Individual Project Report: Fitness & Nutrition Tracking Application

Course: CS 3300

Project Title: Calo tracker (Summer Semester Project)

Date: July 28, 2025

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Github: https://github.com/Abeoanderson/CS-3300-Summer-Semester-project/tree/main

Individual Project Report: Calo-tracker

1 Project Overview and Problem Statement

My project for this semester was Calo-tracker. The problem this project aims to fix is making coaching and self-coaching a fitness journey easy and quantifiable. To do this, I wanted to create a web app using the React framework that would allow users to sign up, either with a coach or by themselves, to track their daily numbers, such as weight, calories, and exercise. The app would then keep track of this data so the user could point out trends. The other big feature of this app is graphing the calorie makeup, which allows the user to get a visual view of all they are doing.

2 Market Analysis and Competition

For this idea, there's already some competition. Firstly, the RP Strength app does a very similar service, but it allows you to get coached through their coaches. Secondly, Fitlog fulfills most of the same requirements as my app, however, Fitlog is pricey. With that all out of the way, I came up with my system requirements. These are:

3 System Requirements and Development Sprints

The system requirements for Calo-tracker are centered around providing robust tracking, secure access, andreadable insights. My development was structured into several sprints to build out these requirements in the quick time period this class gave. This led to me using agile as my development process:

Sprint 1: Foundational Setup and Core Components

This sprint focused on setting up the project's base and essential UI elements.

- **Components completed:** header.tsx, footer.tsx, mealLogger.tsx, Navbar.tsx, workoutlogger.tsx.
- **New component created**: updateWeight.tsx.
- **Router pages established:** about.tsx, home.tsx, login.tsx, signup.tsx, notFound.tsx. My work here involved [insert your specific contribution here, e.g., developing the initial structure of mealLogger.tsx, setting up the basic routing, or implementing the updateWeight.tsx component].

Sprint 2: Data Persistence and Meal Saving

The goal of Sprint 2 was to implement saving meal features and set up the database. This was crucial for ensuring user data could be stored and retrieved over time.

Sprint 3: User Profiles and Search

Sprint 3 aimed to implement user profiles and a search query function, allowing for personalized experiences and easier data navigation.

Sprint 4: Visualization and Goal Adjustment

This sprint focused on adding target adjustments and other visualization goals, giving users more actionable insights from their tracked data.

4 Key Features and User Stories

Calo-tracker provides several key features, each designed with specific user needs in mind:

- **Calorie Tracking:**
    - **Trainee need:** "As the trainee, I want to track my calories and visualize daily caloric intake so that I can see my trends over the weeks/months and adjust my intake to reflect my goal."
    - **Coach need:** "As the coach, I want my client to be able to track their calories so I can see that they are sticking to the plan."
    - **Measurable:** Days tracked and reliability of accessing previous days (at least a month back).
- **Weight Tracking:**
    - **Trainee need:** "As the trainee, I want to track my weight and see its trend over time so that I can see if the macros I am eating are working."
    - **Coach need:** "As the coach, I want my clients to be able to track their weight so I can get feedback on if they need adjustment."
    - **Measurable:** Days tracked and reliability of accessing previous days (at least a month back).
- **Personalized Feedback:**
    - **Trainee need:** "As the trainee, I want to be able to get personalized feedback from my coach so that I know how to continue with my routine over the time till my goal."
    - **Coach need:** "As the coach, I want to be able to give personalized feedback based on my clients' tracked stats/macros so that they can progress efficiently and pain-free."
    - **Measurable:** Feedback popping up quick (within 5 min) and being persistent.
- **Secure User Login:**
    - **Trainee need:** "As the trainee, I want my tracked info to stay private as that is a HIPAA violation."
    - **Coach need:** "As a coach, I want my clients' info and conversations with me to stay private so that their privacy is protected."
    - **Measurable:** Authentication and authorization working, being decently hard to break into.
- **Gamified Achievements (Optional):**
    - **Trainee need:** "As the trainee, I would like achievements to represent my work so that I know I am progressing."

    - **Coach need:** "As the coach, I like the achievements so that they can give my clients motivation and celebrate milestones."

5 Functional vs. Non-Functional Requirements

For the final project, the requirements were categorized as follows:

Functional:

- **Secure User Login:** A personal, secure environment for every user to track their journey, protecting privacy for both trainees and coaches.
- **Weight Tracking:** Ability to chart progress and visualize weight changes over time, allowing trainees to assess macro effectiveness and coaches to provide feedback.

Non-Functional:

- **Security:** Providing a secure space to track sensitive user information.
- **Robustness:** Ensuring info isn't lost and is securely backed up for long-term reliability.
- **Reusability:** The system should be easy to set up for new clients.

6 Usage Instructions

To run Calo-tracker:

1. **Run the server:** Navigate to /CS 3300 Project src/ and execute node server.js.
2. **Run the front end:** In the CS 3300 Project directory, run npm run dev.
3. **Open in browser:** Access the application by opening localhost in your browser.

6 Teamwork Achnoledgment.

I worked alone on this project, so in terms of teammates, i would say i was very lucky, me myself and I all got the work done assigned to us and had a jolly old time doing so. Thank you for teaching this class and offering a great environment in class to explore and learn while developing this project.