



Sprint 3 Retrospective Document

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User Stories

| # | Task Description | Estimated Time | Owner |
|---|---|----------------------------|----------|
| 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 |
| 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 |

User Story #3:

I would like to create a group chat.

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| 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 |

User Story #4:

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

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| 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 |

User Story #5:

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

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| 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 |

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| 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 |

User Story #6:

I would like to add friends to a group chat.

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| 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 |

User Story #7

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

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| 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 | Caitlin |

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| | | assigned) | |
| 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 |
| 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 |

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| 5 | Remove the notification from Firestore once it is “seen” | 2hr | Kara |
| 6 | Add unit tests to check functionality | 3hr (each person assigned) | Isha |
| 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 |
| 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 |

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| 6 | Delete journal as a forum post when “unpublish” clicked | 1hr | Ava |
| 7 | Add unit tests to check functionality | 3hr (each person assigned) | Mary |
| 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 |
| 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 |

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| | | assigned) | |
| 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 |
| 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 |
| 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 |

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| 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 |
| 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 |
| 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 | 2hr | Isha |

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| | when that time comes | | |
| 6 | Add unit tests to check functionality | 3hr (each person assigned) | Isha |
| 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 |

What Went Well in Sprint 3?

One thing that went well in Sprint 3 was how quickly we completed user stories that extended features from previous sprints. For example, we were able to integrate tagging friends in forum posts smoothly and quickly. We were also able to successfully incorporate alarms in the app, which is a feature we had originally intended for the last sprint, but had to revise due to time constraints.

Additionally, things went smoothly using Xcode and Firebase. We faced issues with these applications in previous sprints, but overcoming those issues helped us learn how to resolve problems as they came up. Instead of being stuck and unsure what to do, group members were able to work together to resolve issues with the Firebase when we encountered them, which helped us make progress throughout the duration of the sprint. When starting the project, many group members were unfamiliar with Xcode and Firebase, but by learning how to handle issues as we came across them, common errors were resolved quickly, which helped us succeed in properly storing and retrieving information.

Lastly, we were able to get through all the user stories outlined in the revised sprint planning document. We did not have too few user stories so there was enough work for the duration of the sprint.

| 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 |

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| 6 | Add unit tests to check functionality | 3hr (each person assigned) | Isha |
| 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 |

For user story 18: Implementing an alarm was originally a user story of sprint 2 that we had to revise the acceptance criteria of. The alarm is an integral part of our app. After creating the UI and connecting alarm information to the Firebase, we were able to successfully set up in-app notifications for the alarm.

For user story 19: We were able to implement tagging friends quickly and smoothly. This feature was implemented in a timely manner and enhanced pre existing features while not taking too much time to implement.

What Did Not Go Well in Sprint 3?

The main thing that did not go well in Sprint 3 was our communication as a group. There would be instances where several user stories had a lot of overlap, so the person in charge of each user story was waiting on the other to finish their user story before beginning the next part. This created a sort of deadlock where little progress was being made because everyone was waiting on someone. Because of this, the messaging feature, a large part of our user stories for sprint 3, had very little progress until the end of the sprint. This led to a time crunch where the main functionality could be completed, but became more difficult as many members were making edits and pushing to the github all at the same time, creating confusion and merge conflicts in the github repository. Eventually, we were able to get everyone on the same page and communicate in order to get everything done.

Due to the communication issues in the early part of the sprint and due to ongoing midterms, the end of the sprint was very intense. Many group members had other final projects and midterms to focus on as the semester drew to a close, so we did not have as much to dedicate to user stories throughout the sprint. During the last week, we had to revise our original planning document acceptance criteria to reflect that. While revising the acceptance criteria did help, it was unfortunate that it was necessary to meet our goals for this sprint.

In spite of these setbacks, we were able to successfully complete all of our user stories and have none to list in this section.

How Should We Improve?

If we were to do another sprint for this project, one thing we could do to improve is keep the good and consistent communication we had in the first two sprints. While we did struggle with communication during this sprint, we did a good job of drawing clear lines for who works on what for the majority of the project. Making sure that we select the right amount of stories and understand how we plan to construct them can help us keep making progress on the application. The expectations we set for ourselves for this sprint were reasonable and achievable. If we were to do another sprint, we could base the hours and number of features we plan on implementing off of our plans for this sprint.

Regarding the communication issues discussed above, the main reason we had this issue during this sprint is due to how several user stories had a lot of overlap, which led to several people waiting on each other to finish their user story before beginning the next part. Since several people were waiting on other features to be implemented, it was hard to make progress. If we had another sprint in this project, we would discuss in what order we want features to be implemented as well as what features can be added concurrently. This would make sure everyone is on the same page from the beginning and would help everyone understand where their responsibilities begin and end.

One more way we can improve is by spending more time on the features we have already implemented. Certain features, such as the alarm, would have required us to pay a fee to send notifications outside the app. This made it difficult to make certain features functional in the way we had hoped. For example, instead of pulling up a notification and playing a noise no matter where the user is on their phone, the alarm only sends an in app notification when it goes off.

Overall, we learned a lot from this sprint and from the project as a whole. We started knowing very little about Swift and Firebase and were able to use both to make a functional app. While we did face issues along the way, we were able to overcome them and grow throughout the process.