Java-Funfit-Project

**Summary**

This project is designed to provide hands-on experience in developing a complete backend solution using Java Enterprise technologies. By the end of this assignment, you will have developed a robust system to manage participants and batches for a gym instructor, covering everything from database connections to server-side logic and dynamic web content rendering.

**Project Overview**

The objective of this project is to develop the backend of a software solution for Yamin, a gym instructor who manages multiple Zumba sessions throughout the day. These sessions are divided into batches running in the morning and evening. The software solution will allow Yamin to record and manage the details of his participants and their respective batches efficiently.

**Technology Stack**

* **Java**: Core programming language for developing the backend logic.
* **Servlets**: Used to create server-side applications and handle requests/responses.
* **JSP**: For rendering dynamic web pages and handling form submissions.
* **Maven**: For project build and dependency management.
* **JDBC**: To connect Java code with the database.
* **MySQL**: As the relational database to store and manage participants' and batches' data.
* **NoSQL Database**: (Optional) To explore additional data storage solutions that may be more suitable for certain types of unstructured data.

**Project Requirements**

1. **Backend Development**:
   * Design and develop a backend solution using Java Enterprise technologies.
   * Implement Servlets as the server-side controllers to handle various requests and responses.
   * Use JSP pages to create forms and display dynamic content.
2. **Database Integration**:
   * Configure the database connection using JDBC.
   * Perform CRUD (Create, Read, Update, Delete) operations on participant and batch data.
   * Use MySQL as the primary database for structured data.
3. **Maven Configuration**:
   * Set up the project using Maven for efficient build and dependency management.
   * Ensure that all necessary libraries and dependencies are correctly configured and managed.

**Project Phases**

1. **Planning**:
   * Define the database schema for participants and batches.
   * Plan the structure of Servlets and JSPs.
   * Determine the roles of SQL and NoSQL databases in the project.
2. **Development**:
   * Implement the backend logic using Java, Servlets, and JSP.
   * Configure Maven for the project.
   * Establish database connections using JDBC and perform CRUD operations.
3. **Testing and Deployment**:
   * Test the entire system to ensure it meets the requirements.
   * Deploy the solution in a suitable environment.

GitHub Link: https://github.com/saitarun23/Core-Java-Fun-fit-Project