

Seathereum

Team No: 5

Members:

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Project Name: Seathereum

Synopsis:

Use the Ethereum blockchain to build a decentralized app (DApp) that behaves like a Tamagotchi collectible game with various features designed to promote interactivity.

Description:

With the popularity of DApps such as Cryptokitties, there has been an increase in curiosity for the capabilities and implications of DApps. We have decided to undertake the development of an application that incorporates this innovative technology. The potential for DApp products is not fully recognized by the general public and the market is minimal, yet full decentralization can provide many benefits over alternatives that operate within a centralized network. These benefits will be explored throughout the development of our DApp.

Our DApp can be categorized as entertainment. It will essentially be a virtual collectible game that implements the ERC-721 standard which details how to create non-fungible, unique tokens on the Ethereum blockchain. We have chosen to use the Ethereum blockchain over alternatives because its Virtual Machine is Turing-complete granting full control over how the application behaves when it is deployed.

We're developing a DApp which aims to demonstrate the potential of blockchain technology and that offers a simpler introduction for individuals who are less familiar with the concepts surrounding blockchain. The DApp will explore how, unlike similar applications, focusing on interactivity can leverage a more enjoyable experience for the consumer. We hope to gain insight into the process and concern for the overall effectiveness of utilizing blockchain technology in a public, consumer application.

Milestones:

Initial Project Deployment - November 9th, 2018

Smart Contract Token Attributes Initialized - November 30th, 2018.

Backend Completed - February 22nd, 2019

Website Completed - April 5th, 2019

Budget:

Part of the advantage of utilizing the blockchain for much of the storage is that costs will be minimized substantially. The blockchain will host most of the data towards our tokenable Tamagotchi-esque creatures, The web application will be responsible for serving the web assets such as images to the consumer. The blockchain will only record the necessary information about transactions that has occurred between users of a DApp. We have favored using technologies and frameworks that advocate open-source and decentralization because of the minimal cost. Examples include:

- The Truffle Suite and the many technologies it borrows from <https://truffleframework.com/>
- Github or Gitlab depending on the terms of the licensing we will use moving forward (This decision making period is accommodated for within our milestones designated in the team status reports).
- Node.js and various web development packages

Other resources may be incorporated into the project to overcome any unforeseen obstacles.

Costs that we may encounter in development could include the following:

- A VPS or proper server (Prices may vary between plans) to host our application specific environment. Some services like Heroku may be able to sufficiently serve our application, however, at this time, we are unsure of the specifics.
- A minimal amount of ether (the currency/gas of ethereum) is required to submit the smart contract to the blockchain. This should not be more than \$50, but prices change daily with the price of ethereum, so pinpointing a specific number here is difficult. Especially since this transaction would occur towards the very end of our project, as test environments are free to spin up.

Work Plan:

While all of us will in some part participate in the work on all aspects together, it is fair to say that there will be areas where we pay the most attention to as individuals. Here is the following preliminary scheduling of our tasks:

Task	Joshua Oertel	Thomas Brooks	Chong Tan	Lu Yin	Joe Goldsich
Solidity and Ethereum Development	x	x	x	x	x
Backend Work	x		x		x
Frontend Site Work	x	x	x	x	x
Project Asset Creation				x	
Documentation and Testing		x			