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Sprint 3 Retrospective

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Werk It

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What went well?

Overall, we developed many additional features of our cross-platform application. The mobile app now allows the user to edit workouts, workout types, workout plans, and exercises. Furthermore, the mobile app also allows the user to add friends and send workout plans and fitness challenges to friends. The web app can successfully illustrate workout data for a given user using a pie chart, column chart, histogram, line graph, and a geochart. The user can also edit their profile information on the web app.

User Story #1

As a user, I would like to be able to edit previously saved workouts, workout plans, and workout types.

Completed:

A user is able to access any of the workouts, workout plans, and/or workout types that they have created and make any necessary changes or edits to them. These changes are reflected both in the database as well as natively on the app.

User Story #2

As a user, I would like to be able to delete previously created workouts, workout plans, workout types, and exercises.

Completed:

A user is able to access any of the workouts, workout plans, workout types, and/or exercises and delete them if they choose to do so. If deleted, then the data will also be removed from the database as well as natively on the app.

User Story #3

As a user, I would like to be able to modify the user information on the profile page.

Completed:

The *Werk It* profile page allows the user to modify their profile information including their name, email, location, and dark mode preference. Once the user submits his or her modified information, their profile is updated within the MongoDB cluster.

User Story #4

As a user, I would like to see a motivational quote whenever I access the app.

Completed:

A motivational quote appears when a user logins to the *Werk It* web and mobile app. The quote is retrieved via a REST API, and shows while the application and its necessary data is loading. After about 5 seconds or so, the user is redirected to their respective dashboard page in the web app and the mobile app.

User Story #5

As a user, I would like to be able to easily comprehend the visualizations generated based on my workout statistics.

Completed:

The *Werk It* dashboard page has several visualizations that illustrate the user's workout progress as well as that of the user's friends. There exists a pie chart that displays the percentage of workout time spent in each day of the week, a column chart that portrays the number of workouts completed within each workout type, and a geochart that indicates the location of the user and the user's friends within the United States.

User Story #6

As a user, I would like to be able to connect with my friends.

Completed:

When on the mobile application, the user is able to go to a “Friends” screen and has the capability to add friends based on their usernames. When a user adds a friend, the friend is sent a friend request (that they can either accept or decline) and the user that added them sees the friend in a pending state added to their friend list. When the friend accepts the friend request, both people have each other as friends, but if the friend declines the request, the pending friend state is removed completely from the user that made the request.

User Story #7

As a user, I would like to be able to view the mobile application in dark mode.

Completed:

The menu on the left has an option for the settings screen that can be accessed by the user. On the settings screen, the user will find a switch that toggles dark mode on and off. Interacting with this switch causes the app to be rendered using the appropriate mode (light/dark), as well as updates the user preference in the database.

User Story #8

As a user, I would like to be able to start a workout session.

Completed:

When a user visits their dashboard, if they have a workout scheduled for that day, then they can tap on the button to start their workout. Starting their workout brings them to a screen with a stopwatch and all the exercises in a checklist. As the user progresses through the workout, they can check off the exercises as they complete them. When the user is done with the workout, then they can tap the finish button and the database will record the time elapsed as well as the workout completed.

User Story #9

As a user, I would like to be reminded when I have an upcoming workout scheduled.

Completed:

When a user visits the dashboard page, they can easily see which workouts they have coming up based on the active workout plan selected. The upcoming workouts list is ordered by date and the user can see what days of the week they have upcoming workouts for. If there are no upcoming workouts for the active workout plan, the user will see they have no upcoming workouts.

User Story #10

As a user, I would like to see a line graph comparing my workout time with my friends.

Completed:

In addition to the histogram, pie chart, column chart, and geo chart, the *Werk It* dashboard page exhibits a line chart that compares the number of workouts completed by the user and the user's friends. If the user has not completed any workouts for the given week, but at least one of the user's friends have, the user is motivated to workout more in the future using an alert.

User Story #11

As a user, I would like to be able to send my workout plan to my friends.

Completed:

A user can successfully send a workout plan to a connected friend on the mobile app. The user can select what workout plan to choose from a dropdown picker on the screen. The friend who receives this plan will get a message to accept or decline it. If the friend accepts the workout plan, it will show up in their own list of workout plans.

User Story #12

As a user, I would like to be able to send fitness challenges to my friends.

Completed:

If the user has at least one friend added, they have the option to click on that friend's name and send a fitness challenge to their friend. When they choose to send a fitness challenge, they are allowed to input the number of completed workouts that they are challenging the friend to see who can finish that number of workout first. The friend also has the option to accept or decline the fitness challenge sent to them.

User Story #13

As a developer, I need to display a loading symbol if the user is disconnected from Wifi.

Completed:

When using the web app, if the user's device disconnects from Wi-Fi, then after 15-30 seconds the loading symbol appears. Once the user's device reconnects to Wi-Fi, after another 15-30 seconds, the loading symbol disappears. While the loading symbol appears, the user is not able to navigate between pages, and gets an alert saying "We cannot access the internet. Please check your network connectivity" if they click any part of the page they are on.

User Story #14

As a user, I would like to be able to set my profile picture.

Completed:

When using the web app, when the user navigates from the Dashboard page to the Profile page, if they click on the circular profile picture component (located underneath the text “Profile”), a file browser dialog opens up. This allows them to select an image from their computer. Once selected, the new image is shown in the profile picture component; this image is cropped to fit the profile pic component.

User Story #15

As a user, I would like to receive a confirmation email when I go to reset my password.

Completed:

On either the web or the mobile application, when the user chooses to reset their password on the login page, they are directed to a page where they have to input their username and email. Upon entering this information correctly, an email is sent to the user with a unique 6-digit code that they are then prompted to enter on the app, as a verification of their identity. If the code is entered correctly, the user is then directed to the page where they can change their password.

How should you improve?

Over the course of our final sprint, our team learned some valuable lessons. First and foremost, while the coordination and communication has been steadily improving over the course of this project, our final deadlines highlighted a key area in which we were still lacking: source control. There were many merge conflicts that occurred during this sprint as everyone was rushing to finish code and push it onto the main branch. Due to a lack of communication when code was updated and pushed, many members would fail to pull the new changes before pushing their work. Going forward, it is apparent that as a team, we need to be proactive in reporting our progress and our changes to the main branch.

Additionally, our team needs to input more realistic user data that corresponds to how a user would use our application in real-time. For instance, we had workout plans that were named "test," "dummy test," and so forth, which would not be used by an actual user while using the *Werk It* application. Although it may at first glance seem useful to use such data for testing purposes, it often falls short in many cases because without understanding the exact usage of the application it is difficult to determine the utility and the practicality of the app. Hence, before the final project presentation, our team intends to input more realistic data to represent the actions of a potential user of our application.

Furthermore, our team needs to compartmentalize our work better. Changes made to fetch data for the charts sometimes affected asynchronous background calls that checked network connectivity due to too many calls in the call stack. Components should be implemented such that outside of required interdependence, the interaction between components is minimal (to reduce the impact of failure of individual components), in a manner similar to how an aircraft's in-flight entertainment system (e.g. electrical system) is separated from the autopilot's flight control systems (to reduce the chance that a failure in one of them puts the aircraft and passengers in danger due to multi-system impact).

Moreover, our team needs to spend more time practicing for sprint reviews/presentations in advance. While we had planned to go over the presentation for the sprint review two days in advance, we were not able to because the code took longer to implement than expected. Because of this, we only had one day to practice, and this affected our presentation on Friday. Therefore, for the final presentation, we should plan to meet more in advance and allocate more time for the preparation meeting for the final presentation. This will help avoid any mistakes in showcasing the app as well.

Finally, our team needs to work on having a more thorough testing process before assuming our coding changes are done. There were multiple instances of someone merging code to the main branch, and since there were no merge conflicts, they assumed it would work on the main branch. However, when we ran the code from the main branch, there were many bugs that showed up simply because the person that merged it did not test it with the rest of the code on the main branch. Hence, we should have implemented a testing process that each person should have followed for every merge to the main branch to prevent the last-minute bugs that showed up.