

# Apollo



## Sprint 2 Retrospective

### Team 4

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## What Went Well

Overall, Sprint 1 was a success for Team 4; however, that is not to say that everything went perfectly. This was an ambitious sprint with several important goals to achieve, and we did a great job of making progress on all fronts.

Last retrospective, we put forth a few areas that we wanted to improve on. Those areas were general planning, frontend / backend communication, and delegation of work. This sprint, these areas had huge improvement. We utilized our planning document more, we had max two developers per user story to implement frontend / backend which helped with communication, and had frontend / backend work balanced well.

One of the most important goals for Team 4 was collecting and displaying course information. This is a critical component of the project, and it's going to make the process of finding information so much easier for our users.

But that's not all - we also learned a ton of new skills throughout the sprint. We mastered the art of data scraping, learned how to upload files client-side, and even became experts in using different UI frameworks. It's amazing to see how much progress we've made in such a short amount of time.

And let's not forget about the new social network aspect of Apollo. With the implementation of thread functionality on course pages, we're providing a platform for users to ask questions, share resources, and engage with one another in a meaningful way. This is just the beginning of Social Network on Apollo.

Finally, at Apollo, we are committed to providing the best user experience possible, and that's why we are so excited to announce the latest addition to our platform - dark mode! We value our users and strive to prioritize user experience and accessibility for all. During Sprint 2, our team worked tirelessly to implement this highly requested feature, and we were thrilled to be able to deliver it to our users. With dark mode, users can use Apollo in a low-light environment without straining their eyes or causing undue stress on their vision.

We're excited to see what we'll accomplish in the next sprint.

## User Story #13

As a user, I want to see a description of the course on its homepage.

Tasks	Status	Estimated Time	Owner
Collect descriptions for courses	Completed ▾	4 hours	Jacob
Manually test for function	Completed ▾	1 hour	Jacob

## Completed

We scraped data for all the course descriptions and displayed them in a designated place on each course's homepage.

## User Story #14

As a professor, I want to be able to add my own thoughts about a course in a designated thread on a course homepage.

Tasks	Status	Estimated Time	Owner
Create "professor threads" in course schema	Completed ▾	2 hours	Daniel
UI for professor threads	Completed ▾	2 hours	Edward
Manual Testing	Completed ▾	1 hour	Sai

## Completed

We implemented the functionality for a professor to create a thread in a thread located on the course homepage. This thread allowed professors to write their own thoughts/advice on the given course. Anyone could comment but only professors could create threads in this section.

## User Story #15

As a professor, I want to be able to upload other resources about a course.

Tasks	Status	Estimated Time	Owner
Upload functionality for professor	Completed ▾	3 hours	Daniel
API work	Completed ▾	3 hours	Sai
Display resource	Completed ▾	3 hours	Brandon
Manual Test	Completed ▾	1 hour	Ali

## Completed

We implemented a feature that allows professors to upload a PDF to a course homepage. Additionally, users can find these resources on the course homepage and download / view them.

## User Story #16

As a professor, I want to be able to upload an up to date PDF of a course syllabus.

Tasks	Status	Estimated Time	Owner
PDF upload functionality for professor	Completed ▾	3 hours	Daniel
API work	Completed ▾	2 hours	Daniel
Display PDF	Completed ▾	3 hours	Edward
Manual Tests	Completed ▾	1 hour	Ali

## Completed

We implemented a feature that allows professors to upload a PDF syllabus to a course homepage. Additionally, users can find the syllabus on the course homepage and download / view it.

## User Story #17

As a user, I want to be able to see the professor(s) for a course on its respective homepage.

Tasks	Status	Estimated Time	Owner
Add current professors to course schema	Completed ▾	1 hour	Sai
Add UI link for prof accounts	Not started ▾	1 hour	Brandon
Collect data on current professors for course	Completed ▾	4 hours	Jacob
Manual Tests	Completed ▾	1 hour	Sai

### Completed

We scraped course information from Unitime. Some of the data we scraped included course professor names / emails. We displayed this information in a table inside the “Sections” section on the course homepage.

## User Story #18

As a user, I want to see the grade distributions of the most recent semester in a chart showing the percentages of different grades obtained in the course.

Tasks	Status	Estimated Time	Owner
Collect data from boilergrades.com for the most recent semester.	Completed ▾	5 hours	Edward
Add the course schema and GET requests for UI.	Completed ▾	3 hours	Sai, Jacob
Create UI for distribution.	Completed ▾	5 hours	Brandon
Manual Tests	Completed ▾	1 hour	Daniel

### Completed

We were able to retrieve and manipulate data from boilergrades.com to display the distribution of grades for the fall 2022 semester (previous semester). The grades are displayed on the course page via barchart that also shows the average gpa of a given course. Courses that are “pass or fail” will not have a grade distribution.

## User Story #19

As a user, I want to be able to see what semesters a course is most frequently offered.

Tasks	Status	Estimated Time	Owner
Collect data on when courses have been offered	Completed ▾	4 hours	Jacob
Add to schemas	Completed ▾	1 hour	Sai
Add respective UI to the course page	Completed ▾	1 hour	Edward
Manual tests	Completed ▾	1 hour	Jacob

## Completed

We found that at the end of some courses' descriptions, there was often a string that stated what semester it was frequently offered. We modified our data scraper and displayed this "Typically offered" string in its own space on the course homepage.

## User Story #20

As a user, I want to be able to see a course's times, locations, and professors for the current semester.

Tasks	Status	Estimated Time	Owner
Collect data on schedule	Completed ▾	2 hours	Jacob
Collect data on locations	Completed ▾	2 hours	Jacob
Collect data on professor	Completed ▾	2 hours	Jacob
Add to schemas	Completed ▾	1 hour	Sai
Add respective UI	Completed ▾	1 hour	Edward
Manual Test	Completed ▾	1 hour	Sai

## Completed

We scraped course information data from Unitime. This data included section number, times, days, location, professors, and professor email. We displayed this information in a table inside the "Sections" section on the course homepage.

## User Story #21

As a user, I want to see the ratings / reviews for a course.

Tasks	Status	Estimated Time	Owner
Create ratings and reviews, API	Completed ▾	3 hour	Daniel
Schema for rating and reviews	Completed ▾	3 hour	Daniel
Add UI ratings / reviews on course homepage	Completed ▾	3 hour	Ali
Add UI functionality to allow users to filter ratings and reviews by star number	Completed ▾	2 hour	Ali
Manual Test	Completed ▾	1 hour	Jacob

## Completed

We created the functionality for students to rate courses on a 0-5 scale. The ratings of all students were then compiled and the average of the rating was displayed on the course homepage. This functionality also enabled students to add their thoughts on the course alongside the numerical rating.

## User Story #22

As a user, I want to be able to leave a detailed rating / review for a course.

Tasks	Status	Estimated Time	Owner
Create UI for user to add review/rating	Completed ▾	3 hours	Edward
Add schema	Completed ▾	2 hours	Sai
Automated Test	Completed ▾	1 hour	Sai

## Completed

We implemented ratings / reviews on the course homepage. Users can open the rating / review creator and add a title, description, semester, and professor. These ratings / reviews are then posted on the course homepage and displayed in their own section labeled “Reviews for [course]”.

## User Story #23

As a user, I want to be able to upvote / downvote reviews or questions that users post.

Tasks	Status	Estimated Time	Owner
Add to thread schema	Completed ▾	1 hour	Sai
Create API requests	Completed ▾	2 hours	Daniel
Add respective UI	Completed ▾	1 hour	Edward
Automatic Tests	Completed ▾	1 hour	Daniel

### Completed

We implemented upvote / downvote features for reviews and threads that users post. We used Maps to implement this. We also added appropriate error handling so that users could not double upvote, double downvote, or upvote and downvote at the same time.

## User Story #24

As a user, I want to be able to favorite classes that I have interest in.

Tasks	Status	Estimated Time	Owner
Add UI to the landing page to show shortcuts to the favorited courses.	Completed ▾	2 hours	Edward
Add UI to the course page to favorite the course like a star button.	Completed ▾	0.5 hours	Edward
Add a list of the starred courses to the user schema with POST and GET requests for UI.	Completed ▾	2 hours	Daniel
Manual Test	Completed ▾	1 hour	Ali

### Completed

With the completion of this feature, students will now be able to “star” a course, which adds the given course to their favorite courses list. Users who view another user's profile will be able to view that user's starred/favorite courses on their homepage.



## User Story #26

As a user, I want to see the difficulty level (based on their ratings) of pairing this course with a course I choose.

Tasks	Status	Estimated Time	Owner
Add UI to select a course	Completed ▾	2 hours	Ali
Add UI to set the pairing difficulty of said course	Completed ▾	3 hours	Brandon
Write API requests	Completed ▾	3 hours	Jacob
Manual Test	Completed ▾	1 hour	Sai

## Completed

We added a feature for users to describe how difficult it is to take the course they're viewing with another course of their choice. (example: I'm on the homepage for CS25100 and I use a dropdown to select CS25000 and mark difficulty to signify that taking CS25100 with CS25000 is very difficult).

## User Story #28

As a user, I want to be able to post questions and receive answers from other users.

Tasks	Status	Estimated Time	Owner
Create thread schema	Completed ▾	1 hours	Jacob
Add UI to display threads	Completed ▾	3 hours	Edward
Add UI to add threads	Completed ▾	3 hours	Edward
Add UI to comment on threads	Completed ▾	4 hours	Brandon
Write POST / GET requests	Completed ▾	3 hours	Jacob
Automatic Tests	Completed ▾	1 hour	Jacob

## Completed

We implemented threads and comments on the course homepage so that users can ask questions about the course and other users can respond / comment on the question. Additionally, we added comments to ratings / reviews so users could also respond / comment on those as well.

## User Story #30

As a user, I want to be able to view the menu for a specified dining court.

Tasks	Status	Estimated Time	Owner
Implement POST method to fetch proper data, and organize	Completed ▾	4 hour	Daniel
Add UI to display the menu for a specified dining court on a specified day	Completed ▾	4 hour	Edward
Manual Test	Completed ▾	1 hour	Brandon

### Completed

We were able to embed the university dining court's webpages to the menu page to display accurate information regarding the menu for each and every dining hall. The information is always up to date.

## User Story #31

As a user, I want to be able to view the hours for a specified dining court.

Tasks	Status	Estimated Time	Owner
Add UI to display dining court hours on court homepage	Completed ▾	2 hour	Ali
Manual Tests	Completed ▾	1 hour	Sai

### Completed

We accessed the webpages for the dining courts to receive accurate information regarding the hours for each meal in each dining court. The information is also updated in line with the university's schedules.

## User Story #36

As a user, I want to be able to switch between light and dark mode

Tasks	Status	Estimated Time	Owner
Add UI toggle	Completed ▾	1 hour	Brandon
Add UI color schemes	Completed ▾	4 hours	Brandon
Manual Tests	Completed ▾	1 hour	Sai

## Completed

We implemented a switch to toggle between light and dark mode for Apollo. The user's preference will persist throughout the site, on logout, browser close, etc.

## User Story #48

As a user, I want to be able to view other users' profile pages when I click on their name

Tasks	Status	Estimated Time	Owner
Add links in UI on user's names	Completed ▾	1 hour	Brandon
Manual Tests	Completed ▾	1 hour	Brandon

## Completed

We added the functionality for clickable usernames. This is most apparent in threads and reviews. When a user clicks on someone's username, they will be redirected to that user's profile page.

## User Story #55

As a user, I want to be able to receive email notifications for certain responses and posts.

Tasks	Status	Estimated Time	Owner
Add UI for notifications settings in profile	Completed ▾	1 hour	Ali
Add subscribed to threads to user schema	Completed ▾	1 hour	Sai
Send email to user when a thread that they are subscribed to has changes	Completed ▾	1 hour	Daniel
Auto subscribe users to threads that they have commented in	Completed ▾	4 hours	Daniel
Automatic Tests	Completed ▾	1 hour	Ali

## Completed

We implemented an additional feature to enhance user experience: email notifications. This feature enables subscribed users to receive emails containing a direct link to the post, and informs them whenever another user comments on threads that they are involved in or have subscribed to. Users have the option to enable or disable email notifications in their profile settings.

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## What Did Not Go Well

Overall, Sprint 2 was a success for Team 4; however, that is not to say that everything went perfectly. Three specific areas that did not go well were testing, schedule conflicts, and the inability to work the week before spring break and the week of spring break.

First, let's talk about testing. While the team achieved great progress in developing new features, testing presented itself as a challenging and somewhat unknown area for the team. There were some issues with setting up an effective testing framework, which caused a fair amount of scrambling near the end of the sprint. We ended up settling with Postman for automatic tests which worked fine, but were not very robust.

Second, there were some uncontrollable schedule conflicts that made it difficult for the team to work as efficiently as we would have liked. In addition to efficiency, it was a challenge for the team to prioritize Sprint 2 when each of us had a fair amount of individual work.

Finally, there was the issue of time off during spring break. Unfortunately, this was something that we were unable to avoid. The team was either on vacation or at home resting and homework was the last thing on our minds. We were able, however, to come back rejuvenated and ready to take on the next thing, but if we had gotten more work done over break, these last two weeks would have been much more manageable.

## User Story #17

As a user, I want to be able to see the professor(s) for a course on its respective homepage.

Tasks	Status	Estimated Time	Owner
Add current professors to course schema	Completed ▾	1 hour	Sai
Add UI link for prof accounts	Not started ▾	1 hour	Brandon
Collect data on current professors for course	Completed ▾	4 hours	Jacob
Manual Tests	Completed ▾	1 hour	Sai

## Not Completed

We unfortunately did not complete the “Add UI link for prof accounts” task. This task was not very feasible to implement. This was because we had professors listed in the “Sections” section and we did not have the right data available to check whether they had an account.

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## How We Plan to Improve

Overall, while Sprint 2 was a success, there were still areas that could be improved. As mentioned previously, we faced three main issues. These were testing, schedule conflicts, and the inability to work the week before spring break and the week of spring break.

With regards to testing, the team faced challenges in setting up an effective testing framework, which caused some scrambling near the end of the sprint. Moving forward, the team could benefit from dedicating more time upfront to establishing a more robust testing system. We are now aware that we need to prioritize and include more tests in each of our user stories so Sprint 3 will reflect this revelation.

In addition, uncontrollable schedule conflicts made it difficult for the team to work as efficiently as desired. To address this issue moving forward, we can look into better scheduling and time management practices to ensure that everyone's individual work obligations are accounted for while still maintaining momentum on the project. This will especially come up near the end of the semester when finals are near. We will attempt to complete Sprint 3 ahead of this period of heavy course work in hopes to maintain efficiency and productivity.

Finally, the issue of time off during spring break proved to be a challenge as well. While it was unavoidable, it did impact our progress during the sprint. While we do not have any breaks for the remainder of the semester, it was a good lesson to learn that in the future, as a team, we could consider working on the project during breaks or establishing clear expectations for work during these periods to minimize any disruptions to our progress.