SPRINT 1
PLANNING DOCUMENT

TEAM: 22

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Sprint Overview

In this sprint, we hope to start by tackling user stories that are based around the user creating login and profile pages. We also hope to start expanding on the basic functions that are available to the user. In this sprint, we will primarily be focusing on allowing users to create activities. The basic framework that we plan to use consists of React, Node.js, and Firebase. By the end of the sprint, we hope to have a website that can support the bare-bone functionality outlined in our backlog. This sprint won't cover the social aspects that are a part of the platform, these will be included in sprint 2.

Scrum Master: Annalise Kimura

Meeting Schedule
Tuesday 4:30 pm - Team stand-up
Wednesday 2:45 pm - Team meeting with project coordinator
Thursday 12:30 pm - Team stand-up

Risks and Challenges
The main challenge of this sprint will be learning the logic and techniques of web development. All members of our team have little to no experience in web development, but we plan on learning through videos, examples, and each other. This sprint will also be an introduction to how long each user story will take, so our time estimations might be a little flawed.

Current Sprint Detail

User Story #1
As a user, I would like to create an account

#	Description	Estimated Time	Owner
1	Create UI for inputting email and password	4	Annalise
2	Store email addresses for unique users	2	Annalise
3	Verify the email address by verifying the email	4	Annalise
4	Store passwords for unique users	2	Annalise
5	Output username/ password errors	1	Annalise
6	Implement unit tests to check accounts are created	3	Annalise

Acceptance Criteria:
- ➔ Given the user interface is set up, when the user clicks on the site, they should be prompted to the login page, with a "create account" button
- ➔ Given the "create account" button works, when the button is clicked, the screen will redirect to a create account screen, with "input email" and "input password" boxes
- ➔ Given the email input is valid when the user inputs their email, an email verification will be sent to the email and will be stored in a list with all other user emails
- ➔ Given the password fits the criteria, when the password is created, then the password will be stored in a list with all other passwords
- ➔ Given the password doesn't fit the criteria, when the password is created, then an error message will show and the password will be prompted again.
- ➔ Given the account is created, when the user verifies the email, they will be directed to the homepage and will be able to log in with the credentials they just created

User Story #2
As a user, I would like to login to my account with a username and password

#	Description	Estimated Time	Owner
1	Verify username	3	Annalise

2	Verify password	1	Annalise
3	Find accounts that match the username and password	2	Annalise
4	Output any errors	1	Annalise
5	Implement unit tests to check users can log in	3	Annalise

Acceptance Criteria:
➔ Given the user interface is set up, when the user clicks on the site, they will be prompted to the login page, with "username" and "password" boxes
➔ Given the username and password are correct, when the user logs in, then they will be directed to the homepage
➔ Given the username or password is incorrect, when the user enters the wrong information, the user will be prompted to log in again and an error message will show

User Story #3
As a user, I would like to have the option of deleting my account.

#	Description	Estimated Time	Owner
1	Display option	1	Annalise
2	Input password verification	2	Annalise
3	Remove username and password from the stored account list	3	Annalise
4	Log out	1	Annalise
5	Implement unit tests to make sure users can delete their accounts	3	Annalise

Acceptance Criteria:
➔ Given the user interface is set up, when the user clicks "user" in the settings dropdown, there will be a "delete account" option
➔ Given the button is functional when the user clicks it, then the user will be prompted to input their username and password
➔ Given their account details are valid, when they click delete, their account will be removed

➔ Given the removal is successful, the user will be redirected to the login page and can no longer log in with those credentials

User Story #4
As a user, I want to land on a consistent home page when I log in

#	Description	Estimated Time	Owner
1	Create homepage UI	7	Rishab
2	When a user successfully logs in redirect them to the homepage	2	Rishab
3	Manually test to see that the homepage displays correctly	2	Rishab

Acceptance Criteria:
➔ Given the redirection is implemented, when the user signs in successfully, the user will see the same homepage
➔ Given that the homepage UI is created properly the user should be able to easily navigate the website and be able to go to any of the functional pages
➔ Given that the homepage UI is created properly, the homepage should be visually appealing

User Story #5
As a user, I would like to be able to log out of my account

#	Description	Estimated Time	Owner
1	Verification message	1	Rishab
2	Exit out of the current user's profile	3	Rishab
3	Redirect to the login page	3	Rishab
4	Ensure that user information is no longer accessible after logout	3	Rishab

Acceptance Criteria:
➔ Given the user interface is set up, when the user clicks "user" in the settings dropdown, there will be a "logout" option

➔ Given the user accidentally clocks "logout", when the button is clicked, there will be a message verifying they want to logout
➔ Given the user does want to logout, when the user clicks "logout", the page will redirect to the login page
➔ Given the program closes after a logout, when the user clicks on the website, they will have to log in again

User Story #6
As a user, I would like to be authenticated with existing credentials (e.g. google account)

#	Description	Estimated Time	Owner
1	Make a sample Google Firebase login authenticator	3	Brian
2	Implement the Firebase log in to myTree login page	5	Brian
3	Handle errors during the authentication process	2	Brian

Acceptance Criteria:
➔ Given the login page has been set, a user will have the option to log in with Google rather than a username and password specific to myTree
➔ Given the login page is set, the user will see a button "Sign in with Google" which will redirect them to a Google log in
➔ Given the log in via Google is successful, the user will be asked to create a username for other users to find them, then be redirected to the homepage
➔ Given the authentication via Google is unsuccessful, the user will be redirected to the login page

User Story #7
As a user, I would like my account to save my information and carbon score statistics

#	Description	Estimated Time	Owner
1	Make a sample Google Firebase database	3	Brian
2	Design a database to store user login information and carbon score stats	5	Brian

3	Pass user information from account creation to database	2	Brian & Annalise
4	Give user the option to view personal information on a new page	2	Brian
5	Test account creation and passing of information to the database	2	Brian

Acceptance Criteria:
➔ Given the user is successful in creating an account, the user's login information and carbon score statistics should be stored in the Firebase database, and retrieved when the user requests to view
➔ Given the name and information display has been created, and the user will be able to view this information on their personal profile
➔ Given the historical carbon habits tracking UI has been set up, the carbon score data will be displayed on the user page

User Story #8
As a user, I would like my lifetime carbon habits shown on my profile

#	Description	Estimated Time	Owner
1	Design UI for user's carbon history on their profile	4	Brian/Paul
2	Request user carbon score history from the Firebase database	1	Brian
3	Parse data and display it	3	Brian
4	User and Unit testing	2	Brian

Acceptance Criteria:
➔ Given the user has set up their account and logged activities, the user's carbon score statistics should be stored in the Firebase database, and retrieved when the user requests to view
➔ Given the user has logged activities, the page should show the overall carbon score as well as a history of inputted activities
➔ Given the profile page is set up, the user should be able to view this data on their profile page,

➔ Given the user has not logged any activities, only the "Activities" button will be shown along with a message encouraging the user to log their first activity

User Story #9
As a user, I would like to choose a category to input my activity

#	Description	Estimated Time	Owner
0	Sample react.js practice designing UI pages	3	Paul
1	Design activities UI	3	Paul
2	Write a list of activities and categories	1	Paul

Acceptance Criteria:
➔ When the User is on their profile page, they should have an "activities" button
➔ Given the "activities" button works, when the button is clicked, then the screen will redirect to an enter activity screen
➔ The user should be able to select from three different categories of activities which then brings up a longer list of activities
➔ Once an activity is selected, a box for a parameter input specific to the activity will appear

User Story #10
As a user, I would like to be able to input an action I take and see the effect on my carbon footprint

#	Description	Estimated Time	Owner
0	Sample Node.js and Firebase practice	4	Paul/Rishab
1	Design UI for user's carbon history on their profile	4	Brian/Paul
2	Design calculation logic for certain activities and carbon inputs	3	Paul
3	Update user carbon score with inputted action in the database	3	Paul

| 4 | Display updated score in UI | 1 | Paul |
| 5 | User and unit testing | 2 | Paul |

Acceptance Criteria:
- ➔ When the User is on their profile page, they should have an "activities" button
- ➔ Given the "activities" button works, when the button is clicked, then the screen will redirect to an enter activity screen
- ➔ The user should be able to select from three different categories of activities which then brings up a longer list of activities
- ➔ Once the user has input their activity, then they should see a confirmation screen with the effect on their carbon score
- ➔ Once the activity input is complete, the user will be directed back to the profile page to see the effect of their carbon input

User Story #11
As a user, I would like to edit my habits in case I made a wrong input

#	Description	Estimated Time	Owner
1	Design UI for accessing previous activities	4	Paul
2	Update user carbon score in the database	3	Paul
3	Display updated score in UI	1	Paul
4	User and unit testing	2	Paul

Acceptance Criteria:
- ➔ Once the user is on the activities screen, they should have an "edit history" button
- ➔ Given the "edit history" button works, when the button is clicked, then the screen will redirect to display the user's history of activities
- ➔ The user should be able to select an activity to edit
- ➔ Once the user has edited their activity, which will pre-populate with the old activity, then they should see a confirmation screen with the effect on their carbon score
- ➔ Once the activity input is complete, the user will be directed back to the profile page to see the effect of their carbon input

User Story #12
As a user, I would like to display my name and information on a profile

#	Description	Estimated Time	Owner
1	Create a test database (in Firebase) to learn basic functions (Insert/Get Information)	4	Rishab
2	Get user information from the database (firebase)	2	Rishab
3	Create a user profile page UI	6	Rishab
4	Create Homepage button	2	Rishab
5	Ensure all user information is displayed properly	4	Rishab

Acceptance Criteria:
➔ Given that that unique identifier is used in the database properly, the data will be stored in the database and retrievable.
➔ Given that the frontend is able to retrieve the data from the backend, when a user clicks on the "user profile" button on the settings panel a user should be able to see all their user information.
➔ Given that the frontend is able to retrieve the data from the backend, when a user visits the profile page, they will encounter a visually appealing and user-friendly layout that displays their information in an easily readable format.

Total Hours Per Person For Sprint #1

#	Name	Total Time
1	Annalise Kimura	36 hours
2	Brian	34 hours
3	Paul	34 hours
4	Rishab	39 hours

RemainingBacklog

<u>**Functional Requirements:**</u>

User Account

1. ~~As a user, I would like to create an account.~~
2. As a user, I would like to link my email or Facebook to my account
3. ~~As a user, I would like my account to save my information and carbon score statistics~~
4. ~~As a user, I would like to login to my account with a username and password.~~
5. ~~As a user, I would like to be authenticated with existing credentials (i.e. google account)~~
6. ~~As a user, I would like to have the option of deleting my account.~~
7. As a user, I would like to reset my password.
8. As a user, I would like to take a habit quiz when setting up my account
9. ~~As a user, I want to land on a consistent home page when I log in~~
10. ~~As a user, I would like to be able to log out of my account~~

User Profile

11. ~~As a user, I would like to display my name and information on a profile~~
12. As a user, I would like my profile to be visible to the public
13. As a user, I would like my friends to be listed on my profile
14. As a user, I would like my awards and badges to be shown on my profile
15. ~~As a user, I would like my lifetime carbon habits shown on my profile~~
16. As a user, I would like my weekly stats shown on my profile
17. As a user, I would like to see my progress towards my goals
18. As a friend, I would like to see the profile page of my friend

Tracking Carbon Input

19. ~~As a user, I would like to be able to input an action I take and see the effect on my carbon footprint~~
20. ~~As a user, I would like to edit my habits in case I made a wrong input~~
21. ~~As a user, I would like to choose a category to input my activity~~
22. As a user, I would like to be able to modify my previous entry
23. As a user, I would like to see options for goals to set for a given time frame
24. As a user, I would like to set goals for a given time frame
25. As a user, I would like to see a dashboard of global climate change statistics
26. As a user, I would like goals to be suggested to me
27. As a user, I would like to understand how the carbon score is calculated so I can improve my habits

Visualization

28. As a user, I would like to visualize my carbon score in the way of an image such as a tree
29. As a user, I would like to see my tree grow when I have a good carbon score
30. As a user, I would like to see my tree shrink when I have a bad carbon score
31. As a user, I would like to see my friends' trees

32. As a user, I would like to be able to compare my tree with my friends or group members

Leaderboard
33. As a user, I would like to receive a daily challenge
34. As a user, I would like to see my ranking on a leaderboard amongst all users
35. As a user, I would like to see my ranking on a leaderboard among friends
36. As a user, I would like to see the awards I won
37. As a user, I would like to see my current league
38. As a user, I would like to see a leaderboard of my current league
39. As a user, I would like to "nudge" a friend that is falling behind

Groups
40. As a user, I would like to join a group by searching for one
41. As a user, I would like to create a group
42. As a user, I would like to see the current members of a group I am not in
43. As a user, I would like to see if my friends are current members of a group I am not in
44. As a user, I would like to see individual groups and group details on their own page, separate from other groups
45. As a group member, I would like to see other members in my group
46. As a group member, I would like to invite members to my group
47. As a group owner, I would like admin privilege to add members or remove members from my group
48. As a group member, I would like to write and update a bio to describe my group
49. As a group member, I would like to create a challenge for my group to collectively work towards
    a. Only one challenge should be active in a group so as a user we aren't overwhelmed
50. As a group member, I would like to participate and work towards completing my group's challenge
51. As a user, I would like to see all of my group notifications like invites and nudges in one place

Non-Functional Requirements:
Architecture/Development
We plan to have a completely separate front and back end, both for the ease of development and for the ability to host several users at once. The back end will use NodeJS and the front end web app will be written in the ReactJS framework and make requests from an API endpoint exposed in the backend. Backend domain logic will initially be based on a closed set of carbon calculations, meaning that only a small amount of activities will affect the carbon calculations, which can be expanded on later. Transportation, eating, and waste management will be three main categories to begin with. However, keeping the set well-defined in this manner makes it easy to expand on once available.

Security
Something more important than ever is security, this is especially so when you are storing data such as user credentials and other personal data. The main way we plan to safely handle user data is by using Firebase to manage all the data. Firebase is a known and trusted service to safeguard personal user data, thus we can guarantee the security of their accounts. One of the sub-services that Firebase provides is called Cloud Firestore, we plan to use this service to store user's data securely and separately. Users who set their profile to private can only be viewed by their friends while people who set their profile to public can be viewed by anyone on the platform.

Response Time
- Add values (data-driven goals)
- DB to the front end or vice versa / response time back to the user after action

Since the website will be accessed by many at once, it requires a low response time. Delays or lag times would also make the interaction between groups and friends operate poorly, which is something we do not want. We are aiming for response times of under 500ms, but that number will probably shift depending on several factors. We will correct the code based on if we notice the lag time when operating our website.

Usability
The myTree website should be organized and easy to navigate. The different aspects will be categorized in a drop-down menu way to ensure easy access; everything will be labeled so the users have an easy understanding of how to use the website. The settings button will always be in the top corner in case the user needs to access it. Icons will be recognizable and the general feeling should be comforting and minimal.

Hosting/Development
The hosting for the myTree website will be handled by Firebase which hosts the Cloud Firestore database. The complimentary "Spark" Plan offered by Firebase grants 10,000 free phone authentication verifications per month, along with 1 GB of monthly storage. These quantities appear to be sufficient for the course's requirements. Furthermore, Firebase accommodates scalability needs by facilitating a straightforward switch from the cost-free "Spark" Plan to the pay-as-you-go "Blaze" plan.