CMPS 350 Web Development Course Project Phase 1
E-Commerce Platform

Weight of the project (phase 1):

- 15% of the course grade.

Important Dates

- The project phase 1 submission is due by **12 AM Friday 15 March 2024**.
- Demos are during the same week.

1. Description of the project:

- You will build an e-commerce platform like Qatar-Living, Amazon, eBay etc. The platform can be of any type – you should select the type on your own. For example, it can be only for clothes, or only for toys or a general one like Amazon.
- There are three types of users:
  - **Customer** who wants to buy items.
  - **Seller** who wants to sell items.
  - **Admin:** they are responsible of the platform.
- Each type of users has its own features and capabilities.
  - Customer has a *name*, *surname*, *shipping address*, *username*, *password*, and *money balance*.
  - Seller has a *company name*, *username*, *password* and a *bank account*
  - Admin has a username and a password.
- The platform has a main page which is the first page the users see when they visit the platform. In the main page, they can search for items. However, they cannot buy items if they are not logged in.
- The platform has the following use-cases:
  - **Use Case 1: Login**
    - It allows users to login to use the app using their username and password. Login should be verified using the users data in *users.json*.
    - A sample list of users will be provided in *users.json*. To keep the app simple, there is no need for the users to register to create an account to use the app.
    - Once a user is logged in, they will be directed to the main page.
  - **Use Case 2: Search available items**
    - In the main page, user should be able to search available items. Once the search button is clicked, it will show only the suitable ones.
    - To keep the application simple, you can create and use a json file for items, i.e. *items.json*.
  - **Use Case 3: Purchase an item**
    Pre-Conditions: The user is logged in.

Behavior: A user can purchase an item if s/he has enough money. When the purchase button is clicked, it should direct the user to a new page to enter details about the purchase (e.g. item quantity, shipping address, etc.).

To keep the application simple, we can assume that customers can bay one or more of the same item, but not different items in the same transaction.

Post-Condition: The bank accounts, purchase/sale histories are updated if purchase is successful. A message about the status of the purchase is shown to the customer.

- **Use Case 4: View the purchase history**
  Customers should be able to see the list of purchased items. It is up to you to decide how to store the history.

- **Use Case 5: View available items on sale and sale history**
  - A seller should be able to see the list of items s/he is currently selling and the items that have been already sold.
  - S/he should be able to click the item and see its details. In the sale history section, how many items are sold, who bought it (username), and its selling price should appear.

- **Use Case 6: Upload an item to be sold**
  Pre-condition: A seller is logged in.
  Behavior: A seller can upload new items to be sold. The seller should define its price, available quantity, its picture and other details. If the item was already uploaded before, s/he can just update its quantity. In order to do this, the seller should first view his/her sales on item (Use Case 7)
  Post-condition: The item should start appearing in the search and its quantity should be updated.

2. Deliverables and important notes

Seek further clarification about the requirements/deliverables during the initial progress meeting with the instructor**.** Note that further important clarifications maybe modified/added to the project requirements. During the weekly office hours, you are required to present and discuss your design with the instructor and get feedback – **Be also mindful that it is a personal project, in the sense that you should make your own design and implementation choices. The instructor will give you only a high-level advice and acts as the client asking for the platform, and you play the role of the application designer and implementer.**

You are required to submit a project report by the deadline. While preparing the report, make sure to include information about (and respect) the following points:

I. Design the App Web UI and navigation.

You may design the UI wireframe (sketch) to decide the UI components and the layout either on paper or use a design tool such as https://www.figma.com/

II. For each use case, implement the app UI and navigation using HTML, CSS and JavaScript. The pages should comply with Web user interface design best practices. Also remember that 'there is elegance in simplicity'. Each page should be responsive to support at least 2 layouts one for mobile and another for PC.

III. Design and implement the app navigation to allow the user to navigate from one page to another in intuitive and user-friendly way to achieve the app use cases.

IV. For each use case, design and implement the Web API and the server-side data access repositories to read/write the app data from/to the data store. For phase 1, you can read/write to simple JSON files that you need to create and initialize with some sample data.

V. Application design documentation should include the Entities, Repositories and Web API class diagrams.

VI. Document the app testing using screen shots illustrating the results of testing.

VII. The report must contain details about the contribution of every team member. Every team member should demo their work and answer questions during the demo week.

VIII. Push your implementation and documentation to your group GitHub repository as you make progress.

Note that this phase will be focused only **a fully working client-side and server-side implementation** that read/write data in json files.

3. Grading rubric

Criteria	**%**	**Functionality ***	**Quality of the implementation**
1) Design and implement the app Web UI and navigation using HTML, CSS and JavaScript. Including designing the App Web UI and navigation.	30		
2) Design and implement the Web API and the server-side data access repositories to read/write the app data JSON files.	60		
3) Application Design: Entities, Repositories and Web API class diagrams.	5		
4) Testing documentation using screen shots illustrating the testing results. - Discussion of the project contribution of each team member. Members should collaborate and contribute equally to the project.	5		
Total	100		

Important remark: *In case of copying and/or plagiarism or not being able to explain or answer questions about the implementation, you lose the whole grade.*

*** Criteria for grading the functionality:**

- The functionality is working: you get 70% of the assigned grade.
- The functionality is not working: you lose 40% of assigned grade.
- The functionality is not implemented: you get 0.
- The remaining grade in all cases from above **is assigned to the quality of the implementation**,
- The grades are distributed on the various use cases, when the design/implementation is partial, you get only the grades of designed/implemented use cases.

Code quality criteria, include:

- Use of meaningful identifiers for variables and functions (e.g. using JavaScript naming conventions)
- Pages are responsive
- Clean code: simple and concise code, no redundancy
- Clean implementation without unnecessary files/code
- Use of comments where necessary
- Proper code formatting and indentation.

You lose marks for code duplication, poor/inefficient coding practices, poor naming of identifiers, unclean/untidy submission, and unnecessary complex/poor user interface design.

Important Remark:

[Grades: 100-85]: Will be given only to **fully functional application** with **all the quality criteria cited above met** and the project has excellent **design for the various functionalities**. **The report is professional**.

[Grades: 85-80]: Will be given only **to fully functional application with most of all the quality criteria cited above met** and the project has good design for the various functionalities. **The report is professional**.

[Grades: 80-75]: 80% of the application functionalities are functional. The project respects partially the quality criteria. **The report is professional** but misses some iformation.

The grades are not negotiable. We expect that only a small portion (around 15%) of the class will be able to meet the criteria for the grades **[100-85]. You should work hard to and demonstrate the merits of your application to earn those grades.**