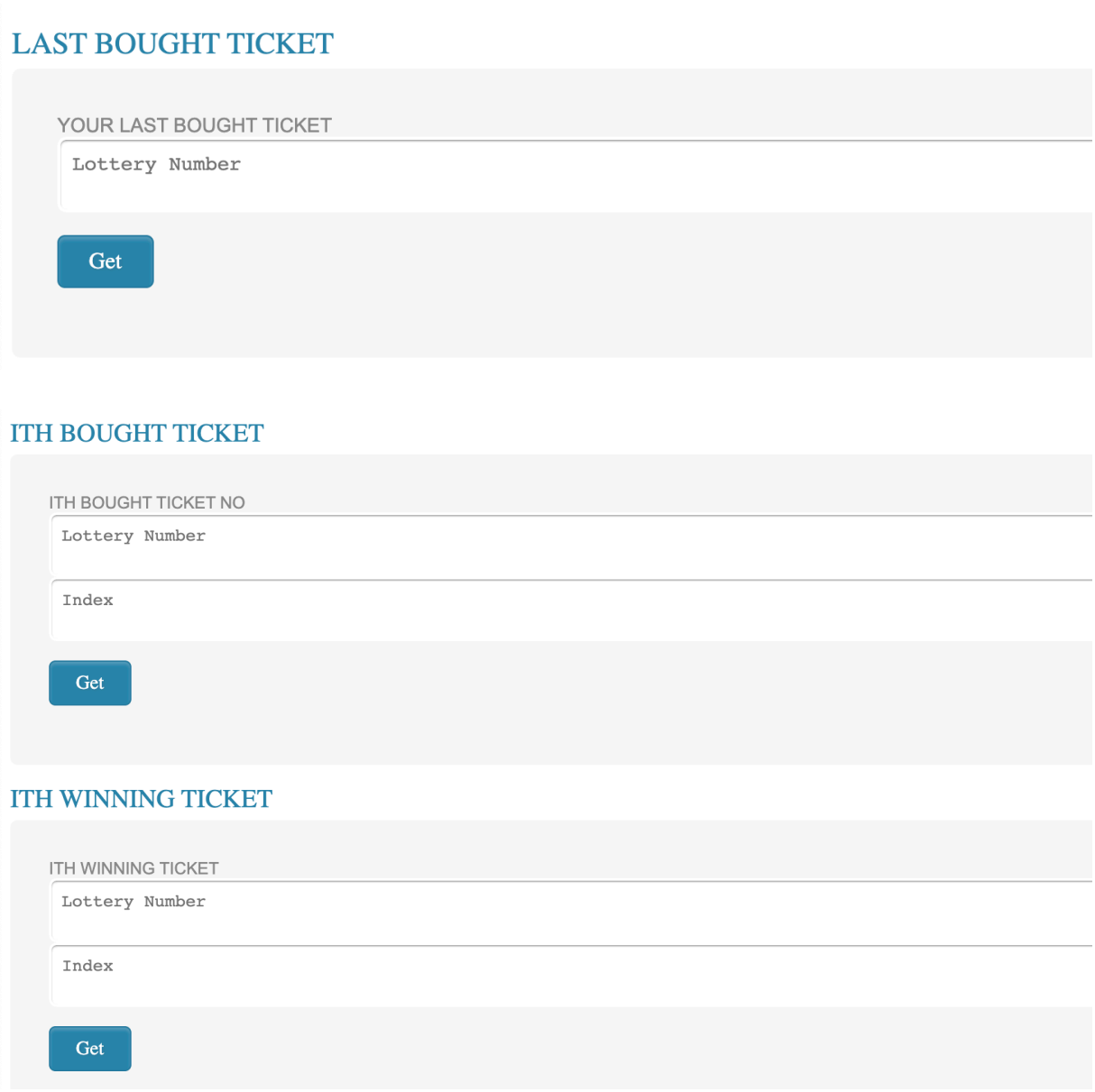


4 Reveal and Check: This section includes two functions. First the revealing the random number by taking the initial random number and the ticket number as an input and secondly the checking if a ticket has won taking ticket and lottery number as input. The return of this calls will displayed below. We call the revealRndNumber and checkIfTicketWon functions in Bulot smart contract.

4 Withdraw prize: Here a user can withdraw the prize of a ticket. It takes ticket and lottery number as input. We call the withdrawPrize function in Bulot smart contract.



4 Get Tickets: This section includes three functions. First the getting the last bought ticket in a lottery of a user. Secodly getting the ith (index) bought ticket in a lottery of a and lastly getting ith winning ticket of a user in a lottery. All these functions take lottery number as an input and if neccasary also an index. We call the getLastBoughtTicketNo , getIthBoughtTicketNo and getIthWinningTicket functions in Bulot smart contract.



5. Get amount collected: This dynamically returns the total amount fo money that was collected in a specific lotter by taking the lottery number and displays it. We call the getMoneyCollected function in our BULOT smart contract.