WorkoutMate: Personalized Fitness Planner

Submitted By:

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1. Project Details

Title: WorkoutMate: Personalized Fitness Planner

Description:
The project is a full stack web application that allows users to generate personalized workout plans according to their fitness goals such as weight loss, strength training, or endurance building. Users input their goals, and the system generates an appropriate workout plan and schedules it in a calendar view. This makes it easier for fitness enthusiasts to maintain a structured routine without manually searching for workout plans.

Problem Statement:
Many individuals struggle with creating structured workout routines that align with their fitness goals. Existing apps are often paid, overly complex, or lack goal-based customization. This project addresses the problem by providing a simple, free, and personalized workout planner accessible through a user-friendly web interface.

Objective:
To develop a platform that helps users create goal-specific workout plans, visualize them in a calendar, and track progress — thereby promoting consistency in fitness activities.

2. Functional Requirements

- User Management: Registration, Login, Authentication (JWT).
- Goal Input Module: Users enter goals such as fat loss, muscle gain, or stamina improvement.
- Workout Generator Engine: Generates predefined workout routines based on selected goals.
- Calendar Module: Displays workouts in a weekly/monthly schedule.
- Workout Tracking: Users can mark workouts as completed.
- Progress Dashboard: Visual charts showing progress and completion percentage.s
- Admin Features (Optional): Manage workout templates, monitor users.

3. System Design

a) High-Level Design

[React Frontend] → [Spring Boot Backend APIs] → [MySQL Database]

Frontend (React):
- User registration/login page.
- Dashboard for goal selection and workout plan display.
- Calendar integration.

Backend (Spring Boot):
- Provides REST APIs for user management, workout generation, and tracking.
- Business logic for goal-based workout plan generation.

Database (MySQL):
- Stores user details, workout templates, generated plans, and progress logs.

b) Low-Level Design

Entities/Tables:
- User (userId, name, email, password, goal)
- WorkoutTemplate (workoutId, type, difficulty, duration, goalType)
- Plan (planId, userId, workoutId, scheduleDate, status)

Key APIs:
- POST /register – Register new users.
- POST /login – Authenticate users.
- POST /goals – Save user goals.
- GET /workouts/{userId} – Fetch generated workout plans.
- POST /workout/complete/{id} – Mark workout as completed.

4. Other Important Parts

- Tech Stack: React (Frontend), Spring Boot (Backend), MySQL (Database).
- Tools Used: GitHub (Version Control), Eclipse (Backend), VS Code (Frontend), Postman (API Testing).

Evaluation Criteria:

- - Personalized workout generation logic.
- - Secure authentication using JWT.
- - Calendar-based plan display.
- - User-friendly interface and complete CRUD functionality.

5. Similar Existing Platforms

Nike Training Club → https://www.nike.com/ntc-app
FitOn → https://fitonapp.com/

These references show that similar applications exist, but our project provides a simplified, beginner-friendly, and free alternative suitable for students and fitness beginners.