
**Team 6 - Product Backlog**

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## Problem Statement

Working out today, given the current pandemic, has become hard and lackluster. *Werk It* is a cross-platform web to mobile application that makes working out from anywhere easy. This application provides an easy way to customize workout plans and communicate one's progress with friends. This application is unique in its adaptability and ability to personalize workouts and statistical graphs when compared to existing platforms such as Apple HealthKit and Fitbit.

## Background Info:

### Audience

A healthy body and mind is a universal goal for many and cannot be limited to one demographic. People seeking to improve their physical fitness have varying ranges of experience when it comes to exercise. Our cross-platform product aims to target anyone looking for a consistent, invigorating workout plan.

### Similar Platforms

There are several existing health and fitness management products like Apple HealthKit, Fitbit, and Samsung Health. These applications allow users to monitor their health-related activities in different ways. Apple HealthKit and Samsung Health are exhaustive apps with many features like the number of steps taken per day and calorie counter, and Fitbit acts as a pedometer with heart rate measuring functionality built into its program.

### Limitations

Although these existing products are very comprehensive, products such as Apple HealthKit and Fitbit have a major limitation in that they require the user to also have a smartwatch. These smartwatches are costly to the average user and thus creates a hardware dependency. Our goal is to eliminate this dependency by shifting the focus to software and requiring only a

smartphone. We aim to address these problems by creating a cross-platform web to mobile product that is easily usable and accessible by the general public.

**Functional Requirements:**

1. As a user, I would like to be able to easily access the *Werk It* landing page.
2. As a user, I would like to be able to register for a *Werk It* account on the web app.
3. As a user, I would like to be able to login to my *Werk It* account on the web app.
4. As a user, I would like to be able to sign up on the mobile app.
5. As a user, I would like to be able to login to my *Werk It* account on the mobile app.
6. As a user, I would like to have face ID login once my credentials are saved.
7. As a user, I would like to have touch ID login once my credentials are saved.
8. As a developer, I need to display an error message if at least one of the user's credentials already exist in the database when creating an account.
9. As a developer, I need to display an error message if at least one of the user's credentials is incorrect.
10. As a user, I would like my password to be reset if I forget it.
11. As a user, I would like the ability to change my username.
12. As a user, I would like to be able to view my app history on the web app.
13. As a user, I would like to be able to set my profile picture.
14. As a user, I would like to see a motivational quote whenever I access the app.
15. As a user, I would like to be able to easily navigate the dashboard.
16. As a user, I would like to be able to easily access *Werk It* from my mobile device.
17. As a user, I would like to receive workout suggestions based on my activity.
18. As a user, I would like to be able to select the type of workout I plan to do (lifting, running, swimming, etc.).
19. As a user, I would like to be able to select individual types of lifts.
20. As a user, I would like to be able to create a new type of lift if it does not already exist.
21. As a user, I would like to be able to input the number of sets I did for each type of lift.
22. As a user, I would like to be able to input the weight I did per set of each type of lift.
23. As a user, I would like to be able to set the duration of my run.
24. As a user, I would like to be able to set the speed for my run.
25. As a user, I would like to be able to set the number of laps for my swim.
26. As a user, I would like to be able to set a custom type of workout.
27. As a user, I would like to be able to set the exercises for my personalized workout.
28. As a user, I would like the option to choose set/reps/weight for my custom workout.
29. As a user, I would like to be able to easily comprehend the visualizations generated based on my workout statistics.
30. As a user, I would like to see my workout time per week on a histogram.
31. As a user, I would like to see a line graph comparing my workout time with my friends.
32. As a user, I would like to see a progress bar at the start of the week indicating how much of the weekly goal is accomplished.
33. As a user, I would like to be able to connect with my friends.
34. As a user, I would like to be able to send my workout plan to my friends.
35. As a user, I would like to be able to send fitness challenges to my friends.
36. As a user, I would like to post my activities to social media applications.
37. As a user, I would like to be able to view the web app in dark mode.

38. As a user, I would like to be able to stay motivated through a workout streak counter.
39. As a user, I would like to be reminded if I am inactive for prolonged periods of time.
40. As a user, I would like to be able to connect my music streaming platform.
41. As a user, I would like to be able to create my own workout plans.
42. As a user, I would like to be able to keep track of my caloric intake.
43. As a user, I would like to be able to view the mobile application in dark mode.
44. As a user, I would like to be able to have my data persist within the mobile app.
45. As a user, I would like my device to remember me until the next time I log out.
46. As a user, I would like to be able to choose workouts that help me achieve my body goal.
47. As a user, I would like to be able to set a workout schedule for the week.
48. As a user, I would like to be reminded when I have an upcoming workout scheduled.
49. As a user, I would like to have music that syncs to the rhythm of my workouts.
50. As a developer, I need to display a loading symbol if requests take longer than a second so that the user does not think the app has frozen.

**Non-Functional Requirements:**

**Architecture and Performance**

We will be using different technologies for the frontend and backend making the work for the team easily divisible. The web app will have a startup landing page built with Bootstrap describing the product intent, purpose, and to attract potential users. We will have web app flexibility using Angular and Ionic technologies. The web app will use Node.js which connects with the Firebase database that stores user information with those as our backend technology. We will create a comprehensive workout status page for individual users which displays graphical visualizations using D3.js. We plan to develop our app so that 100 concurrent users can access the *Werk It* mobile app and the web app. We also plan to allow 1000 simultaneous requests to the database. Lastly, we will share fitness accomplishments between social media platforms using RESTful APIs, and a fetch request should have a response time of no more than 500 milliseconds.

**Security**

Although most of the information collected in our application is not sensitive, profile information such as the user's age, weight, and height are pertinent and must be protected. Moreover, due to the prevalence of several data breaches in recent times, it is important that we protect each user's password and username when storing it in a database. To do this, we plan to encrypt the passwords by using a hash function, and restrict the access of each user so that each user is only able to retrieve his or her information. The length of our hash array should be 31 elements long, which is a prime number.

**Usability**

The user interface for our web application should be modern and simplified for the typical user to navigate and understand our application. Our website should not overwhelm the user with all the information and functionality at once. Rather, the information in the visualizations and the landing page should be presented in manageable chunks. Since our web app should be able to be accessed by multiple users, there should be one unique dashboard for each user. Our frontend pages should follow a standardized color scheme. Moreover we should use semantic markup and make our website dynamic and resizable across screens that are 768px (phone), 992px (tablets) and 1200px (large computers) wide. We should include exception handlers to handle server errors in our backend. The mobile application should follow the aforementioned guidelines as well. Both our apps should be accessible 24 hours a day and 7 days a week.

**Hosting/Deployment**

Throughout the entire development process, we plan to use Git as our version control and GitHub to host our codebase. After completing the project, we plan to deploy our web application on GitHub pages, which would be directly linked to our repository on GitHub. The mobile application would be tested using Apache Cordova to generate an executable (apk) to be run either on an emulator or physical device. In order to diagnose any backend issues that we may encounter, we intend to use tools such as Postman and DigitalOcean.