

Smart Health and Fitness Companion

A personalised health tracking and fitness recommendation system designed to empower users with data-driven insights for consistent, healthy living.

INFOSYS SPRINGBOARD

BATCH 11

The Challenge of Consistent Health Management



Maintaining good health requires consistent tracking of daily lifestyle habits, yet many struggle to monitor their progress effectively.

Our system provides a comprehensive solution that enables users to track workouts, monitor meals and nutrition, log water intake, record sleep duration, receive personalised health insights, and connect with qualified trainers.

Goal: Encourage consistent, data-driven healthy living through intelligent tracking and community support.

Expected Outcomes and Deliverables

Role-Based Access

Dual user system supporting standard users and professional trainers with appropriate permissions

Daily Tracking Modules

Comprehensive logging for workouts, nutrition, hydration, and sleep patterns

API Integration

BMI calculator and health tips
API for personalised wellness recommendations

Visual Analytics

Interactive dashboard displaying trends, progress, and actionable health insights

Community Engagement

Blog platform with moderation workflow enabling user interaction and knowledge sharing

Trainer Matching

Intelligent recommendation system connecting users with suitable fitness professionals

User Roles and Capabilities



Standard User

- Track workouts, meals, sleep, and water intake
- View personalised dashboard with health metrics
- Read and write community blog posts
- Receive trainer suggestions based on goals



Certified Trainer

- Create educational blog content
- Review and moderate user posts
- Approve or reject community content
- Provide guidance and support to users

System Architecture Overview

Auth & Profile

Manage user access and store fitness profiles.

Daily Tracking

Record workouts, nutrition, and sleep data continuously.

API Services

Provide BMI calculations and personalized health tips.

Analytics & Community

Combine insights with dashboards and trainer interactions.



MILESTONE 1

WEEKS 1-2

Authentication and Profile Setup



JWT-Based Authentication

Secure user registration and login system with JSON Web Token authentication, ensuring data privacy and role-based access control for users and trainers.



Personalised Profile Creation

Users input essential metrics including age, current weight, height, and specific fitness goals to enable personalised recommendations and accurate health calculations.



MILESTONE 2

WEEKS 3-4

Daily Health Tracking Modules



Workout Tracker

Log exercise type, duration, and calories burnt for comprehensive fitness monitoring



Meal Tracker

Record meal type, calorie count, and detailed nutrient breakdown for balanced nutrition



Water Intake

Monitor daily hydration levels with easy-to-use logging interface



Sleep Duration

Track sleep patterns and quality with optional notes for better rest insights



MILESTONE 3

WEEK 5

Health API Integration

External APIs

Connecting to reliable health data sources for accurate, evidence-based recommendations

1

BMI Calculator Integration

Automatically calculates Body Mass Index using height and weight data, displaying category classification (underweight, normal, overweight, obese) with detailed health interpretation.

2

Daily Health Tip API

Fetches a new, evidence-based health tip each day from a curated wellness database, displayed prominently on the user dashboard for ongoing education and motivation.

📈 MILESTONE 4

WEEKS 6-7

Analytics Dashboard and Goal Tracking



Visual Health Data

Interactive charts displaying workout frequency, calories consumed versus burnt, water intake trends, and sleep patterns over time



Goal Tracking

Progress percentages with visual progress bars, intelligent alerts when off-track, and actionable insights for course correction



Blog and Community Module



Community Features

Users create blog posts with titles, rich content, tags, and images, identifying themselves by role (user or trainer).

A robust moderation workflow ensures content quality: user-submitted posts enter pending status, trainers or admins review and can approve, reject, or edit content before publication.

Published posts support community interaction through likes, comments, sharing, and the ability to follow favourite trainers for ongoing support and inspiration.

MILESTONE 6

WEEK 9

Trainer Matching System



Recommends trainers based
on fitness goals




Considers workout preference
and user health data



Matches trainer availability
with user schedule



 Personalized fitness
support

WORKFLOW PROCESS



User



Register/Login



Setup Profile



Log Daily Activities



System Stores Data



Analytics Engine



Dashboard Visualization



Trainer Suggestions



Community Engagement

3-LAYER SYSTEM ARCHITECTURE

Presentation Layer

React / HTML-CSS

Business Logic Layer

Node.js / Spring Boot / JWT Authentication, REST APIs

Data Layer

MySQL / MongoDB

External APIs

BMI Logic, Health Tips API

DATABASE SCHEMA (ER DIAGRAM)

Users

- **user_id (PK)**
- username
- email
- password_hash
- role

Workouts

- **workout_id (PK)**
- **user_id (FK - references Users)**
- exercise_type
- duration
- calories_burned

Meals

- **meal_id (PK)**
- **user_id (FK - references Users)**
- meal_type
- calories
- nutrients

Sleep

- **sleep_id (PK)**
- **user_id (FK - references Users)**
- duration
- quality_score

Water

- **water_id (PK)**
- **user_id (FK - references Users)**
- intake_ml
- date

Blog

- **blog_id (PK)**
- **author_id (FK - references Users)**
- title
- content
- created_date

CONCLUSION

- Encourages healthy lifestyle habits
- Provides data-driven insights
- Supports community engagement
- Ensures secure role-based access
- Offers personalized trainer recommendations

It integrates tracking, analytics, and social engagement into one smart platform

FUTURE ENHANCEMENTS

- ☐ AI-based personalized workout plans
- ☐ Integration with wearable devices (Fitbit, Apple Watch)
- ☐ Real-time health alerts
- ☐ Advanced analytics with predictive insights
- ☐ Mobile application development
- ☐ Dietician consultation module

THANK YOU

We deeply appreciate your time and attention today, and for considering our project.

K.Priyanka

Mandava Mounika

S.Nivetha