

WEBD 5201 WEB DEVELOPMENT FRAMEWORKS

Assignment 5

2023

Assignment: Transaction Management System

Objective:

Develop a Transaction Management System that allows users to record and manage financial transactions. The system will consist of a backend built with the Spring MVC framework and a frontend developed using a lightweight UI framework.

Deadline: November 28th, 2023

Backend Requirements (Spring MVC): (100 marks)

1. Entities:

- Implement two entities: Transaction and Category. A Transaction should have fields such as id, amount, description, date, and a reference to a Category.

2. API Endpoints:

- Create RESTful API endpoints to perform CRUD operations on Transaction and Category entities.
- Endpoints should support fetching all transactions, fetching a specific transaction, adding a new transaction, updating an existing transaction, deleting a transaction, and managing categories.

3. Data Validation:

- Implement data validation to ensure transactions have valid fields (e.g., non-negative amount, valid date).

4. Transaction Filtering:

- Implement an endpoint to fetch transactions based on date ranges or categories.

5. Exception Handling:

- Implement exception handling for invalid input, unconfounded entities, and other potential errors.

Frontend Requirements (UI Framework Optional):

6. UI Design:

- Design a user-friendly interface for the Transaction Management System.
- Include views for displaying a list of transactions, adding a new transaction, updating an existing transaction, and managing categories.

7. Form Validation:

- Implement form validation to ensure users enter valid data when adding or updating transactions.

8. Transaction List:

- Display a list of transactions with details such as amount, description, date, and category.

9. Filtering and Sorting:

- Implement functionality to filter transactions based on date ranges or categories.
- Allow users to sort transactions based on different criteria.

10. Category Management:

- Provide a user interface for managing transaction categories, allowing users to add, edit, or delete categories.

11. Responsive Design:

- Ensure that the UI is responsive and works well on different devices.

Tutorial Base:

- Students are encouraged to use the following tutorial as a base for their assignment: [SpringMVC-Restful Tutorial] (<https://github.com/spkdroid/SpringMVC-Restful>).

Submission:

- Submit the source code for both the Spring MVC backend and the UI framework.
- Include a README file with instructions on how to set up and run the application.

Grading:

- The assignment is marked out of 100.
- 100% of the marks are allocated to the backend requirements.

Evaluation Criteria:

- All grades are final.
- Evaluation will be based on the effort put into the assignment.
- Consideration will be given to the completeness, functionality, and creativity demonstrated in both the backend components.

Note:

- The grades assigned will reflect the overall effort demonstrated in the assignment.
- **CORS configuration might be required for this assignment.**

Good luck!