

# Serenova

## Sprint 1 Planning Document

Team 24: Cristina Corley, Kara Orander, Ishwarya Samavedhi, Ava Schrandt, Mary Voorhees, Caitlin Wilson

### **Sprint Overview:**

For this initial sprint, our primary objectives include user authentication, storing their information in the Firebase Database. This data will then be used later in the application for linking user IDs and their sleep analysis requests. Additionally, we are planning on developing the Login and Sign Up interfaces as well as the Manage Account page. By the end of this sprint, users will be able to create an account with Serenova, sign in, and access the profile section to modify or update their account details.

To get started on some other key functionality, we are also planning to begin implementing features relating to the community forum and the sleep log/analysis key features. Our goal for this sprint is to allow users to be able to sync data with their smart watches to the app, as well as being able to manually input sleep entries. We are also looking to implement the basic features of the forum, including the ability to post and view threads on the forum.

**Scrum Master:** Caitlin Wilson

**Meeting Plan:** MWF @ 12:30pm

### **Risks and Challenges:**

As this is our first sprint, we anticipate difficulties when it comes to accurately breaking down user stories into individual tasks and estimating the time they will take correctly. Overestimating the time needed to complete each task could result in decreased

productivity. Underestimating the time needed to complete each task could result in rushed work or missed deadlines. So, we will have to be meticulous in our planning to ensure that every member has roughly 30 hours of work to complete for this sprint. Also, several members of our team are not familiar with the languages and IDE's being used by us such as XCode, JavaScript and Firebase. They have however worked with similar technologies such as Swift, so the first Sprint will serve both as a challenge and an excellent chance for the team to see how all the members adapt to working in a new environment. A significant challenge that will affect us in this sprint will be to come up with the most appropriate and user-friendly way to develop the navbar among the various tabbed pages on our main screen.

## Current Sprint Details:

### User Story #1:

As a user, I would like to be able to create a unique login username and password to keep my own personal information safe and secure.

#	Task Description	Estimated Time	Owner
1	Create UI Page to allow users to sign up for an account	2hr	Ava
2	Set Up Firebase Database	2hr	Cristina
3	Link Database to the App	3hr	Cristina
4	Setting up database logic and validating the request	1hr	Cristina
5	Creating a User Class and inputting user information in it	2hr	Caitlin
6	Add unit tests for Registration	3hr (each person assigned)	Isha

### Acceptance criteria:

- Given that the frontend UI is implemented correctly, when the user tries to create an account with an email in the wrong format, the sign-up page will stop the account from being created and alert the user of the problem.
- Given that the frontend UI is implemented correctly, when the user tries to create an account with a weak/invalid password, the sign-up page will stop the account from being created and alert the user of the problem and ways to fix the password.
- Given that the backend and database have been implemented and integrated correctly, when the user registers a new account, a new user with all the relevant information will be created. The new account will be accessible to the user on future logins.
- Given that the database stores all current usernames, when the user tries to create an account with an existing username, the sign-up page will stop the account from being created and alert the user of the problem.
- Given that the connection between the database and frontend UI is correct, when the user creates an account without error, they should now have an account for

Serenova and be able to login from any device with their data synced automatically.

## User Story #2:

As a user, I would like to be able to log into the account I've created.

#	Task Description	Estimated Time	Owner
1	Create UI Page that allow users to log in for an account	4hr	Kara
2	Authenticating the parameters with Firebase	2hr	Cristina
3	Handling routing from the login page to the homepage or questionnaire for first time users	3hr	Isha
4	Handling obtaining user's personal details after successful login and validating request	5hr	Cristina
5	Add unit tests for log in	4hr (each person assigned)	Isha

## Acceptance criteria:

- Given that the frontend UI is implemented correctly, when the user tries to login to an account with an invalid username/password, the log-in page will not log-in the user, alert the user of the problem, and tell the user to try logging in again.
- Given that the authentication is implemented correctly, when the user logs in correctly, they are then directed to the homepage or questionnaire page if this is their first time logging in.
- Given that the backend and database have been implemented and integrated correctly, when the user logs in, their account data should be pulled, searched, and verified correctly.
- Given that the backend is implemented correctly, if the user tries to login numerous times incorrectly, then they will be locked out for a period of time until they can try again.
- Given that the connection between the database and frontend UI is correct, if the user has signed in, the request and orders should be automatically synced.

### User Story #3:

As a user, I would like to be able to manage my account and take actions such as changing my password, deleting my account, and changing my username.

#	Task Description	Estimated Time	Owner
1	Create a UI Page that allows users to change their account details or delete their account.	5hr	Kara
2	Handling backend logic to connect with the database when the user changes their information.	2hr	Caitlin
3	Handle backend logic to make sure the new desired username doesn't already exist in the database if the user decides to change their username	1hr	Caitlin
5	Add unit tests to check functionality	4hr (each person assigned)	Caitlin

### Acceptance criteria:

- Given that a frontend UI is implemented correctly and integrated with the backend, when the user clicks a button to delete their account, the account and all related data should be removed.
- Given that a frontend UI is implemented correctly, the user should be able to click on a button to change their username, which causes a textbox to open up, prompting them for a new username.
- Given that the backend is implemented correctly, if a user tries to create an account with a username that already exists, a message should be returned prompting the user again if the username exists. Otherwise, the user should be able to create an account with that username.
- Given that the backend is implemented correctly, when the user chooses a unique username for their account, the username will belong to the user. Subsequent logins should reflect the update with the unique username.
- Given that the frontend UI is implemented correctly, the user should be able to click on a button to change their password, which causes a textbox to open up, prompting them for a new password.

- Given that the backend is implemented correctly, the user's password should be updated in the database

**User Story #4:**

As a user, I would like to be able to reset my password if I am not currently logged in.

#	Task Description	Estimated Time	Owner
1	Create UI Page for Resetting Password	2hrs	Isha
2	Handling routing from the login page to the reset password page when clicked	3hrs	Mary
3	Handling backend logic to connect with the database when the user changes their password	4hrs	Mary
4	Handle logic to incorporate email verification code sent to user to verify their account	4hrs	Isha
5	Add unit tests to check functionality	4hrs (each person assigned)	Isha, Mary

**Acceptance criteria:**

- Given that the frontend UI is implemented correctly, when the user clicks the reset password link, the log-in page routes the user to the Reset Password page and they will be able to change their password.
- Given that the frontend UI is implemented correctly, when the user tries to change their password with a weak/invalid password, the Reset Password page will stop the account from being created and alert the user of the problem and ways to fix the password.
- Given that the backend and frontend UI are connected correctly, when a user has successfully reset their password, they should be able to immediately log-in with their new password.
- Given that the backend and frontend UI are connected correctly, when the user clicks the reset password link, they should get an email confirmation code that they can enter to verify their identity.
- Given that the backend and frontend UI are connected correctly, if the user inputs the incorrect email confirmation code, the reset password page will stop the password from being changed and alert the user of the problem.



**User Story #5:**

As a user, I would like to be able to view my account profile, which displays content including my app settings, past sleep data, and login information.

#	Task Description	Estimated Time	Owner
1	Create a UI page template that displays a user's account information.	2hrs	Isha
2	Handle backend logic to access a user's past sleep data and display it properly on the UI	2hrs	Caitlin
3	Handle backend logic to get a user's app settings and connect it to be displayed properly on the UI	2hrs	Caitlin
4	Handle backend logic to get a user's login information	2hrs	Caitlin
6	Add unit tests to check functionality	4 hrs (each person assigned)	Caitlin

**Acceptance criteria:**

- Given that the UI is implemented correctly, when the user navigates to their profile page, they should see a profile with different sections: one for app settings, one for past sleep data, and one for login information, all presented in a user-friendly way.
- Given that the backend is properly implemented, when a user views their profile, the profile should be populated with past sleep data for a user.
- Given that the backend is properly implemented, when a user views their profile, the profile should be populated with the user's preferred color scheme and the profile should display this setting in the UI.
- Given that the backend is properly implemented, when a user views their profile, the profile should be populated with the user's account information.

**User Story #6:**

As a user, I would like to be able to change the app appearance through different background colors available for me through the account page.

#	Task Description	Estimated Time	Owner
1	Create a UI page template that allows a user to change their profile preferences.	2hrs	Kara
2	Create color UI dropdown menu	1hr	Kara
3	Determine color from dropdown menu	1hr	Kara
4	Alter all UI color to be the dropdown color	2hrs	Kara
5	Add unit tests to check functionality	4hrs (each person assigned)	Kara

**Acceptance criteria:**

- Given that the UI is implemented correctly, when a user navigates to their profile, the user should have a dropdown that displays the different color schemes the user can pick from.
- Given that the UI dropdown component is implemented correctly, when the user selects a color from the menu, the UI should change to that color.
- Given that the user has selected a color preference for their profile, when a user navigates to any other page on the app, the user should see the color changes applied to all pages in the app.
- Given that the backend is implemented correctly, when a user selects a color for their profile, the user should see the same color preference on any subsequent logins.

**User Story #7:**

As a user I would like to be able to upload or change a profile picture so that I can be recognized as my picture to my friends.

#	Task Description	Estimated Time	Owner
1	Make the Manage Account UI Page to incorporate adding and changing a profile picture	3hr	Mary (tentatively)
2	Create an algorithm for image picker	3hr	Caitlin
3	Create an algorithm to convert the image the user uploads to a bitmap	4hr	Caitlin
4	Replace the older profile picture's bitmap from firebase with the new profile picture's bitmap	3hr	Mary
5	Connect the database and the image the user uploads	3hr	Mary
6	Add unit tests to check functionality	4hr (each person assigned)	Mary

**Acceptance criteria:**

- Given that the frontend UI is implemented correctly, the user should be able to add, remove, or replace a profile picture to their account.
- Given that backend and database logic are implemented and integrated properly, if the user signs in another device, they should be able to still see their photo.
- Given that the frontend UI is implemented correctly, when a user visits another user's profile, the user should be able to see the profile picture the user uploaded or the new photo the user changed.
- Given that the image picker algorithm is implemented correctly, when a user attempts to load a photo for their profile, the profile picture will be accepted and updated on their profile, or it will be rejected and an error message will be shown.

**User Story #8:**

As a user who owns a smart watch, I would like to automatically sync my device with the app so that I can track my sleep duration, quality and patterns.

#	Task Description	Estimated Time	Owner
1	Create UI for device syncing	3hr	Ava
2	Enable Apple HealthKit capabilities for application in Xcode and configure HealthKit access	1hr	Ava
3	Create HealthKit Store (instantiate an HKHealthStore object)	1hr	Ava
4	Provide custom messages for the Health permissions sheet in HK NSHealthShareUsageDescription and NSHealthShareUsageDescription	1hr	Ava
5	Request user's permission to read and write data in HealthKitStore	2hr	Ava
6	Add unit tests for device syncing/data gathering	3hrs	Ava

**Acceptance criteria:**

- Given that the frontend UI is implemented correctly, when the user is prompted to sync a device, the app will automatically load a syncing page once the Apple HealthKit API detects that a compatible device with the same Apple ID is nearby.
- Given that the frontend UI is implemented correctly, when the user selects the device from the list of available devices, they will be prompted (by the HealthKit API) to read custom permission sheets and agree to terms of use.
- Given that the frontend UI is implemented correctly, once the user has agreed to the terms of use, they will be asked to enable read and write data permissions to complete the device syncing and take them to the "Sleep Log" page.
- Given that the database stores all current user information, when the user finishes adding a device, the device will be added to the user's account and sleep data will be seamlessly integrated into the user's profile. If the device is not compatible they will receive an error message.

### User Story #9:

As a user, I would like to be able to manually log my sleep times.

#	Task Description	Estimated Time	Owner
1	Create Sleep Log UI with option to manually start sleep session	3 hrs	Ava
2	Prompt HealthKit API to record sleep sample and generate HK sleep sample object based on user input for sleep start and end times	2hrs	Ava
3	Send User's sleep data sample to Firebase Realtime Database	1 hr	Ava
4	Create push notification for session termination	1 hr	Ava
5	Add unit tests for device syncing/data gathering	3hrs	Ava

### Acceptance criteria:

- Given that the frontend UI is implemented correctly, when a user selects to start a sleep session, they will be prompted to enter a sleep start and end time as well as be prompted to ensure they are wearing their smart watch device before beginning the sessions.
- Given that the frontend UI is correctly implemented and correctly linked with the HealthKit API, when the user starts a session, the app will start gathering the user's sleep data (via HKCategoryValueSleepAnalysis which return a sleep sample object at the end of the session).
- Given that the Firebase Realtime Database is correctly set up and stores all user information, when the user completes a sleep session, the sleep data will be stored for the current user and made available for later use.
- Given that the sleep session terminates successfully upon returning the sleep sample data, the user will receive a push notification to notify the user that the session has ended and data is available for analysis.

**User Story #10:**

As a user, I would like a page that shows me a graph detailing how much sleep I got each day over the past month.

#	Task Description	Estimated Time	Owner
1	Create a UI page for displaying sleep frequency graphs by month. The page should give users the option to change the month they want to view.	4 hrs	Kara
2	Construct a custom chart template using Swift Charts that can integrate sleep log data and display it.	2 hrs	Kara
3	Handle backend logic that will query the database for the user's sleep logs by the specified month.	1 hr	Cristina
4	Develop an algorithm to calculate the total amount of sleep the user got per day of the specified month. This is necessary if there can be multiple sleep logs per day.	2 hr	Cristina
5	Handle backend logic that will work with Swift Charts to plot the data for display.	1 hr	Cristina
6	Add unit tests for sleep log data accuracy and validation, as well as other UI unit tests.	3hrs	Isha

**Acceptance criteria:**

- Given that the user wants to learn about their sleep frequency for the current month, when they navigate to the sleep frequency page, they should be able to see their sleep log data visualized via a graph.
- Given that the user wants to learn about their sleep frequency for a previous month X, when the user clicks on a back arrow, a new graph should be dynamically created to display the new information.
- Given that the backend logic to compute the total amount of sleep the user got

per day is implemented correctly, when the user visits the sleep frequency page, the correct total values should be displayed for the correct days of each month.

- Given that the Firebase Realtime Database is implemented correctly, when the user visits the sleep frequency page, queries to collect the sleep logs for month X should retrieve all of the sleep log data and display it for the user.

### User Story #11:

I would like to be able to set sleep duration goals.

#	Task Description	Estimated Time	Owner
1	Create a UI page for viewing sleep duration goals.	1hr	Ava
2	Create a UI page for viewing current progress on sleep duration goals.	1hr	Ava
3	Handle backend to save user sleep goals.	2hr	Mary
4	Handle backend logic that will compare current sleeping data with sleep goals.	2hr	Mary
5	Develop Unit Tests	3hrs (each person assigned)	Mary

### Acceptance criteria:

- Given the frontend UI is implemented correctly, users should be able to manually add sleep logs (in the event they forgot to track their sleep and still wish for credit towards a goal).
- Given the frontend UI is implemented correctly, when a user wishes to add, update, and delete a goal, they should be able to make changes through interacting with the UI.
- Given the backend logic is implemented correctly, users should be able to see the amount of progress they have made towards their goal and whether they have achieved it.
- Given the backend is implemented correctly, when the user inputs their current sleep goals, the sleep goal data will be stored and available for later use.



### User Story #12:

I would like to have an alarm that can wake me up during my lightest sleep phase every morning.

#	Task Description	Estimated Time	Owner
1	Create UI where user can input their wake up times	1hr	Caitlin (tentatively)
2	Connect to database to check heart rate throughout the night	2hrs	Caitlin
3	Connect to database to check for signs of light sleep, such as a slowing heart rate	2hrs	Caitlin
4	Create UI to pull up alarm and play sound until user presses a button to shut it off	2hrs	Caitlin
5	Create Unit Tests	3hrs	Caitlin

### Acceptance criteria:

- Given that the UI is properly implemented, when a user navigates to the page where the wake up settings are, they should see a user-friendly UI that allows them to manually input their wake up times.
- Given that the backend logic is properly implemented, when a user tries to input their wake up times, the user-inputted data should be recorded and made available to the user across sessions.
- Given that the backend logic is properly implemented, when a user starts a sleep session, the app should be able to monitor the user's heart rate and check for signs of light sleeping to determine the lightest sleep phase.
- Given that the UI is properly implemented, whenever a user enters their lightest sleep phase, an alarm UI component will show up on the user's phone to wake them up.
- Given that the UI is properly implemented, when a user presses the button to shut off their alarm, the alarm notification should disappear from their phone and the alarm should be effectively shut off until the next sleep session.

### User Story #13:

As a user, I would like to receive a reminder to wind down and begin my bedtime routine every night based on my desired and recommended sleep schedule each day.

#	Task Description	Estimated Time	Owner
1	Create UI for user to input their desired sleep schedule each day	2 hrs	Kara
2	Connect to database and store sleep schedule	1 hr	Kara
3	Create a UI iOS push notification	3 hrs	Kara
4	Connect to database and determine when to send and send push notification to the user	3 hrs	Kara
5	Add unit tests for device syncing/data gathering	3hrs	Isha

### Acceptance criteria:

- Given that the UI is implemented correctly, when the user wants to manage their alarms, the app should allow the user to view, edit, and delete alarms.
- Given that the backend logic with Firebase is implemented correctly, when a user tries to add, modify, or delete an alarm, the change should be saved and reflected to the user, even when the user logs out or refreshes the page.
- Given that the backend logic with Firebase is implemented correctly, when it is time for the user to wind down, the app will send the user a notification to let them know.
- Given that the iOS push notification is implemented correctly, when the user is supposed to be winding down for their bedtime routine, they will receive a reminder for them to go to sleep at their desired time.

### User Story #14:

As a user, I would like to be able to create posts for a forum so that I can share and receive sleep experiences, tips and advice about sleep-related topics on this forum.

#	Task Description	Estimated Time	Owner
1	Create a new UI “post page” to act as a template for a user making a post in the forum. The post should include the author, the date, and other relevant information.	2 hrs	Ava
2	Create a UI component for the post title and the post content that allows a user to edit it.	2 hr	Ava
3	Create a submit/post button.	1 hr	Cristina
4	On error, create a detailed error message for the user.	1 hr	Cristina
5	Handle backend logic that will create a Post object for the user’s post.	1 hr	Cristina
6	Work with Firebase to save the new Post object so that it is accessible to other users.	1 hr	Cristina
7	Add UI unit tests and unit tests for the Post Object functionality. Focus on how it is stored in the database.	3 hrs	Isha

### Acceptance criteria:

- Given that the UI interface for creating a post is implemented correctly, when a user decides to create a post, they should be able to see the UI component template and modify it with the title of the post and the post content.
- Given that the submit/post button is implemented correctly, when a user goes to submit/post their post for the forum via, the post should be successfully created, or throw an error message.
- Given that a post was created unsuccessfully and the user is shown an error message, when the user closes the error message, they should be redirected to the

forum viewing page.

- Given that the backend logic that interacts with Firebase is implemented correctly, when a user wants to create a post, their post will be saved in the database so that it is available for other users to retrieve when viewing the forum.

### User Story #15:

As a user, I would like to be able to view posts for a forum so that I can receive sleep experiences, tips, advice, and engage in discussions on sleep-related topics.

#	Task Description	Estimated Time	Owner
1	Create a new UI for the given forum to display various posts for the user in order of date.	2 hrs	Cristina
2	Create a button to allow users to start creating posts.	1 hr	Cristina
3	Create a clickable UI component for each post to be displayed on the UI, including the name of the post, the author, and other relevant information.	2 hr	Cristina
4	Create a UI button that will allow users to start searching the forum.	1 hr	Cristina
5	Handle backend logic to retrieve X number of posts from the database to display for the user.	3 hr	Cristina
6	Add unit tests for	2 hrs (each person assigned)	Cristina

### Acceptance criteria:

- Given that the “add post” button is implemented correctly, when a user clicks the “add post” button, they should be redirected to the post page.
- Given that the “search” button is implemented correctly, when a user clicks the “search” button, they should be redirected to a page for searching the forum.
- Given that the UI component for each individual thread is implemented correctly, when a user goes to click the thread, they should be redirected to a page where the entire post content, as well as the ongoing discussions, are viewable (implementation of the separate page will be another user story).
- Given that the backend logic is implemented correctly, when a user visits the forum page, they should be able to see the most recent posts made to the forum as of the time they navigated to the forum page.

### Total Hours for Sprint #1 by Team Member

Team Member	Total Hours
Cristina Corley	32
Kara Orander	34
Ishwarya Samavedhi	31
Ava Schrandt	30
Mary Vorhees	31
Caitlin Wilson	34

# Product Backlog

## 1.1 Functional Requirements

### 1.1.a Login and Account Info

#### As a user,

- ☒ ~~I would like to be able to create a unique login username and password to keep my own personal information safe and secure.~~
- ☒ ~~As a user, I would like to be able to log into the account I've created.~~
- ☒ ~~I would like to be able to reset my password if I am not currently logged in with a forgot password option.~~
- ☒ ~~I would like to be able to view my account profile.~~
- ☒ ~~I would like my account to display and save any personal content including my app settings, past sleep data, login information.~~
- ☒ ~~I would like to be able to manage my account while logged in and take actions such as changing my password, deleting my account, and changing my username.~~
- ☒ ~~I would like to be able to personalize my profile with an account photo, name, and color scheme.~~

### 1.1.b Sleep Log

#### As a user,

- ☒ ~~I would like to be able to manually log my sleep times.~~
- ☒ ~~As a user who owns a smart watch, I would like to automatically sync my device with the app so that I can see my sleep duration, quality and patterns.~~
- ☒ ~~I would like a page that shows me a graph detailing how much sleep I got each day over the past month.~~
- ☒ ~~I would like to be able to set sleep duration goals.~~
- ☐ I would like to receive in-app rewards for meeting my sleep duration goals.
- ☐ I would like to be able to see my in-app rewards.

- ☐ I would like to be able to track my reward progress.
- ☐ I would like to share my rewards with my friends.

#### 1.1.c Alarm

**As a user,**

- ☒ ~~I would like to have an alarm that can wake me up during my lightest sleep phase every morning.~~
- ☒ ~~I would like to receive a reminder to wind down and begin my bedtime routine every night based on my desired and recommended sleep schedule each day.~~

#### 1.1.d Historical Sleep Analysis

**As a user,**

- ☐ I would like to be able to observe my sleep environmental conditions such as room temperature, noise levels, and light exposure.
- ☐ I would like the app to use values from this graph, my sleep stage durations, and my sleep duration to calculate a “sleep score” based on my duration of sleep and any times I was awake during the night.
- ☐ I would like to see what percentage of my sleep was deep, REM, or light sleep and the duration of my deep, REM, and light sleep.
- ☐ I would like a page that shows a sleep analysis in the form of a graph based on my sleep score and durations.
- ☐ I want to be able to see a long-term comparison analysis of my sleep patterns by duration and sleep score.

#### 1.1.e Chatbot

**As a user,**

- ☐ I would like to be able to interact with an online chatbot with a chat interface.
- ☐ I would like to be able to get accurate answers to my questions and queries from the chatbot.



- ☐ I would like the chatbot to offer information about healthy sleep patterns and provide tips on improving sleep quality.
- ☐ I would like any chatbot to specialize in this app, and only provide information regarding my sleep and features this app has.
- ☐ I would like the chatbot to learn from my preferences and improve its recommendations over time.
- ☐ I would like to be able to use the speech-to-text option to interact with the chatbot.

#### 1.1.f Community Forum

##### **As a user,**

- ☐ I would like to be able to send friend requests to selected users to build my own community of friends.
- ☐ I would like to be able to manage my friends requests so that I can control who I am friends with. This includes being able to accept and deny friend requests.
- ☐ I would like to be able to create a forum so that I can engage in discussions on topics that I am interested in.
- ☐ I would like to be able to manage a forum so that I can make sure posts are restricted to the topic of the forum.
- ☒ ~~I would like to be able to create posts for a forum so that I can share sleep experiences, tips and advice about sleep-related topics on this forum.~~
- ☒ ~~I would like to be able to view posts for a forum so that I can receive sleep experiences, tips, advice, and engage in discussions on sleep-related topics.~~
- ☐ I would like to be able to reply to posts on a forum so that I can further the discussion on a sleep-related topic.
- ☐ I would like to be able to search the forum for specific posts so that I can receive sleep experiences, tips and advice about sleep-related topics on this forum.
- ☐ I would like to be able to upvote and downvote posts and replies.

- ☐ I would like to have a notifications page where I can learn about any interactions that my posts and replies are generating.
- ☐ I would like to receive notifications about any one-to-one chats or group chats that I am in.
- ☐ I would like to be able to see forums of various topics, with each forum's content restricted to only covering its particular subject.
- ☐ I would like to have a direct messaging system to communicate with one user at a time.
- ☐ I would like to create a new one-on-one chat.
- ☐ I would like to be able to manage and/or delete any one-on-one chats.
- ☐ I would like to add a friend to a one-on-one chat.
- ☐ I would like to create a group chat.
- ☐ I would like to be able to manage and/or delete any group chats.
- ☐ I would like to add friends to a group chat.
- ☐ I would like to be able to directly message multiple users in a group chat.
- ☐ I would like to be able to send images from my phone in messages in one-on-ones and group chats.
- ☐ I would like to be able to see the time that I sent a message or a friend sent a message in a chat.
- ☐ I would like to be able to block certain users so they cannot see my posts or add me as a friend (if time allows)

#### 1.1.g Dream Journal

##### **As a user,**

- ☐ I would like to have a separate page where I can post my dream journal to a public page for other users to view.
- ☐ I would like to have a page where I can write down and reflect on my dreams before posting to the dream journal.

- ☐ I would like to be able to save a dream journal as a draft to come back to later.
- ☐ I would like to be able to discuss my dreams with others in a comment-style.
- ☐ I would like to share my own comments, thoughts, and dream journals exclusively with my in-app friends.
- ☐ I would like to be able to change settings on my dreams journals, so I can choose to make them public, private, or only available to friends.
- ☐ I would like to tag multiple friends in my dream journals when I post them.
- ☐ I would like to tag multiple friends in my dream journals after I have already posted them.
- ☐ I would like to remove a tag on a dream journal after I post it.
- ☐ I would like to search for dream journal post tags in the forum.
- ☐ I would like the app to provide a summary of recurring themes I have been seeing in my dream.

#### 1.1.h Personalized Recommendations and Meditation

**As a user,**

- ☐ I would like to receive personalized tips and recommendations based on my sleep data and habits and see any suggestions for my sleep cycle.
- ☐ I would like to see any suggestions or insights into my sleep cycle.
- ☐ I want to be able to view articles, videos, and tips on sleep hygiene, the science of sleep, and strategies for improving sleep quality.
- ☐ I would like to be able to have options to connect with sleep specialists and/or healthcare providers.
- ☐ I would like to have access to relaxation techniques, such as guided meditations, breathing exercises, and ambient sounds. I would also like some of these relaxation techniques to be recommended to me based on my profile.