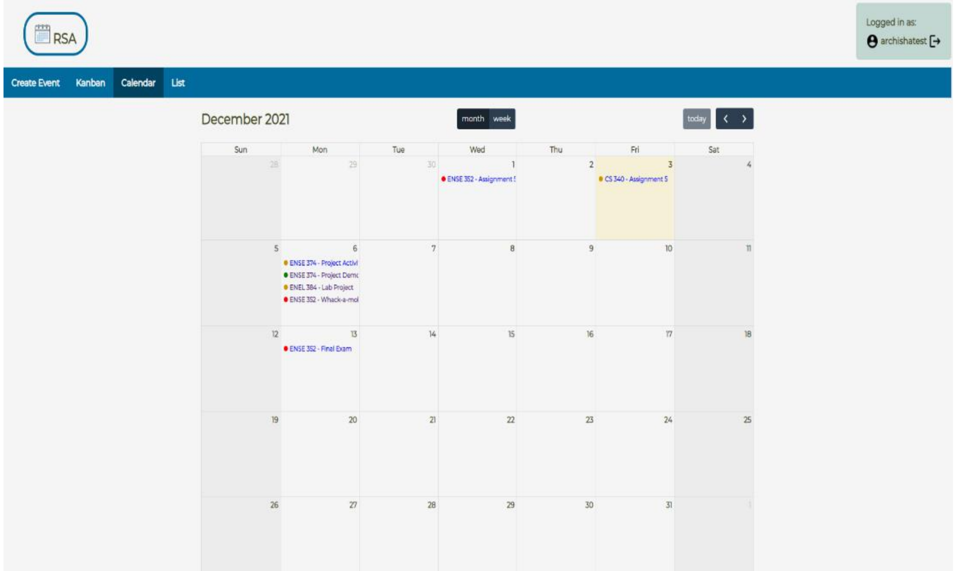
FINAL PROJECT REPORT	
Project Name	Riker Scheduling App
Date Produced	Nov 5th, 2021
Project Sponsor	Dr. Tim Maciag
Project Manager	Archisha Bhattacharya
Team Members	Archisha Bhattacharya, Bulbul Arora, Yixu Zhou
Project Goals	
Project Charter	The project strives to develop a scheduling application for our user(students) that will allow them to manage their time better. The application will give students the freedom to come up with productive schedules that work for them. It will help them efficiently complete their coursework before the due date.
Actual Results	Team Riker produced a scheduling app that will help students to manage their time better. The app features a Calendar view – here students will be able to see all their due dates on a monthly/ weekly view, a Kanban board – where students will be able to see their events on a board with three progress states (To-do, in progress and done) and will be able to change their progress as they go about completing their tasks, and a List view – where students will be able to see all their events in a list and will be able to filter their events by type(assignment, lab or exam) and by state(to-do, in progress, done). The app has a dedicated page where users can create new events. The users can also edit events from the Calendar view and the Kanban board. All the goals set by team Riker were successfully completed in the given time-frame.
Project Objectives	
Project Charter	• Effectively manage their schedules to dedicate time for working on their coursework • Get a visual representation of their monthly due dates. • Track the progress of their coursework as “assigned,” “in-progress,” and “completed.”
Actual Results	• The first objective was achieved by providing our users with different options (Calendar, Kanban, List) that they can view their events in. This helps the user to figure out what scheduling style works best for them so they can dedicate more time to complete their coursework. • Our second objective was to provide a visual representation of due

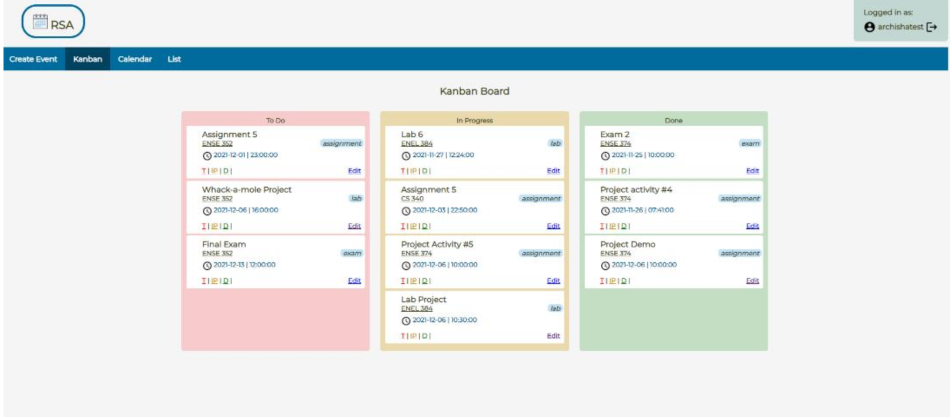
dates. We achieved this objective by embedding a Calendar view into our app. The user can go to the calendar and view their events under the date that it is due on. They can also click on the events to view more information or edit them.



December 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	30	1 ● ENSE 352 - Assignment !	2	3 ● CS 340 - Assignment 5	4
5	6 ● ENSE 374 - Project Activi ● ENSE 374 - Project Demc ● ENEL 384 - Lab Project ● ENSE 352 - Whack-a-mol	7	8	9	10	11
12	13 ● ENSE 352 - Final Exam	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	1

- Our third objective was to give our users the ability to track their progress. We achieved this objective by providing our users with a Kanban board. Using the Kanban board, users can change their progress states between to-do, in progress and done. When the user adds a new event, the state is automatically set to to-do. The users can then use our Kanban board to change the event's state to in progress or done by pressing the T(to-do), IP (in progress) or D(Done) buttons.



Kanban Board

To Do	In Progress	Done
Assignment 5 ENSE 352 assignment 2021-12-01 | 23:00:00 T | IP | D | Edit	Lab 6 ENEL 384 lab 2021-11-27 | 12:24:00 T | IP | D | Edit	Exam 2 ENSE 374 exam 2021-11-25 | 10:00:00 T | IP | D | Edit
Whack-a-mole Project ENSE 352 lab 2021-12-06 | 16:00:00 T | IP | D | Edit	Assignment 5 CS 340 assignment 2021-12-03 | 22:50:00 T | IP | D | Edit	Project activity #4 ENSE 374 assignment 2021-11-26 | 07:41:00 T | IP | D | Edit
Final Exam ENSE 352 exam 2021-12-13 | 12:00:00 T | IP | D | Edit	Project Activity #5 ENSE 374 assignment 2021-12-06 | 10:00:00 T | IP | D | Edit	Project Demo ENSE 374 assignment 2021-12-06 | 10:00:00 T | IP | D | Edit
	Lab Project ENEL 384 lab 2021-12-06 | 10:30:00 T | IP | D | Edit	

Completion Date

Project Charter	Project Idea selection and introduction – October 1, 2021 Project prerequisites/ planning – October 15, 2021 Project design architecture – October 29, 2021 Project storytelling – December 6, 2021

Actual Results	Project Idea selection and introduction – October 1, 2021 Project prerequisites/ planning – October 15, 2021 Project design architecture – October 29, 2021 Project storytelling – December 6, 2021
Budget	
Project Charter	Resources: $5/month for Cloud Hosting Team members' man hours
Actual Results	Resources: $5/month for Cloud Hosting with Digital Ocean Team members' man hours
Feedback	
Feedback received from students	We received some really valuable feedback from our fellow classmates. The two main points that we took into consideration were: • Proper segregation of roles: In the beginning we were not really sure about how to divide the work between the three of us. Having set responsibilities for each team member really helped us to get our work done in a timely manner. • Array for events: We were having some trouble implementing our calendar in the beginning and having an array of the selected events made it easier for us to view events on the calendar.
Feedback received from sponsor	During our scrum we were told that our progress was slow as we didn't have any real functionality to demo. That was an eye opener for us. We started having regular meetings after that to see if anyone was having troubles implementing what they were assigned. Archisha and Bulbul also met sometimes to code side by side and brainstorm ideas and solutions to problems that the team were having. By having these meetings and by supporting each other we completed our MVP but also could implement MVP 2.
Exploration	
	At the beginning of the semester, we met and brainstormed different ideas. We wanted to create something that would be useful to university students. After researching multiple ideas for a small scope project, we finally decided to build RSA- a scheduling app for students. We also had troubles deciding between the tech stack taught in the lab and the tech stack we learned in our web development class. We ended up choosing the tech stack from CS 215 (PHP and MySQL.)

	We were having some minor troubles implementing the calendar view as we wanted it to be dynamic. After doing some research we used an open-source JavaScript calendar called FullCalendar.
Process	
	Throughout the project we worked on various deliverables that helped us be successful in creating this application. In the planning stage of the project, we created various documents to outline our business needs, goals etc.
Documentation	In the planning stage of the project, we created various documents to outline our business needs, goals etc.
Business Case	The business case document talked about our proposed project idea and the solution we recommended. It consists of our proposed project idea, some background, business needs, the alternative options we considered, a cost benefit analysis and the final recommendation. The business case really helped us to pin down our “why.”
Project Charter	The project charter helped us narrow down our goals and our objectives for this project.
Project Roles and responsibilities	This document really helped us when we were diving responsibility amongst the team members.
Project Scope	This document helped us narrow down all of the deliverables for this group project. This document lists all the components of the application.
Stakeholder engagement	This document listed all our stakeholders and all ways that we engaged with our stakeholders.
Architecture Design	

In the architectural phase of the project, we created UML diagrams, Lo-Fi prototypes and a diagram showing our main MVC structure.

UML diagrams

For our UML diagrams, we created some Activity state diagrams that went over the processes we wanted to accomplish in our MVP. We have Activity state diagrams for the create event page, changing status on the Kanban board, editing events, and filtering events. We also created data flow diagrams that went over the flow of data between our website and our database. We created two data flow diagrams - to add an event and to view events.

Lo-Fi Sketches

We created lo-fi prototypes for all of our main pages. We based most of our website design on the lo- fi sketches we created. All of us created at least one sketch for each page. Therefore, we had three sketches to choose from for most pages.

MVC architecture diagram

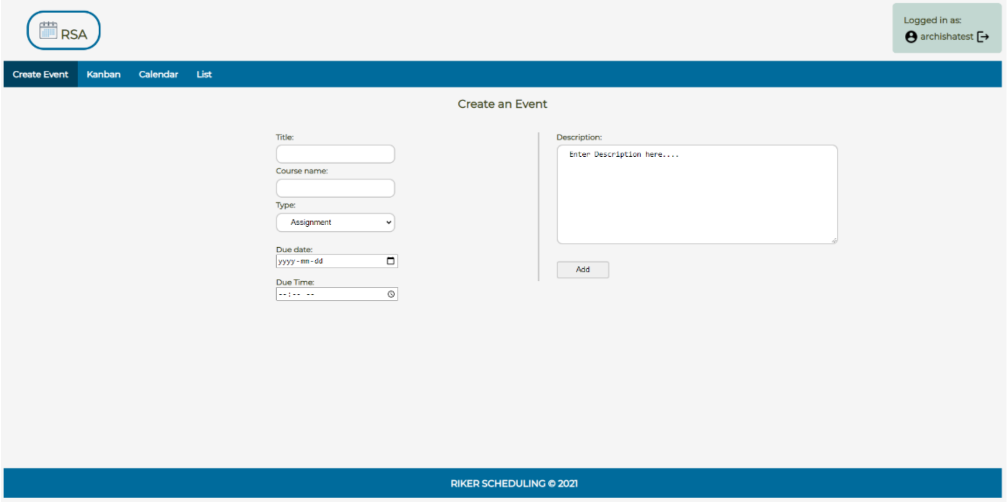
We created an MVC architecture diagram that was derived from our class diagram. We segregated each and every function and class into model, view and controller.

Key user interactions - MVP

The last phase in our project was the development of our MVP. We could successfully develop every affordance from our MVP. Our key interactions are the calendar view, the Kanban board and the list view.

Create Event

Users can go to the “create event” page to create a new event that they can view on our three views listed above. We ask the user to input the title of the event, due date, due time, a brief description and the type of the assignment. When the user clicks on “Add”, the event is saved in the database and the user is redirected to the “Kanban” board.



Create an Event

Title:

Course name:

Type: Assignment

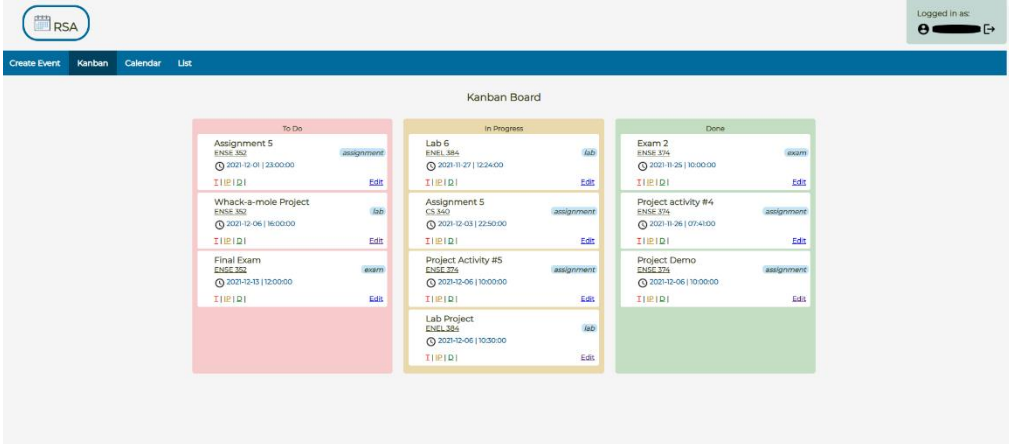
Due date: yyyy-mm-dd

Due Time: --:-- --

Description: Enter Description here....

Kanban board

After getting to the Kanban board, the user can view their events under the to-do column of the board. The user can now change the state of the event to either in-progress or done as they begin to work on their event. to change the state of an event, they can click on T (to change the state to to-do), IP (to change the state to in progress) or D (to change the progress to done.) They can also view their due date, due time, course name and the type of the event. they can also click on “edit” to modify their event.



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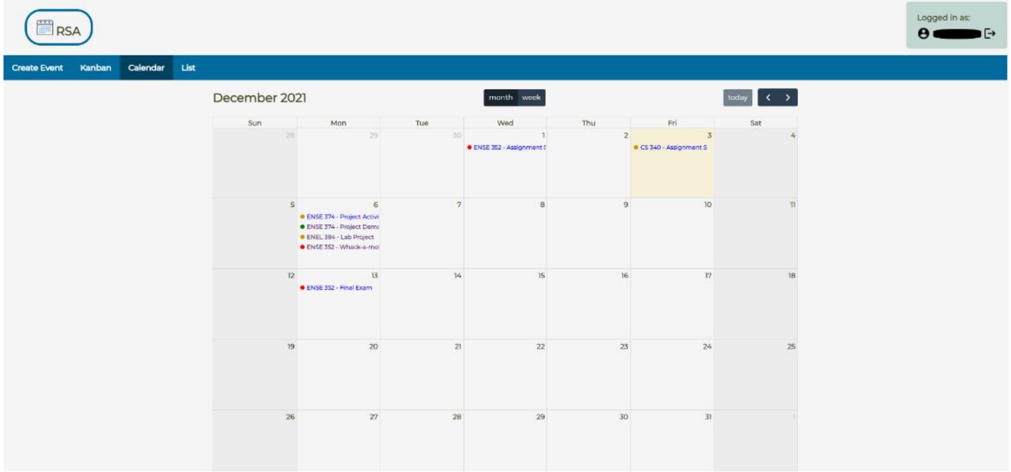
Calendar

If the user wishes to view their events on a calendar, they can click on the Calendar tab on the navigation bar. On the calendar view, they can view all their events under the specific date. they can also click on the event to edit/ modify the event itself (as shown above).



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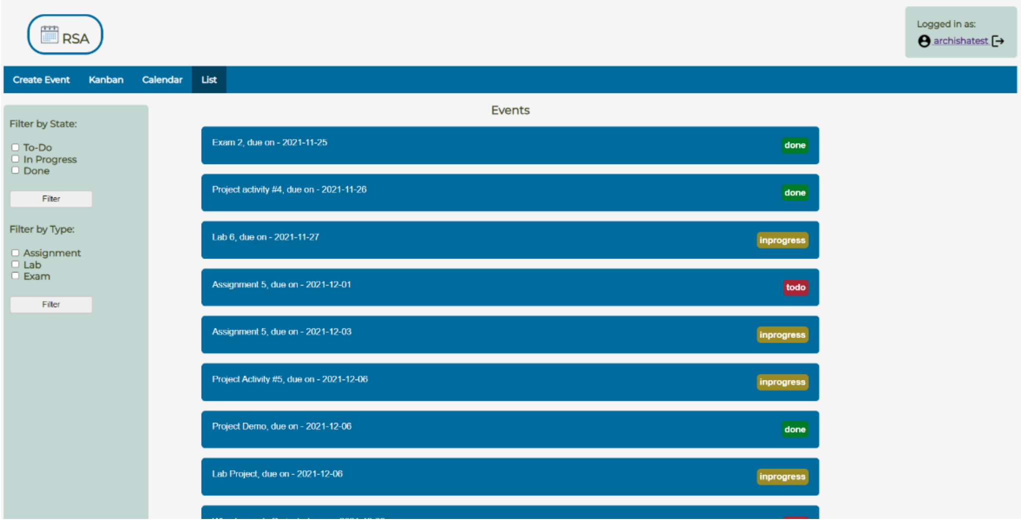
List

The user can click on the list tab on the navigation bar to view a list of all their events. The list has a collapsible view where the user can click on the collapsible bar to view more information of the event. The collapsible heading views the name of the event, the due date and the state of the event (to-do, in progress or done). When you click on the event, it collapses down and shows the due time, name of the course, description and the type of the event.



Events

Exam 2, due on - 2021-11-25 done

Project activity #4, due on - 2021-11-26 done

Lab 6, due on - 2021-11-27 inprogress

Assignment 5, due on - 2021-12-01 todo

Assignment 5, due on - 2021-12-03 inprogress

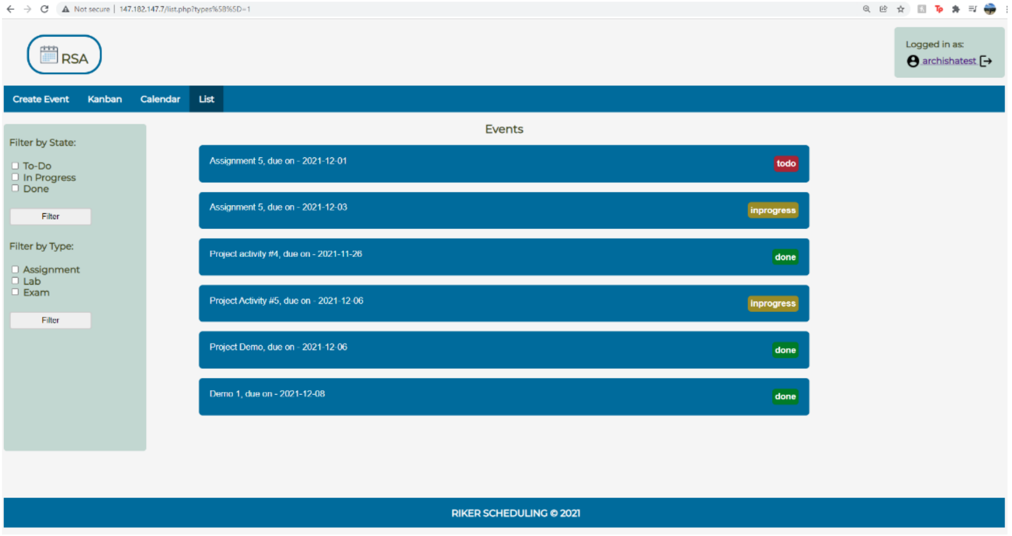
Project Activity #5, due on - 2021-12-06 inprogress

Project Demo, due on - 2021-12-06 done

Lab Project, due on - 2021-12-06 inprogress

Filtration

The list view also features a filtration feature. The user can filter their events by type of the event (assignment, lab or exam) or the state of the event (to-do, in progress or done). Once the filter is chosen, the page changes and only views the events associated with that filter. for example, if I choose “Assignment”, the page will refresh and will only show me events that are assignments (the picture below is filtered by assignments).



Events

Assignment 5, due on - 2021-12-01 todo

Assignment 5, due on - 2021-12-03 inprogress

Project activity #4, due on - 2021-11-26 done

Project Activity #5, due on - 2021-12-06 inprogress

Project Demo, due on - 2021-12-06 done

Demo 1, due on - 2021-12-08 done

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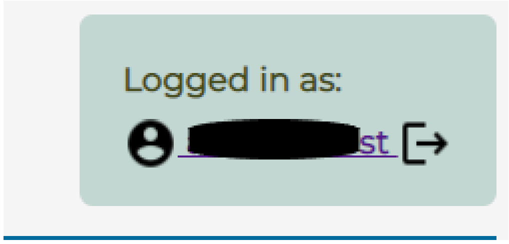
Sign Up, Log In, Log Out

The users have to sign up to the app before they can use it. The sign-up form is a simple form that asks for a username, email and password. After they have signed up, they will get redirected to our login form where they will have to enter their email and password again. If the email and password match with the information in the database, the users will be redirected to the Kanban board. Once they are done using the application, they can click on the log out button and their session will be destroyed. If they want to use the application after logging out, they will have to log in again.



Logged in as:

[redacted]

Team Reflection

- How did we feel about this project? Was the team successful?

  The team was successful in the project as we could implement our MVP and MVP 2. The final product developed by the team successfully delivers a solution to the team's "Why" and solves the chosen user's program. The developer team's freedom in this project was very advantageous as they could choose the tech stack, they were most comfortable with. Also, experimenting with different techniques to implement a feature gave an excellent opportunity to implement the lecture's methods of writing clean code. On the contrary, using GitHub to implement the RACI chart for assigning and delegating tasks was not effective. Most of the tasks were decided amongst the team members during meetings, and the team never updated the RACI chart as it felt like a complicated chore. Any updates were made after the activity was over before the deadline.

- What did our team feel most proud of throughout the entire project experience?

  The implementation of the interactions of the Kanban board was turning out to be very complicated initially. The team had initially thought about doing a drag-and-drop. However, the JS script the team had written to implement the feature had many bugs and as a result, the drag-and-drop had many problems and had to be scrapped. When a user would drag and drop one event from one column to another, it would transfer another event instead. Later, we went with a button approach where the user would choose a button, and the event would get automatically transferred to the appropriate column. This approach was also great as the team seamlessly integrated it with the MySQL queries.
  The team is also proud of the fact that they completed the envisioned MVP and MVP 2 even after having many issues with the Kanban board.

- What did the team learn about themselves as they collaborated and worked on this project (individually and as a team)?

  Learning how to work on a team was a great lesson learnt in this project. All of the team members were located in different time zones, and learning how to accommodate such differences was an eye-opener. We also learned that we can achieve even the most difficult milestones by showing empathy and supporting each other.
  Individually, learning how to maintain and update documentation with the project progression felt like an important point to keep in. As learnt from the lectures, documentation is a great tool to communicate the intricate details of the project not only within the team but also to outsiders.

- How will we use (or not use) what we have learned/experienced in this project going forward?

  Working on this project has improved all of our coding skills. This project was very open-ended and researching resources was a very big part of this project for us. Researching new tools has been a great way to learn new technology. This project was a great exposure to what one can experience in the capstone project and the industry as a full-stack developer.

- What "stuff & things" related to this project would the team like more help?

  Initially, learning how to use GitHub was a challenge, as none of the team members were habituated with using it. More information about how it works would be a great resource in the early stages of the project.
  Initially, the team also had troubles understanding what was expected from some of the diagrams created in Activity 3, mainly the MVC architecture diagram. More information about standards used in the industry would have been beneficial in completing that deliverable in a timely fashion.
- What went well during the project?

  The exploration part of the project went very well for the team. The team was hesitant towards some of the deliverables initially as there was a lot of confusion about the tech stack and implementation of some of the key interactions (like the Kanban drag and drop, and the calendar view). This project made the team very open to research and in the end the team could implement the solution they had envisioned.

- What did not go well during the project?

  The team had not sorted out initial responsibilities properly and that really set them back initially in the development phase. In future projects the team will make sure to assign tasks and roles early on to avoid any confusion about the tasks that need to be completed. Also, the team will make sure that there is open communication between the team members as to avoid a portion of the team being burdened with most of the work. The RACI chart is a great way to designate these roles and responsibilities so tasks are finished in a timely manner. In the future, the team would like to use the RACI chart as they progress with the project rather than updating it at the end.