Sprint 2 Retrospective

CS 307 Fall 2022

Team 9 - Purdue Course Finder

Alex Kobus, Alex Plump, Tommy Lane, Peter Zong

What went well

In general,

We successfully developed the home page of our program. From this, we added a sidebar and map which are linked together. The sidebar has options for filtering and can search for courses, sections, and buildings. Clicking the building options shows its location on the map. Additionally, when logged in, a user can modify their account credentials. We also added more data endpoints to the backend of our system, which allows users to not only set favorite buildings, sections, courses, and classrooms, but we also generated a page which displays a user's information to them. Outside of direct coding, we were able to host our application on a public domain, purduecoursefinder.com, and generate automatic builds.

User story 1

As a User, I would like to see a birds-eye view map of Purdue.

#	Task Description	Estimated Time	Developer
1	Replace the temporary homepage with a page for the map on our frontend	2 hours	Alex K
2	Add the Google Maps API to our project to display a dynamic map	5 hours	Alex K
3	Setup the map to default at the Purdue West Lafayette Campus	2 hours	Alex K
4	Test the map page to ensure that it appears as expected and is interactive as expected	3 hours	Alex K

Completed:

The homepage of our application shows a map of Purdue's campus in West Lafayette using the Google Maps API. This map can be manipulated by the user as the user can zoom in and out as well as pan the map to get a better view.

User story 2

As a User, I would like to see a sidebar that shows a list of all classes, sections, and buildings

#	Task Description	Estimated Time	Developer
1	Create a component for the sidebar and add it to the home page	3 hours	Peter
2	Fill in the sidebar with building information as components	2 hours	Peter
3	Add course and section information to the sidebar as components	3 hours	Peter
4	Add a search bar and filter button at the top of the sidebar	1 hour	Peter
5	Unit and manual testing	2 hours	Peter

Completed:

The homepage of our application shows a sidebar on the left side of the page that by default shows a list of all class buildings on campus. This sidebar also contains a filter button and a search bar that allows users to search for buildings and courses directly. Course information is shown when the filter is set to “Course” and a subject is searched. Selecting a course from the sidebar shows information about the sections of that course. There are tests to test this functionality.

User story 3

As a User, I would like to view a list of my favorite buildings, classrooms, classes, and sections

#	Task Description	Estimated Time	Developer
1	Design and create Favorites page UI	1 hour	Peter
2	Display separate lists for each favorite category	3 hours	Peter
3	Implement functionality to remove favorites on this page	2 hours	Peter
4	Unit and manual testing	2 hours	Peter

Completed:

When logged into the application, a user can navigate to the favorites page to see a list of all of the buildings, classes, sections, and classrooms that they have selected as favorites from the homepage sidebar. On this favorites page, the user can choose to remove any item from their favorites. There are tests to test this functionality.

User story 4

As a User, I would like to see campus buildings highlighted on the map.

#	Task Description	Estimated Time	Developer
1	Generate geographical coordinates for each building	2 hours	Alex P
2	Create coordinate polygon shapes for each Purdue Building	3 hours	Alex P
3	Display each shape on the map	3 hours	Alex P
4	Unit and manual testing	2 hours	Alex P

Completed:

The map now displays visual outlines of buildings on top of our Google Maps API. These outlines are correctly placed on the map and correctly move with the map when it is zoomed and panned. There are tests to test this functionality.

User story 5

As a User, I would like to filter the sidebar to show only relevant buildings, courses, and sections.

#	Task Description	Estimated Time	Developer
1	Change filter popup with radio buttons for buildings, courses, and sections.	3 hours	Alex P
2	Read search bar input and send request to server with current toggled filter.	3 hours	Alex P
3	(Server) Read client request and query database for respective information.	2 hours	Tommy
4	Read server response and create scrollable panes for each returned object.	3 hours	Alex P
5	Unit and manual testing	2 hours	Alex P

Completed:

A popup appears when the filter button is pressed. A user can search directly in the sidebar for buildings and courses. Course sections can be viewed by selecting a course from the sidebar, causing the sidebar to refresh with a list of sections for that course. On each request to the server, every object returned becomes a clickable pane which performs another action depicted from other user stories. There are tests to test this functionality.

User story 6

As a User, I would like to see campus buildings labeled on the map.

#	Task Description	Estimated Time	Developer
1	Ensure Purdue API building name codes match up to labels on map.	2 hours	Alex P
2	Attach each building's name code to the corresponding shape.	2 hours	Alex P
3	Display the building name code within the buildings on the map.	3 hours	Alex P
4	Test to ensure the buildings are correctly labeled	2 hours	Alex P

Completed:

The map now displays labels of each building's Purdue short code on our Google Maps API. These labels are correctly placed over the buildings and correctly move as the map is zoomed and panned. There are tests to test this functionality.

User story 7

As a User, I would like to see section days, locations, and instructors for courses in the sidebar

#	Task Description	Estimated Time	Developer
1	Modify the sections endpoint to send the days for each section	2 hours	Tommy
2	Add section days to the sidebar	2 hours	Peter
3	Modify the sections endpoint to send the locations of each section.	2 hours	Tommy
4	Add section locations to the sidebar	2 hours	Peter
5	Modify the sections endpoint to send the instructors of each section	2 hours	Tommy
6	Add section instructors to the sidebar	2 hours	Peter
7	Unit and manual testing	2 hours	Tommy, Peter

Completed:

The sections endpoint was updated to return the appropriate information necessary for this user story. When selecting a course in the sidebar, the sections for that course are displayed, showing the meeting days, locations, and instructors for each section. There are tests to test this functionality.

User story 8

As a User, I would like to only access pages that require accounts when logged in

#	Task Description	Estimated Time	Developer
1	Check for a login token on pages that require accounts	1 hour	Alex K
2	Redirect users to login page if they are accessing a restricted page while not logged in	2 hours	Alex K
3	Add buttons on the homepage that only appear if the user is logged in or not logged in	3 hours	Alex K
4	Make favorite buttons only appear when the user is logged in	2 hours	Alex K
5	Test to ensure the pages redirect correctly if not logged in and load correctly if logged in	2 hours	Alex K
6	Test to ensure buttons appear correctly when logged in and disappear correctly when not logged in	2 hours	Alex K

Completed:

A few of the pages of our application only work if there is a user logged in because the page is dependent on the user's data. These pages (Account Settings, Account Deletion, User Favorites, and User Schedule) are now set up to redirect to the Log In page if there is not a user currently signed into the application. The buttons on the homepage that would lead to these pages also only appear when a user is logged into an account, and a button leading to the login page replaces them when the user is not currently logged into an account. A button was also added to the homepage to allow a user to log out of their current account, and this button also only appears when the user is logged in. The favoriting star icons on the sidebar also only appear when a user is logged in so that a user can't favorite objects when they are not signed into an account. There are tests to test this functionality.

User story 9

As a User, I would like to have favorite buildings, classes, and sections that are saved across sessions

#	Task Description	Estimated Time	Developer
1	Add database tables and relationships to support favorites	3 hours	Tommy
2	Add favoriting “Star” in sidebar components UI that connects to the backend	2 hours	Peter
3	Create API endpoints for adding, removing, and retrieving favorites	2 hours	Tommy
4	Unit and manual testing	2 hours	Tommy, Peter

Completed:

User favorites can now be selected using a star icon in the sidebar. Clicking the star toggles the favoriting of the item the star is associated with, and on page refresh, favorites are ordered at the top of the sidebar. The action of favoriting makes an API call to the backend which saves the information in the database associated with the currently authenticated user. This information is reloaded for later sessions with the same user to maintain the favorites list. In order to do any of this favoriting you must be signed in. If you are not signed in but still make an API call manually the backend will return a 403 error. There are also tests now to test this functionality. There are tests to test this functionality.

User story 10

As a User, I would like to search the map for a building's location.

#	Task Description	Estimated Time	Developer
1	Link sidebar filtering functionality to the map	3 hours	Alex K
2	Pan to a building when it is selected from the sidebar	2 hours	Alex K
3	After User Story 4 is complete, change the color of the highlight on the currently selected building to make it stand out	2 hours	Alex K
4	Test that the sidebar filtering correctly links to the map and the map responds correctly (change highlight color & pan to building) when buildings are selected	2 hours	Alex K

Completed:

When a building is selected from the sidebar, the map changes zoom and location to center the selected building into view. The highlight color of that building also changes from yellow to purple in order to stand out from the other highlighted buildings. The highlight color changes back to yellow once that building is no longer selected. There are tests to test this functionality.

User story 11

As a Developer, I would like the application to be hosted on AWS.

#	Task Description	Estimated Time	Developer
1	Host frontend on AWS	5 hours	Tommy
2	Host backend on AWS	5 hours	Tommy
3	Add GitHub actions workflows to deploy the project to AWS	4 hours	Tommy

Completed:

There are GitHub Actions workflows to both test and deploy the project. Deployment is done on to AWS Elastic Beanstalk which is accessed through our domain at http://purduecoursefinder.com/. Both the frontend and backend are simultaneously hosted by first uploading each image to AWS ECR then uploading a docker compose file to AWS Elastic Beanstalk to pull the images and host them.

What did not go well

Google Maps Building Names

When generating labels for each building to be displayed on the map, either a default value had to be set or it defaulted to 15px. The issue arose when zooming out on the map because although the building sizes shrink proportionally, the building names do not. Although not code breaking in any way, a new method might be investigated next sprint to have labels appear to fit inside buildings regardless of the current zoom level.

How should we improve?

- Most of our tests were manual tests rather than coded unit tests. We hope to have more automated testing in the upcoming sprint.
- Most of our tasks this sprint were completed independently. In sprint 3, we will group multiple developers to work on tasks so that we can write more structured code that provides strong component cohesion, as many tasks are related to what others have already done.