MULTIPLAYER FPS BLOCKCHAIN GAME

CENG 3550, DECENTRALIZED SYSTEMS AND APPLICATIONS

Furkan Baldır
furkanbaldir13@gmail.com

Süleyman Kaan Çakmak
kaan@gefeasoft.com

July 1 2021

Abstract

Today decentralized systems are more famous and useful. Moreover, using fields of these systems are increasing every day. Video game field is that it is one of them.

1 Introduction

Our project is a demo video game project with using decentralized systems. It is a multiplayer FPS game and the game economy provided with Etherium network. Main idea of usage is that when any player kills to another, winner side takes some amount of Etherium from dead side.

2 Fundamentals

2.1 Used Systems and Technologies

- Unity game engine (For game development side)
- Playfab (Online user and user data system)
- Photon (Realtime fps side)
- Netherium (Unity Etherium Library)
- Infura (To use etherium network)

3 Implementation

Project link: Click to go Github Link!
There are four part of this project:

3.1 Multiplayer User Data System : Playfab

Our project provides user registration and login system, and also using this Playfab, we are storing important data according to etherium transfer operations. We are simply collecting address and private key of user.
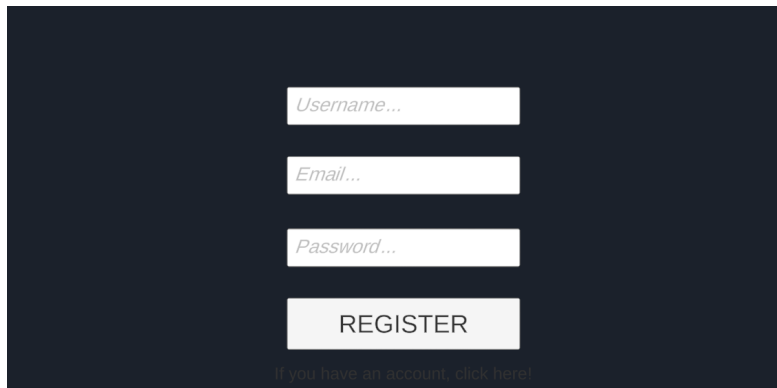

Figure 1: Register screen
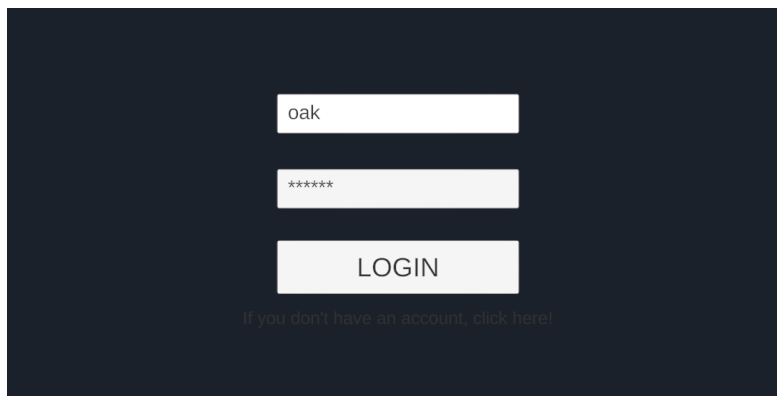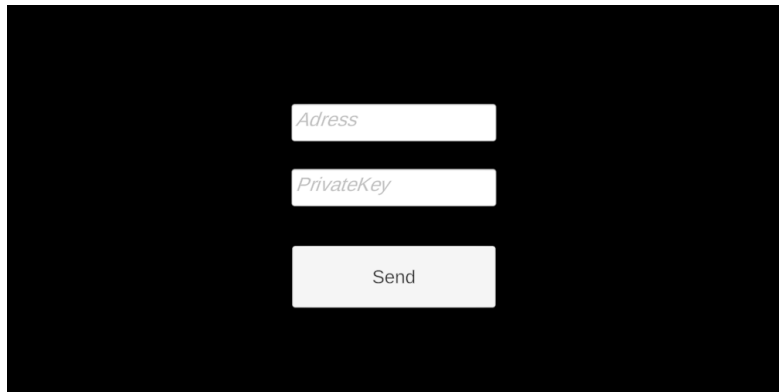

Figure 2: Login screen

Figure 3: Address and private key screen

3.2   Realtime Multiplayer System : Photon

Photon is realtime network provider of this project. We are using photon to play online FPS game. And also important thing is that we are getting rival data using photon after that we are using the data to get rival's adress and private key.

Figure 4: Lobby

3.3   FPS game

Our game is a FPS game. Game materials, FPS mechanics prepared to use other networking and decentralized systems.

Figure 5: In game

3.4 Etherium Transactions : Netherium

In Unity, we used Netherium library to do etherium transactions. Our etherium network is Ropsten network for demo version and also we are using Infura to provide Etherium network.

Figure 6: A transaction from game.

4 Conclusion

Decentralized systems will change our future so that we need to be a part of these systems. Video games are different parameters when we compare with other software developments, anyway we can implement decentralized systems to make more secure and useful systems for games.

References

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