SPRINT DOCUMENT

- **Sprint Document: 24-Hour Sprint**

- **Sprint Goal:**
  Efficiently implement advanced functionalities of the vaccination center management application, including user login, citizen and vaccination center management, and mapping citizens to vaccination centers.

- **Sprint Duration:**
  24 hours (Start: [start time], End: [end time])

- ***User Stories:***

➔ As a user, I want to log in to the application using valid credentials.
➔ As a user, I want to add citizens' data to the MySQL database.
➔ As a user, I want to retrieve all citizens' data.
➔ As a user, I want to retrieve the data of a specific citizen using their ID.
➔ As a user, I want to track the vaccination status of all citizens in the country.
➔ As a user, I want to add a vaccination center to the MySQL database.
➔ As a user, I want to map citizens to specific vaccination centers.
➔ As a user, I want to retrieve all citizens associated with a specific vaccination center.
➔ As a user, I want to retrieve all vaccination centers' data.
➔ As a user, I want to retrieve the data of a specific vaccination center using its ID.
➔ As a user, I want to update a citizen's data.
➔ As a user, I want to delete a specific citizen's data using their ID.
➔ As a user, I want to update the data of a specific vaccination center.
➔ As a user, I want to delete a specific vaccination center's data using its ID.

- ***Tasks:***

1. Set up the MySQL database with tables and relationships. (2 hours)
2. Implement the Entity Layer, including Vaccine Center and User entities with mappings. (1 hour)
3. Implement the Repository Layer for CRUD operations on citizens and vaccination centers. (2 hours)
4. Implement the Service Layer with dependency injection and interface segregation principle. (2 hours)
5. Create the Controller Layer and expose the required APIs: (4 hours)
6. Implement the user login API endpoint.(1 hours)

7. Implement APIs for adding citizens, retrieving all citizens, and retrieving a specific citizen by ID.(1 hours)
8. Implement APIs for tracking vaccination status and adding a vaccination center. (1 hours)
9. Implement APIs for mapping citizens to vaccination centers, retrieving associated citizens, and retrieving all vaccination centers. (1 hours)
10. Implement APIs for retrieving a specific vaccination center by ID, updating citizen data, deleting a citizen's data, updating vaccination center data, and deleting a vaccination center's data. (1 hours)
11. Implement validation and exception handling for the API endpoints. (2 hours)
12. Write unit tests for the implemented functionalities. (1 hours)
13. Perform integration testing to ensure components work correctly. (2 hours)
14. Refactor and optimize the codebase as necessary. (1 hours)
15. Document the API endpoints and usage. (1 hour)
16. Push the source code to a GitHub repository. (1 hour)

- ***Acceptance Criteria:***

- Users can log in using valid credentials.
- Citizens' data is successfully stored in the MySQL database.
- All citizens' data can be retrieved.
- Specific citizen data can be retrieved using their ID.
- Vaccination status of citizens can be tracked.
- Vaccination centers can be added to the database.
- Citizens can be mapped to specific vaccination centers.
- Citizens associated with a specific vaccination center can be retrieved.
- All vaccination centers' data can be retrieved.
- Data of a specific vaccination center can be retrieved using its ID.
- Citizen data can be updated.
- Specific citizen data can be deleted using their ID.
- Vaccination center data can be updated.
- Specific vaccination center data can be deleted using its ID.