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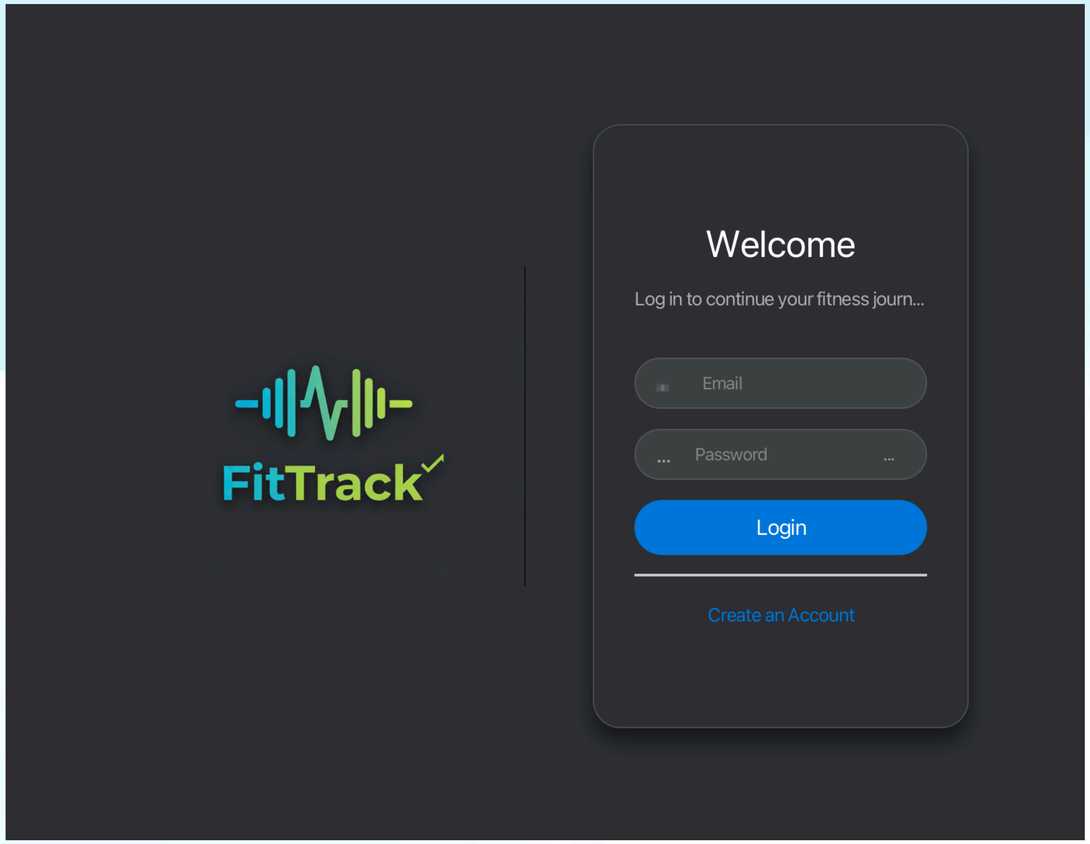
Java Project



FitTrack - Your Daily fitness tracker

FitTrack is a modern desktop application designed to help you monitor your fitness journey, track your nutrition, and stay consistent with your wellness goals. Built with JavaFX, it features a sleek interface with intuitive navigation and powerful tracking capabilities.
Github link: https://github.com/ayan-mohd/FitTrack

Submitted by:

Mohd Ayan (24SCSE1011132)
Jeetu Yadav(24SCSE1010980)
Amit Pandey (24SCSE1010079)

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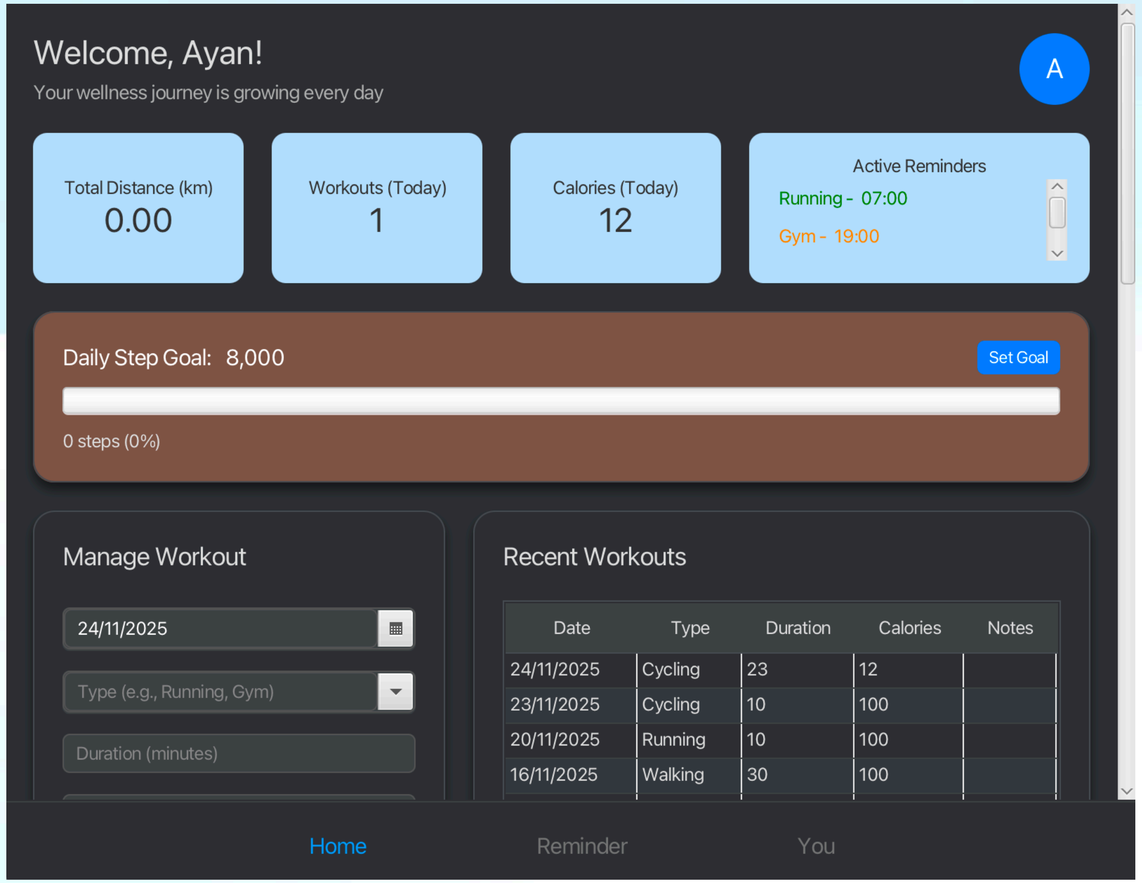
Project Overview



FitTrack is a desktop-based, user-friendly application that consolidates workout logging, nutrition tracking, and health metrics. This platform will be very useful for Fitness enthusiasts, individuals tracking weight loss, or anyone wanting to monitor daily activity.

It offers personalised fitness goals and adaptive recommendations based on user progress, making the experience motivating.

Smart reminders help users stay consistent by notifying them about workouts, hydration, step goals, and check-ins.

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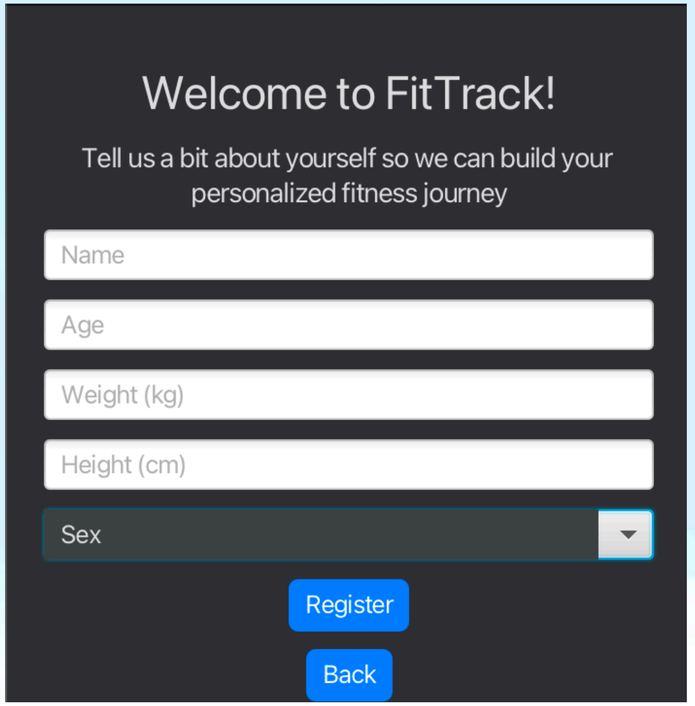
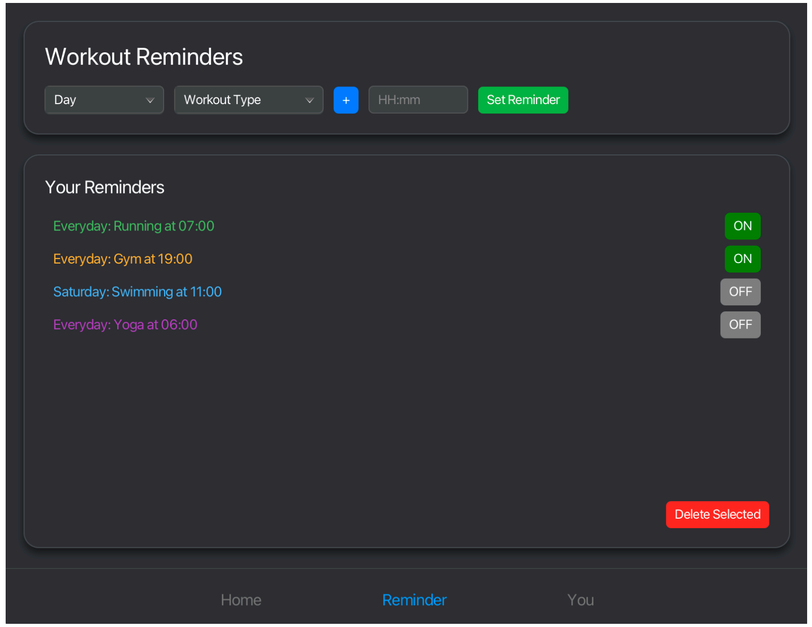
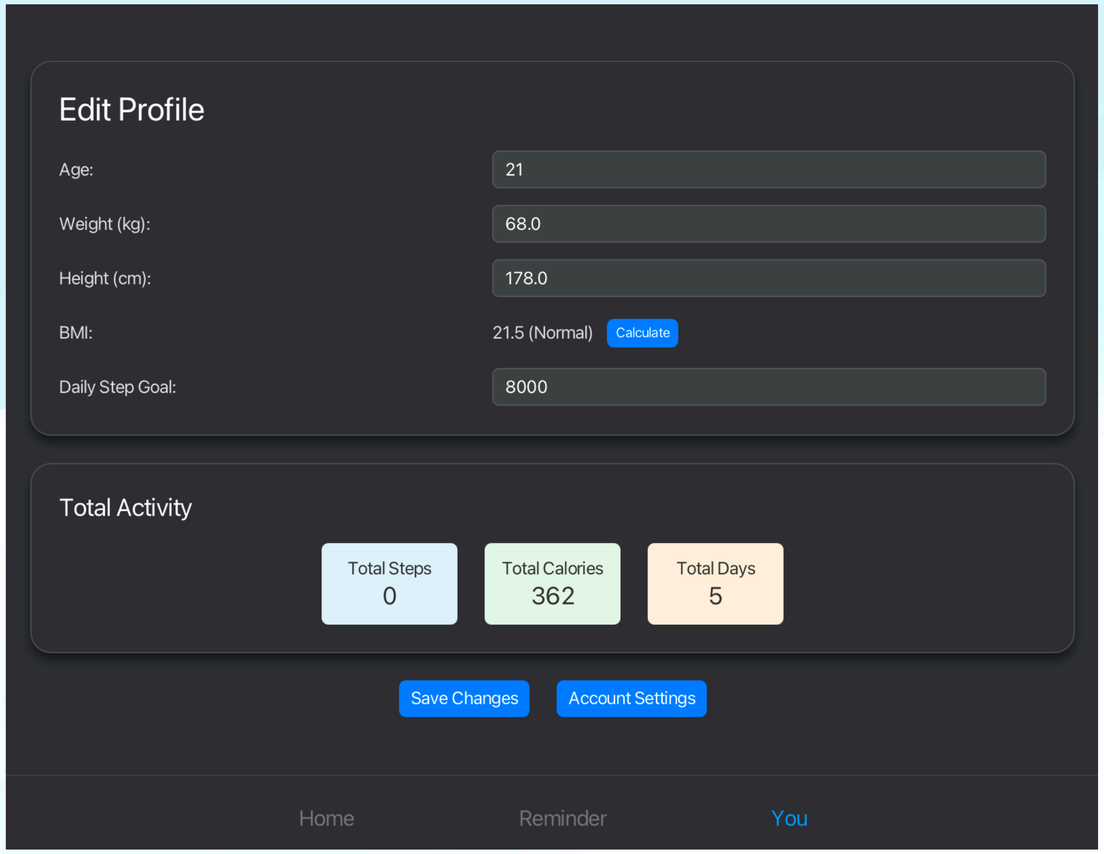
Comprehensive Feature Set

- **Secure User Access:** User registration, login, and secure authentication with hashed passwords.
- **Dashboard Hub:** Real time summary of daily calories, workout counts, and active reminders.
- **Workout Management:** CRUD (Create, Read, Update, Delete) operations for workouts with colour-coded types (Running, Gym, Yoga, etc.).
- **Nutrition Tracking:** Log meals (Breakfast, Lunch, Dinner) and track caloric intake.
- **Smart Reminders:** Schedule workout reminders with an active/inactive toggle system.





Technical Foundations



Language: Java 20 (leveraging modern language features). It includes preview and incubator features that make the language more powerful and easier to write.

UI Framework: JavaFX (FXML for layout, CSS for styling). JavaFX provides a modern, responsive user interface, enhancing desktop application aesthetics and user experience.

Secure Authentication: Authentication is secured through hashed passwords and security questions, protecting user data.

Database: MySQL (Relational database for persistent storage of users, workouts, meals, and reminders)

Architectural Principles

DAO Pattern

The Data Access Object (DAO) pattern provides a clear and separate layer for all database operations. This design choice isolates application logic from data persistence specifics, improving maintainability and flexibility.

MVC Structure

The Model-View-Controller (MVC) architectural pattern ensures a clean separation of concerns. The model manages data, the view presents the user interface, and the controller handles user input. This separation enhances modularity and testability.

FitTracker is built using industry best practices, incorporating the DAO design pattern and MVC architecture to deliver a scalable and well-structured codebase.

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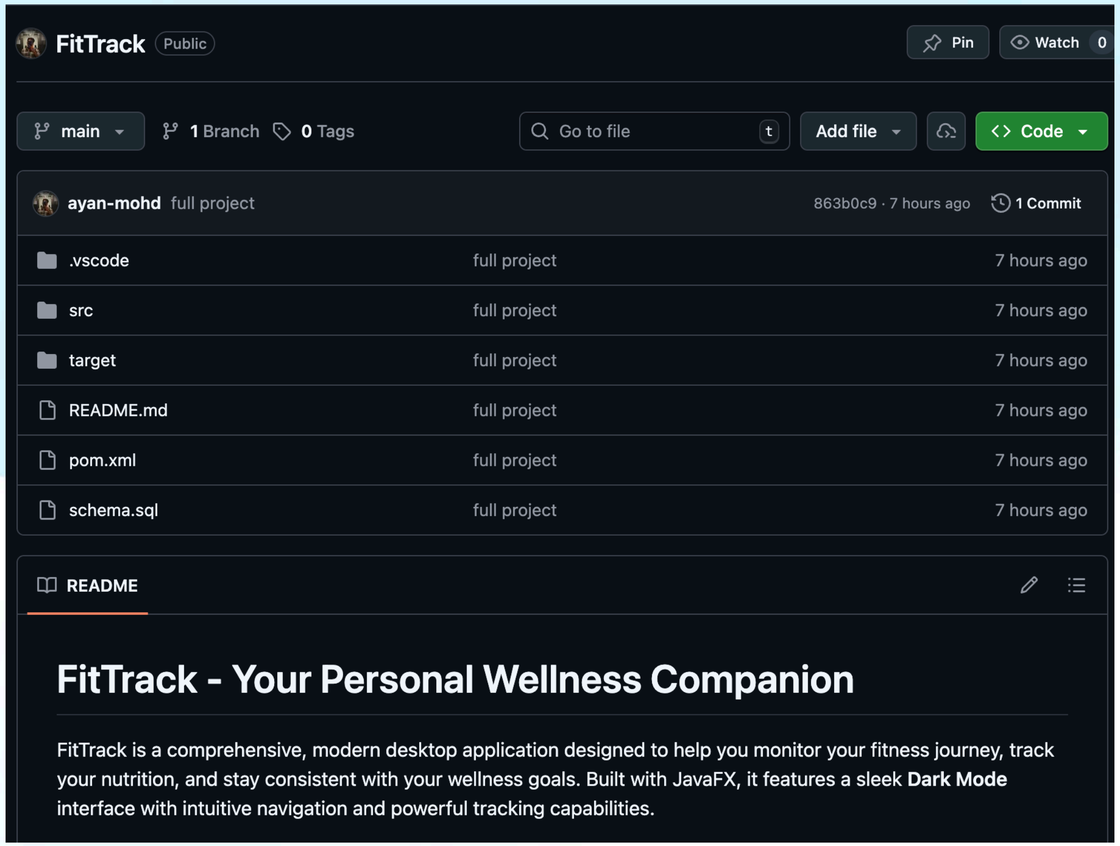


Streamlined Development Process

Clone Repository

- Obtain the project source code from the repository.

Configure MySQL

- Set up the database schema and credentials.

Build with Maven

- Compile and package the application using Maven.

Run Application

- Execute the application from Maven or your IDE.

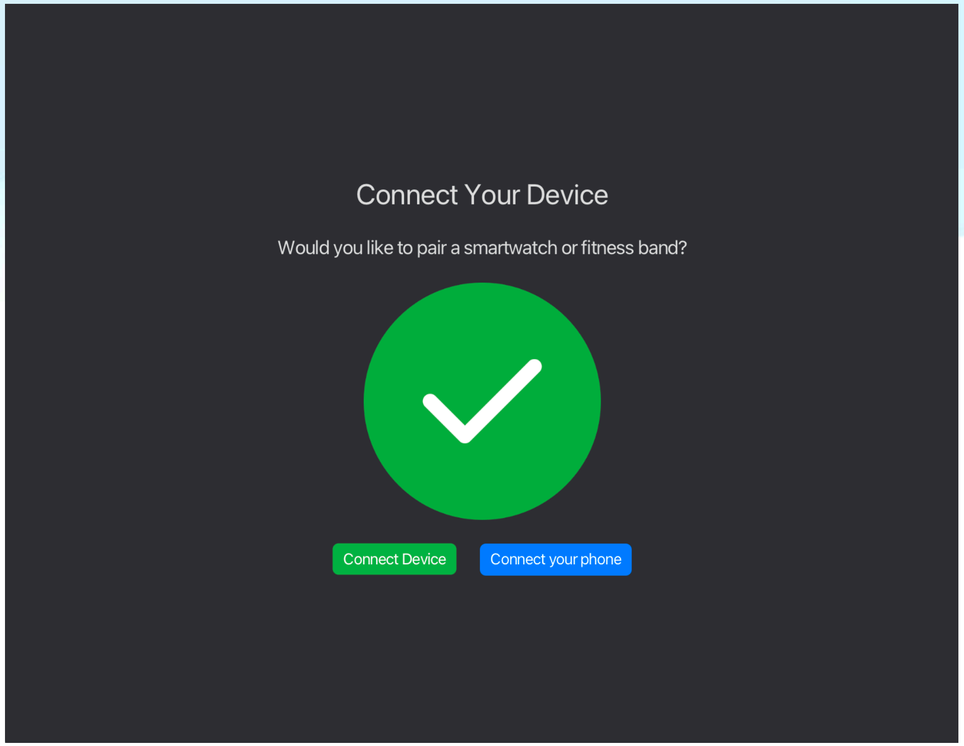
Why FitTrack Excels

Unified Fitness Tracking
Steps, workouts, weight, reminders — all in one place.

Motivational Design
Daily/weekly goals, progress charts, streak badges.

User-Friendly Visual UI
Clean modern dashboard, smooth navigation, toggle-based reminders.

Future-Ready
Can be expanded as - Sleep tracking and Social fitness challenge.



Acknowledgments and Contributions

LEAD DEVELOPER

Mohd Ayan led the project development.

COLLABORATORS

Jeetu Yadav and Amit Pandey provided the essential support and their expertise.

UNIVERSITY SUPPORT

Galgotias University provided academic guidance and resources.

COMMUNITY AND FACULTY

Thanks to OpenJFX, MySQL, and faculty for feedback.

This project is a testament to collaborative effort and continuous learning, built on foundational open-source technologies.