

Atheneum Mobile June 2017

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What is Atheneum Mobile?

Atheneum is a decentralized file-sharing platform that utilizes the Ethereum Blockchain to handle transactions without third party involvement. Effectively, we allow users to buy and sell files on the go-- with no middle man handling transactions.



Problem/Motivations

- Third party involvement in financial transactions are cumbersome
- Other apps use subscription fees to access their service, or transaction fees that eat into your profits
- Other services censor content
- Blockchain, an emergent “digital ledger” that has the potential to revolutionize finance, will see success scale with adoption

SOLUTION: Utilize the Ethereum blockchain to create peer to peer file exchange

Goals

- Users can utilize Ether as a form of a payment for content they want to download
- Users can create their own accounts
- Users can upload their own content
- Users can rate content they've purchased
- Users can create and share unique content by accessing their phone's camera

Completed: 4/5

Technologies and Tools

Technology

- Ethereum (Blockchain Tech)
- Web3.js
- Material Design Light (HTML Framework)
- Apache Cordova (Mobile Framework)
- Solidity(Ethereum Smart Contracts)
- Firebase (Database and Cloud Storage)

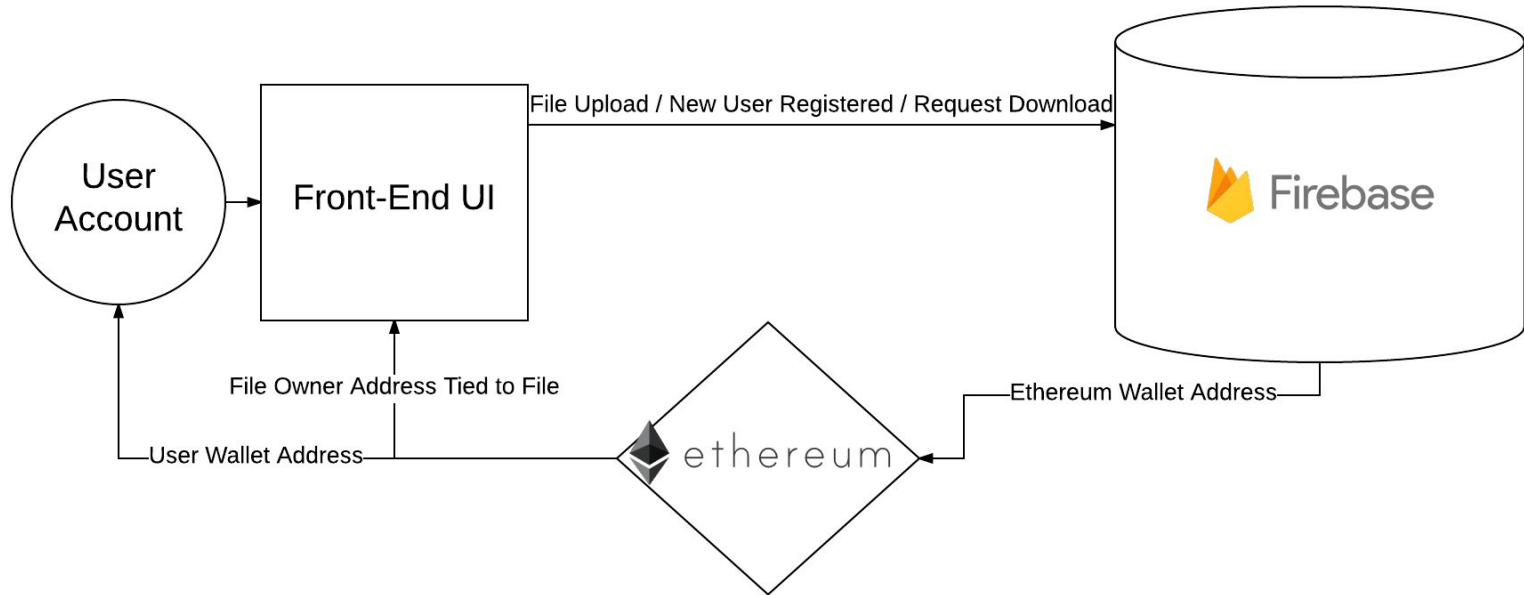
Tools:

- Cloud9.io (Collaborative IDE)
- Slack (Communication)
- Google Drive (Document creation)
- Github (Version control)
- MetaMask(Chrome-Plugin for Ethereum Wallets)

Interesting Aspects

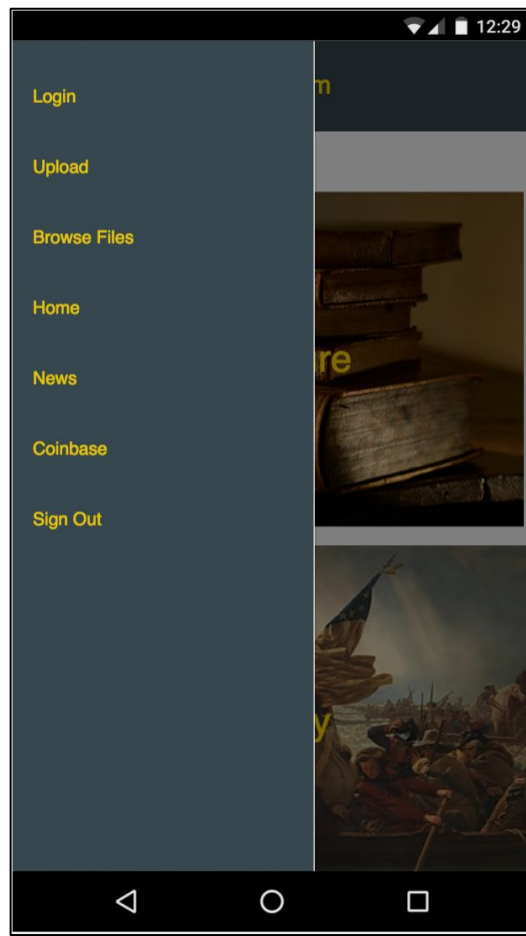
- Our utility of MetaMask does not limit our mobile app to just a browser. The reason we are using it is because it removed the task of us having to set up a node to connect to the Ethereum blockchain, which was beyond our capabilities and the scope of this class.
- Possible solutions: Infura, which distributes nodes, but only connected to the Ropsten Testnet Blockchain

System Diagram

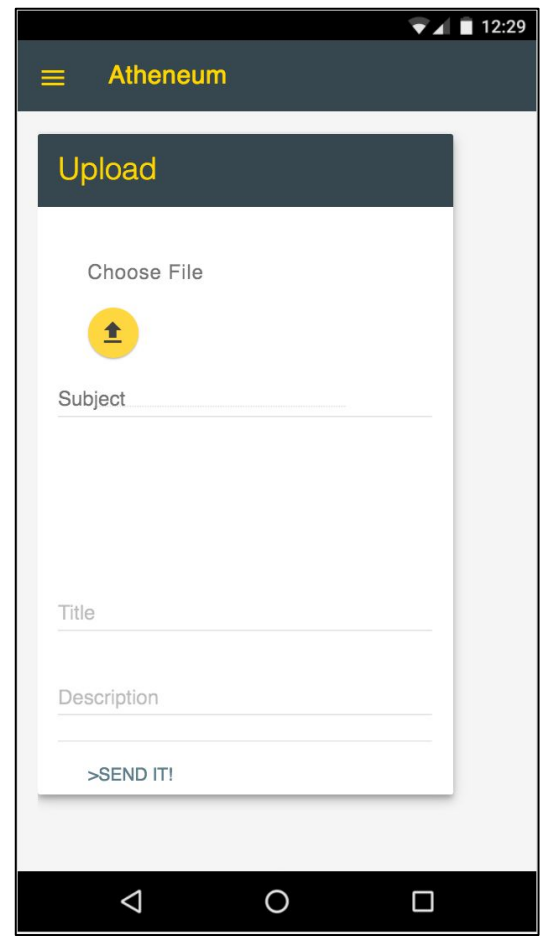




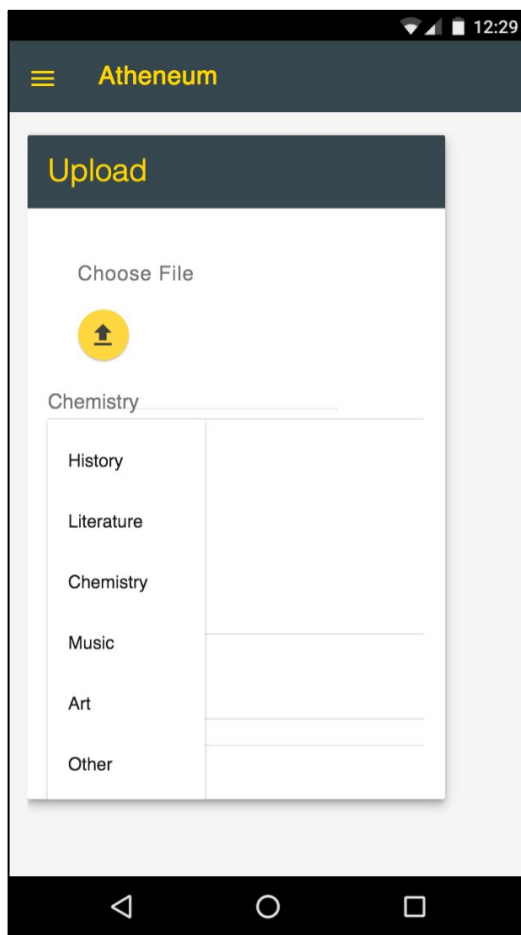
Splash Page



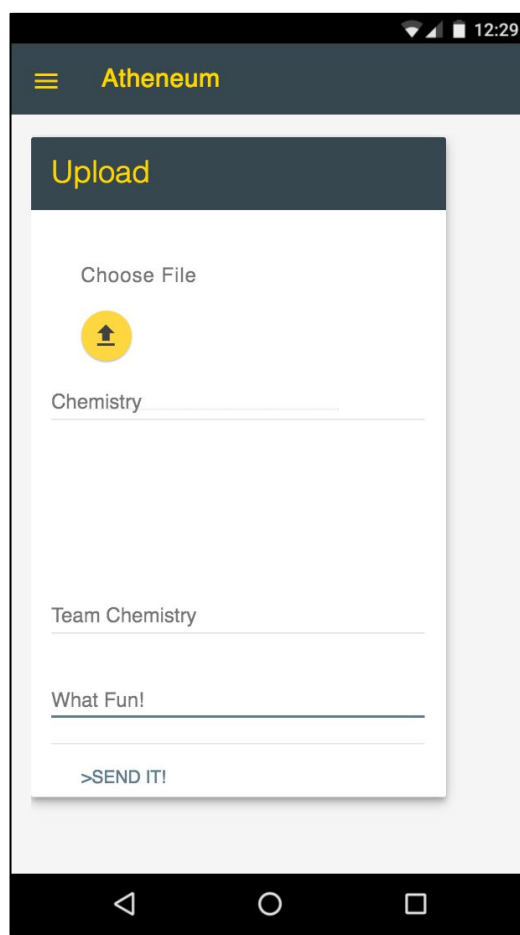
Tap Drawer Element



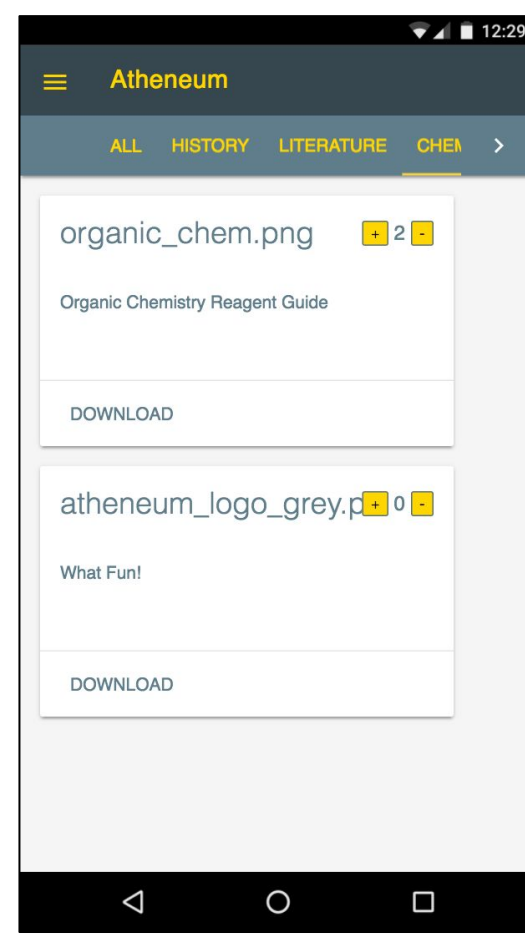
Tap Upload



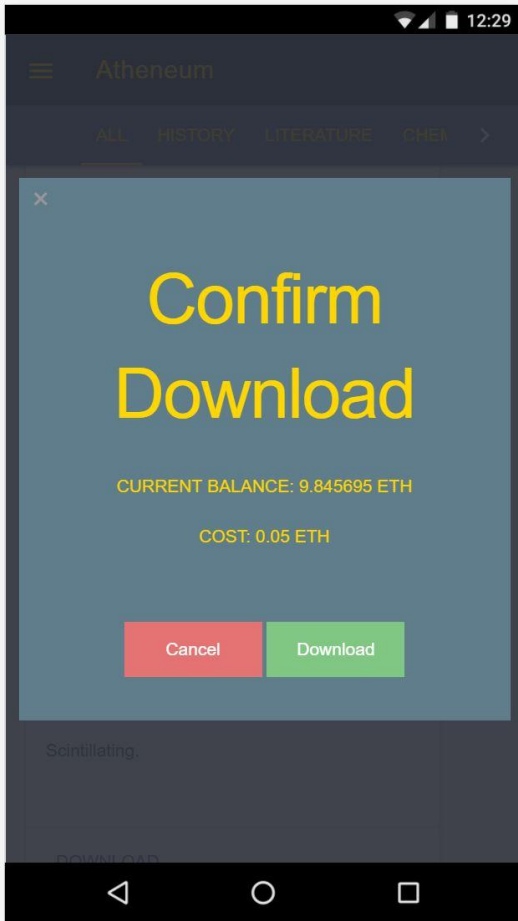
Select a File and Choose a Category From the Dropdown



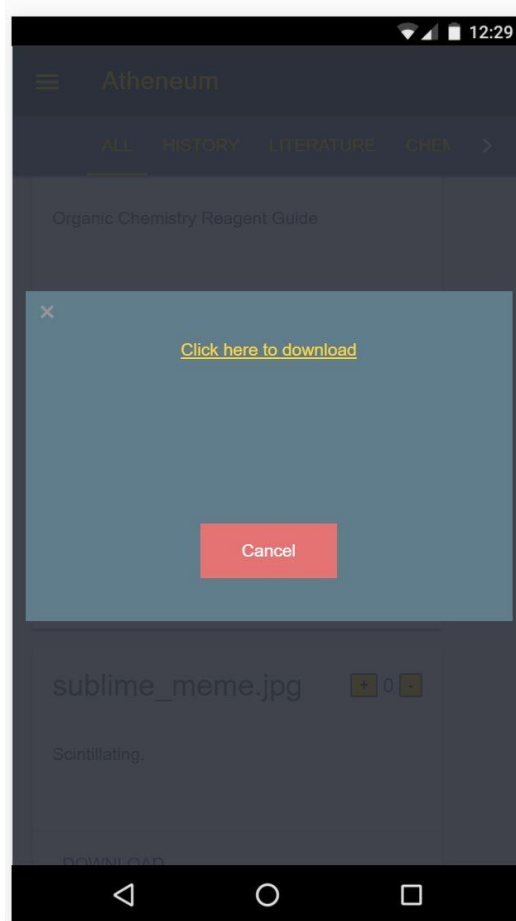
Enter a title and description, and hit upload



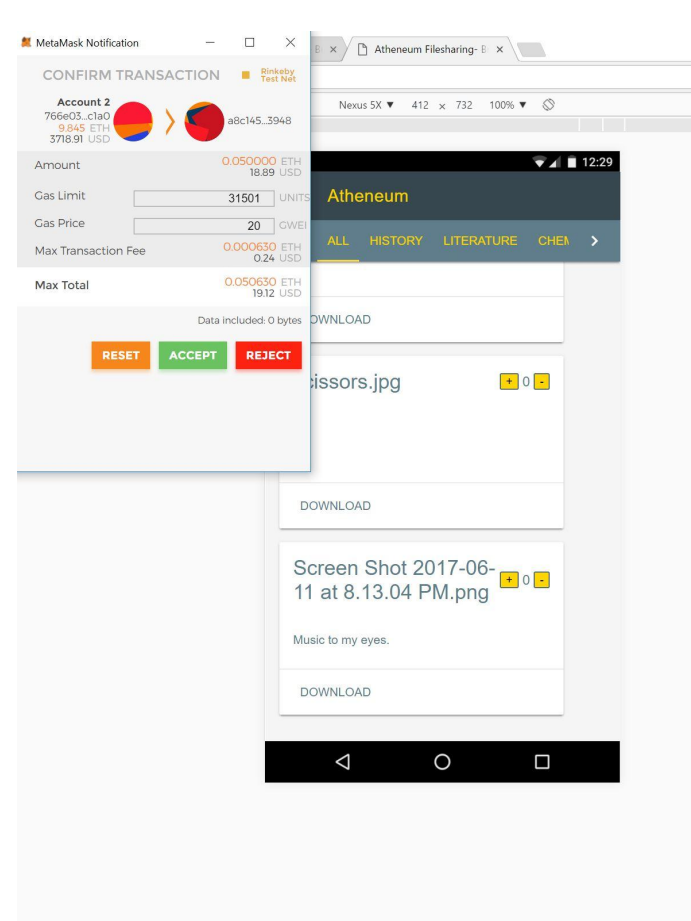
After a Successful Upload, Atheneum Redirects to the Browsing Page



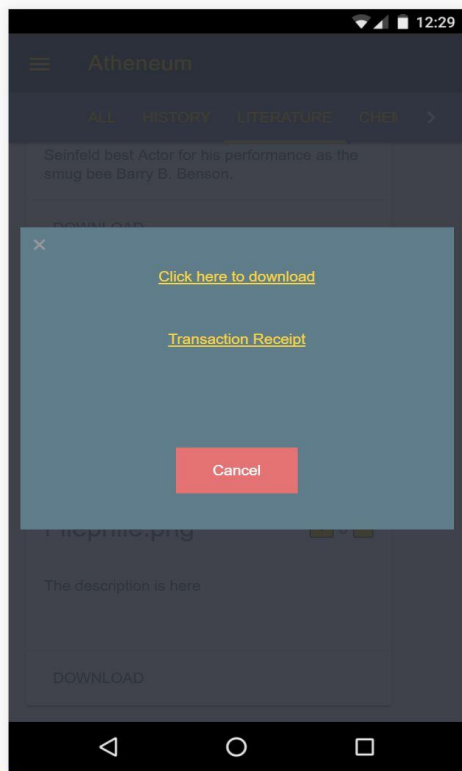
Click download on any of the card views.



If you own the file already, download immediately provided

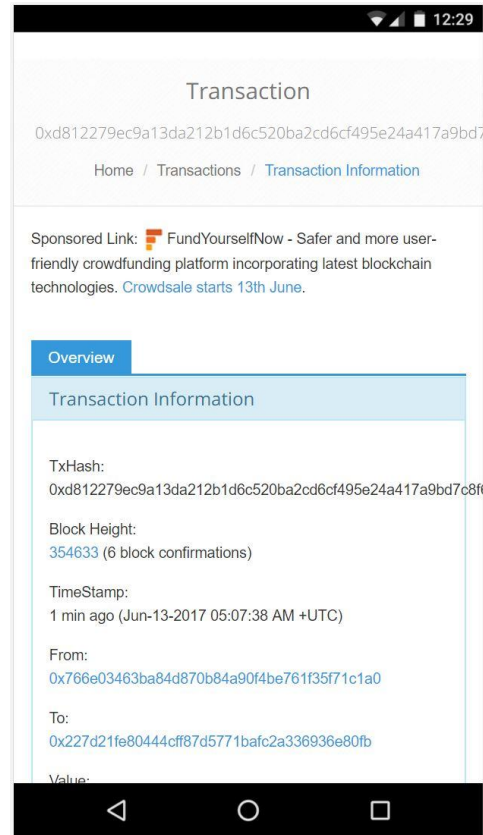


Otherwise, sign transaction to confirm purchase



Filepile.png

After purchase, 2 links provided. One for download, other for receipt.



After clicking transaction receipt.
Redirects app to blockchain ledger with transaction info

Challenges and Accomplishments

Challenges:

- DDOS attack on transaction verification service (Ropsten)
- Downloading the entire blockchain (1 Million+ blocks, over 1 week)
- Obtaining Testnet Ether for testing
- Getting the camera to work

Accomplishments

- Number 1 Ether-supporting meme marketplace in Santa Cruz county (or at least top 5)
- Only 0.05 Eth(\$12) for the hottest memes!
- Directly contributed to the great upward trajectory of Eth prices.
- Getting our app to communicate with the Ethereum Blockchain
- Learned a ton about Cordova

Lessons Learned

- Don't be scared to change technologies or services, it can be worth it.
- Expect setbacks when working with emergent technologies. Don't expect a lot of resources.
- Frequent communication is key to success.
- Push and merge early.
- Cameras Drive us Crazy

Questions?

