DT00BN92 Development of Client-side Interactive Web Applications

Fall 2018
Project work

You can collect up to 65 points for this assignment

This course work is individual. Discussing the course tasks, assignments and specific issues with other course participants is allowed and even encouraged. However, you should be the only author of all the solutions you provide in this assignment. Team work, pair programming or copying solutions or program code from other persons is consider plagiarism and it will be handled following the Åbo Akademi protocol for such cases.

Requirements:

- Complete this assignment using **ReactJS.**
- Your code should be uploaded on GitHub. You **need** to create your repository using the following link https://classroom.github.com/a/_22dVN7M You will need to push your code into the *master* branch
- You will need to enable the **"GitHub Pages"** option for the master branch from the settings.
    - In the readme.md file provide the URL to the landing page of your solution
- Submit on moodle a single **pdf** file:
    - The file should be named **ProjectWork_LastName_Firstname_studentID.pdf**.
    - The document should contain:
        - Your name
        - Student ID at Åbo Akademi University
        - Link to the source code on GitHub
        - Link to the corresponding GitHub page
        - Any possible comments and observations

Comment

- If you do not know which editor to use to write your code, try out eclipse: https://www.eclipse.org/webtools
- The recommended browser is Chrome. Feel free to test your pages in different browsers.

- **Comment your source code such that anyone reading your code can easily understand its logic**
- **Remember that the link to your GitHub repository might be requested during a job interview, and your source code been looked at by your future employer**

Overall purpose of the project:

The customer needs and application to visualize the performance of stock portfolios.

Naming Conventions and Definitions

SPMS The working name of the software to be developed, short for *Stock Portfolio Management System.*

Stock A stock in the stock market, has a symbol and a value.

Portfolio A collection of stocks.

Symbol A short 3 or 4 letter identifier for a stock. (for example, NOK for Nokia, or MSFT for Microsoft)

Functional Requirements of SPMS

The web application should fulfil the following requirements:

1. Create a portfolio (there can be multiple portfolios) **10pt**
   a. User can create a portfolio
   b. User should be able to enter the portfolio name
   c. The maximum number of portfolios that can be created is 10
2. Remove a portfolio **5pt**
   a. The user can delete a portfolio
3. Add stock **10p**
   a. User must enter the symbol of the stock
   b. User must be able to enter the total number of shares in a stock
   c. The maximum number of symbols (different stocks) in a portfolio is 50
   d. There is no limit on the number of stocks a portfolio can contain
4. View portfolio **10pt**
   a. User must be able to change the currency between US dollar and Euro.
   b. User must be able to view the current values of the stocks in the portfolio.
   c. User must be able to view the total value of the portfolio.
5. Compare stock value performances in a portfolio **15pt**
   a. User must be able to see a graph showing the historic valuation of the stocks
   b. User must be able to adjust the time window of the graph by selecting the starting and ending date of the graph.
6. Remove stock **5pt**
   a. User can remove stocks from a portfolio
7. You need to use the persistent local storage to save all data related to the created portfolios. (That is, after closing and opening the browser the portfolio should still be available) **5pt**
8. You are free to decide on the layout and look of your application. The usability of your application will be taken into account when evaluating your solution. And the layout should be responsive!!! **5pt**

Hints:

o Currency exchange rates, stock prices and historical prices are available via the following API: https://www.alphavantage.co/documentation/

- o You need to request a free API key to use the service
- o You need to find a library able to generate the graphs (google.com will be your friend for this)

The following are only mockup examples, you do not have to strictly follow them!

http://www.spms.org

Add new portfolio

Portfolio 1   Show in €   Show in $ ⊗

MyPortfolio 2   Show in €   Show in $ ⊗

Portfolio 1 performance   Close

☐ NOK
☑ MSFT
☑ AAPL

Starting time / / 📅   Ending time / / 📅

Total value of Green Portfolio: 968.40 $

Add stock   Perf graph   Remove selected