

COSC 4P02 - Progress Report 2

Apr 1, 2024

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GitHub: <https://github.com/kphillippo/habit-tracker>

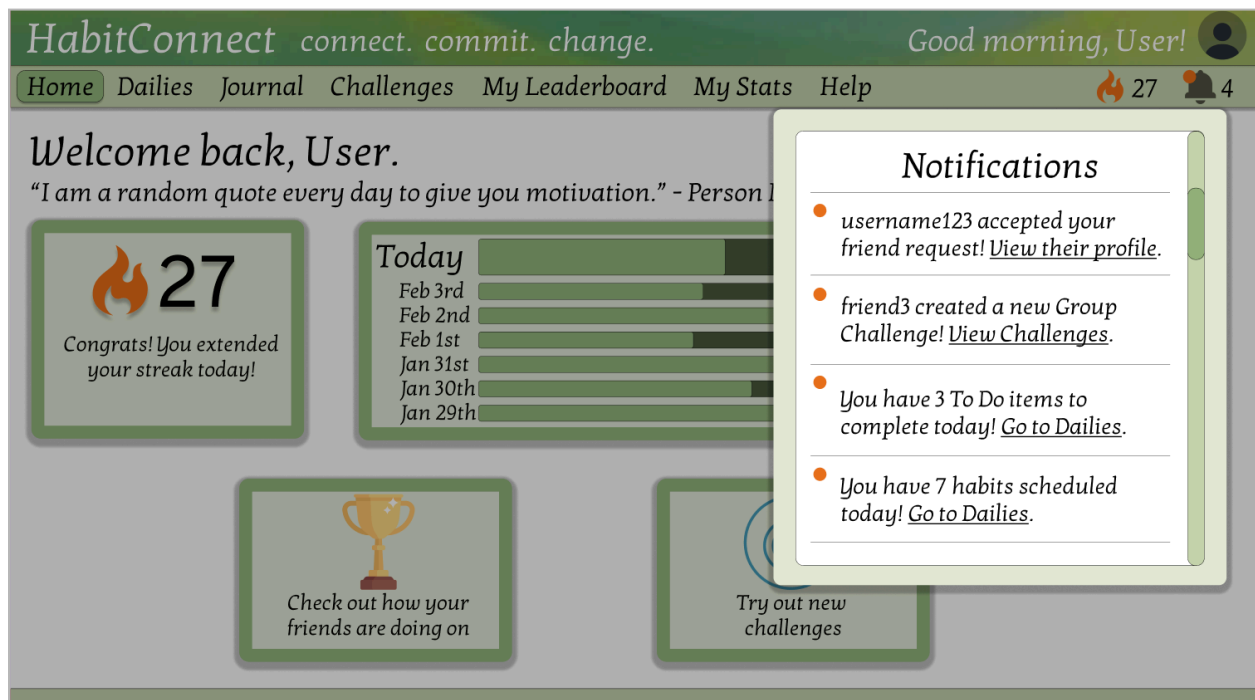
Jira: <https://habittracker.atlassian.net/jira/software/projects/SCRUM/boards/1>

Figma: <https://www.figma.com/file/g4kPNHIQEhR718MbzwRJ/Design?type=design&node-id=0%3A1&mode=design&t=GJo5eAb9d65vOeO9-1>

Progress Update

Project Design

We made it a priority that during our Sprint 2, all designs which were essential to the functionality of the website were completed, so that implementation could begin without delay. All designs can be found on our [Figma](#) page, both working copies and the final designs to be implemented on our site. Below are screenshots of the designs completed by Kacie and Elya during Sprint 2.



Notifications pop-up design. - Kacie

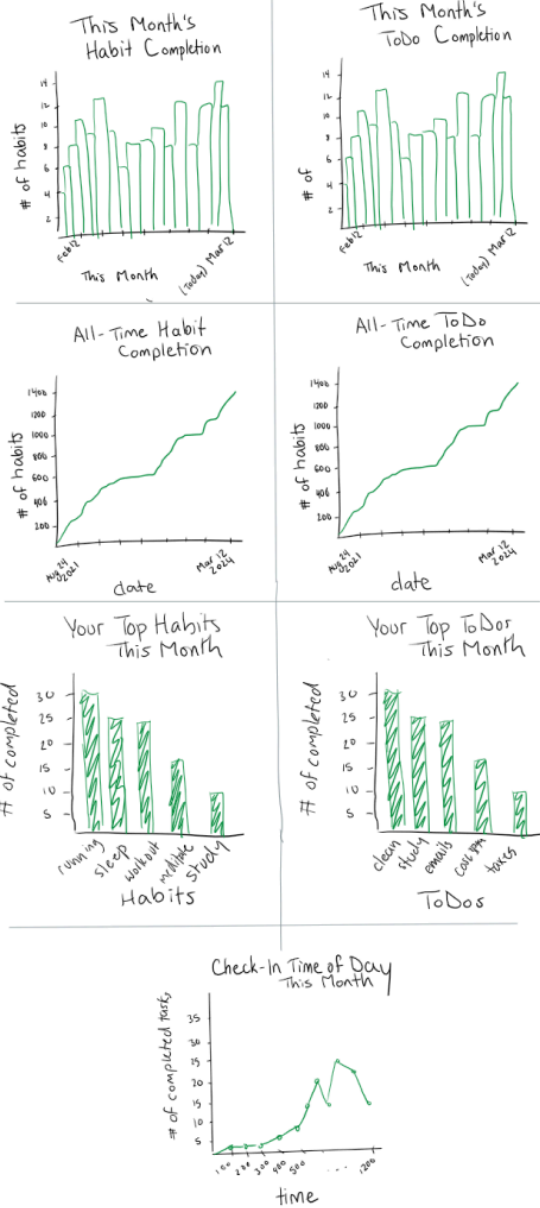
My Stats

"The core advantage of data is that it tells you something about the world that you didn't know before."
- Hilary Mason

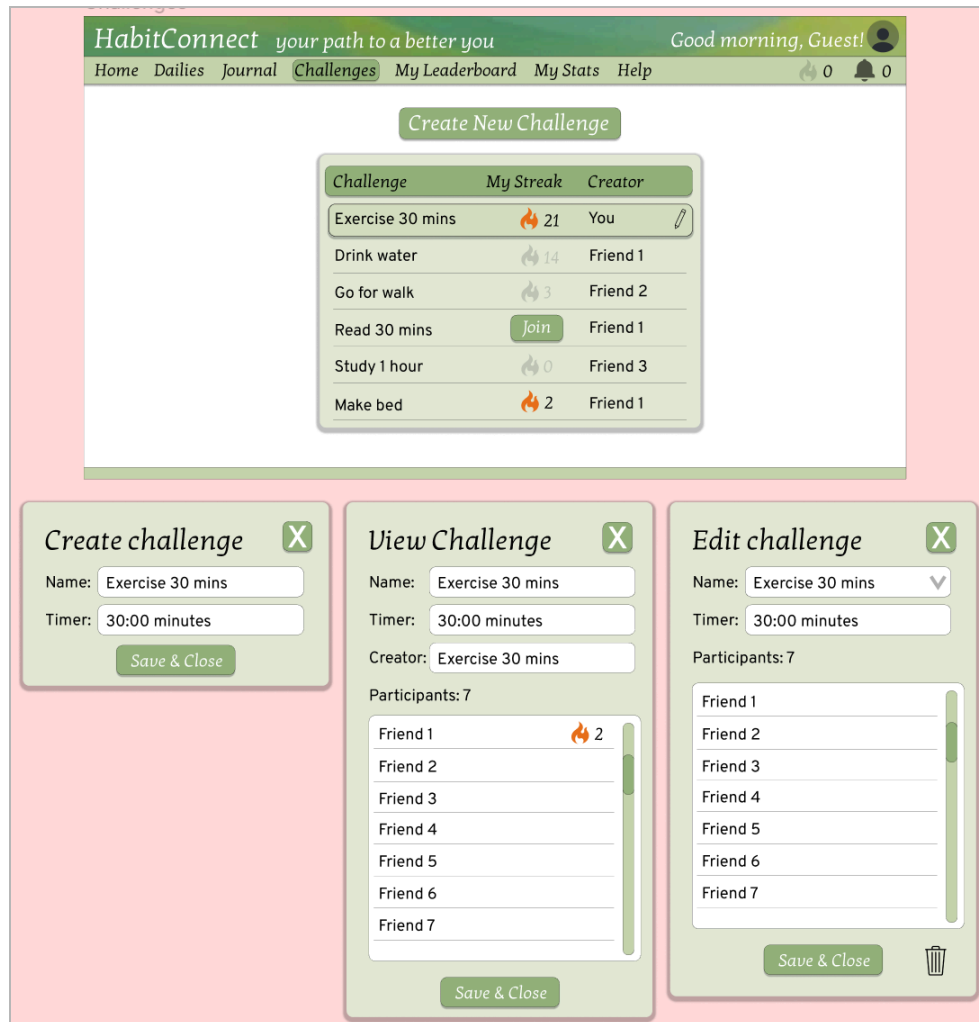
My Quick Insights:

- Longest Streak: 🔥 123
- Current Streak: 🔥 27
- Total Habits Completed: 1387
- Total To Do's Completed: 1278

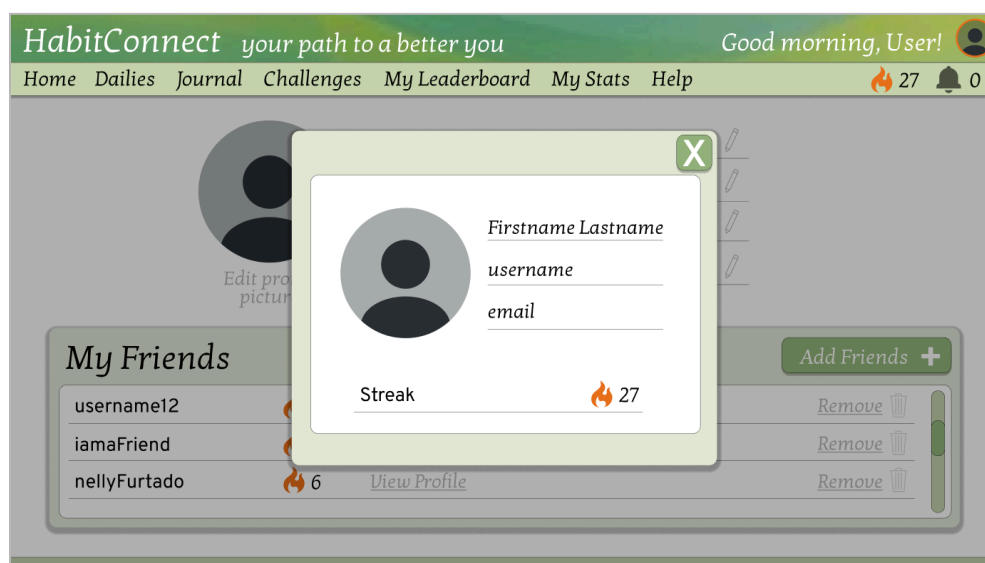
My Analytics



My Stats page design. - Kacie



Challenges page design with pop-ups. - Elya



Friend profile pop-up design (for user profile and leaderboard pages). - Elya



Guest homepage design. - Kacie

HabitConnect your path to a better you
Good morning, User!

Home
Dailies
Journal
Challenges
My Leaderboard
My Stats
Help
27
0

Save
Discard

Privacy

Display profile info to friends
ON

Display name
OFF

Display email
ON

Display photo
OFF

Display streaks
ON

Display stats ???
OFF

Notifications

Allow notifications via email
ON

Allow emails:

Habit reminders:

Todo reminders:

Friend requests:

Group challenges announcement

Style Customization and Accessibility

Main color

Font size
Medium

Settings page design (simplified). - Elya

HabitConnect your path to a better you
Good morning, Guest!

Home
Dailies
Journal
Challenges
My Leaderboard
My Stats
Help
0
0

Leaderboard

1	You	21
2	Friend 2	10
3	Friend 3	8
4	Friend 4	6
5	Friend 5	5
6	Friend 6	0

My Leaderboard page design. - Elya

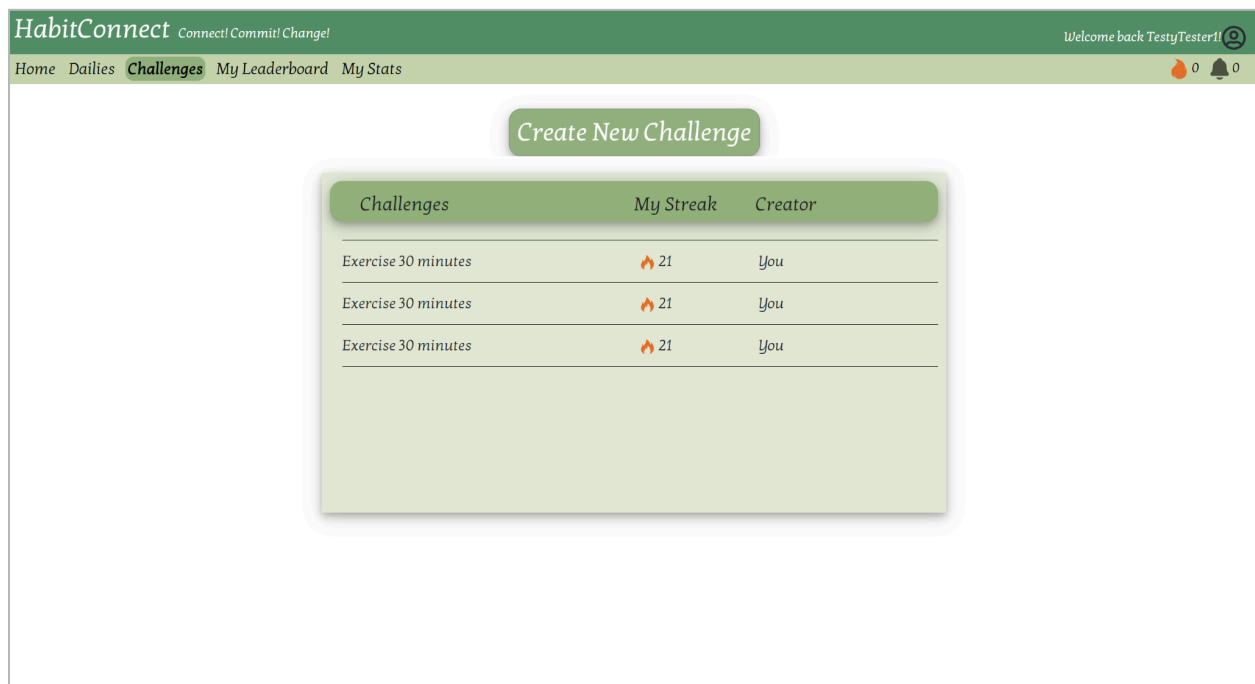
Front-End

The front-end team worked very hard since the last report submission to, at the very least, have most of our pages which we will be implementing on the site at some level of implementation, especially for the end of our Sprint 3. We have given ourselves lots of time during Sprint 3 to make edits and changes to specific functionalities and formatting fixes, so having the base components implemented was our goal. One success was that after many problems, we finally got emailing working. So, we will be able to implement email verification, email confirmation for changing passwords, and email notifications.

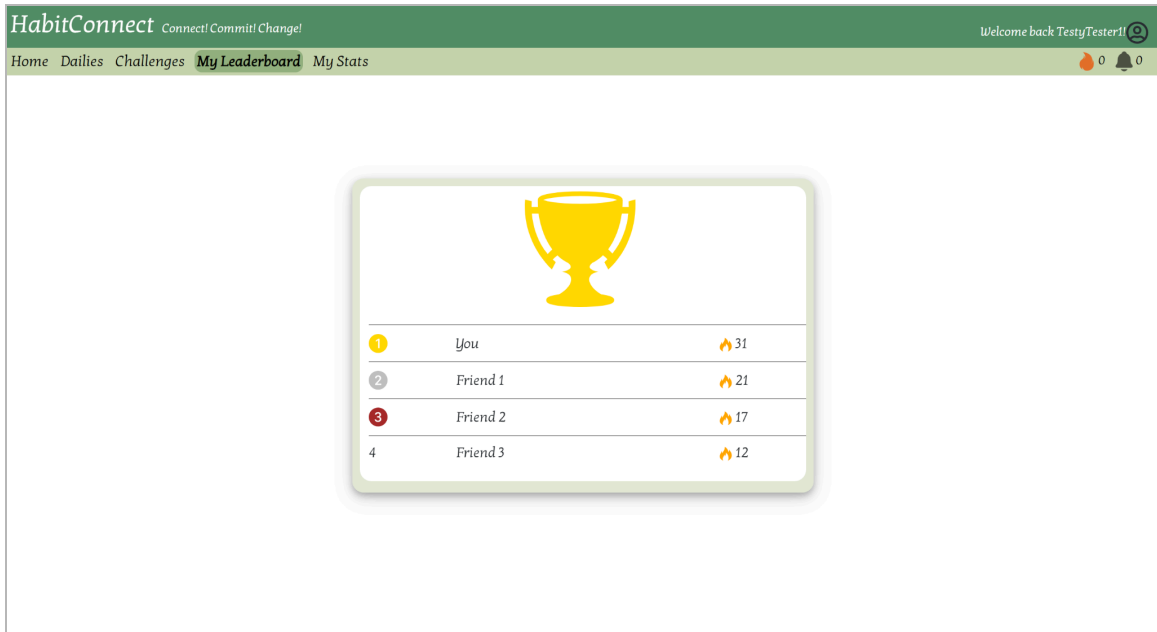
The following pages have been worked on since the last progress report:

- Dailies page
- User profile page
- Challenges page
- My Leaderboard page
- My Stats page
- Settings page

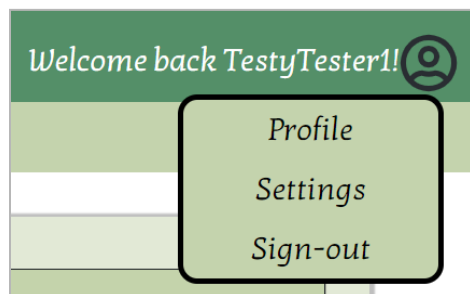
Below are some screenshots of our progress, with multiple stylistic and functionality changes to come before final submission:



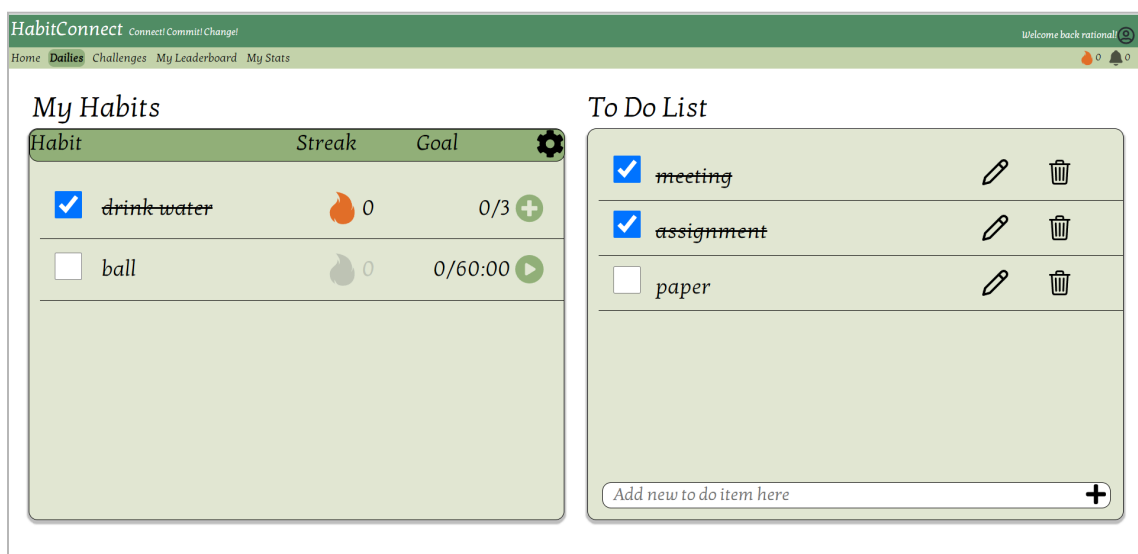
Challenges page (in progress) - Muiz



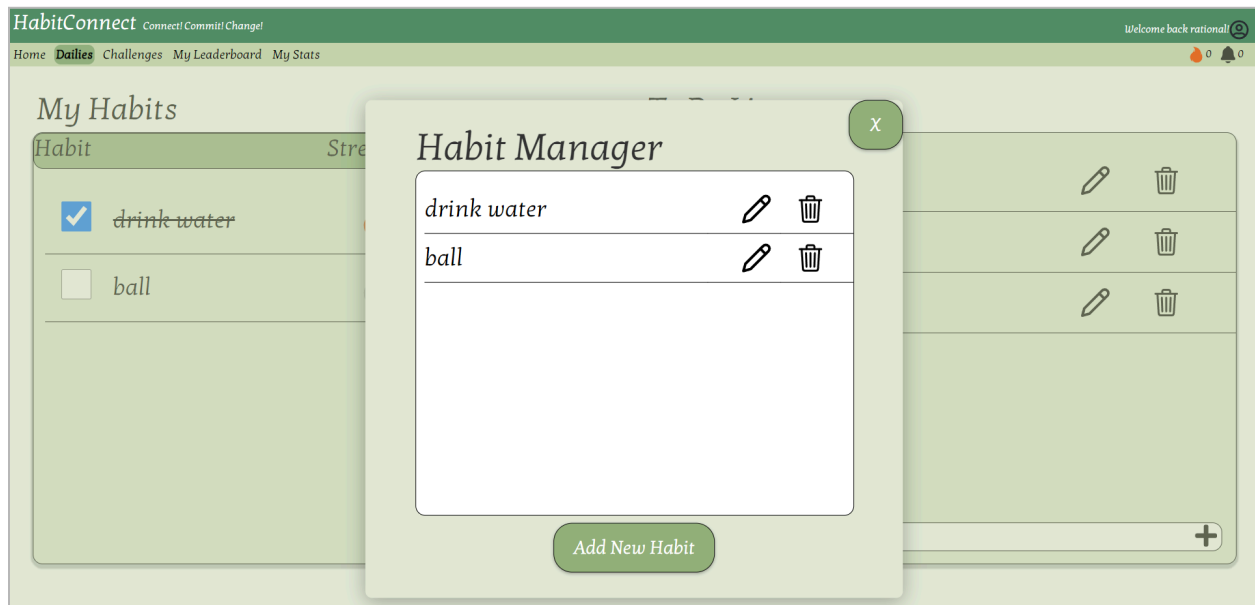
My Leaderboard page (in progress) - Muiz



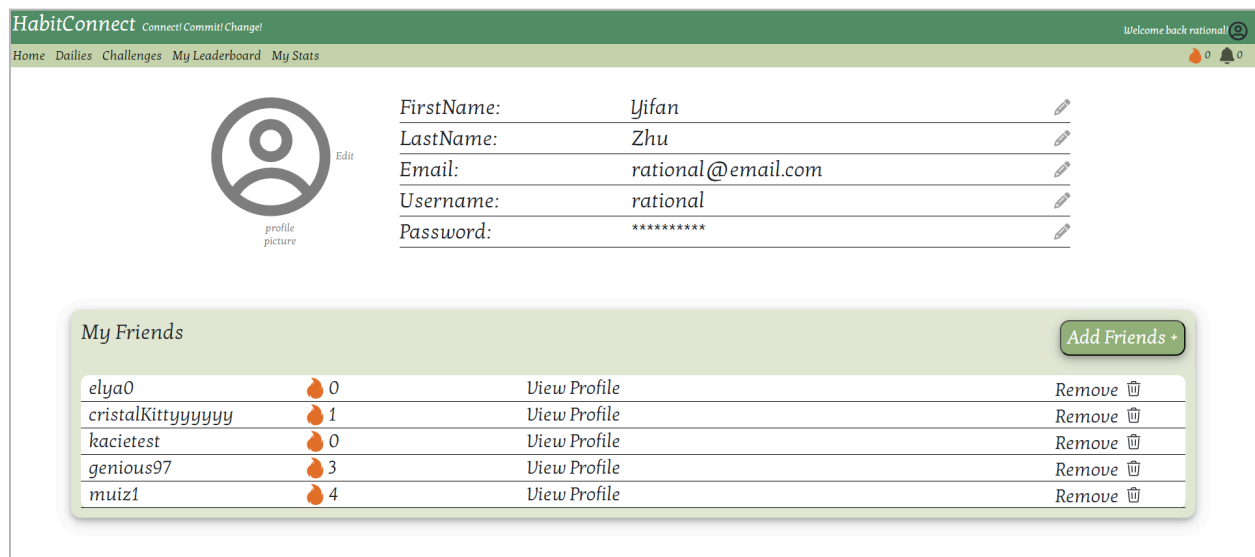
User profile navigation - Yifan



Dailies page - Yifan



Habit creation popup - Yifan and Max



User profile page - Elya

[Home](#) [Dailies](#) [Challenges](#) [My Leaderboard](#) [My Stats](#)

0

0

Save

Discard

Privacy

Display profile info to friends

☒

Display name

☐

Display email

☒

Display photo

☐

Display streaks

☒

Display stats

☐

Notifications

Allow notifications via email

☐

Allow emails:

Habit Reminders:

☐

Todo Reminders:

☐

Friend requests:

☐

Group challenges announcement:

☐

Style Customization and Accessibility

Main color

Font size

Medium ▾

Settings page (in progress) - Max

For next steps, the front end-team will be finishing the implementation of all pages on the site. Specifically, they will be focusing on the settings page and the challenges page first, with all other pages to follow. In Sprint 3, we will also be focusing heavily on ensuring that our design is responsive, and works with various screen widths and on mobile.

Back-End

The back-end team decided to divide the work in such a way where Lysa works on everything related to the User Profile, Friends, Settings, and Notifications, and Robbie works on everything related to Todo, Habits, Group Challenges, and Stats.

In the second sprint, Lysa worked on setting up automated testing using Jest (for the back-end), as well as creating a template for test cases. She accomplished 100% coverage on login and signup functions. She then created the base templates for the routers and controllers for each schema. She also created the notifications table and added the required files into the database.

Finally, she created API's for the user profile functions, friends functions, leaderboard function, sending emails function, and settings functions (all with automated testing and 100% coverage).

In the second sprint, Robbie created API's for Habits and Todos. He also began implementing the check in system for Habits and Todos.

The following is a list of all of API's that have been created since the first progress report:

User Profile

- Delete Account (deleteUserByUsername)
- Get User Information to display on the profile (getUserProfileInfo)
 - Retrieves User's: Email, FirstName, LastName, Username, and Friends list (Each Friends: Username, _Id, Streak, firstName, lastName, and Email)
- Edit User's Profile Info (updateUserInfo)
 - Can edit User's: FirstName, LastName, Email, Username
- Edit User's Password (updatePassword)

Friends

- Send Friend Request (sendFriendRequest)
 - Adds two records into the friends list table, one for the sender and one for the receiver, sets the pending variable to true, so that the record doesn't show up in the user's friend list
- Accept Friend Request (acceptFriendRequest)
 - Sets that pending variable to false for both records
- Decline Friend Request (declineFriendRequest)
 - Deletes both records
- Delete Friend (deleteFriend)
 - Deletes both records
- Return Friends list (returnFriendsList)
 - Isn't currently used anywhere but it's there just incase
- Return List of Friend requests (returnFriendRequests)
 - Isn't used yet, but thinking of using it for notifications

Leaderboard

- Return the Leaderboard (returnLeaderBoard)
 - Gets the user's friend's streaks and username, then adds the user into the list and sorts the list by order of streak

Email

- Send an email (sendEmail)
 - Created an email, and had to set up an app password for the email to allow the app to send emails

Settings

- Get user's settings(getSettings)
- Change user's settings(setSettings)

Habits

- Create New Habit
- Get all habits associated with a userID

- Update a single Habit
- Delete a habit

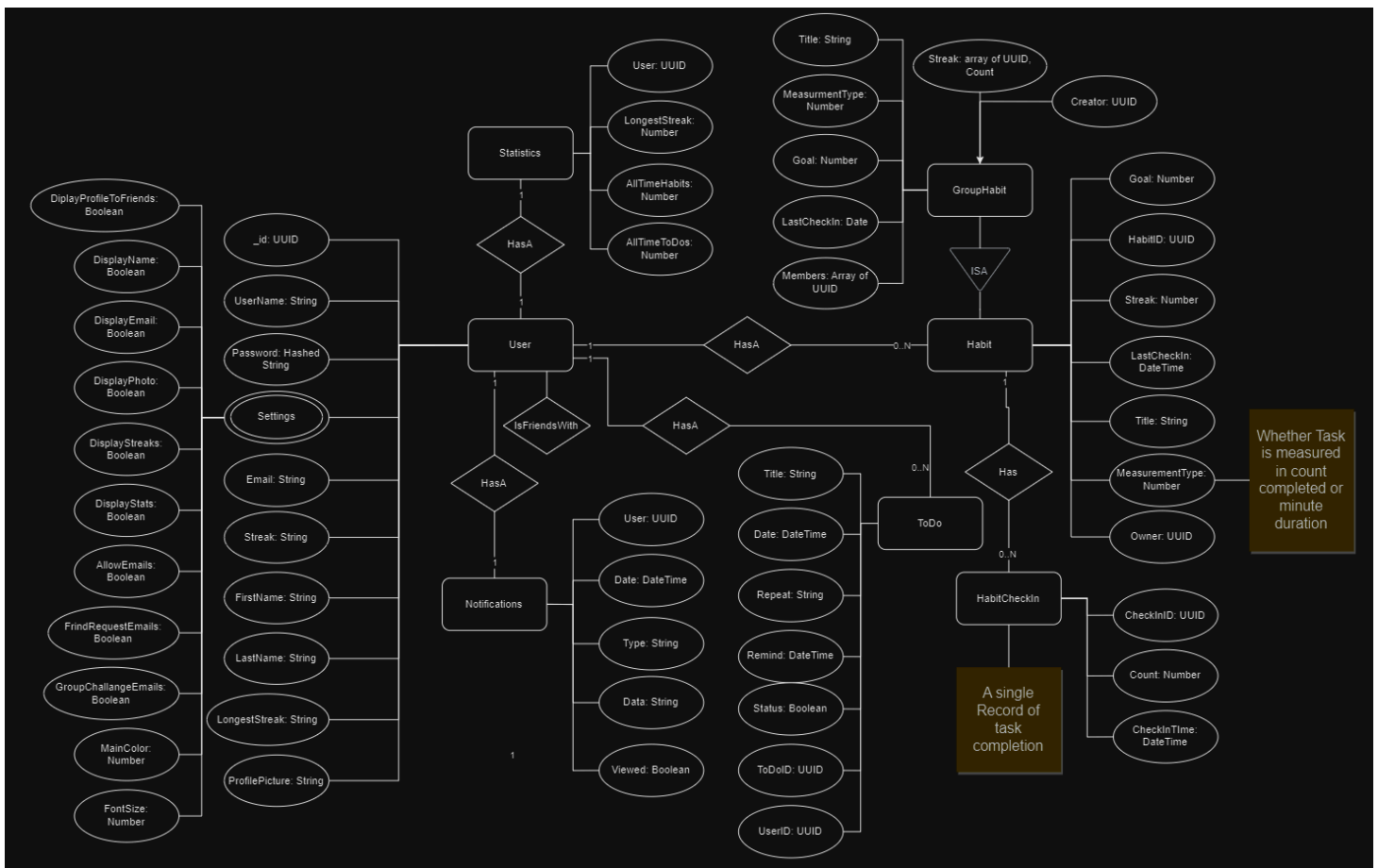
ToDo's

- Create a new ToDo
- Get all ToDo's associated with a userID
- Update a single ToDo
- Delete a ToDo

Habit check in (In Progress)

- Create A Habit CheckIn for current day
 - Checks if checkin exists for today, if it does then updates it with current time and current count, if not then creates a new one.
- Update A Habit CheckIn

Additionally, the ER diagram has been updated to accommodate changes made to the database that have been made since our last progress report, to accommodate the changes that were required as we better understood our site's needs.



ER diagram of HabitConnect's database as of April 1st.

Testing/QA

Testing was a large focus of our team at the end of Sprint 2 and the beginning of Sprint 3. Kacie focused efforts on brainstorming and beginning to complete manual testing guidelines of the user interface, while the back-end team worked tirelessly to implement automatic testing where appropriate.

Manual Testing

We began to complete manual testing for our site at the beginning of Sprint 3. The brainstorming for all required tests can be found in our [Testing Ideas](#) document, and the record of all tests performed, testing data, and expected/real outcomes can be found in our [Testing Master Spreadsheet](#).

Our testing that is planned so far is mainly focused on the input fields of our various pages, ensuring that the user cannot enter any invalid data into our database. Ideally, future testing includes accessibility testing (keyboard controls, screen reader capabilities, contrast and visibility requirements), cross-browser testing, responsive testing (page view on varying screen sizes and mobile), performance testing, and stress testing. The variety and depth of testing we complete before submission of the project will be dependent on the amount of time we have remaining before we reach our final deadlines. Testing completed will be handled in order of priority.

Automatic Testing

Automatic testing for back end API was important for us to begin implementing during our second and third sprints so we could quickly find and resolve any potential new bugs introduced to the system in new pull requests, and to reduce the frequency in which we would need to complete the manual testing. Currently we have 55 tests. We have achieved full coverage for:

- User controller, schema and routes
- Friends controller, schema and routes
- Verification controller and routes
- Settings controller, schema and routes
- Habit routes
- ToDo schema and routes

PASS tests/template.test.js

User API

✓ Create new user (7 ms)

PASS tests/settings.test.js

Settings API

✓ Get Settings (1027 ms)

✓ Fail to Get Settings (5 ms)

✓ Set Settings (340 ms)

✓ Fail to Set Settings (4 ms)

PASS tests/habitCheckIn.test.js

Habit Check In API

✓ Create a new habit check in successfully (413 ms)

✓ Successfully create and update a habit check in (178 ms)

PASS tests/todo.test.js

ToDo API

Create ToDo

✓ Create new ToDo Successfully (152 ms)

✓ Create new ToDo with invalid Owner (41 ms)

Delete ToDo

✓ Delete ToDo Successfully (135 ms)

✓ Delete ToDo with invalid Id (38 ms)

Get Todos

✓ Get Todos Successfully (84 ms)

✓ Get Todos with invalid UserId (42 ms)

PASS tests/verification.test.js

Verification/Email API

✓ Send Email (1593 ms)

✓ Fail to send Email (394 ms)

PASS tests/friends.test.js

Friends API

✓ Send Friend Request (1695 ms)

✓ Fail to Send Friend Request, already sent a friend request to this user (117 ms)

✓ Fail to Send Friend Request, already have a friend request from the user (192 ms)

✓ Accept Friend Request (87 ms)

✓ Fail to Accept Friend Request, input error (5 ms)

✓ Return leaderboard function (116 ms)

✓ Fail to Return leaderboard function, incorrect input (4 ms)

✓ Fail to Send Friend Request, already friends (115 ms)

✓ Fail to Send Friend Request, cannot friend yourself (182 ms)

✓ Fail to Send Friend Request, other errors (48 ms)

✓ Delete Friend (106 ms)

✓ Fail to Delete Friend, invalid input (3 ms)

✓ Decline Friend Request (158 ms)

✓ Fail to Decline Friend Request, other errors (4 ms)

✓ Return a list of all friend requests (43 ms)

✓ Fail to Return a list of all friend requests, incorrect input (3 ms)

✓ Return a list of all friends (45 ms)

✓ Fail to Return a list of all friends, incorrect input (3 ms)

PASS tests/user.test.js (5.194 s)

User API

✓ Create new user (1447 ms)

✓ Fail create new user, email in use (97 ms)

✓ Fail create new user, username in use (46 ms)

✓ Fail create new user, password not good enough (4 ms)

✓ Fail create new user, email not in email format (3 ms)

✓ Fail create new user, not all fields filled (3 ms)

✓ User login (98 ms)

✓ Fail user login, not all field filled (4 ms)

✓ Fail user login, invalid username (43 ms)

✓ Fail user login, invalid password (95 ms)

✓ Access Profile Info (136 ms)

✓ Access Profile Info, someone with no friends (126 ms)

✓ Fail to Access Profile Info (185 ms)

✓ Update Profile Info (145 ms)

✓ Fail to update Profile Info, username already exists (78 ms)

✓ Fail to update Profile Info, email already in use (40 ms)

✓ Update users password (398 ms)

✓ Fail to update users password, incorrect password (110 ms)

✓ Fail to update users password, new password must be different then current password (95 ms)

✓ Fail to update users password, new password must contain a capital, a lowercase, a symbol and 8 characters total (98 ms)

✓ Delete user (89 ms)

✓ Fail delete user, user does not exist (41 ms)

File	% Stmts	% Branch	% Funcs	% Lines	Uncovered Line #s
All files	84.47	71.76	79.24	84.32	
back-end	94.28	66.66	0	94.28	
config.js	100	100	100	100	
index.js	93.93	66.66	0	93.93	104-105
back-end/controllers	78.2	50	82.35	77.81	
FriendsController.js	100	100	100	100	
HabitCheckInController.js	42.1	20	50	42.1	13,25-27,31-32,37-55
HabitController.js	21.87	100	0	21.87	4-10,16-22,27-34,39-46
SettingsController.js	100	100	100	100	
ToDoController.js	68	42.85	75	68	36-56
UserController.js	100	100	100	100	
VerificationController.js	100	100	100	100	
back-end/models	89.31	87.23	77.77	89.31	
Friends.js	100	100	100	100	
Habit.js	39.13	0	0	39.13	31,35-40,46-50,54-58
HabitCheckIn.js	100	100	100	100	
Settings.js	100	100	100	100	
ToDo.js	100	100	100	100	
User.js	100	100	100	100	
back-end/routes	100	100	100	100	
FriendsRoutes.js	100	100	100	100	
HabitCheckInRoutes.js	100	100	100	100	
HabitRoutes.js	100	100	100	100	
SettingsRoutes.js	100	100	100	100	
ToDoRoutes.js	100	100	100	100	
UserRoutes.js	100	100	100	100	
VerificationRoutes.js	100	100	100	100	
Test Suites: 7 passed, 7 total					
Tests: 55 passed, 55 total					
Snapshots: 0 total					
Time: 6.352 s					
Ran all test suites.					

We have ensured that around each of our controller functions there is error handling, incase of any unexpected errors that may occur.

Sprint Progress

In the time between our Progress Report 1 and this one, we completed one and half sprints. Our Sprint 2, scheduled from February 23rd to March 15th, culminated with our Sprint 2 Review meeting on March 15th and our Sprint 2 Retrospective meeting on March 19th. During this sprint, 56 tasks were scheduled, of which we completed 37 and left 12 in progress, with 7 not started. We are now well into our third and final scheduled sprint, scheduled from March 16th to April 12th. We had our Sprint 3 Planning meeting on March 19th. As of the submission of this report, 48 tasks are scheduled for Sprint 3, of which we have so far completed 9, with 12 in progress. A summary of the user stories completed during our second sprint and the status of all others can be found in our 'meeting-notes' folder on GitHub, titled [Sprint2Tasks.xlsx](#). This excel sheet holds our notes from our Sprint 2 Review meeting.

Software Engineering Process

As of writing this report, we have completed two and a half official sprints, and will be finishing our third and final Sprint on April 12th. Our Sprint 2 Review meeting took place on March 15th and our Sprint 2 Retrospective meeting took place on March 19th. Accompanying these more official meetings, we participated in 6 'daily' scrum meetings in Sprint 2, with 4 completed to date as part of Sprint 3. We got into a very nice flow during Sprint 1 in these meetings, consistently checking in with each other and our progress, and providing input on each other's work where applicable. Beginning at the start of Sprint 2, as per feedback gathered during our Sprint 1 Retrospective meeting, we move our 'daily' Wednesday meeting to Tuesdays instead. This allowed for more time between our two weekly meetings, making progress feedback more useful. We additionally continue to use our Discord channel to keep an open line of communication between our scrum meetings. Meeting notes for all our meetings can be found on our [GitHub](#) page in the 'meeting-notes' folder. These notes have been extremely valuable, filling in members who were unable to make meetings with topics of discussion and allowing for a record of what and when decisions were made so nothing is forgotten by the team.

We have continued to use [Jira](#) to assign tasks and track each other's progress during our sprints. One major change that we made, as a result of feedback provided during our Sprint 1 Retrospective meeting, is that we slightly changed the way in which we are utilizing Jira. We created a new column in our Jira board called "Waiting", which is a home for tasks which are waiting on other tasks to be completed before those can be prioritized. We also modified the way in which we are using the story points feature in Jira. Originally, we were using them as Jira intends, which is estimating and tracking the amount of effort each task may require. However, we did not find this at all useful during our Sprint 1, with few members paying attention to this value. During Sprint 2, we began using the story points tracker as a priority tracker instead, with 1 being the highest priority tasks. Our boards are also sorted by this value as well. Visually, this was much more useful for us, as we were able to see the order in which tasks should be prioritized during our Sprints. We were happy we were able to adapt our software engineering process to better suit our needs.

We completed a total 46 tasks between the last progress report submission and this one, and though our progress was not as much as we would have liked it to be during Sprint 2, we continue to feel confident that we will be able to meet all of our goals for the HabitConnect site by our final upcoming deadlines.

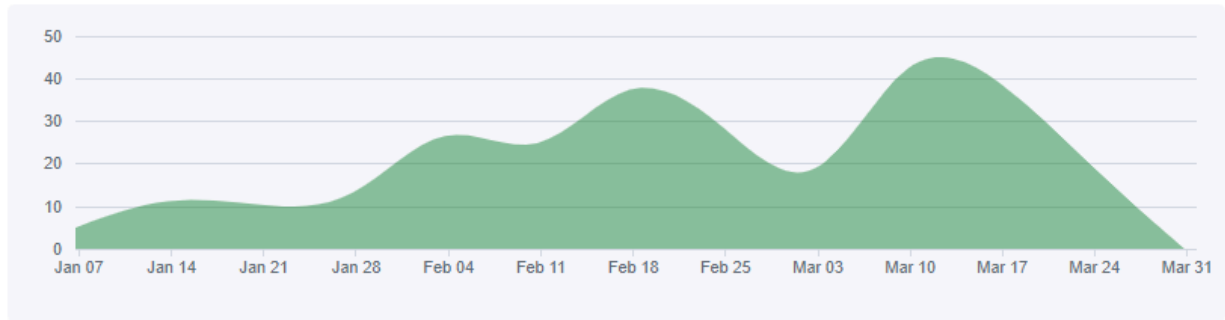
GitHub/Jira Logs

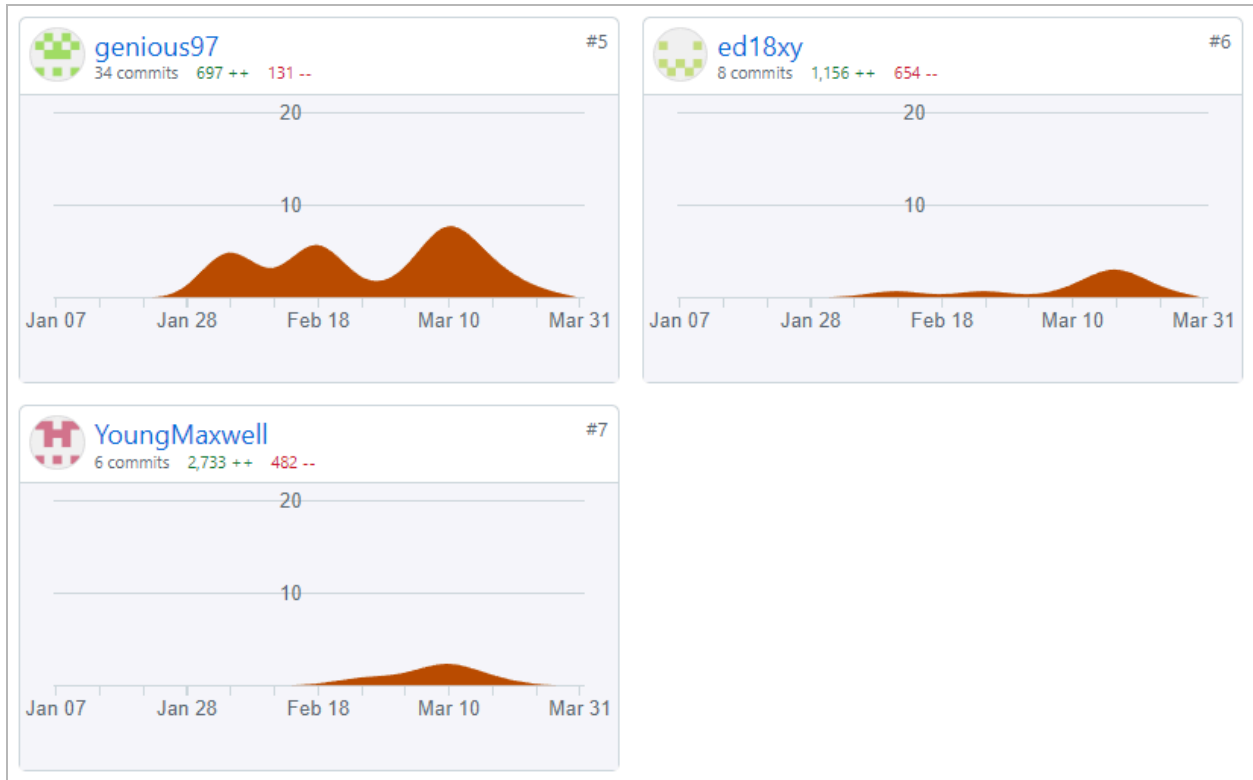
Below are some screenshots of reports generated by GitHub and Jira to track our progress during the software engineering process. We encourage you to focus more heavily on the "Contributions" section of this report, since this provides a more accurate representation of the full breadth of responsibilities and work put in by each group member.

Jan 7, 2024 – Apr 1, 2024

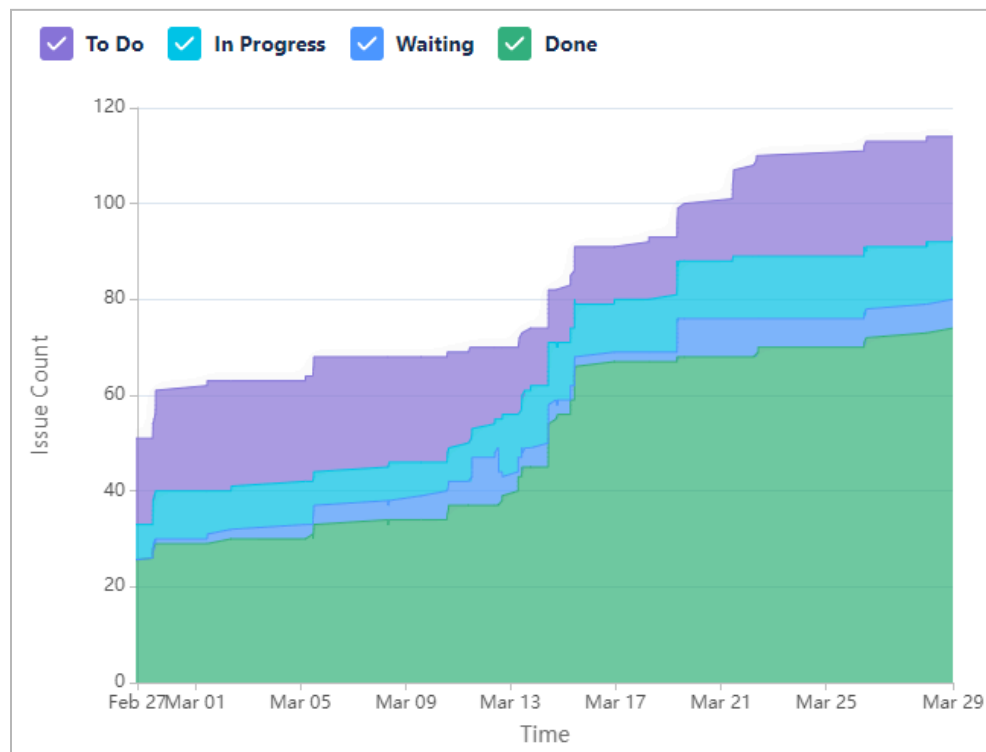
Contributions: Commits ▾

Contributions to main, excluding merge commits





Report of contributions to the main branch as of Apr 1st (GitHub).



Cumulative flow diagram Mar 1 - Apr 1 (Jira).

Challenges

We experienced more challenges leading up to this progress report than we did during our first, reflected in the amount of work completed for Sprint 2. There was a week shortly after the Reading Week where it seemed like all group members had multiple assignments due in a short period of time for our other courses. Due to this overload of work, there was little work completed for our project for this span of time. Since this week was only one of three scheduled for Sprint 2, our progress at the culmination of Sprint 2 was not where we anticipated or wanted it to be. In order to adapt to the new time and work requirements going into Sprint 3, we made sure to move all of the most critical components of the system to the next sprint, and reevaluated the items scheduled for this third and final sprint. We decided to remove some optional items we were hoping to implement, in order to ensure the full completion of HabitConnect which meets all requirements as per our requirements planning document (and the updated requirements which will be included in the final report).

Another challenge we encountered was the length of Sprint 2. During the planning stages of our project, we decided to make Sprint 2 shorter than our other two sprints, anticipating more free time to dedicate to COSC 4P02 work following the completion of our midterms in other courses. This, however, did not end up being the case, and unfortunately the shortened length of this sprint was reflected in the amount of work completed and all the tasks which needed to get pushed to Sprint 3. As previously mentioned, to counter this challenge, we made sure to reevaluate our priorities for HabitConnect, and decided to reorganize our Jira lists to better reflect the amount of effort we have remaining in the semester to create a finalized and polish site by the end of the project.

During our second sprint, there was a meeting which got moved the week before to an hour earlier than we usually meet through Discord. This was not communicated during the scrum meeting before this one, and as such, a majority of the group members had forgotten about the time change. This taught us the importance of communication, especially regarding meeting schedules, and we adapted by instead having a conversation through text channels, updating each other on our progress.

Successes

During our Sprint 1 Retrospective Meeting, we had a long conversation about our use of Jira, and how we could improve our communication and productivity through it. One thing that was discussed in detail was the use of story points. While we used them with their intended use in Sprint 1, where they are an estimate of the amount of effort required to perform the task, we did not find that we were looking at this value at all during development. So, we decided to instead use Jira's story point tracker to keep our user stories and tasks in order of priority, with 1 being the highest priority items. We found this much more useful, and are happy we were able to adapt, and change our software engineering tool usage to better suit our needs. We also added

a “Waiting” column to show the tasks that are waiting for specific meetings, or for other tasks to be completed. This aided in our organization and communication of tasks as a whole.

Another change that we made to reflect some concerns presented in our Sprint 1 Retrospective meeting was changing our weekly Wednesday meeting to Tuesdays. There was a discussion about our two weekly meetings (Wednesday and Friday) being too close together to have any significant updates by the second one. So, we changed our Wednesday meeting to Tuesday instead. This has been an amazing change, with much more productive conversations occurring during our meetings.

One thing that we focused on over the last month that we are very proud of is our progress in testing, both automatic and manual testing. Our back-end team has focused heavily on implementing automated testing on our site, while Kacie has been focusing on the manual testing that should be completed so that no user inputs will cause problems on our site. Our manual testing to date, both completed and planned, can be seen on our [Testing Master Spreadsheet](#).

Progress Report 2 Meeting Feedback

We had our Progress Report 2 meeting with our TA, Brendan Park, on February 22nd. We were again pleased with his comments on our progress, and the formatting of our presentation to him.

Feedback received during this meeting included that we need to place more of an emphasis on the visuals of our site rather than just the functionality, including changing font style and size to be more consistent and spacing issues. Going forward, we will ensure that we are spending time focusing on this area. He also impressed on us the importance of testing going into Sprint 3, and he seemed very happy with the amount of work we have done so far with our manual and automatic testing.

Next Steps

We are now at the point in our project where we will be finishing the website. All required functionality is either in progress or completed. Our first steps are to finish all pages in the front-end, make sure they are connected in the back end, and testing so that all functionalities are confirmed to be working correctly. This includes our Leaderboard page, our Challenges page, and the My Stats page.

We will be completing manual testing for all pages, and will continue to implement automatic testing where appropriate. The extent of the testing completed on the site will be dependent on the amount of time we have available to us nearing our final deadlines. We will be active instead of reactive regarding debugging of the site, and will begin adding our finishing touches to the site before beginning to form our final report and presentation.

All final user stories and tasks can be seen on our [Jira](#) page, which is constantly being updated as we understand the scope of what we have left to do as we approach the end of the project.

Contributions

Continuing the positive streak from the first progress report, all members were able to make it to most of our 'daily' scrum meetings, with only a few absences due to illness. Below are our self-reported contributions to the project for this stretch of progress:

Kacie Phillippo (6877591)

- Led all 'daily' scrum meetings, directing conversation and ensuring that all members are contributing and all important topics are discussed before the end of the meeting time. Also took the lead in our Sprint 2 Review, Sprint 2 Retrospective, and Progress Report 2 meetings.
- Wrote and uploaded meeting minutes for all daily scrum meetings, the progress report 2 meeting, Sprint 2 Review meeting (including Jira task spreadsheet), Sprint 2 Retrospective meeting and the Sprint 3 Planning meeting.
- Designed the Guest Homepage and My Stats pages, as well as the notification popups.
- Managed branch merging and version control on GitHub. Handled all pushes from the development branch to the main branch.
- Was the primary contributor to all content in Progress Report 2, compiling the group's contributions to the site and doing the written work.
- Designed the Statistics and Notifications tables for the database, and updated the database structure diagram appropriately.
- Did the beginning of the My Stats page implementation (only .css).
- Was a main contributor to the Testing Ideas document, brainstorming manual tests that need to be verified on the site. Created the Testing Master Spreadsheet, outlining the specifics of each manual test which will be run.

Muiz Odebiyi (6849509)

- Implemented design for Challenges page.
- Implemented design for Leaderboard page.
- Created popup to add new challenges to the challenge table (not connected to back-end).
- Fixed minor issues with sign-in and sign-up form.
- Helped get email-verification for the sign-up page functional.

Elya Denysova (6667596)

- Enabled API connection on User Profile Page.
- Designed settings page, leaderboard page, challenges page, user friend profile popup
- Implemented various popups for the user page to make it fully functional (password update in progress).
- Updated and organized tasks in Jira.

Lysa Hannes (6695100)

- Set up automated testing using jest for back end.
- Created a template for test cases.
- Testing , 100% coverage on login and sign up functions.
- Created the base templates for routers and controllers for each schema.
- Created API's for the user profile + testing (100% coverage).
- Created API's for all friends functions + testing (100% coverage).
- Created API to return the leaderboard + testing (100% coverage).
- Created API for sending emails + testing (100% coverage).
- Created API's for settings + testing (100% coverage).
- Added Notifications Table + files associated with it.
- Updated the ER Diagram.

Max Young (6769608)

- Came up with a Leaderboard design and made it in Figma.
- Fixed To Do and habit tables from last sprint.
- Added a plus button to the column bar of the habits table.
- Worked on implementing and created the html and css for the "Add Habit" popup and the "Add ToDo" popup.
- Worked on implementing and created the html and css for the "Edit Habit" popup and the "Edit ToDo" popup.
- Worked on implementing and created the html and css for the "Habit Manager" popup and a "Are you sure you want to delete" popup.
- Worked on the html and css for the Settings Page.

Yifan Zhu (7345671)

- Implemented dynamic Dailies page with real-time data from back-end.
- Implemented Add/Edit/Delete Habit function on Dailies page.
- Implemented Add/Edit/Delete Todo function on Dailies page.
- Manually tested all existing functions on Dailies page in the front-end.
- Was responsible for maintaining the Dailies page, fixing 7 bugs so far.

Robbie Pierik (6773832)

- Created API's for the habits.
- Created Automated Tests for Todos.
- Created API's for the todos.
- Started on the check in system.
- Created Automated tests for HabitCheckIn.