

Problem

Crypto has become a booming tradable currency in the past couple years and continues to be on the rise. One of the major ways cryptocurrency is used is with NFT's. NFT(Non-Fungible Token) is a type of data which is stored to a specific Crypto's public blockchain and is stored as a unique asset. NFT's are digital items which users can create, buy and sell on NFT marketplaces. Some of the biggest problems with NFT marketplaces can be understanding what is actually going on when using them and depending on what NFT marketplace you use, the price. The NFTies Marketplace is user a friendly marketplace that will help assist in the creation of NFT's by making the process seamless and less expensive for the users who have created NFT's before and user who are only getting started.

Current System

The current state of the project is the frontend was partially developed, the backend needed to be researched and developed more, and the crypto contracts needed to be developed. We split in to three teams of crypto, frontend, and backend. The backend did not have very much code, so the goal this semester was to research what needed to be done and start. The crypto team had to use last semesters research and continue to create results. The frontend team had some features but not enough for all the planned features this semester.

Requirements

What was worked on:

The crypto team needed to figure out which blockchain system to use, which languages to use, and how to mint using the blockchain. They also researched the best applications to handle user wallets. The backend handled hosting the server as well as user logins. The frontend worked on displaying images from the blockchain, logins, and the minting user interface. I lead the project so I had to ensure each time was meeting and contributing to the project at a timely rate.

System design:

Front-End: React.js, CSS, HTML, Javascript

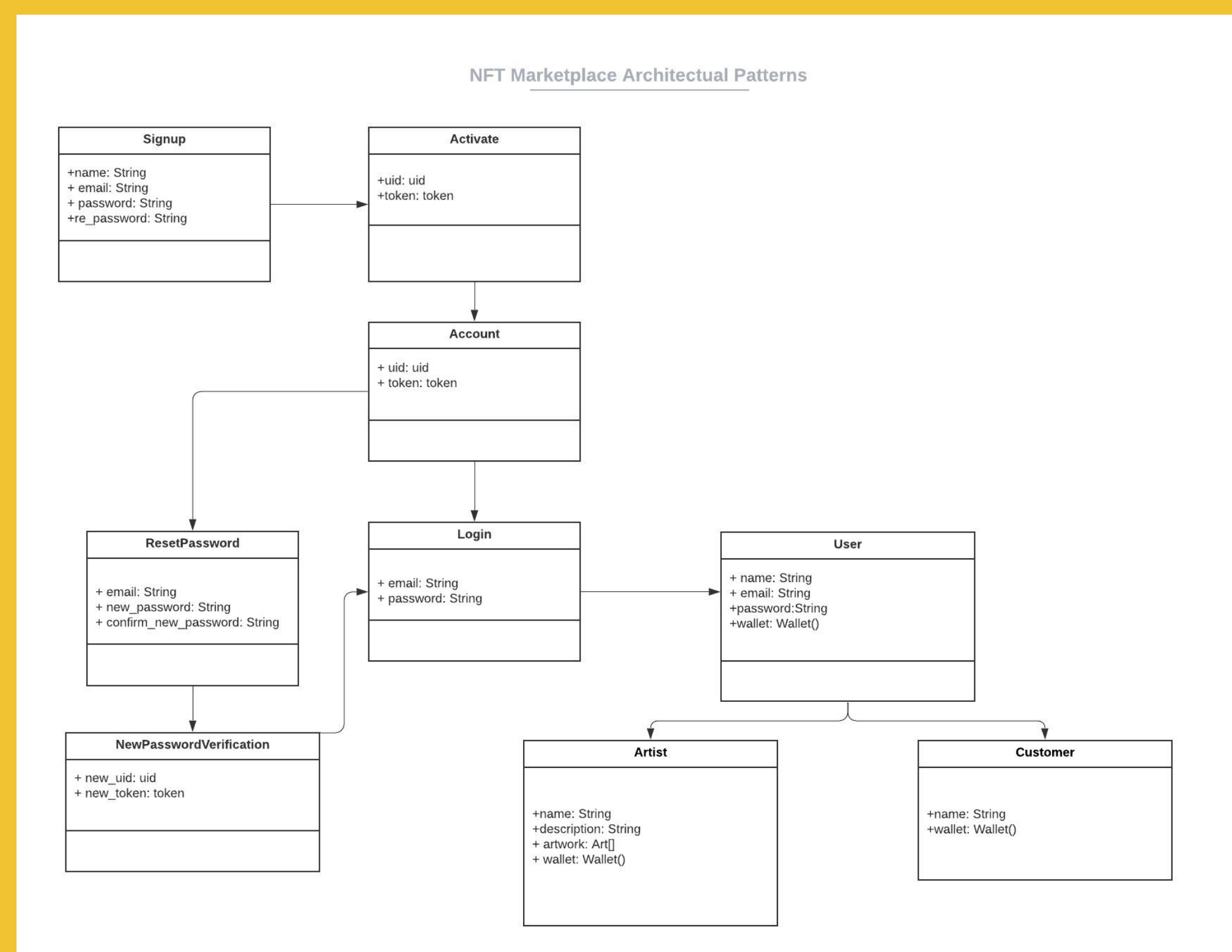
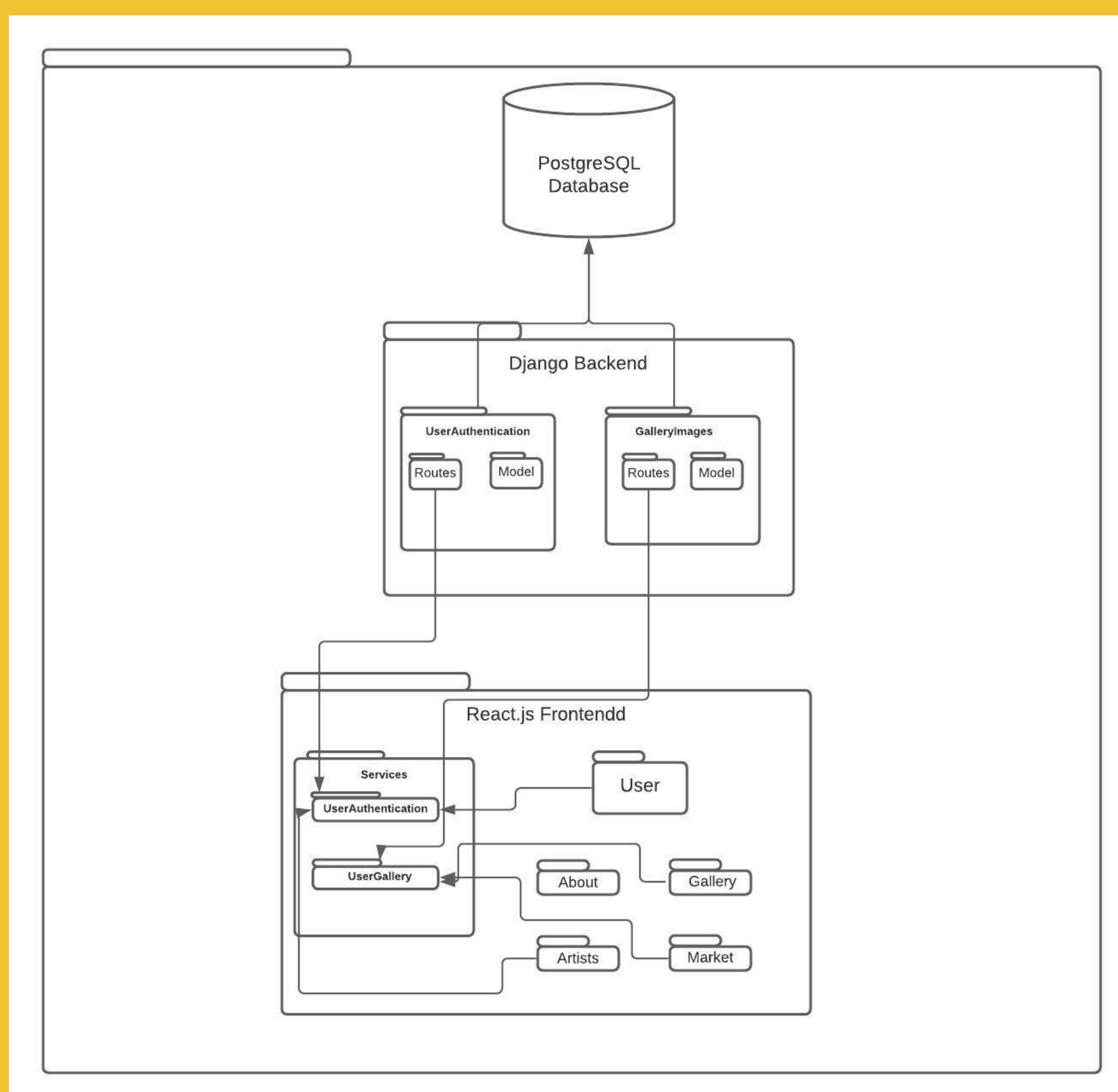
Back-End: Python, Django

Database: PostgreSQL/PostgreSQL

Terminal

Crypto: Ethereum, solidity based smart contracts

System Design



Screenshots

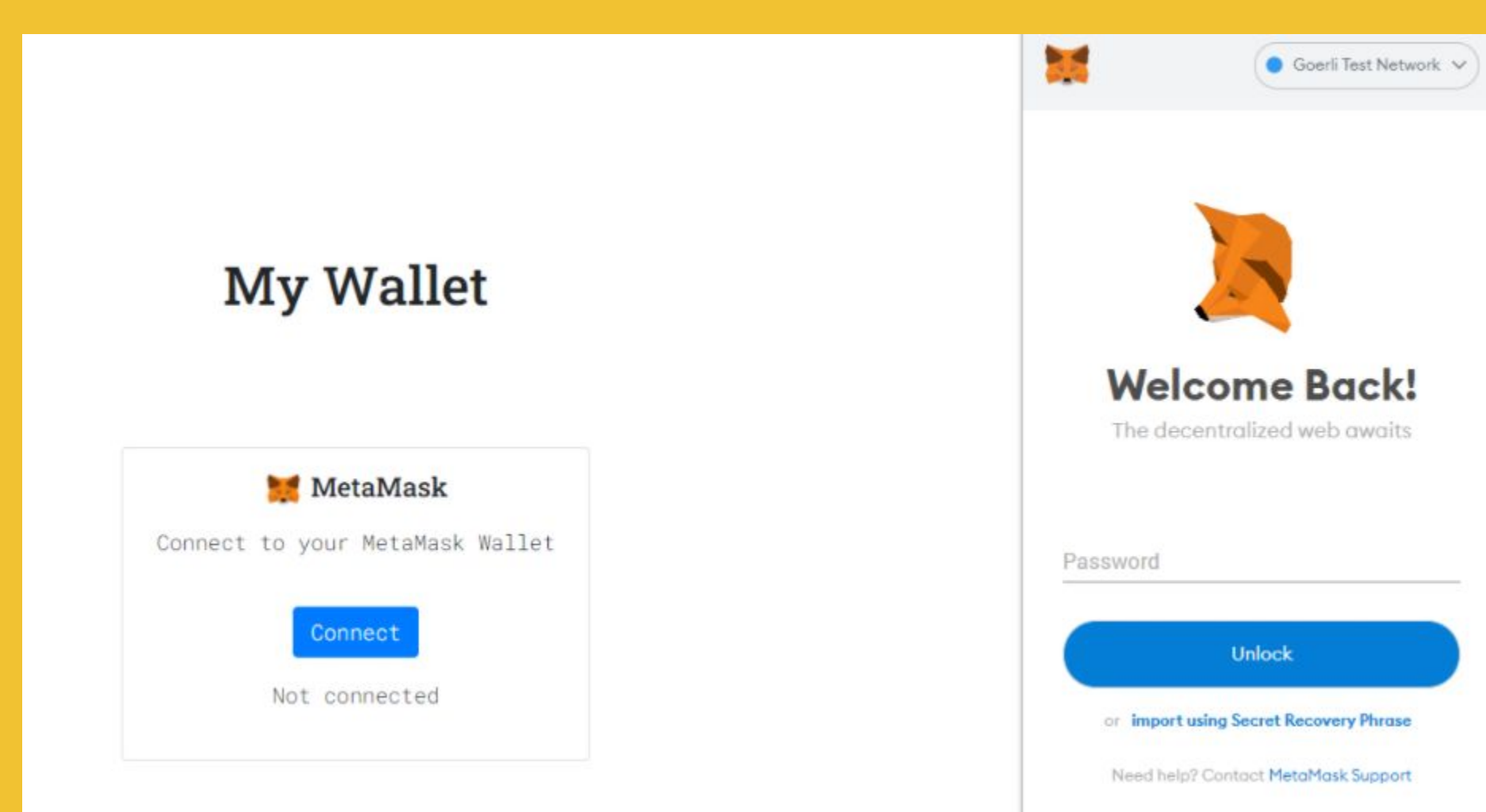


Image 1: this screen allows users to connect to the exchange via their "wallet". The wallet is an external web extension.

The image shows the 'NFT Lister' form. It contains the following fields:

- ImageUri
- Name
- Description
- Twitter
- Discord
- Website
- Discord
- Price
- Supply
- Presale
- Chain

A 'Submit' button is located at the bottom right of the form.

Image 2.: this screen allows users to "mint" their nft's using a form. This from connects to the blockchain and creates a new nft using various parameters.

Verification

For verification, we used metamask to ensure that user can log into the website. We verified that we can load images and text directly from the blockchain in order to render images. We need to verify that backend can receive post and get requests from the frontend. To verify our mint page worked, we had to validate text from forms to send to the blockchain contract to "mint" new NFTs on the blockchain and display them on our market page.

Summary

The NFTies collective is progressing smoothly this semester after using last semester to learn about crypto and how to create NFT's, host servers, and create the user interface for users to interact with both the server and blockchain. Creating three teams to manage was difficult as the progression of certain tasks moved differently. For example, the frontend could work on features, however crypto needed to figure what the features would visually look like before frontend could create forms to "mint" and nft. The project made good progress and certain features still need further development to create a beta product for real user to onboard.

Acknowledgement

I thank Professor Masoud Sadjadi, and PO Eddie Garcia for their and assistance and mentorship that I received throughout the senior design project.