Progress Report One

for

4P02 Project (Course of Action Dashboard)

Prepared by Team Rocket:

Liam Yethon (6255384)
David Saldaña (6155964)
Jason Grightmire (5388327)
Katie Lee (6351696)
Jesse Masciarelli (6243109)
James Zhao (6240527)
Wenjie Lin (6135859)
Calvin Feng (6240790)

Brock University

March 7, 2021

Table of Contents

1. Introduction

1.1 Overview

For the past couple of weeks, we've started the development of our site, setting up the environment we are going to be using for the rest of the project (frameworks, dependencies, etc.) and working on several components and aspects of it. This document will go over the latest processes and development regarding the design, implementation, and release of the first stage of the project, as well as any recorded problems and discussion that may have emerged. The design section will go over each component on the front-end, describing the things that have been completed throughout the stage and describing what the next steps will look like moving forward. The implementation section will go over the tools and resources used, as well as the reasons behind why they are believed to be a great fit for this project. The release section describes the processes behind the scrum meetings and the sprints. Lastly, the problems and discussion sections will go over any problems that we have experienced throughout the stage and a description of our next steps as we move forward.

2. Design

2.1 Progress Bar and Credit Overview

A main component of the front end that is mapped out in this iteration is the student's progress bar and credit breakdown section. In this release we aimed to complete the visual aspects of these features, and used Bootstrap components to get the look and feel desired. The progress bar, as can be seen in the interface, has 3 progress sections, broken down with a legend to ensure it's function is clear to the user. It is followed by the credit overview which specifies the details behind the progress bar. While the look and feel is mapped out, these are not yet functioning together and will be in future iterations. The next step for this feature is to have the progress bar automatically adjust depending on the values that populate the credit overview, and we are aiming to implement this functionality now that we are pleased with the look and feel in this release.

2.2 Course Scheduler

Another main component of the front end is the course scheduler, which is a tool that users are able to use to help map out their academic schedules. The course scheduler can be broken down by academic years, where each year initially holds the recommended lists of scheduled courses. For instance, a user may see that in their "year 1", they are recommended to take a specified major credit, a humanities context credit, and etc. Based on the current build, it is assumed that the user may be able to confirm the courses they are willing to take or replace

them with the credits of their choice. They may do this by interacting with the Course Listings component (mentioned below in 2.3). Other assumed tasks include adding an additional year to the display, removing courses from the display, moving courses around to different years, and downloading the layout of the course schedule. At this stage, the layout of these features are built, however, the functionally of these features are yet to be implemented. The next step for this component is to implement the functionality of said tasks now that we are pleased with the visual layout and user experience in this release.

2.3 Course Listings

Course listings is another main component of the main page. We kept the design as we planned: a container that displays a list of courses offered for a given program (course code) and a search bar that can be used to search up courses given a course code. We colour-coded the courses based on four categories: courses that the student has taken, major courses that the student can take, elective courses that the student can take, and courses that the student cannot take because of prerequisite reason. For this stage of the project, we simply worked on the front-end portion of the component and features such as a search-up, pulling data from the back-end, and filters are yet to be implemented. In the next stage we will be implementing the back end components as mentioned.

2.4 Warning Boxes

The warning boxes component is a feature used to remind users of what could be wrong in their current course scheduler set-up. There are four types of warning messages that the user may see: success, info, warning, and danger. For this stage of the project, we have simply built the warning box container and examples of the warning notifications that the user may see. Things such as the details of the messages and the triggers that will set off the notifications will be implemented in the next stage of the project.

2.5 Login Page

For the login page we implemented the basic layout of where the forms the user will need to fill out are going to be placed as well as the backend that will allow the user to use their Brock credentials to login into the Course Scheduler. For the backend we utilized a couple calls that will access our Student database which contains the username and password needed for the student to login. Once the database connection is established and the username and password checked out in the database then the user will be able to access our site. Our future plans will be to allow the user to access previously created schedules when they access the site making it more user friendly for users that might have logged out in the middle of creating their schedule. We also utilized some of the included method calls that a framework like ASP.NET provides such as AntiForgeryToken, which is a security feature that prevents cross-site request forgery.

While creating this log in system we also needed to create a couple classes that will represent some of the “objects” needed for this system to run properly. These classes include: the Student, Course and Schedule class. Each of these classes contain their own attributes and methods. The Student class has information on the student’s id, name, email, password, and the schedule the student has created. The schedule class contains a simple 2d list of courses. The course class has attributes for the course code, title, description, credit value, subject(s), notes, and prerequisites.

2.6 Header/Footer

For the header, we wanted to keep the design similar to Brock Sakai since it is the main interface majority of the students use on a daily basis. We imported the Brock logo and placed it on the left side with the name of our app right beside it. We placed the login button to the right of the page as it is standard on all websites.

We want to also keep the useful links from the Brock Sakai footer such as my.brocku.ca and the telephone number and and place it below our page so that our users can quickly access them without the need to go back and forth.

3. Implementation

3.1 ASP.NET

For this site we decided to use the ASP.NET framework. This framework allows us to create a dynamic website that follows modern protocols and web standards that are widely used nowadays. Deploying our site using this framework was very simple and only required a bit of configuration, this allowed us to focus more on the actual implementation of our project and less on server and deployment configuration. Using ASP.NET also allows us to edit the website and see the changes in real time granting us the ability to work on specific pages more efficiently.

The technology used in this framework allows for less code which also improves the process of maintaining and makes it easier since we don't have to worry about optimizing code that manages connections and server functionality. Less lines of codes also means that our application will run more efficiently which is important when you are developing a site the hundreds of people should be able to run simultaneously with whatever machine they are working with. Implementing this also allows for cross platform support which is a big plus since this guarantees that most users will be able to access and interact with our site. ASP.NET keeps being one of the best technologies for the creation of modern websites and we are trying to utilize and take advantage of all of the features it provides.

3.2 Bootstrap4

To create the interface and look and feel that we want for our site, we are using Bootstrap components to construct the front end. Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS and JavaScript based design templates for typography, forms, buttons, navigation, and other interface components. It allows us to easily organize the site using formatted containers and these components such as tables, progress bars, pop-ups etc. and it will give an overall uniformity to our final product. We've been using Bootstrap to give our site a good look while not having to worry about doing this manually using CSS and cluttering our HTML files. By using this we are not only saving time but also making our application more efficient since this framework is simple and lightweight.

4. Release

4.1 Scrum Meetings

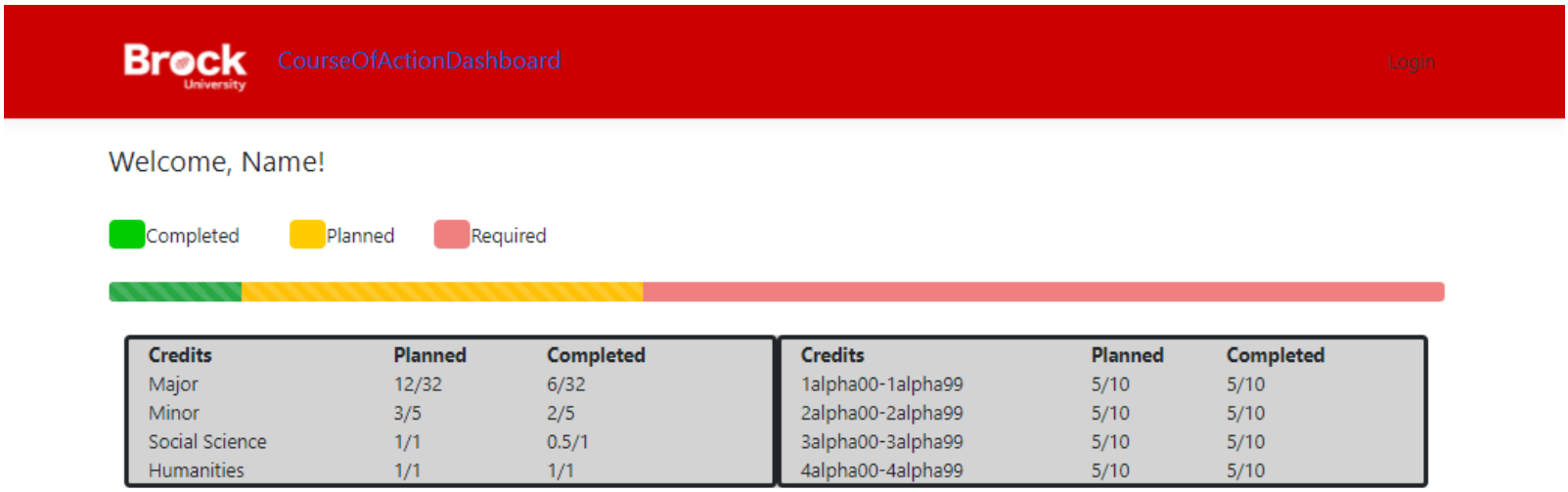
Before we started development, we divided the project into smaller sections and then we formed groups to handle each of them. After one week of development, we held a scrum meeting where Liam (scrum master) would go through each group to discuss how their development went. We use methods such as screenshare and screenshots to display the work that we did as well as to discuss problems that we had. For example, one of the problems we had was putting the image of “Brock University” onto the navbar. It was causing other menu options to shift to the right instead of left which we want. One of the solutions we came up with was to set the image to a fixed position so that the menu options would not be affected. Overall all the team members completed their assigned tasks with relatively no issues and we are satisfied with the current process.

4.2 First Sprint

Within our first sprint (included in Section 6 of this document) we were able to get our team adjusted to developing under the scrum methodology. Our scrum leader organized and overviewed the project and its progress before we were able to go through the team ‘round table’ style and bring up any issues or concerns we had. We then approached new issues by splitting off into pairs to take on tasks for the project. Over the following week we successfully worked in these pairs to complete portions of the project and plan to continue this process in scrum fashion, having weekly/biweekly sprints to touch base and divide future tasks, under the organization of a scrum leader.

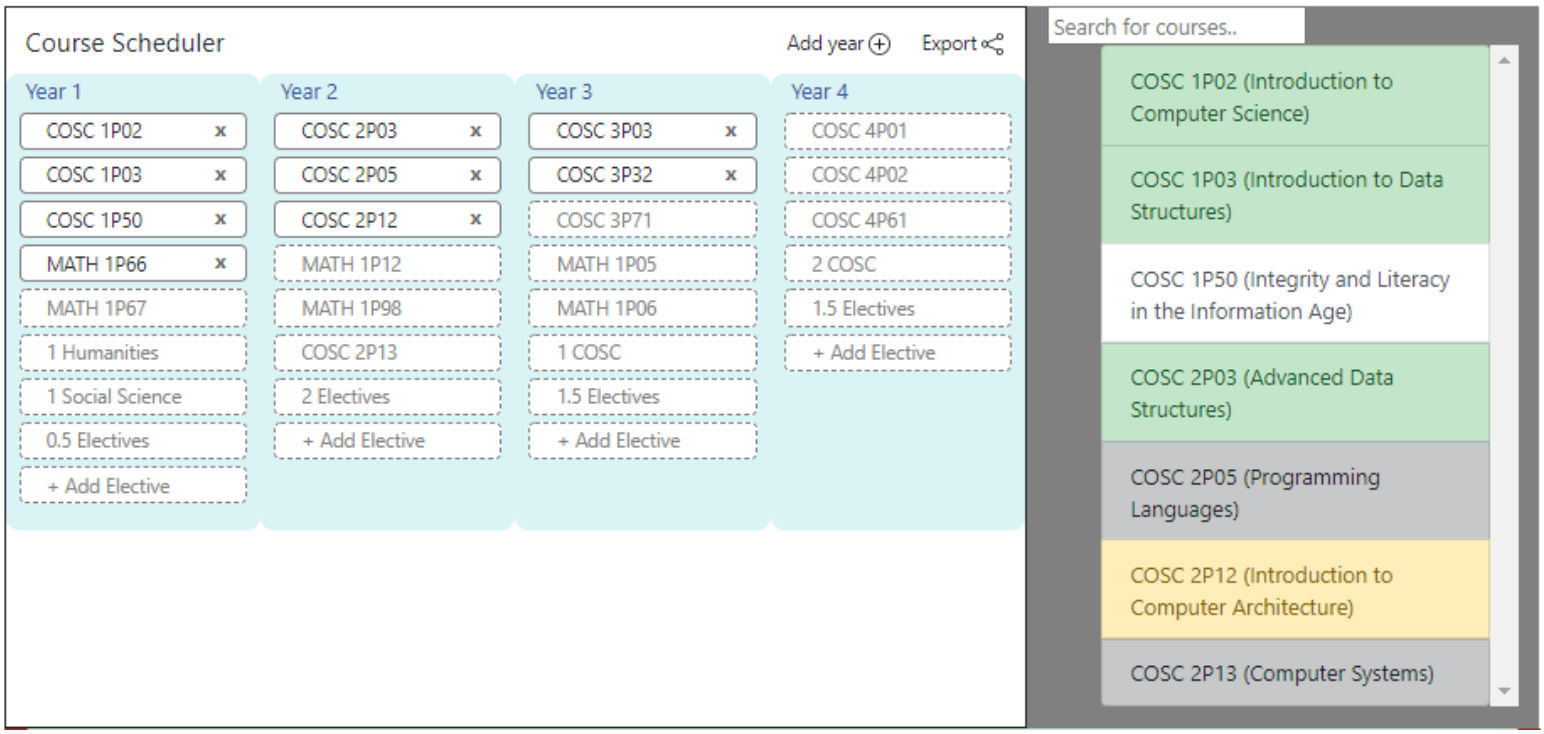
4.3 First Design

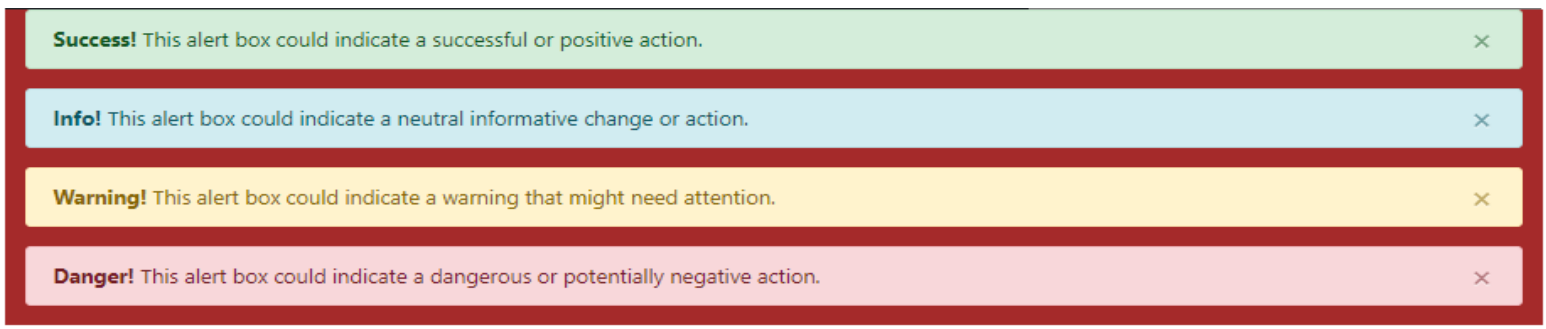
- **Planner Interface**



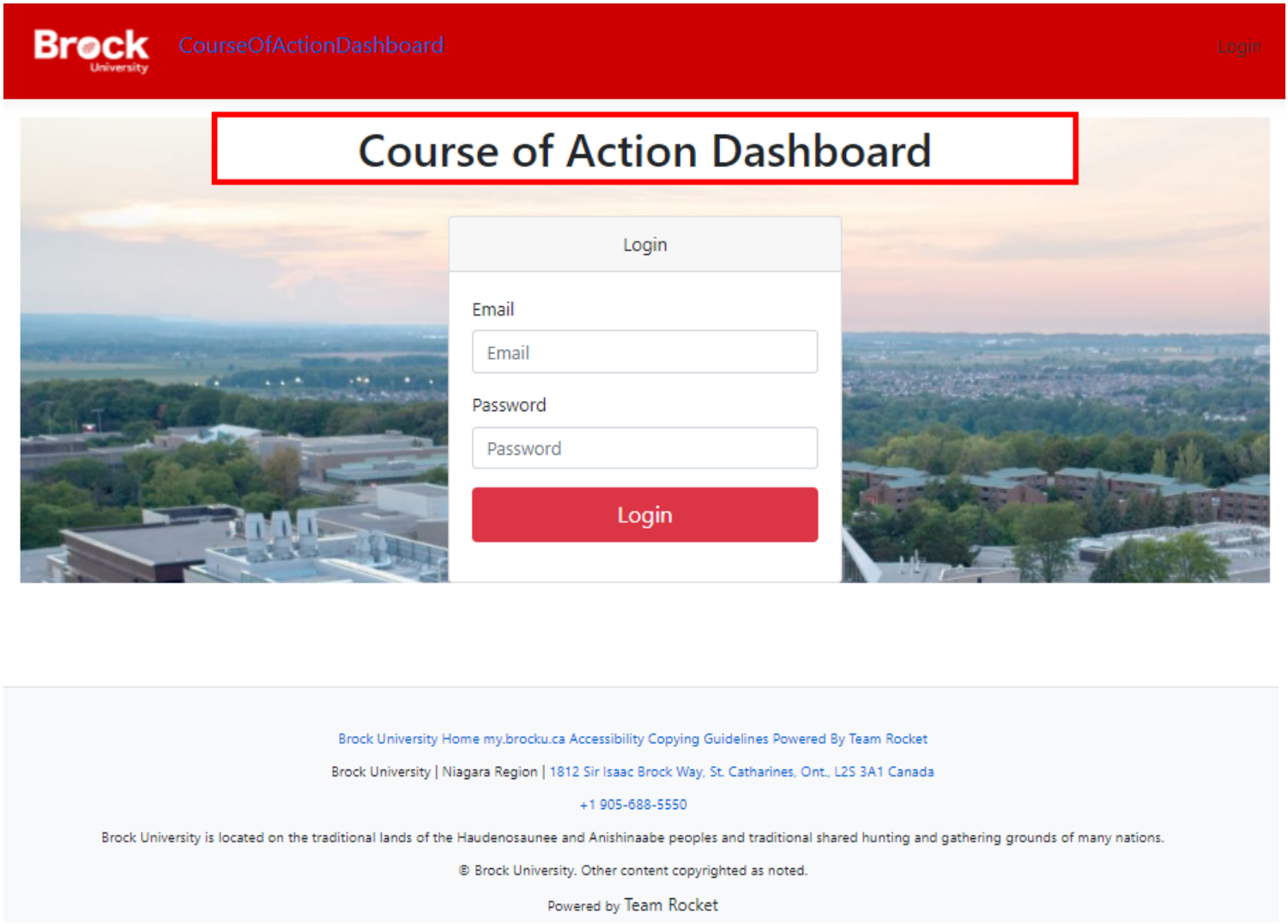
Credits	Planned	Completed
Major	12/32	6/32
Minor	3/5	2/5
Social Science	1/1	0.5/1
Humanities	1/1	1/1

Credits	Planned	Completed
1alpha00-1alpha99	5/10	5/10
2alpha00-2alpha99	5/10	5/10
3alpha00-3alpha99	5/10	5/10
4alpha00-4alpha99	5/10	5/10





- **Login Page**


Brock University
CourseOfActionDashboard
Login
Course of Action Dashboard
Login
Email
Email
Password
Password
Login
Brock University Home my.brocku.ca Accessibility Copying Guidelines Powered By Team Rocket
Brock University | Niagara Region | 1812 Sir Isaac Brock Way, St. Catharines, Ont., L2S 3A1 Canada
+1 905-688-5550
Brock University is located on the traditional lands of the Haudenosaunee and Anishinaabe peoples and traditional shared hunting and gathering grounds of many nations.
© Brock University. Other content copyrighted as noted.
Powered by Team Rocket

5. Problems/Discussion

5.1 Problems

One problem we have encountered was with the database that we were going to be using for storing course data. Currently, we are still looking for a suitable database service that does not require payment. Originally we were going to be using Azure's cloud based database system, however while Azure does offer a way to create a set up database it appears to require a payment method in order to even access the free features. Since we will not be needing a large amount of storage space to handle our website, we are looking to utilize a free database manager instead. Once this problem is fixed we will be able to start creating connections between the database and our application allowing for more tasks to be created and distributed between our group members.

Another problem we encountered was formatting. In the planner page, the progress bar, course schedule, and other features seem to be locked at the center of the page which causes an excess of wasted space to the left and right. This causes formatting problems to the picture found at the login page. The header faces the same issue with the Brock logo and login button.We also had some minor issues regarding the way we set up our Github page which made it so that our .gitignore file wouldn't work properly; meaning that every time one of our team members wanted to commit some changes to a file they would also had to commit changes to they personal VS files that aren't required for the project to function. Eventually after doing some research we were able to find a solution and fixed the way our .gitignore file was set up.

5.2 Discussion

Our next steps moving forward are as follows:

- Resolve our issues on database and issues on the formatting
- Work on getting the database setup and connected to our application
- Implement the back end part of progress bar, course scheduler, course listing, and the warning box
- Create more tasks and distribute them among the group members
- Start looking at different frameworks and plug-ins that will allow for some of the features we want to implement in our site (ex. drag and drop)

6. Recorded Meetings

Attached are all of our recorded meetings that our team has been part of. In these recordings several aspects of the project are discussed between the group members.

Meeting 1: https://web.microsoftstream.com/video/e736bf76-6e78-47d8-a5fa-1ba8c8a0d1d1
Meeting 2: https://web.microsoftstream.com/video/18a71cf3-049f-4865-b5d4-98f10fc5612b
Meeting 3: https://web.microsoftstream.com/video/eed9cbb0-2cec-4fff-b1ab-bbe7256ffebf
Meeting 4: https://web.microsoftstream.com/video/857a9f19-fc64-4eba-a05e-22a5cc3c6166
Meeting 5: https://web.microsoftstream.com/video/a3f17774-1bb6-4759-a289-6d561e0a4508
Meeting 6: https://web.microsoftstream.com/video/f03a88f6-877c-436e-8352-fd16982e04c1