Portfolio Account Manager

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Project Goal & Summary

Goal:

Create an application that is a stock and cryptocurrency portfolio management tool which allows the user to create, delete, edit, and manage different portfolios as well as analyze their performance after creating a user account on the application. Through the email verification process, the user is then able to receive even better insights with deeper analysis features.

Relativity to Fintech:

Users have the ability to create, manage and analyze their portfolio.
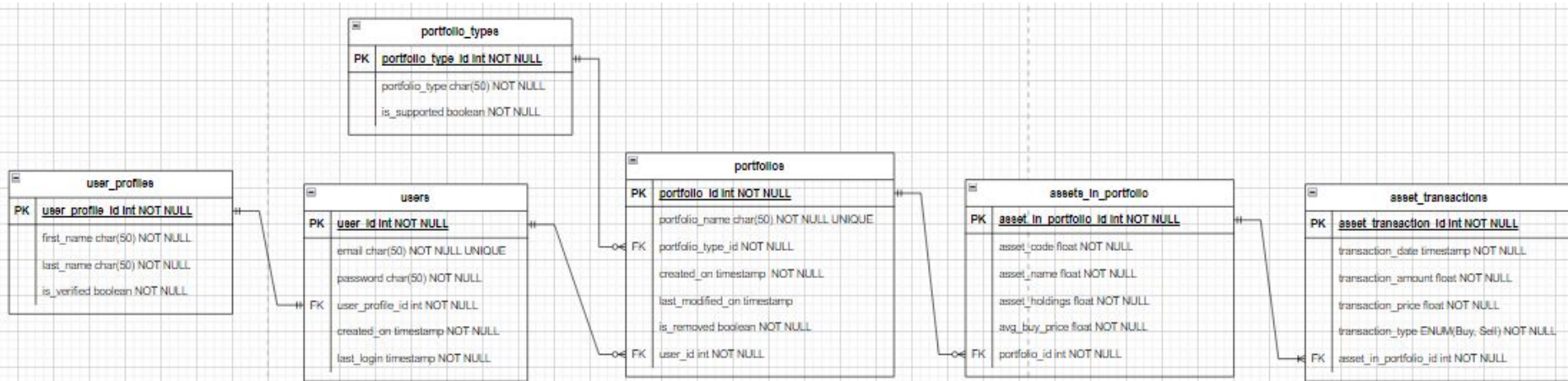
Project Structure

1. Log In / Sign up
2. Email Verification
   a. API Generates a 6 digit code
   b. 6 digit code is emailed to the email associated with the user
   c. User inputs code into terminal
   d. Verifies their account
3. Portfolio Management (Crypto & Stock)
   a. Add a portfolio
   b. Edit a portfolio
   c. Remove A portfolio
4. Asset Management
   a. Add Asset
   b. Add Existing asset
5. Portfolio analyzer (only visible after email verification)

Data Collection, Exploration, & Cleanup

Sources of data and how store the data:

- **Alpha Vantage API & Alpaca SDK** to get the current and historic asset prices for portfolio analysis
  - Using API on demand not storing any prices in database
- **Postgresql**: database to store information about user profiles, portfolios, assets in portfolios and transactions.
  - **sqlalchemy** to work with the database
  - User data that is collected through and stored - email, first and last name
- **Hashlib Module:** To store password securely through calculating md5 hash of the the password, storing the hash in the database, not the password as is.
- **smtplib** and **email** modules to generate an email send it to the user

Closer look into the database

The Approach

Project Demo

Result of Deep Portfolio Analysis

Conclusion

Unanticipated insights or problems that arose and how we resolved them:

- Googling information
- Double checking each others work
- Asking questions

Results/ Conclusion:

The portfolio account manager allows you to create, delete, edit, and manage different portfolios as well as analyze their performance after creating a user account on the application. With the addition of email verification allowing the user to use the deep portfolio analysis functionality.


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Global Management Mode

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The list of your portfolios:
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My Crypto Portfolio - $0.00, 0.00%($0.00)
My Stocks Portfolio - $10500.00, -3.25%($-500.00)
---------------------------
?  (Use arrow keys)
» Manage Portfolio
  Add New Portfolio
  Verify Email
  Exit
```

Next Steps

- Dive deeper into dash and provide more complex visualizations
- Learn more about UI and web development in python to be able to move this project from terminal to UI
- Security and Debugging, logging events .
- Include Portfolio Performance (Hours, days, months, years)
- Add asset management mode
    - Display all transactions
    - Remove transactions
    - Add transactions
- Learn and apply multithreading not to wait too long for getting the results from APIs for a number of Portfolios/Assets in Portfolios