CRYPTONIA

YASSINE JDAIR – G00377375

LASE IFEBAJO, AKEEM JOKOSENUMI

GERARD HARRISON

https://github.com/YassineJdair/PPIT_2022

Completion Of Components

Server.Js	Yassine Jdair		
LogRegister.js	Yassine Jdair		
about.js		Lase ifebajo(notdone)	
add.js	Yassine Jdair		
crypto.js	Yassine Jdair		
cryptoItem.js	Yassine Jdair		
currency.js	Yassine Jdair		
exchanges.js	Yassine Jdair		
register.js	Yassine Jdair		
update.js	Yassine Jdair		
view.js	Yassine Jdair		
app.js	Yassine Jdair		
coin.css	Yassine Jdair		
exchange.css	Yassine Jdair		
App.css	Yassine Jdair		
nftContainer.js			Akeem Joko
Nft.css			Akeem Joko
Nft.js			Akeem Joko
Nftcard.js			Akeem Joko
README	Yassine Jdair		
DesignDoc	Yassine Jdair		
ProjectProposal	Yassine Jdair		

Project Requirements

For my final year project, We had to opportunity to make a software project that uses technologies learned over the past 3 years of the course. I decided to do a multiuser crypto (**Cryptocurrency, sometimes called crypto-currency or crypto, is any form of currency that exists digitally or virtually and uses cryptography to secure transactions. Cryptocurrencies don't have a central issuing or regulating authority, instead using a decentralized system to record transactions and issue new units)**. website that tracks live coin prices, allows user to login, register, and update their portfolio. This Includes being able to create, read, update, and delete their holdings.

The requirements for this app are as follows:

- Client-side routing
- Website must have a minimum of four components
- The server must be able to read from the database
- The server must be able to write data to the database
- The server must be able to delete and update data in the database

- User must be able to successfully Register/Login to cryptonia account.
- User must be able to view their portfolio.
- User Must be able to Update/Delete/Add/Update data from their portfolio.
- User Must be able to view live cryptocurrency prices.
- User Must be able to view different crypto exchanges and when they press on the name they get redirected to the official website.

System Requirements

- Visual Studio Code
- Google Chrome
- Command Prompt
- Windows 10

Technologies Used:

For this project I used various technologies which I have listed below:

- I used MERN stack because it is easiest and fastest for deployment of web applications.
- I used JavaScript because it is one of the most used languages when it comes to web development.
- I used NodeJS because it is used for building servers in the back end .
- I used ExpressJS to provide server-side logic to the website.
- I used MongoDB to store my data.
- I used ReactJS to build my UI

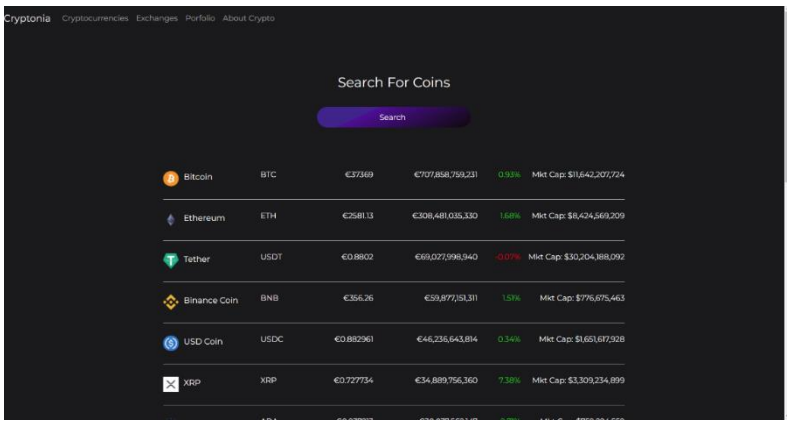
Design Methodologies Implemented:

For the design of this website, I wanted to make it look Modern and easy to use, meaning I wanted the user to be able to easily switch between pages, so I created a simple navbar that directs the user straight to the page the click on. I then decided to choose colour schemes that would keep the user interacted and invested in the website.

To do this I had to brainstorm what users am I aiming my website towards:

- Age Group
- Male/Female
- New people interested in crypto/ People that already know about crypto
- What makes my website different to others?

These questions helped me build my website in a way to make it easy for the users to use. I aimed this website for people aged 18-28 the younger generation that would like an easy crypto portfolio tracker that did everything it supposed to do and looked nice.



Architecture of the Solution:


```
_id: ObjectId("624ac568e748cc3004bd59f0")
title: "Ethereum"
quantity: "1.254"
poster: "https://pngset.com/images/eth-ether-ethereum-icon-with-and-vector-form..."
email: "micahel123@gmail.com"
__v: 0
```

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surname: "Keane"
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password: "1234"
__v: 0
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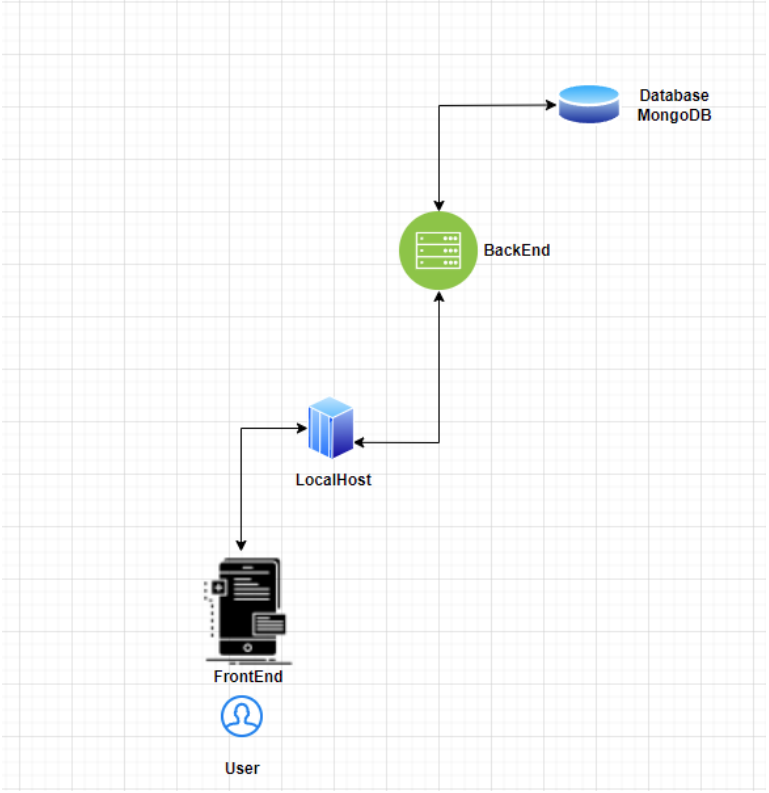
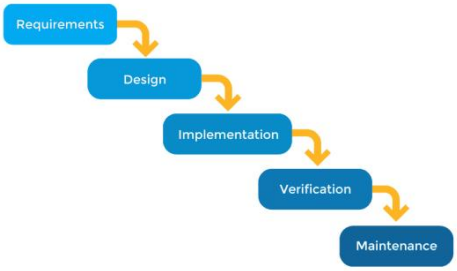


- Frontend: Loads the main page of my website where you can see all the live crypto prices and all the website information/links etc…
- Backend: This is used to manage client data through state and user interactions, the backend takes care of getting or updating data in the application and it is hidden away from the user. Backend is used to store the data and retrieve.
- MongoDB: This is where the user's information is stored for example their account information that they used to register so it can be retrieved to log back into the account, their portfolio holdings. Mongo DB makes it easy for developers to store structured or unstructured data. It uses a JSON-like format to store documents.

Project Management Style:



Planning for this project was done through Microsoft teams with our supervisor Gerard Harrison, we had weekly meetings where we would discuss our progress and what we hope to achieve by the following week.

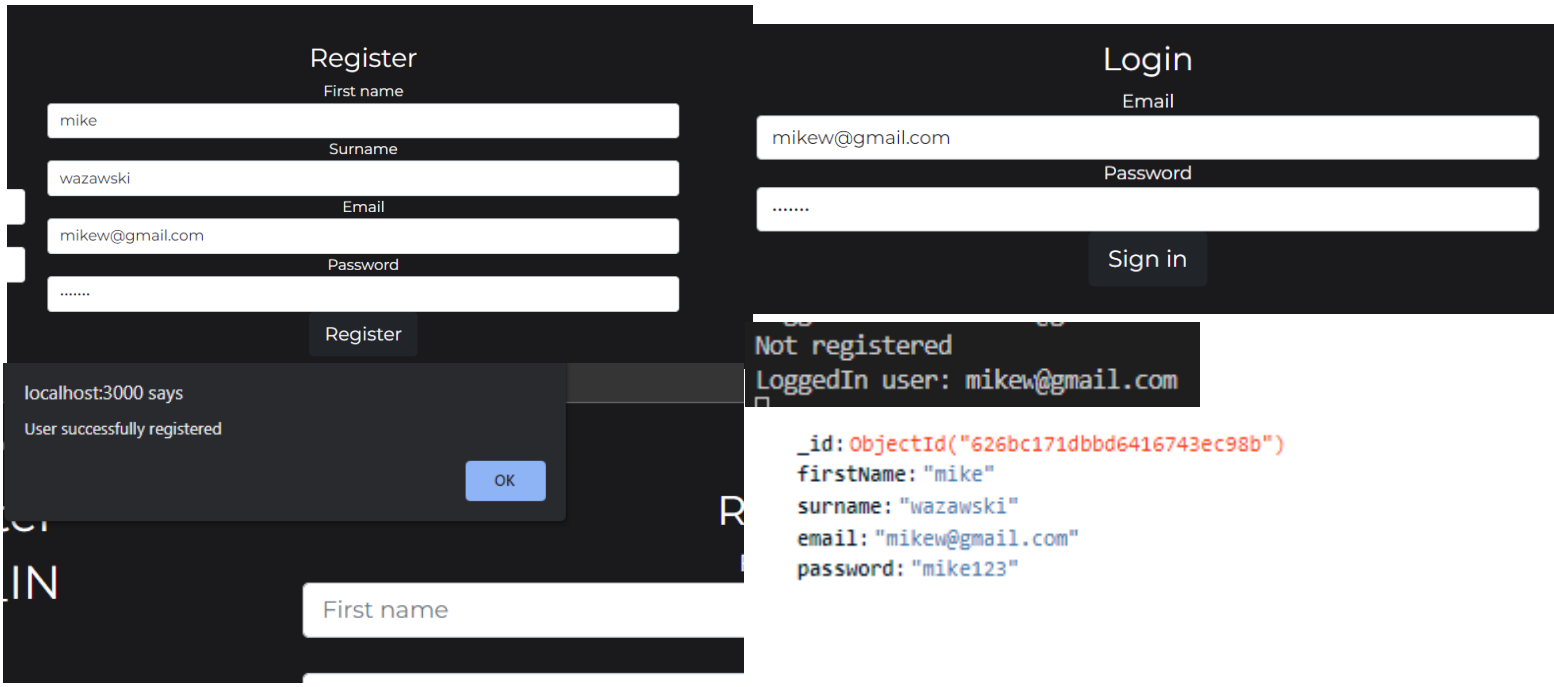
For the Planning I created a project proposal that would contain a brief idea of what I hope to create and if I needed to alter this later I could, I then sent my project proposal to my supervisor where he then gave feedback. He said since there was 3 people in the group, we needed to add more functionality, I decided to add registration and log in components where the user could register sign in and view their portfolio, but this wasn't fully completed.

For Requirements it was simple the user must be able to easily use the UI without and delay when they click on a page in the navbar they should be redirected to the relevant page. When the user tried to add holdings onto their portfolio, they should be able to do so without and issues.

Implementation was where I started coding and making my website how I wanted it I first started by making a new react app and adding a simple nav bar to it. I tried to keep my repository up to date but since I was the only one working on this project it was hard to keep commit history high. I made sure to save any progress take screenshots, use appropriate commit message briefly describing what I had just done and upload to GitHub at the end of the day in case I had any issues with my machines.

For the verification part before I submitted my final draft of the project, I ran my website and did the following

- I tried navigating between all the tabs to make sure everything was working as it should.
- I tried registering a new user and trying to login I then checked the console to see if I got any alerts.
- I tried adding crypto to the portfolio to make sure the database was still working.
- I used the search function in the cryptonia home page to make sure it still refined results.
- I tried deleting a holding in the portfolio to make sure it did so with no issues.
- I then went onto the exchanges tab and pressed on exchanges names to see if I would be redirected to the relevant pages.



Maintenance:

I don't think I will be maintaining this project there are quite a few bugs and for me to maintain it I would first need to fully complete the project eliminate any bugs and errors. I would also have to go through the other members code to see if it makes sense and contains any bugs. I would need to perfect this project before maintaining it this would mean improving features adding more features and this would take, this website isn't deployed and is only on local machines and on GitHub meaning any bugs I find I can just fix and reupload to GitHub. I cannot just put out an update and the website would update for everyone.

Limitations:

I had originally planned that this website would have a fully working Account section where the user had the option to Register & Login Due to other 2 group members not contributing to workload, I had to do the project by myself and because of this I was stressed and didn't have enough time to get everything working the way I wanted it to. The User Successfully Registers and Is now able to login but because I had no help the user can't see their own specific holdings, they everyone can still add/update/delete/view what is stored on the database but can't see individual data.

One of the main problems I had with my website was the login feature I spent a long time trying to get it working as I had a lot of errors and the data would not get retrieved from the monogDB schema I had to do research and when I realised I had little time left I decided to move on and add another component and come back to it later if I had time remaining.

Update: I got the Login working by removing my authToken function from my backend and adding jsonwebtoken to my server side this was a relief as I wanted to get the register/login functionality up and running before I had to submit this project.

Test Plans:

Conclusion:

When I started this project, I was pretty excited to have made a website in around something I enjoy I keep up with the latest crypto news and coins. I had fun using the technologies I used and because I enjoy creating websites/games this didn't feel like it was a project it felt more like a fun task that I had to do during my spare time. I had never used jsonwebtoken before, so the user registration and login were challenging jsonwebtoken is used to share security info between two parties – a client and a server. I learned about bycrypt which is a password hashing function that allows you to build password security which hashes your password with a salt.

From my experience of doing this project I think sometimes you have to just take matters into your own hands and not depend on people when it comes to workload this isn't the first time, I've made this mistake in this course. I rely on people to get the work done and when it comes to it, they have nothing to show I would be better off doing the project on my own instead of thinking they will get the work done. If this was a real workplace this would not have happened so I'm not too worried.

I enjoyed using JavaScript I think it's one of my strong and favourable coding languages its simple & easy to use compared to C++, its high level and can easily be embedded with HTML.

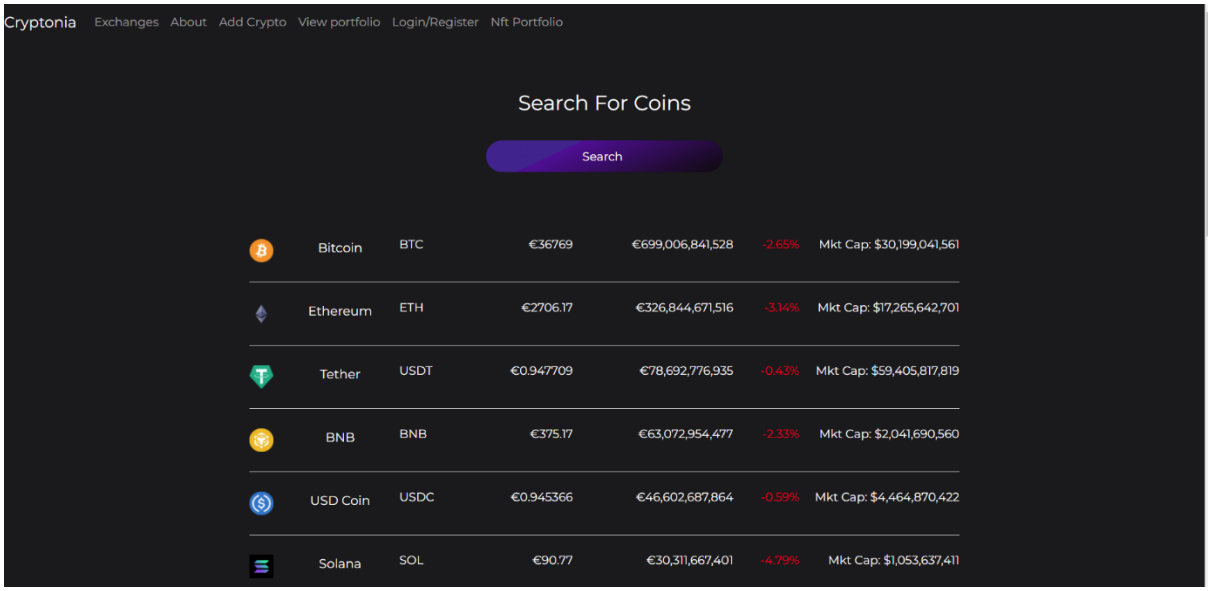
References:

https://auth0.com/blog/hashing-in-action-understanding-bcrypt/

https://app.diagrams.net/

https://www.akana.com/blog/what-is-jwt

https://eternalsunshineoftheismind.wordpress.com/2013/03/10/waterfall-model-maintenance/


Cryptonia
Exchanges
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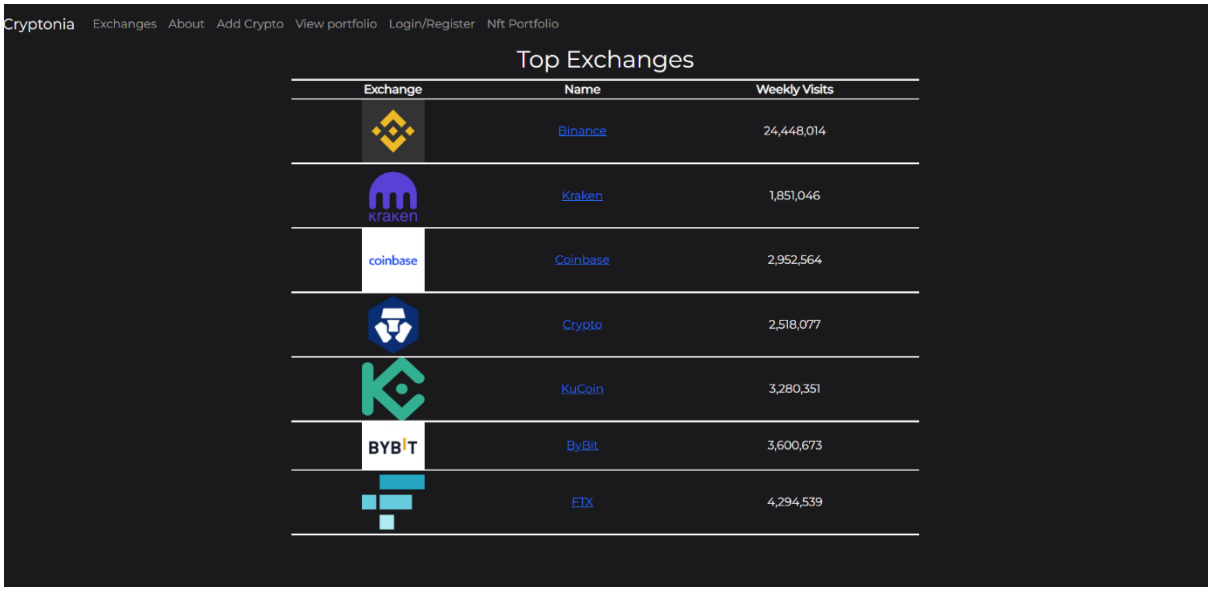
Search For Coins
Search
Bitcoin BTC €36769 €699,006,841,528 -2.65% Mkt Cap: $30,199,041,561
Ethereum ETH €2706.17 €326,844,671,516 -3.14% Mkt Cap: $17,265,642,701
Tether USDT €0.947709 €78,692,776,935 -0.43% Mkt Cap: $59,405,817,819
BNB BNB €375.17 €63,072,954,477 -2.33% Mkt Cap: $2,041,690,560
USD Coin USDC €0.945366 €46,602,687,864 -0.59% Mkt Cap: $4,464,870,422
Solana SOL €90.77 €30,311,667,401 -4.79% Mkt Cap: $1,053,637,411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Exchanges
About
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Top Exchanges
Exchange
Name
Weekly Visits
Binance 24,448,014
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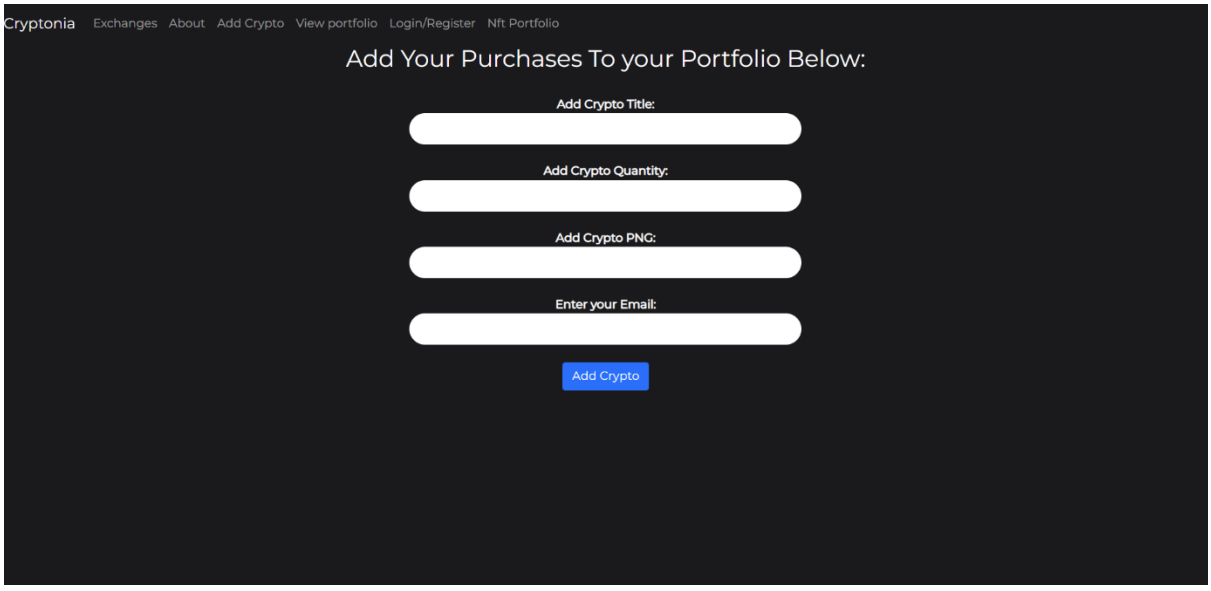
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Add Crypto Quantity:
Add Crypto PNG:
Enter your Email:
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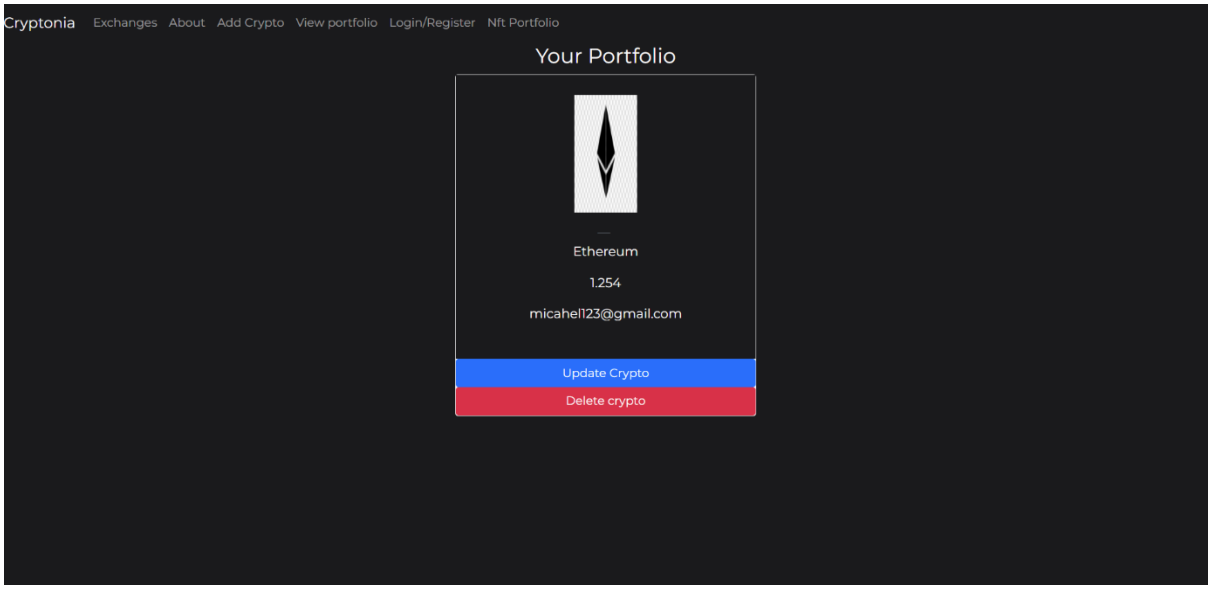
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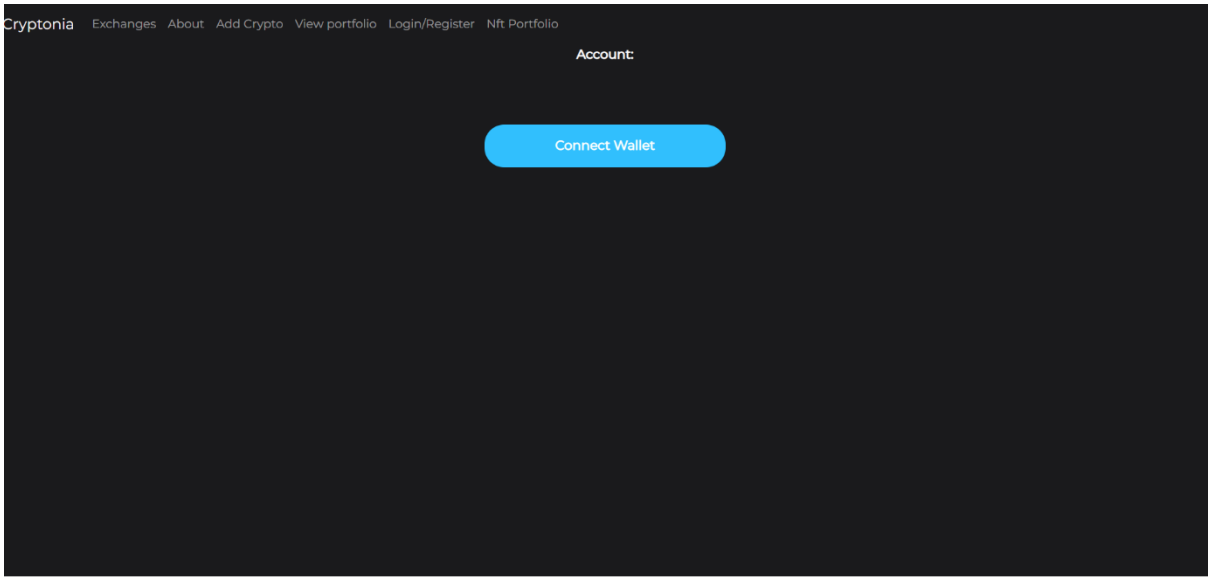
Ethereum
1.254
micahel123@gmail.com
Update Crypto
Delete crypto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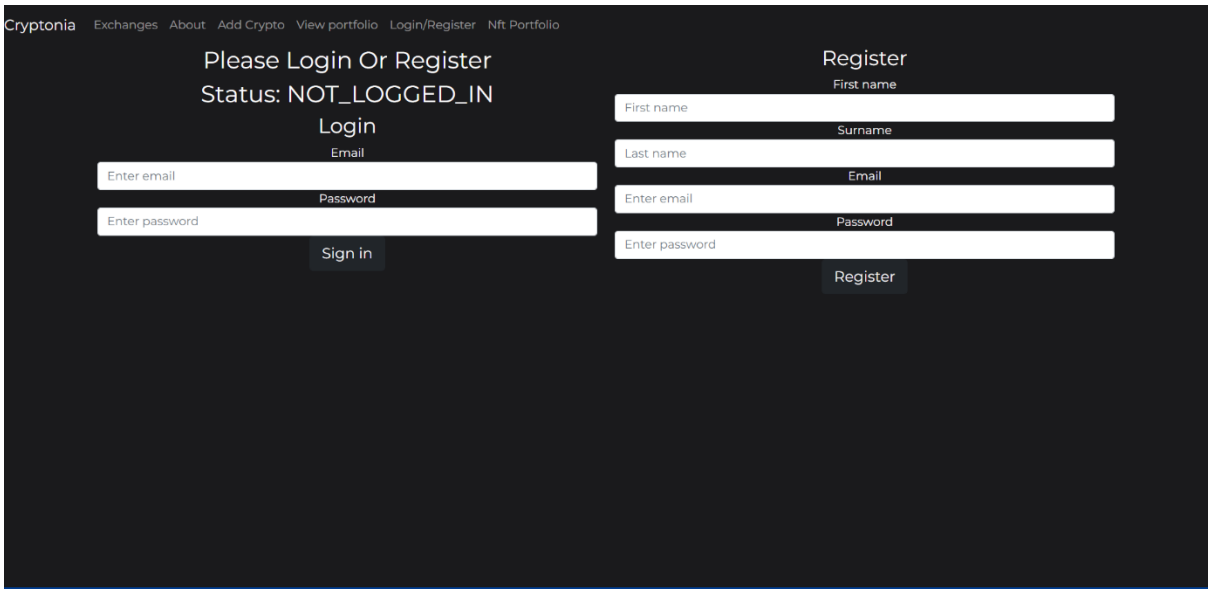
Account:
Connect Wallet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