



OOAD - UE20CS352

Mini Project

Health And Fitness Tracker

TEAM:

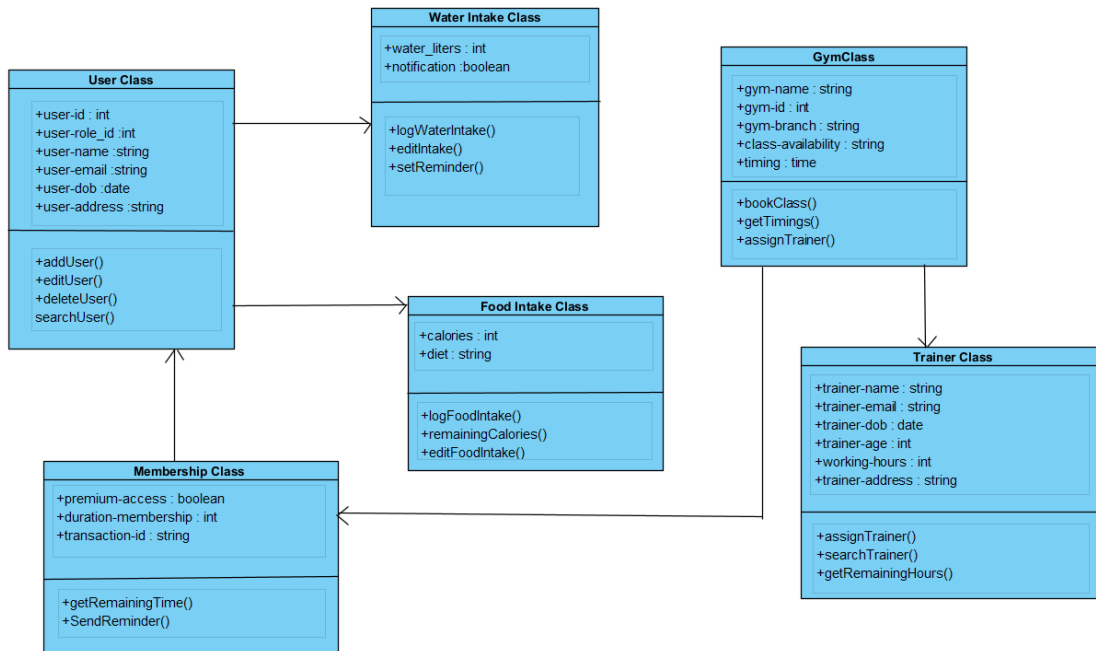
Sharath Krishna AH	PES1UG20CS391
Shivani Itagi Gowri	PES1UG20CS398
Shreyas Hiremath	PES1UG20CS406
Shrinidhi K J	PES1UG20CS412

Problem Statement :

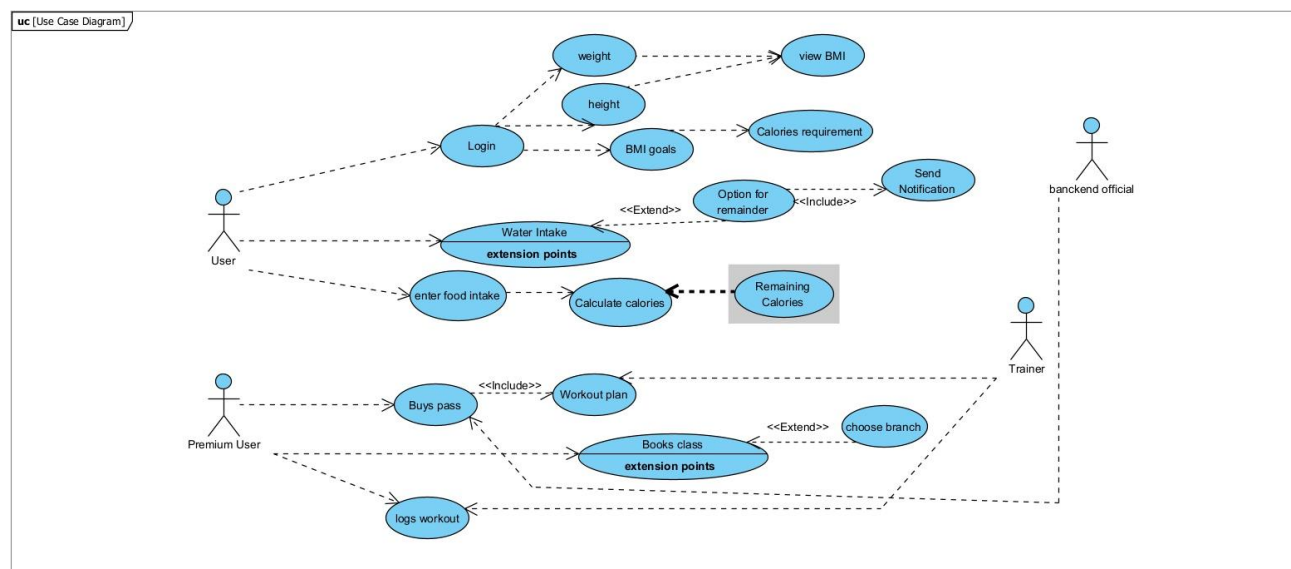
1. Health and fitness tracker using SpringBoot.
This project was made as a part of the 6th Semester course UE20CS352 -Object-Oriented Analysis and Design with Java.
2. Using this we can a user can make bookings for a particular session in the gym along with different features like logging in food intake and amount of water that needs to be consumed.
3. The user has an option to choose timings and the trainer they want as per their requirements.

Models :

CLASS DIAGRAM



USE CASE DIAGRAM





GitHUB link to code base

<https://github.com/Sharath377/OOAD-Mini-Project>

Architecture Patterns:

- **Model-View-Controller (MVC) Pattern:**

- The MVC pattern is a widely used architecture pattern for web applications that separates the application into three main components: Model, View, and Controller.
- This pattern promotes separation of concerns and helps manage complexity.
- The Model component represents the business logic and data, the View component represents the user interface, and the Controller component manages the interactions between the Model and View.

Design Principles:

- **Single Responsibility Principle (SRP):**

The SRP is a design principle that states that a class or module should have only one responsibility or reason to change.

In the context of a restaurant management system, this principle could be applied to ensure that each class or module is responsible for a specific functionality, such as handling reservations or managing orders.

- **Open-Closed Principle (OCP):**

- The OCP is a design principle that states that a class or module should be open for extension but closed for modification.
- This principle promotes code reuse and maintainability.
- In the context of a restaurant management system, you could design classes or modules that are easily extendable without requiring changes to the existing code.

- **Dependency Inversion Principle:**

- The Dependency Inversion Principle (DIP) is a fundamental concept in object-oriented programming and software design.
- The DIP states that high-level modules or classes should depend on abstractions or interfaces. In other words, classes or modules should depend on abstract concepts, rather than specific implementations.
- This principle is based on the idea that high-level modules should be decoupled from low-level modules, which can lead to more flexibility, reusability, and easier maintenance.

Design Patterns:

Singleton Pattern:

The Singleton pattern is a design pattern that restricts the instantiation of a class to a single object. The Singleton pattern is useful in situations where it is important to have only one instance of a class. For example, in a system that needs to maintain a centralized configuration or log file, the Singleton pattern can ensure that there is only one instance of the configuration or log file object.

The Singleton pattern is typically implemented by defining a private constructor in the class and a static method that returns the single instance of the class.



Protector Proxy Pattern:

The Protector Proxy pattern, also known as the Protection Proxy pattern, is a design pattern that controls access to an object by providing a surrogate or placeholder for it. The proxy acts as a middleman between the client and the real object and controls access to the real object.

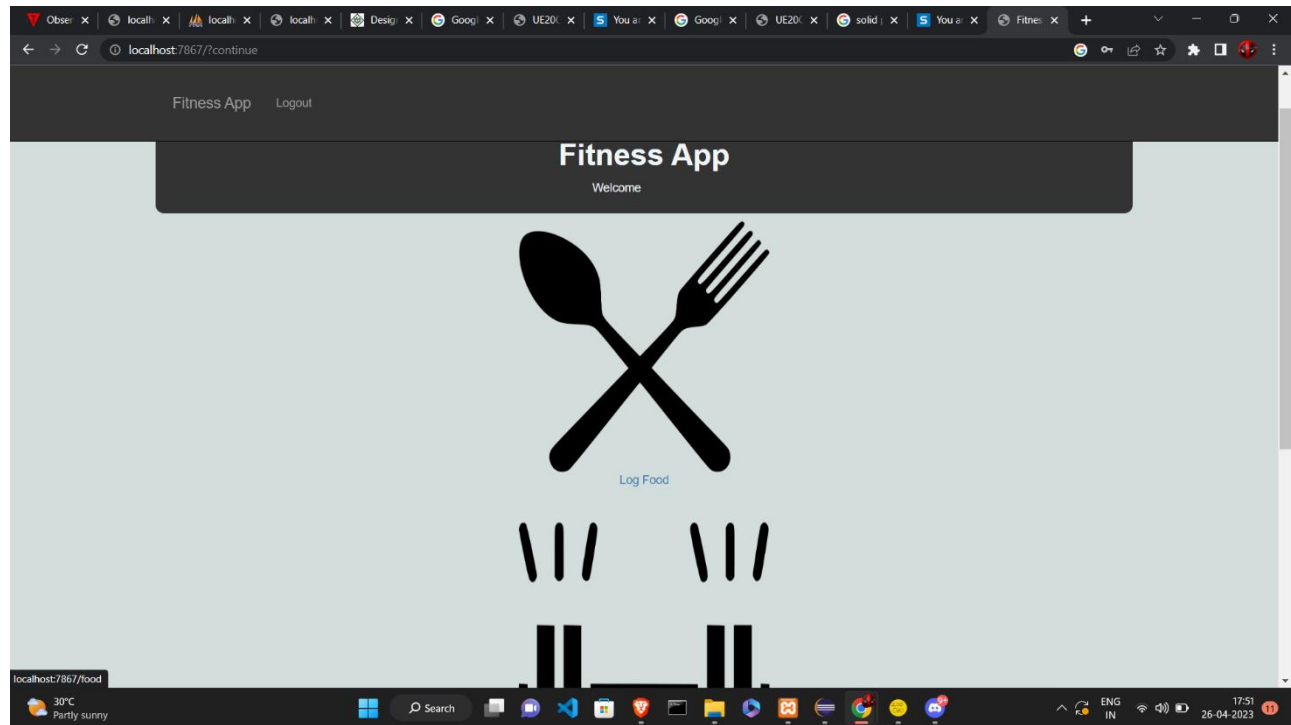
The Protector Proxy pattern is useful when the real object is sensitive or requires controlled access. The proxy can provide additional security measures or access controls to prevent unauthorized access or modification of the real object. The Protector Proxy pattern is typically implemented by defining a proxy class that has the same interface as the real object. The proxy class then creates an instance of the real object and forwards method calls to it, while also enforcing additional access control rules.



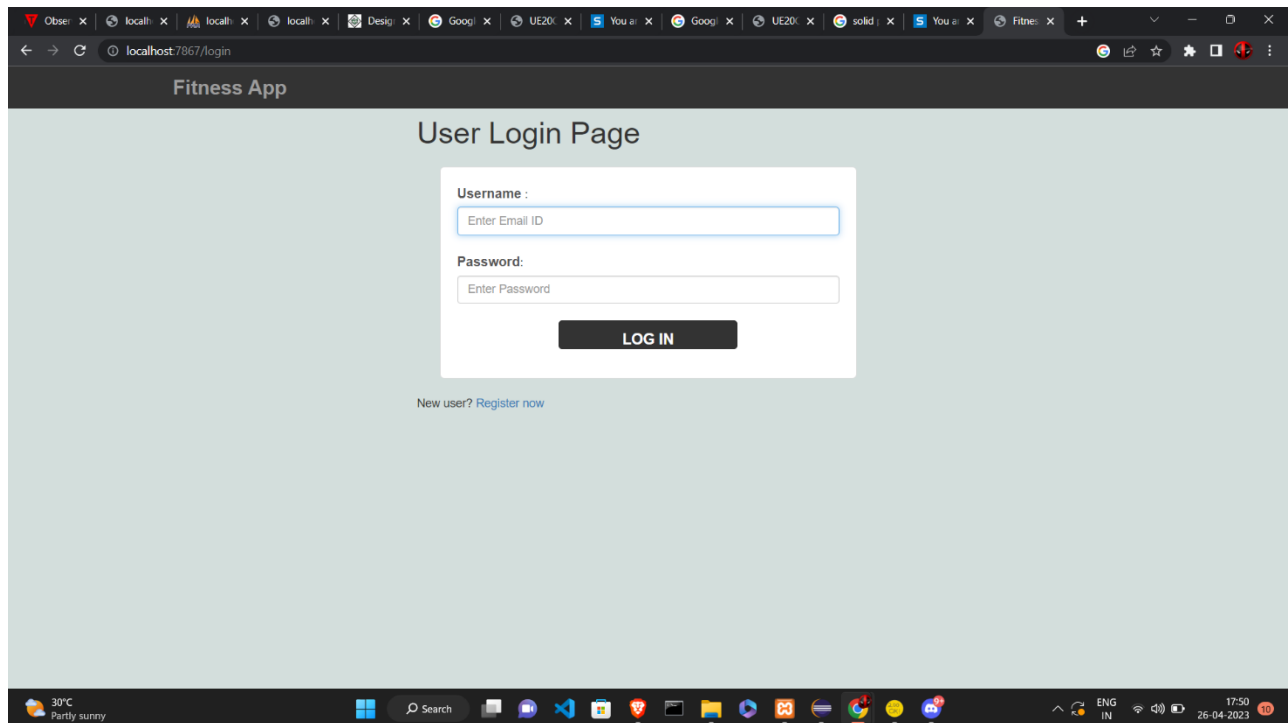
INDIVIDUAL CONTRIBUTIONS

Sharath Krishna AH	backend and water tracker part
Shivani Itagi Gowri	front end and usecase and class diagrams
Shreyas Hiremath	backend and food logging part
Shrinidhi K J	front end and class booking part

OUTPUT



Intro page



Login Page for user

Obsv x localh x localh x localh x Desig x Goog x UE20 x You a x Goog x UE20 x solid x You a x Regis x +

localhost:7867/registration

Fitness App

Registration

First Name

Last Name

Email

Password

Height in cms

Weight

[Register](#) | Already registered? [Login here](#)

30°C Partly sunny Search 17:50 26-04-2023

User can add details about themselves.



Obs: x | local: x | local: x | local: x | Design: x | Goog: x | UE20: x | You a: x | Goog: x | UE20: x | solid: x | You a: x | local: x

localhost:7867/food

Log your Food here

Remaining Calories:
2500.00

Idly Enter Quantity: 0.0

Food that you had	Quantity	Calories
Total	0.00	0.00

30°C Partly sunny

Search

ENG IN

17:51 26-04-2023

User can log the food intake.



Obser x localh x localh x localh x Desig x Goog x UE20 x You a x Goog x UE20 x solid x You a x Class x +

localhost:7867/classdata

Classes

Class Name	Class Type	Description	Trainer	Time	Book Class
Dance Fitness	Cardio	Dance and be fit	Jake	5:00-7:00	Book
HRX	Strength Training	Get strong	Tom	6:00-7:00	Book
Kick Boxing	Combat Sport	Great for conditioning, stamina and self defense.	Shrinidhi KJ	4:00-5:00	Book
Yoga	Stretching	Great for mind and flexibility.	Shivani Gowri Itagi	6:30 AM - 8:30 AM	Book
Gym	Strength and gains	We go jim,we go jim now	Shreyas Hiremath	7:00PM to 8:00PM	Book
S&C	Conditioning	Get strong and conditioned	Sharath Krishna	6:00AM-7:30AM	Book
Zumba	Aerobics and Dancing	Become fit through dance	Siddharth Soora	7:00PM-8:00PM	Book

View Booked Classes

User can view the different classes and book what they want.



Obse x local x local x local x Desig x Goog x UE20 x You a x Goog x UE20 x solid x You a x Booki x +

localhost:7867/viewbookings

Bookings

Class Name	Class Type	Trainer	Timings	
Gym	Strength and gains	Shreyas Hiremath	7:00PM to 8:00PM	<button>Cancel Bookings</button>
S&C	Conditioning	Sharath Krishna	6:00AM-7:30AM	<button>Cancel Bookings</button>

32°C Mostly cloudy Search 17:52 26-04-2023

User can view bookings and cancel whichever if they want to.

Obse x local x local x local x Desig x Goog x UE20 x You a x Goog x UE20 x solid x You a x local x +

localhost:7867/water

Water Tracker

Remaining Water:

-100.00

Enter how much you drank:

Log

Time	Amount
2023-04-26 10:24:40	600.0
2023-04-26 10:25:00	0.0
2023-04-26 10:55:49	100.0
2023-04-26 10:56:07	3400.0
Total	4100.00

Mail Mail has new messages

32°C Mostly cloudy Search 17:52 26-04-2023

User can log water intake in a day.