Currency-Pair Analysis

This application's purpose is to monitor and generate payload simulations for a chosen crypto-currency pair.

Tech Stacks used:

* Java (Gradle)
* Android Studio
* WazirX API

Screens And the Logic behind

1. **Main Screen**

Our first task is that user has to select the pairs they wish to analyse. To perform this I had to test the <https://api.wazirx.com/api/v2/market-status> api using Postman.

This api gives all the currency pairs currently available. There were around 600+ pairs of them. It would be difficult for the user to navigate to 600 pairs at once, Hence I thought of splitting it into 2 dropdowns.

By doing this, now the user only have to navigate through 300 crypto currencies and the second dropdown will be according to the selected crypto from first drop down.

For asynchronous fetching of this data as HashMap from the API, I used Interface call-back.

Once the “GO” button is clicked you are navigated to next page.

1. **Action Page**

First I proceeded with using WebSocket straight away for displaying the current price. But the problem was that sometimes you might have to wait for the current value of the chosen pair o be retrieved.

Since this seemed less user-friendly, I thought of using history data using api <https://api.wazirx.com/sapi/v1/trades?symbol=x&limit=20> where x is the chosen symbol and limit specifies how much past values of the currency needs to be retrieved.

This was very helpful. From the retrieved 20 data’s, I only needed <price, time> of those hence I parsed them to ArrayList<Arraylist<>> in the reverse order such that the most recent currency value is in the last so that we can use the ArrayList easily for graph in the graph visualization.

Now I can instantly display the current price of the currency pair. And allow user to enter a reasonable Buy Trigger and Sell Trigger.

For the Asynchronous API data fetching, here I used OnResponse <.then()> instead of Interface Callback.

Once the user press “SIMULATE” button, they are navigated to the Visualization page.

1. **Graph Page**

Here I used Websockets with api along with callback interface to fetch the data and update in realtime “wss://stream.wazirx.com/stream” for the chosen pair.

Retrieve only the <price, time> from the updated data and add it to our history data in realtime.

To visualize the price values with time and the trigger lines, I used the package “com.github.PhilJay:MPAndroidChart:v3.1.0”.

The payloads are generated and displayed as alert message upon 3 events:

1. Whenever the price hits or exceeds sell trigger, sell payload would be generated.
2. Whenever the price drops below buy trigger, buy payload would be generated.
3. Whenever the Cancel button is clicked, the simulation is cancelled.

The screen is redirected to Main Screen 2 seconds after the cancel payload is generated.