Pyhton Crypto Bot

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1 Introduction:

The coursework project aimed to develop a currency tracking application using the Binance API and the aiogram library in Python. The application allows users to track their favorite currencies, view top currency pairs, and retrieve account information from the Binance exchange.

2 Problem Statement:

The project focuses on delivering a user-friendly solution for tracking and managing cryptocurrency prices. Emphasizing convenience and accessibility, the goal is to offer a seamless experience via the Telegram platform. By prioritizing simplicity and ease of use, the project aims to cater to both casual users and traders, ensuring effortless access to cryptocurrency market information.

3 Methods and Approaches:

1. Development Environment: Python programming language was chosen due to its ease of use and availability of libraries such as aiogram for building Telegram bots.

2. Binance API Integration: The application utilized the Binance API to retrieve real-time cryptocurrency data, including prices, account information, and exchange information.

3. Telegram Bot Development: The aiogram library was used to develop a Telegram bot interface for the application, allowing users to interact with the features through text commands and inline keyboards.

4. SQLite Database: Data storage and management were handled using an SQLite database, enabling the storage of user information, favorite currency pairs, and other relevant data.

4 Results:

1. Functionality Implemented: The application successfully implemented features such as retrieving account information, tracking favorite currency pairs, viewing top currency pairs, and managing user preferences.(See figure 1 and figure 2)

2. Real-time Data: Users were able to receive real-time updates on cryptocurrency prices and account balances, enhancing their ability to make informed trading decisions.

3. User Engagement: The interactive Telegram bot interface facilitated user engagement and provided a seamless user experience.

4. Challenges: Some challenges were encountered during development, including handling asynchronous requests and ensuring data integrity in the SQLite database.
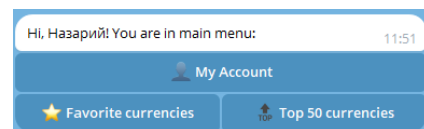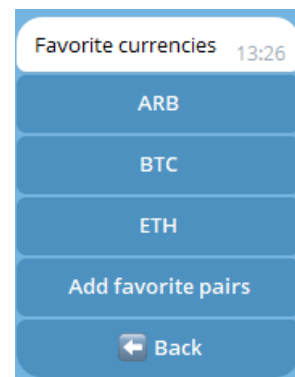

Figure 1: Main menu

Figure 2: List of favorite cryptocurrencies

5 Future Development:

1. Additional Features: Future iterations of the application could include additional features such as price alerts, customizable notifications, and portfolio management tools.

2. Enhanced User Interface: Improvements to the user interface, including more intuitive commands and enhanced visualization of data, could enhance user experience.

3. Integration with Other Exchanges: Integrating the application with other cryptocurrency exchanges would expand its functionality and appeal to a wider user base.

4. Community Feedback: Gathering feedback from users and incorporating their suggestions would be essential for refining and improving the application over time.

6 Conclusion:

Overall, the currency tracking application provides a user-friendly and efficient solution for tracking cryptocurrency prices and managing favorite currency pairs. With further development and enhancements, it has the potential to become a valuable tool for cryptocurrency enthusiasts and traders.

References

[1] Aiogram documentation. online, 2024. `https://docs.aiogram.dev/en/latest/`.

[2] Binance api documentation. online, 2024. `https://binance-docs.github.io/apidocs/spot/en/`.

[3] Sqlite documentation. online, 2024. `https://sqlite.org/docs.html`.