**FunFit: Gym Management System**

**Introduction**

FunFit is a robust and efficient gym management system designed to help gym instructors manage their participants and batches. The system was developed for Yamin, a gym instructor who conducts multiple Zumba sessions throughout the day. The system allows Yamin to record the details of his participants and batches, making it easier for him to manage his sessions.

**Technologies Used**

The backend of the system was developed using Java Enterprise. Maven was used for build and dependency management. The system connects to both SQL and NoSQL databases using Java Database Connectivity (JDBC). The frontend was developed using Servlets and Java Server Pages (JSP).

**System Design**

The system was designed with two main entities: Participant and Batch. Each entity has its own Java class and Servlet. The system also includes HTML pages for adding, updating, and viewing Participants and Batches.

**Database Design**

The system uses a MySQL database to store information about Participants and Batches. The database was designed using JDBC and follows the DAO design pattern. A Repository class was created to perform database interactions.

**CRUD Operations**

The system supports Create, Read, Update, and Delete (CRUD) operations for both Participants and Batches. These operations are implemented in the Participant and Batch Servlets using the doGet, doPost, doDelete, and doPut HTTP methods.

**User Interface**

The user interface of the system includes a welcome page with a navigation menu and HTML pages for adding, updating, and viewing Participants and Batches. The system also includes JSP pages for viewing the list of Participants and Batches, with options to delete entries. There is also a JSP page for viewing the list of Participants in a Batch using a query parameter.

**Deployment**

The system was built and run on the Apache Tomcat web server. The working of the project was validated and the project was packaged as a JAR file using the Maven Package Goal.

**Conclusion**

FunFit is a comprehensive gym management system that simplifies the task of managing gym participants and batches. The system is user-friendly, efficient, and flexible, making it an invaluable tool for gym instructors.