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CMPS121 Final Project: Atheneum

Summary:

Atheneum is our proof of concept of a decentralized file-sharing platform that directly interacts with the Ethereum Testnet Blockchain. We allow our users to download original content from the community in exchange for Ether. These files can range from any variety, and no one will ever know the owner of each document by username. This is because every file that is uploaded to our database is tied to the Ethereum wallet of the individual who uploaded it, thus eliminating the need to display the username of the uploader. Every download is publicly recorded onto the blockchain, and all users can view the history of their transactions. Finally, users can rate any document they've purchased (**ONLY ONCE AND IT'S FINAL**)

Technologies:

- Firebase(database)
- Heroku(Hosting our web application for registering your Ethereum wallet. This interaction will become crucial for users that wish to use the mobile app)
- Node.js and Express(Framework and backend used for the app deployed on heroku)
- MetaMask(plugin used to sign wallet transactions)
- Web3.js(Interact with the testnet blockchain to handle transactions)
- Solidity(Language used to deploy Smart Contracts on the blockchain)
- Cordova(Mobile App Framework)

Tools:

- Ethereum Wallet/Geth Terminal(Used initially in the beginning to compile the smart contract)
- mdl-selectfield/getmdl-select(Front End Design)
- Remodal(Front End Design)
- Rinkeby Testnet (Blockchain used to record transactions)

TO WHOMEVER IS GRADING:

Hello grader, I have a few notes that I'd like you to take into account if you're going to be trying to test our app. To utilize our mobile app you're going to have to create an account on MetaMask. So please install the plugin. Our app utilizes MetaMask as a node/web3 provider to interact with the Ethereum blockchain. This does NOT mean, that our app cannot be utilized on a phone. We did not have enough time to establish an RPC connection to the Ethereum Blockchain by creating our own node, so we utilized MetaMask instead to demonstrate a proof of concept.

Please follow the setup tutorial on your computer on how to create an account with our app Atheneum here on the heroku app <https://atheneum-app.herokuapp.com/>

This will show you how to obtain testnet Ether, and configure the settings for MetaMask to the proper testnet. You can also look at the PDF file PRESENTATION.pdf to reference the sample images on pages 8-11 of how the app should function.

If you have any trouble in the setup process or in grading our project, feel free to contact Edwin Ramirez at edalrami@ucsc.edu