Brief Report on 5130Of2022 IWS1 Project

Group Members

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Introduction and Brief Report

At the beginning of the semester, me and my group mates decided on creating a react web app for crypto currency tracking and visualization, where a user would be able to enter his/her transactions, see them on the dashboard and have access to their total portfolio analysis, with total investment, profit/loss ratios and their portfolio outlook into the future, as stated in the project proposal. We have created the web application now that lets users add transactions to their portfolio, and a portfolio analysis button, where users will be able to see the visualization of his/her investments, in terms of profit/loss, total value.

Tools Used

For the backend code, I used the flask API framework and build the endpoints with python. For the database, I build it using docker postgresql and docker compose as mentioned in my weekly reports and coingecko API for crypto live prices

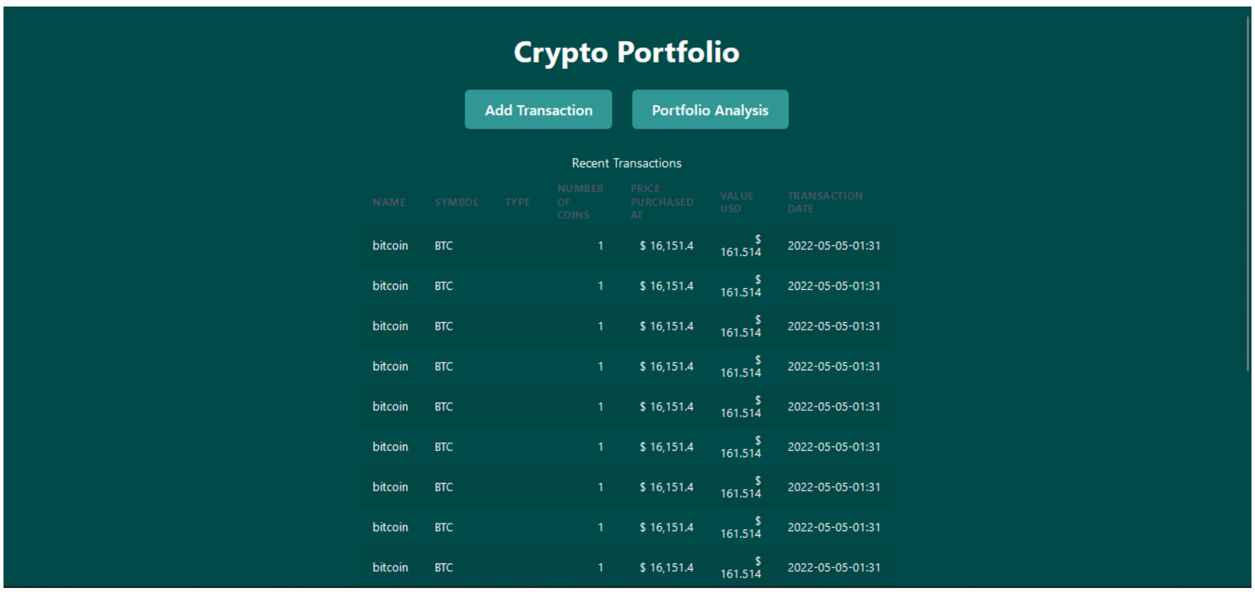
I was responsible for building the backend/server-side code for the app. In doing so, I build the following API end points

1. get_transactions – the endpoint is used to retrieve transactions from the database, using a select query, the endpoints return a JSON response, which is used by the frontend to display transactions
2. post_transactions – the endpoint is used to add a transaction that the user wishes to add, I wrote this endpoint to check if the user is adding a buy or sell transaction and based on that check if the transaction is valid (so the user cannot add a transaction to sell 2 bitcoins when he only has 1).
3. get_details_coinwise – the endpoints gets the total coins, total investment in terms of equity and value and live price. I put a check in place where only transactions where status='active' are selected, and ones with 'delete' are ignored. The endpoint returns a JSON response which is used by the frontend code for the portfolio analysis function.

4. delete_transaction – the endpoint is used to remove a transaction, in a case that the user accidentally adds a transaction, I did not remove the transaction from the database, but set a flag called status and set it to delete, if the user decides to remove the transaction from his portfolio

Current Progress

We as a team are happy with our progress so far, and our app is doing what we intend, below is the image of our app, in its current state



As seen above, we have a button to add transaction, and another for portfolio analysis, once the user clicks on portfolio analysis, the second picture would open.

We are left with the following things to complete

1. Sometimes, when I click on the back button, and open portfolio analysis it takes time or fails to load. Must investigate this bug and find/fix it
2. We are thinking of changing the background of the app to teal color, right now we just went with the basic black color. Also thinking of changing the visualization(charts) color to something that matches teal background
3. In portfolio analysis, we wish to add a forecast for bitcoin, the model is already built by, and the endpoint is created, we are looking for the ideal place to display it on the application

Distribution of Work

Group members

Nagarjuna Kocharla

Sahithi Nallani

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Nagarjuna Kocharla

I was responsible for writing the backend code for the app, all the code written by me is under backend directory, apart from prediction_model.py, with instructions and comments in the code

Sahithi Nallani

was responsible for building and testing the LSTM model to predict bitcoin future price, and the code is under backend in prediction_model.py

Niharika Chundury

was responsible for building and testing frontend code for the app, and the code is under frontend.