



Team 15 - Product Backlog

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Problem Statement:

Working out and dieting are difficult and time-consuming tasks, where newcomers and frequenters alike struggle to accomplish their goals efficiently and effectively. The idea of our mobile workout app is to make this process easier, helping you plan workouts and diets, stay on schedule for specific goals, and facilitate communication with others to see how your journeys overlap. Current fitness and nutrition apps, like *MyFitnessPal* and *Hevy*, are often overly complex or focused on only one aspect of health, forcing users to use multiple platforms and making it more challenging to achieve the desired benefits. Our app addresses this gap by combining workout logging, diet tracking, and personalized fitness guidance in one streamlined platform tailored to individual goals, habits, and progress.

Background Information:

Problem

Staying healthy is a lengthy and demanding task for everyone; squeezing in exercises on lunch breaks and meal prepping days in advance are not easy tasks. Our product will make this process easier - enabling users to plan workouts, curate diets, stay on schedule for goals, and facilitate communication with others on similar journeys.

Domain & Target Users

With the rise of fitness and an increasing focus on health in recent years, more people are actively seeking ways to improve their physical well-being through structured workouts and better nutrition. This audience includes both beginners who may feel overwhelmed starting their fitness journeys and experienced individuals who want to optimize their routines and track progress more effectively. Many existing solutions focus on only one aspect of health, forcing users to rely on multiple platforms, which reduces efficiency and accountability. This application targets users who want a centralized, easy-to-use system that integrates workout tracking, diet management, personalized guidance, and social accountability to support long-term fitness goals.

Similar Platforms

There already exist several platforms on the market for the individual goals of this app, such as the social aspects and fitness journaling aspects. For example, *RP Hypertrophy* allows users to log data regarding their workouts, and it will attempt to automatically coach the users' next sets and reps, as our app aims to achieve. *Hevy* also allows users to log data regarding their workouts. It aims to have a more social aspect, sharing the workouts and sets instead of focusing on coaching. *Macrofactor* and *MyFitnessPal* are both more focused on diet coaching, allowing users to track their diets and share their fitness journey on their integrated social networks.

Limitations

Many existing fitness and nutrition programs focus on only one aspect of health, such as workout tracking or calorie counting, requiring users to switch between multiple platforms to meet their needs. These apps are often overcomplicated for beginners, while providing limited customization and adaptability for experienced users. Additionally, most current apps lack meaningful accountability features and offer minimal guidance on proper exercise techniques, increasing the risk of ineffective training or injury. Our application addresses these limitations by integrating workout logging, diet tracking, personalized recommendations, technique feedback, and social accountability into one streamlined platform designed to adapt to users of varying experience levels. Functional requirements 13 through 22 are centered on workout help, 23 through 36 are focused on diet, and 37 through 48 add the social aspect that is not usually found in apps with the two previously listed aspects. 49 through 59 add an AI aspect to the app to help tie everything together and make all of the features flow well.

Functional Requirements:

General

1. As a user, I will partake in an onboarding process that will consist of age, height, weight, goals, and experience
2. As a user, I would like to be able to create and manage an account for the app, such as creating and changing a username or bio.
3. As a user, I would like to be able to reset my password.
4. As a user, I would like to be able to easily navigate to the workout, diet, and social tabs through the use of a menu.
5. As a user, I would like to be able to read and agree to a TOC.
6. As a user, I would like to be able to delete my account.
7. As a user, I would like to be able to set up notifications for workouts, meals, etc.
8. As a user, I would like to be able to enable certain accessibility features (dark mode, large text).
9. As a user, I would like to be able to maintain a week-by-week workout.
10. As a user, I would like to be able to maintain diet streaks.
11. As a user, I would like to be easily able to convert recipe and weight amounts between metric and imperial.
12. As a user, I would like to be able to select a location, so I can see gyms and people near me.

Workout

13. As a gym user, I would like to be able to track my workouts by logging the workout, reps, weight, and sets.
14. As a gym user, I would like to be able to have cardio machines suggested to me for targeted fat loss.
15. As a gym user, I would be able to upload and save my prior gym routines.
16. As a gym user, I would like to be able to upload my workouts to a community space.
17. As a gym user, I would like to be able to add tags to my workouts to make them easier to find.
18. As a gym user, I would like to be able to search for different workouts based on the tags assigned to them.
19. As a gym user, I would like to be able to view shared workouts and do them myself.
20. As a gym user, I would like to be able to schedule my workouts on a calendar.
21. As a beginner in my fitness journey, I would like to know where to get started in my fitness journey and make consistent progress.
22. As an experienced athlete, I would be able to identify key techniques and strategies to improve that I otherwise wouldn't have noticed.

Diet

23. As a dieter, I would be able to view the macros of different meals from national restaurants.
 - 23.1. This can be provided through a large database such as [MenuStat](#).
24. As a dieter, I would like to be able to chart my daily macro and water intake.
25. As a dieter, I would like to be able to set macro and water goals to hit daily.
26. As a dieter, I would like to be able to set certain junk foods to avoid.
27. As a dieter, I would like to have the app automatically adjust my caloric goals based on previous days.
28. As a dieter, I would like to be able to upload custom meals to a community space.
29. As a dieter, I would like to be able to save meals from the community space.
30. As a dieter, I would like to be able to apply certain tags to my meals to make them easier to find.
31. As a dieter, I would like to be able to search for different meals using the tags assigned to them.
32. As a dieter, I would like to be able to filter community meals based on servings, calories, protein, cuisine, complexity, or other important components.
33. As a dieter, I would like to be able to react to different meals using a like feature, emojis, or comments.
34. As a dieter, I would like to select ingredients that I currently own to get meals based on those ingredients.
35. As a dieter, I would like help settling into a diet with less strict requirements initially, or a cheat day to allow myself an easier transition initially.
36. As a dieter, I would like to know what national chain meals fit into my diet.

Social

37. As a social user, I would like to find other weightlifters nearby.
38. As a social user, I would like to be able to “friend” other users.
39. As a social user, I would like to be able to message other users in the app.
40. As a social user, I would like to be able to view the progress of my friends in the app.
41. As a social user, I would like to be able to “unfriend” any users.
42. As a social user, I would like to be able to block any users who harass me.
43. As a social user, I would like to be able to report any users who violate the app TOC.
44. As a social user, I would like to be able to share or show off my progress to my friends.
45. As a social user, I would like to be able to decide whether my progress is public or available only to specific users.
46. As a social user, I would like to be able to view my friends’ streaks.
47. As a social user, I would like to be able to “like”, react with emojis, and comment on different shared workouts and meals.

48. As a social user, I would like to be able to make collaborative goals with my friends, where we all try to complete a similar goal and hold each other accountable.

AI

49. As a user, I would like to be able to have weekly and monthly diet and workout reports generated.
50. As a gym user, I would like to be able to ask questions to get clarifications on specifics, such as the best number of reps or sets for a certain exercise.
51. As a gym user, I would like to be able to have alternative options suggested if a machine or exercise isn't available or is undesirable.
52. As a gym user, I would like to have workouts change based on the inability to do certain workouts, such as due to injury.
53. As a gym user, I would like to be able to get a natural weight progression based on how often I work on a specific workout.
54. As a gym user, I would like advice on how to recover from an injury.
55. As a gym user, I would be able to take a video of my lifts and harness AI to correct my form if need be.
- 55.1. Due to the large scale of this story, this will take significantly longer than other stories, approximately 30 hours. This was discussed with the coordinator.
- 55.2. The primary challenges in this story come from being able to analyze form using AI, as it would require a large dataset of exercise videos to train on to compare an arbitrary video. It would not only have to recognize the technique but compare it to a "perfect" technique as well, and pass the results to an LLM to formulate feedback.
56. As a gym user, I would like exercises recommended to me based on my experience level, which I have stated in my onboarding.
57. As a gym user, I would like to be able to generate a gym routine based on the muscle group to train.
58. As a dieter, I would be able to have recipes suggested to me for various goals related to weight loss or muscle gain.
59. As a beginner in my fitness journey, I would like tips or advice on how to do a specific exercise for the first time, embedded as a help button.

Non-Functional Requirements:

Architecture

We plan to produce separate backends and frontends for our project, allowing for easier compatibility and enabling group members to work on features consecutively without interfering with others' progress. Along with that, we would like to have a database to store account details and user information, allowing for more statistics and information that can be used in the app.

The frontend will be developed using React Native, a popular JavaScript library for creating intuitive and visually appealing mobile applications. With our use of GPT-5.2 for our AI app features, we will use HTML and JavaScript in accessing the web application itself, helping to create seamless integration between the web application and our fully independent mobile application.

The backend will be made in Python, a familiar coding language that will allow us to piece together the program and create the desired logic.

Our database will be designed with SQL and implemented through Flask and Pinecone, with Flask and Pinecone being an accessible Python library that allows the simple display of data from the database to the platform, and SQL to handle the database as a whole. We will leverage SQLAlchemy as an Object-Relational Mapper to translate queries written in Python to the SQL backend.

Performance

Our app plans to incorporate AI features that recommend personalized steps to take to reach specified goals. Depending on the suggested steps, we will need concurrent refreshing of the platform based on the LLM prompt response. If the user is having the tool optimize weight and reps, then we will need LLM queries for every exercise. If the user is targeting macros and nutrients, then we will query at least once for every meal.

A common baseline for measuring the response time of LLMs is the Time to First Token, meaning how long the model takes before it starts outputting text. Current versions of public models indicate Gemini takes ~0.29–0.53s, ChatGPT at ~0.40–0.70s, and Claude with ~1.16–1.30s. We will be sure to leverage whichever option makes the most sense when inputting prompts for user profiles as vector databases, which may increase latency and response time by 6 to 10 seconds.

Our service plans to host 20 to 40 users concurrently on the app in its development stage. Once we start adding more concurrency, this opens the door to the need for cloud and other deployment services, which can be costly.

Usability

The app should be approachable to navigate and interact with, but still allow for a multitude of features. Since the app is focused on centralizing a variety of features, including dieting, fitness, and socializing, it should be easily divided to allow a user to quickly find what they want. Our app interface should scale neatly, as it should be accessible on devices of any size and screen ratio. Our app should efficiently use space, such that the interface does not look empty, nor crowded. Our app should allow users to easily view the data they have previously recorded and modify new and old data without struggle. Data should be organized clearly in the interface.

Scalability

As the app has disjoint instances for the database and server backend, we can simply spin up more instances of the server backend and fragment the database across more instances. The backend and database can be hosted on a DigitalOcean/GCP node, while the frontend can be downloaded by users from the app store, not requiring intervention by us.