

CMPE 202 Health Club Management System

1. Component Breakdown

The system will have three user roles: Members, Non-Members, and HealthClub employees, each with their respective privileges and functionalities. The APIs will be accessible via the UI, and the data will be stored in a database. To implement an end-to-end HealthClub Membership Management system, we will need to develop both a back-end API and a front-end web/mobile UI.

Frontend UI:

The front-end UI will be developed using ReactJS and Bootstrap, and it will be designed to be accessible via desktop.

The UI will have the following pages:

1. **Home page:** This page will display information about the Gym and memberships available and Class schedules.
2. **Login/Registration page:** This page will allow users to log in or register as members or non-members.
3. **Members page:** This page will show a member's individual class schedule.
4. **Classes page:** This page will allow members to sign up for classes in advance.
5. **Log hours page:** This page will allow members to log hours spent on Treadmill, Cycling, Stair machines, or weight training.
6. **Enroll new members page:** This page will allow HealthClub employees to enroll new members.
7. **Checkin members page:** This page will allow HealthClub employees to check in members into the Gym each time they enter.
8. **Checkout members page:** This page will allow HealthClub employees to check out members each time they exit the Gym.
9. **Activities page:** This page will allow enrolled members to view their activities in the past week, month, or last 90 days.
10. **Signup non-members page:** This page will allow HealthClub employees to sign up non-members for free trials.
11. **Analytics dashboard page:** This page will allow HealthClub employees to view a dashboard

showing User activity summarized by location, classes, and enrollment by day/week, hours spent in the gym by day/week/month, number of visitors by the hour each day, weekday, weekend, and any other useful dashboard.

Backend API:

The API will have the following endpoints:

1. **Login/Registration endpoint:** This endpoint will allow users to log in or register as members or non-members.
2. **Home page endpoint:** This endpoint will return information about the Gym and memberships available and Class schedules. It will be viewable by all users.
3. **Signup for classes endpoint:** This endpoint will allow members to sign up for classes in advance.
4. **Log hours endpoint:** This endpoint will allow members to log hours spent on Treadmill, Cycling, Stair machines, or weight training.
5. **Enroll new members endpoint:** This endpoint will allow HealthClub employees to enroll new members.
6. **Checkin members endpoint:** This endpoint will allow HealthClub employees to check in members into the Gym each time they enter.
7. **Checkout members endpoint:** This endpoint will allow HealthClub employees to check out members each time they exit the Gym.
8. **View Members page endpoint:** This endpoint will show a member's individual class schedule.
9. **View Activities endpoint:** This endpoint will allow enrolled members to view their activities in the past week, month, or last 90 days.
10. **View analytics dashboard endpoint:** This endpoint will allow HealthClub employees to view a dashboard showing User activity summarized by location, classes, and enrollment by day/week, hours spent in the gym by day/week/month, number of visitors by the hour each day, weekday, weekend, and any other useful dashboard.
11. **Signup non-members endpoint:** This endpoint will allow HealthClub employees to sign up non-members for free trial