

# Achieve360

## **Problem Statement**

There are numerous elements that go into a journey in fitness such as exercise regimens, diet, unique goals, genetic factors, etc. Oftentimes, it is difficult for people to formulate all of these factors into a working plan that can help them achieve their goals. Our project aims to provide adaptable software that can compile each of these elements for any given user and create a feasible workout plan that can help users achieve their specific fitness goals.

## **Background Information**

### **Audience**

Improving personal health is a lifestyle that can be adopted by anyone. However, different people are going to have different health goals, and will therefore require their unique workout and diet plans suited to their aspirations. Therefore, our project will be able to specialize a fitness plan for young athletes who are looking to perfect their craft or go to professional leagues.

### **Similar Platforms**

There are some other platforms that offer personalized workout plans, such as StrongrFastr and Pumpd. StrongrFastr offers a number of features in their product, including a macro meal planner, where users can enter their basic bio information, fitness goals, target calorie consumption, etc. They will be given a meal plan to achieve their goals based on their input data. This also offers a workout plan that is formulated in the same way. The other platform, Pumpd, is the same platform, but it is primarily focused on workout plans.

### **Limitations**

While these platforms are useful towards achieving the same goals we are pursuing with this project, they do have their limitations. Starting with StrongrFastr, it is evidently a complex platform with many features to help users personalize their plans to align with their fitness desires. However, there is no way for users to track their progress to ensure that the plans they are given are truly effective. With Pumpd, the only feature is a personalized workout plan, without regard for diet, current biological standing, etc.

Our product will account for all necessary features while also storing users progress for them to view the effects of their given plan.

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## Requirements

### Functional

1. As a client, I would like to be able to register for a Achieve360 account
2. As a client, I would like to be able to log in to my pre existing account
3. As a client, I would like to be able to keep track of my workouts
4. As a client, I would like to be able to input my current metrics (age, weight, height, gender, etc) and goals
5. As a client, I would like to be able to view information about my sport and position to help me decide what my goals should be
6. As a client, I would like to get a workout plan based on my current metrics and goals
7. As a client, I would like to get a diet plan based on my current metrics and goals
8. As a client, I would like to customize my workout plan to my personal goals
9. As a client, I would like to customize my diet plan to my personal goals
10. As a client, I would like my workout plans to change dynamically based on current progress (if time allows)
11. As a client, I would like my diet plans to change dynamically based on current progress (if time allows)
12. As a client, I would like my workout/diet plans to be optimized using previous user's data (if time allows)
13. As a client, I would like to keep track of my workout progress
14. As a client, I would like to keep track of my diet progress
15. As a client, I would like visualizations of my workout progress
16. As a client, I would like visualizations of my diet progress
17. As a client, I would like to be able to upload images/videos for coaches to view and provide feedback on
18. As a client, I would like to be able to communicate with other clients with text
19. As a client, I would like to be able to communicate with other clients with videos and images
20. As a client, I would like informational videos and instructions on specific exercises
21. As a client, I would like to be able to compare my metrics and skills to various professional athletes in my sport and position (if time allows)
22. As a coach, I would like to be able to register for a Achieve360 coach account
23. As a coach, I would like to be able to log in to my pre existing coach account
24. As a coach, I would like to be able to communicate with clients through text
25. As a coach, I would like to be able to view client's images and videos to critique and help them
26. As a coach, I would like to be able to send images and videos to my clients to show them examples of what their videos should look like
27. As a coach, I would like to keep track of a client's workout progress
28. As a coach, I would like to keep track of a client's diet progress
29. As a coach, I would like to customize a client's workout plan

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- 30. As a coach, I would like to customize a client's diet plan
- 31. As a coach, I would like to make changes to a client's diet plan at my discretion.
- 32. As a coach, I would like to make changes to a client's workout plan at my discretion.
- 33. As a coach, I would like visualizations of a client's workout progress
- 34. As a coach, I would like visualizations of a client's diet progress
- 35. As a coach, I would like to hold regular progress checks so that I can ensure that the client's diet/workout plan is effective.
- 36. As a coach, I would like to hold regular progress checks so that I can ensure that the client's skills are improving.

## Non-Functional

### Performance

Our performance requirements are categorized into two groups: the site performance and data handling. In regards to the website performance, our requirements are as follows: the website should be available 24 hours a day, be able to handle 10,000 simultaneous requests, and be able to handle 1,000 different accounts. The rest of our performance requirements deal with data handling: messages that are sent should be received and visible within 500 ms, videos of at most 5 minutes can be supported, up to 10 GB per video can be stored, new data should be visible to users with 10 seconds of its release, and after a user inputs metrics and target data, a plan should be generated within 10 seconds.

### Security

The website will authenticate user's credentials using OAuth 2.0. To secure user passwords we will implement strong password hashing using bcrypt and we will enforce password policies such as minimum length and including numbers. To prevent SQL injections we will include input validations and prepared statements with parameterized queries to make sure that the application code doesn't run user inputs directly.

### User Interface

The user interface should be easy to navigate and use for someone using the software for the first time. Coaches and clients will have similar interfaces but with some small differences that are specific to each of them. We will make sure that the look and feel of each of the pages look and feel consistent. Since this is a website, it is important that it look right regardless of browser and version. We will regularly test the UI across different browsers and versions to ensure consistent performance.

### Accessibility

It is important that our software is accessible to everyone that is trying to reach their fitness goals. We will make sure that our website will meet WCAG standards to make it accessible to users with disabilities. There will be support for both mouse and keyboard navigation to maintain functionality regardless of input.

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## **Developer**

As we are adding more features and updating old ones, it is important that our code is structured in a way that will make it efficient to do so. We will write clean and modular code to make it easy to maintain and update. We will also provide extensive documentation for developers to facilitate future updates and maintenance.