



Sprint 3 Planning Document (Revised)

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

Sprint Overview:

For our last sprint, our goal is to finish up the necessary user stories to make our sleep app Serenova fully functional. We plan to dedicate a lot of our time during this sprint to implementing the chat feature through the forums. With these user stories, we plan to allow users to create one-to-one chats and group chats so that they can talk about sleep-related topics with each other. Users will be able to create chats, delete chats, manage chats, add other users, receive in-app notifications about messages, and include multimedia with each other their messages.

We also plan to elevate the dream journal aspect of the app by incorporating social features. For the last sprint, we were able to successfully create the Dream Journal feature where users are able to create, edit, and delete their dream journals. Going forward, we will be implementing features to allow users to share these dream journals with friends or the entire Serenova community for discussion. Lastly, before the end of the semester we plan to implement some features to help users improve their overall sleep hygiene through guided meditations, tips, and ambient sounds. With these additional features, our Serenova app should have a fully functional sleep feature that will guide users to a better night's sleep.

Scrum Master: Ishwarya Samavedhi

Meeting Plan: MWF @ 11:30

Risks and Challenges:

As this is our last sprint, our biggest challenge for sprint #3 will be finishing up all of the necessary features and polishing the app for the final presentation. Last sprint, we were able to successfully finish all of the user stories in time for the sprint review, however there were many roadblocks that almost kept us from accomplishing this goal. We ran into problems with Firestore, the Healthkit API, and XCode/Github while also dealing with midterms and other classes. Going forward, our biggest hurdle is going to be finishing up all of the user stories and having time to polish the entire app while adapting to any technical problems that come our way. Additionally, as we are now planning to integrate a chat and group

chat feature, there will be a learning curve surrounding direct messaging and where and how to store and retrieve that in Firebase. None of us have worked with a direct messaging system before and it is going to take a little longer to understand the concept in the backend.

User Story #1:

I would like to have a page for viewing all of my current one-on-one and group chats.

1	Create UI to see all ongoing conversations a user has. (Preview mode)	3hr	Cristina
2	Make a UI to see the most recent message in each conversation as a preview.	2hr	Cristina
3	Handle navigation links to let users see the entire conversation.	1hr	Cristina
4	Handle backend logic with Firebase to load all of the conversations.	2 hrs	Cristina
5	Add unit tests to check functionality	3hr (each person assigned)	Cristina

Acceptance Criteria:

- Given that the frontend UI is implemented correctly, a user should be able to see all of their current conversations. They should be able to scroll through all of them and see all of them.
- Given that the frontend UI is implemented correctly, when a user goes to click on an individual conversation, they should be redirected to a page with the selected conversation.
- Given that the frontend UI and the backend is implemented correctly, when a user goes to the conversation viewing page, they should be able to see the most recent message in the given conversation in real-time.

User Story #2:

I would like to be able to delete any one-on-one chats and not hear from blocked users

1	Create a UI feature to let the user delete the conversation	2hr	Cristina
2	Handle backend so that the conversation is deleted from Firebase for the current user (not the other user in the chat).	2hr	Mary
3	Handle backend so that a user cannot make a chat with a user they have blocked.	1hr	Mary
4	Handle backend so that a user cannot make a chat with a user they have been blocked by.	2hr	Mary
5	Add unit tests to check functionality	3hr (each person assigned)	Caitlin

Acceptance Criteria:

- Given that the frontend UI and backend are linked correctly, the user should be able to delete one-on-one conversations so they do not see them listed anymore.
- Given that Firebase is linked properly, users should not be able to message other users that have blocked them.
- Given that the frontend UI and Firebase are linked correctly, users should not be able to message other users that they have blocked.

User Story #3: I would like to create a group chat.			
1	Create UI to create chats	2hr	Cristina/Caitlin
2	Allow users to type in usernames to add other users to a group chat (search feature) [exact match searching]	2hr	Cristina
3	All users should receive a notification in the notifications page if they are added to a group chat.	3hr	Mary
4	Add unit tests to check functionality	3hr (each person assigned)	Isha

Acceptance Criteria:

- Given that the backend is working correctly, the user should not be able to create a group chat with just the user in it.
- Given that the frontend UI, backend, FB are all working correctly, all users in group chat should be able to view new messages in group chats they are in.
- Given that the backend is working correctly, all users in a group chat should receive an in-app notification when they are added to a group chat.

User Story #4:

I would like to be able to manage and/or delete any group chats

1	Create a UI feature to remove certain group chats from the display screen.	2hr	Cristina
2	Handle backend for removing group chat information from Firebase and that user from the group chat (only for the current user).	2hr	Mary
3	Handle the backend for removing the group chat from the UI.	1hr	Mary
4	Add unit tests to check functionality	3hr (each person assigned)	Mary

Acceptance Criteria:

- Given that the UI is implemented correctly, a user should have access to a button that allows them to delete a group chat.
- Given that the backend is developed correctly, if a group chat is deleted by a user, then the group chat information should be removed from Firebase ONLY for that user (ie. other group chat members should still see the group chat).
- Given that the backend and frontend are completed, if a group chat is deleted by a user, the user should no longer be able to see that chat in their messages page.

User Story #5:

I would like to be able to message user(s) in a chat.

1	Create UI for typing and sending a message in a chat.	3hr	Caitlin/Isha
2	Handle backend so when a user sends a message, the message information is stored in Firebase.	3hr	Caitlin/Ava
3	Handle backend so when a user sends a message, it is stored as a notification for the other user(s) in the chat.	1hr	Kara
4	Handle backend so when a user sends a message, the message is retrieved from Firebase for all user(s) in the chat to be shown in the UI.	2hr	Caitlin
5	Add unit tests to check functionality	3hr (each person assigned)	Caitlin

Acceptance Criteria:

- Auser should be able to create and send a message to another user.
- Given that the backend and frontend are developed correctly, a notification should appear in the notifications page for all non-sender users in a chat where the message was sent.
- Messages sent should appear in the backend with the message content and all the users who can view the message (both senders and receivers).

User Story #6:

I would like to add friends to a group chat.

1	Create a UI feature that allows users to be added to a group chat after it has been created.	2hr	Caitlin
2	Handle backend for storing the new user under the group chat information in Firebase (so that they now receive messages).	2hr	Caitlin
3	Handle the backend for displaying the new user in the UI from other users' POV.	1hr	Caitlin
4	Add unit tests to check functionality	3hr (each person assigned)	Caitlin

Acceptance Criteria:

- Given that the UI is implemented correctly, a user should have access to a button that allows them to add other users to a group chat after the chat's initial creation.
- Given that the backend is done properly, an added user should now be able to see this chat in the messages page and receive new messages sent in it.
- Given that the backend and frontend are set up correctly, users that were originally in the group chat should be able to see the new member and receive messages from them.

User Story #7

I would like to be able to send images from my phone in messages in one-on-ones and group chats.

1	Integrate photos into the messages UI.	4hr	Caitlin
2	Handle backend to store photos to Firebase under the chat information.	3hr	Caitlin
3	Handle backend to retrieve the photos to display in the UI.	1hr	Caitlin
4	Add unit tests to check functionality	3hr (each person assigned)	Caitlin

Acceptance Criteria:

- A user should be able to send a photo as a message
- Photos sent as messages should be stored in the firebase as part of a message object
- Given that the frontend and backend are completed, photos should display like a regular message.

User Story #8:

I would like to be able to see the time and person that I sent or received a message from in a chat.

1	Create a UI feature that displays the time a message was sent and who sent it.	2hr	Kara
2	Store the username of the sender in Firebase with the other message information.	2hr	Mary
3	Store the timestamp in Firebase with the other message information.	2hr	Mary
4	Retrieve the timestamp from Firebase.	1hr	Mary
5	Retrieve the username of the sender from Firebase.	1hr	Mary
6	Add unit tests to check functionality	3hr (each person assigned)	Mary

Acceptance Criteria:

- Given that the UI is implemented correctly, a user will be able to observe what time a new message was sent.
- Given the backend and frontend are completed, the user should still be able to view when a message is sent even if it is not “new.”
- Given that the backend is implemented correctly, a user should be able to observe who they received a new message from.
- Given that the backend is implemented correctly, a user should still be able to view who sent a message even if it is not “new.”

User Story #9:

I would like to receive notifications about any one-to-one chats or group chats that I am in.

1	Determine when a user receives a message in any chat they are in	3hr	Kara
2	Add a notification to the notifications page in Firestore (including message itself and from who)	1hr	Kara
3	Alter notifications page to correctly display all chat notifications in the correct format	1hr	Kara
4	Create “seen” UI button on notifications page that removes that notification from the page	2hr	Kara
5	Remove the notification from Firestore once it is “seen”	2hr	Kara
6	Add unit tests to check functionality	3hr (each person assigned)	Isha

Acceptance Criteria:

- Given that the UI and backend are implemented correctly, a user should be able to see message notifications from any one-on-one or group chats that they are in.
- Given that the UI is implemented correctly, the user should be able to see a “seen” button on every notification on the notifications page.
- Given that the UI and backend are implemented correctly, when the user clicks the “seen” button on the notifications page, that notification is removed from the page.

User Story #10:

I would like to turn off notifications for in-app features (all or only specific categories).

1	Create a UI that indicates which application notifications can be turned off. (friend requests, messages, alarms)	2hr	Kara
2	Edit Notifications in Firebase to have a “type” attribute	1hr	Kara
3	Condition a notification to only be sent if it’s enabled.	4hr	Kara
4	All notifications should be enabled or disabled based on original user sign up	2hr	Kara
5	Add unit tests to check functionality	3hr (each person assigned)	Mary

Acceptance Criteria:

- Given that the UI is implemented correctly, the user should be able to see what kinds of notifications types there are.
- Given that the UI is implemented correctly, a user should be able to select which kinds of notifications they want to receive / toggle on and off.
- Given that the UI and backend is implemented correctly, the user should only be receiving notifications from the type of notifications that they have selected.

User Story #11:

I would like to have a feature where I can post my dream journal to the public dream page on the app, for other users to view.

1	Create UI page for a public dream page, where users can share their dreams	2 hr	Ava
2	Create Share button and menu on User's personal journal entries	1 hr	Ava
3	Create new journal post when share journal to forum is clicked	2 hrs	Ava
4	Update journal status to "published" on user's personal journal page	1 hr	Ava
5	Create an "unpublish" button on User's personal journal entries.	1 hr	Ava
6	Delete journal as a forum post when "unpublish" clicked	1hr	Ava
7	Add unit tests to check functionality	3hr (each person assigned)	Mary

Acceptance Criteria:

- Given that the UI is implemented correctly, a user should have access to a button that allows them to share/post a journal to the forum.
- Given that the backend and frontend work properly, when a journal is "shared," there should be a new post on the forum page that contains the journal information and its status is changed in Firebase/displayed to the UI as "published."
- Given that the UI is implemented properly, a user should be able to click an "unpublish" button.

- Given that the backend and frontend are completed, if a journal post is “unpublished,” then its status should be reverted to “unpublished” and the post should be removed from the forum.

User Story #12:

I would like to be able to discuss my dreams with others in a comment-style.

1	Create reply/comment button on dream posts	2hrs	Cristina
2	Handle backend for storing comments to Firebase.	1hr	Cristina
3	Handle backend for retrieving comments from Firebase to display in the UI.	2hrs	Cristina
4	Add unit tests for saving and displaying comments.	3hr (each person assigned)	Isha

Acceptance Criteria:

- Given that the UI is implemented correctly, the user should be able to type their comment into a text box and click a button to submit their comment to the dream.
- Given that the backend is implemented correctly, the user should always be able to see their own comment on the specific journal forum post, even when the user leaves the page and comes back.
- Given that the backend and UI are implemented correctly to save a comment, the user should be able to view that dream, the number of comments, and see their comment among all other comments to that dream post, all including their text content and relative timestamp.

User Story #13:

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.

1	Create a UI feature that allows the user to set a dream journal to be viewable by no one, friends, or anyone.	3hr	Kara
2	Store viewability information to Firebase under the correct dream journal.	2hr	Kara
3	Retrieve viewability information from Firebase.	1hr	Kara
4	Make the journal viewable to friends if appropriate.	3hr	Kara
5	Make the journal viewable publicly if appropriate.	3hr	Kara
6	Set the journal to be “private” by default.	1hr	Kara
7	Add unit tests to check functionality	3hr (each person assigned)	Isha

Acceptance Criteria:

- Given that the UI is implemented correctly, the user should be able to see and choose options to set a journal’s viewability to private, friends, or public.
- Given that the backend is implemented correctly, any journal set to private will be seen only by the user that created it.
- Given that the backend is implemented correctly, any journal set to friends will be seen only by the user and the user’s friends.
- Given that the backend is implemented correctly, any journal set to public will be seen only by all users.

User Story #14:

I would like to tag multiple friends in my dream journals when I post them

1	Create tag text box / button in create post and in edit mode	1 hr	Ava
2	Implement backend for adding a user's handle to journal entry	3 hr	Ava
3	Handle backend for taking user to the tagged user's page	3 hr	Ava
4	Add unit tests to check functionality	3hr (each person assigned)	Mary

Acceptance Criteria:

- Given that the UI is implemented correctly, a user can tag their friends in a journal entry by selecting from list of friends
- Given that the backend is implemented correctly, the user should be able to click on the handle of the tagged user to see that user's info.
- Given that the backend is implemented correctly, a user should not be able to tag a person they are not friends with.

User Story #15:

I would like to tag multiple friends/remove tagged friends in my journal entries after I have already posted them.

1	Create Edit tagged user UI feature for journal edit mode	1 hr	Ava
2	Handle backend for updating journal object	2 hrs	Ava
3	Handle backend for adding user's friends' handle to journal text	3 hr	Ava
4	Handle backend for taking user to the tagged user's page when clicking on handle	2 hrs	Ava
5	Add unit tests to check functionality	2hr (each person assigned)	Ava

Acceptance Criteria:

- Given that the UI is implemented correctly, the user should have the option to add/edit tagged users on a forum post in edit mode
- Given that the backend is implemented correctly, the updated post should now be viewable on the forum and the user can click on the tag handle to visit the tagged user's page
- Given that the backend is implemented correctly, if a tagged handle is removed from a post the forum post should be updated to no longer display that handle

User Story #16:

I would like to share/export my sleep score/dream analysis as a forum post

1	Add button that allows user to export last night's sleep score with details as a forum post	1 hr	Ava
2	Implement backend for storing sleep score/sleep stats as a string to export to the forum	1 hr	Ava
3	Implement backend for creating new post with sleep score/stats	3 hrs	Ava
4	Add unit tests to check functionality	2hr	Ava

Acceptance Criteria:

- Given that the create a journal UI is updated correctly, a user should be able to export their sleep score via a button as a new forum post
- Given that the backend is implemented correctly, a user's sleep score/sleep stats should be listed as the content of the new post while creating new post
- Given that the backend is implemented correctly, when a user selects "Post", a new forum post is published with the information from sleep score

User Story #17:

I want to be able to view videos, and tips on sleep hygiene, the science of sleep, and strategies.

1	Create a UI feature that displays videos on various topics relating to sleep and general health in the Sleep Goals page.	2hr	Isha
2	Redirect the user to the appropriate video if it is clicked in-app.	1hr	Isha
3	Customize the tips and videos based on the users sleep preferences and disorders	2hr	Isha
4	Create UI for guided meditations (links).	3 hrs	Cristina
5	Create tips for breathing exercises (links).	3 hrs	Cristina
6	Have a detailed tips description / drop down menu with step by step	2hr	Isha
7	Add unit tests to check functionality	3hr (each person assigned)	Isha

Acceptance Criteria:

- Given that the UI and the links for the informational sleep videos are implemented correctly, when a user goes to click on a sleep tips or breathing exercise video, the app should redirect them to the video online.
- Given that the algorithm for displaying resources is implemented correctly, when a user goes to the Tips page to view different educational sleep resources, they should see sleep resources that match their profile preferences.
- Given that the UI is implemented correctly, when a user goes to the Tips page, they should see various relevant tips to help them improve their overall sleep experience.

User Story #18:

Reintegrate the alarm feature, so that it is functional again.

1	Create a UI for the user to set an alarm time	2hr	Isha
2	Create a UI page for the user to view all current alarms set	2hr	Isha
3	Implement editing and deleting alarms	1hr	Isha
4	Save that alarm time in FB	2hr	Isha
5	Implement backend to send a notification when that time comes	2hr	Isha
6	Add unit tests to check functionality	3hr (each person assigned)	Isha

Acceptance Criteria:

- Given that the UI is implemented correctly, when the user goes to set an alarm, they should be given all the times available and be able to select a specific time and click the submit button
- Given that the UI is correctly linked with Firebase, when a user goes to view their alarms, all previous alarms should be there along with a newly created alarm
- Given that the UI and backend are implemented correctly, a user should be able to see a notification on the notifications page when the alarm time is over.
- Given that the UI is correctly linked with Firebase, if the alarm is edited or deleted, it should be updated on screen.

User Story #19:

I would like to tag multiple friends in my forum posts when I post them

1	Create tag text box / button in create post and in edit mode	1 hr	Ava
2	Implement backend for adding a user's handle to forum post	1 hr	Ava
3	Handle backend for taking user to the tagged user's page or removing tag if it is self	1 hr	Ava
4	Add unit tests to check functionality	2hr (each person assigned)	Ava

Acceptance Criteria:

- Given that the UI is implemented correctly, a user can tag their friends in a forum post by selecting from list of friends
- Given that the backend is implemented correctly, the user should be able to click on the handle of the tagged user to see that user's info.
- Given that the backend is implemented correctly, a user should be able to delete their own tag from another user's post when selected

Total Hours for Sprint #3 by Team Member

Team Member	Total Hours
Cristina Corley	32
Kara Orander	33
Ishwarya Samavedhi	34
Ava Schrandt	36
Mary Voorhees	32
Caitlin Wilson	34

Product Backlog

- Sprint 1 Completed Tasks in blue
- Sprint 2 Completed Tasks in red

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,

- ☐ (Dropped) 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,

- ☐ (Dropped) I would like to be able to interact with an online chatbot with a chat interface.
- ☐ (Dropped) I would like to be able to get accurate answers to my questions and queries from the chatbot.
- ☐ (Dropped) I would like the chatbot to offer information about healthy sleep patterns and provide tips on improving sleep quality.
- ☐ (Dropped) I would like any chatbot to specialize in this app, and only provide information regarding my sleep and features this app has.
- ☐ (Dropped) I would like the chatbot to learn from my preferences and improve its recommendations over time.
- ☐ (Dropped) 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

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.~~
- ☐ (Dropped) 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,

- ☐ (Dropped) I would like to receive personalized tips and recommendations based on my sleep data and habits and see any suggestions for my sleep cycle.
- ☐ (Dropped) I would like to see any suggestions or insights into my sleep cycle.
- ☒ ~~I want to be able to view articles for improving sleep quality.~~
- ☒ ~~I want to be able to view videos, and tips on sleep hygiene, the science of sleep, and strategies.~~

- ☐ (Dropped) 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.~~