CTIS 255
Frontend Web Technologies
Fall 2024-2025
PROJECT
by Serkan GENÇ

Deadline: 28 Dec 2024, 23:59
Submission: Through Moodle, only one group member will upload the project.
Teamwork: 4 students
Filename: Name_Surname.zip (student name who is uploading the project)

PROJECT TOPIC

In this project, the goal is to create a marketplace simulation using real historical data of certain cryptocurrencies (available in **db.js**) from the year 2021. Users who register in the system will start on January 2, 2021 (**Day 2**). For the entire year, the daily opening, closing, highest, and lowest values of some cryptocurrencies are provided. This daily data can be displayed in a candlestick chart format. The system will open an account for you with $1000 as of January 2, 2021. Your objective is to trade cryptocurrencies based on the closing values of the previous day. Depending on the amount of money in your account, you can buy cryptocurrencies from the market or sell cryptocurrencies from your wallet. After completing your buy/sell transactions, you can continue the simulation by clicking the "Next Day" button. Alternatively, you can click the "Play" button to quickly progress through the year. When you reach day 365 (December 31, 2021), the simulation will end, and you will be able to see the final value of your wallet.

Do not forget to **watch the given video file** (*drag **demo.webm** to chrome browser*). CSS frameworks like Bootstrap, Materialize are not allowed. You can use any icon/font libraries such as font awesome or similar. You cannot use DOM API for UI interactivity, and Canvas API or similar drawing libraries are also prohibited. Use html, css, and jquery.

Grading Criteria: (+20Pts Bonus)

1. **(5Pts)** Initial Page including Team members.

2. **(15Pts)** Add and delete profiles. Profiles and associated data should be kept in local storage persistently.

3. **(5Pts)** Show selected profile (user name) and logout button. Logout button shows the profile selection page.

4. **(50Pts)** "Next day" moves to the next day.

    a. (**5Pts**) Show current day and date.

    b. (**5Pts**) Display the icons of coins, and the selected one is animating.

    c. **(20Pts)** It draws candle-sticks up to the new day based on the selected coin. The graph can show up to *last 120 days* at most.

    d. **(5Pts)** The last closing value of the coin is shown with a gray dashed line and its value on the right side.

    e. **(5Pts)** Moving over the candle shows the opening, closing, low and high beside the coin name

    f. **(10Pts)** It calculates the new value of the wallet (cash plus the values of coins in the wallet)

5. **(15Pts)** Trading UI part is responsible for buying and selling currencies. It adds/updates the coin in the wallet.

6. **(10Pts)** Wallet shows the current cash and the coins purchased. It shows the amount of the coins, their values based on the last close price of the coins.

7. **(10Pts)** "Play" button will automatically fast-forward the days. (timer period is 100ms)

8. **(5Pts)** It stops the simulation if the day is 365. The last value of wallet is shown with a heartbeat animation, and it removes the trading UI part.

9. **(5Pts)** The program should remember the states of all users. For example, if you logout from one user, and login to another one. It remembers the states of the logged in user. The profile keeps the user's current day, selected coin, and wallet content, etc.

10. **(-25Pts)** CSS part of the project. Not building the application similar to the given layout and css properties.

11. **(-25Pts)** Late submission (after 28 Dec 23:59, the submission will be closed at 29 Dec 23:59 am.)

12. You don't need to handle error cases like invalid profile name, invalid amount, etc.