

Project 1 - Interaction Design Process

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1. Requirement Analysis

This project will focus on the undergraduate degree of Mechanical Engineering. The degree requires students to complete 21.5 credits with a minimum of 5.0 CGPA in order to graduate. Mechanical engineering is a challenging program where students should keep track of their degree requirement. By adding more functionality to carleton central is going to help students to keep track of their degree requirement.

1.1 Persona

1.1.1 James just graduated from high school and starting his university degree at Carleton University. He wants to register his courses for the fall and winter semesters by looking at the program progression tree. He is trying to register for one of his courses but the system would not allow him because there is a conflict with another course.

<p>BACKGROUND</p> <ul style="list-style-type: none"> • 19, MALE • Comfortable using technology • Just graduated from high school <p>MOTIVATION</p> <ul style="list-style-type: none"> • Ready to meet university deadlines • Very motivated about his degree <p>CHALLENGES</p> <ul style="list-style-type: none"> • Learning how to use the online registration process. 	<p>James Collins</p> <p>DESCRIPTION</p> <p>James is a first year mechanical engineering student who just graduated from high school. He is very excited to start his university degree in mechanical engineering. He has no experience with carleton central but he is trying to register his courses online for fall and winter semester by looking at the program progression tree. There is a conflict with the course he wants add and he doesn't know which section he should register in.</p> 
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Figure 1: Persona 1 - James Collins

1.1.2 Melissa Watson is a student with disabilities who is in her fourth year of engineering degree. She has problem walking, so she uses wheelchair to roam around. She is trying to register her course that she needs to take in order to graduate. She is looking at the program progression tree to see if she has prerequisite for the course she is trying to register.

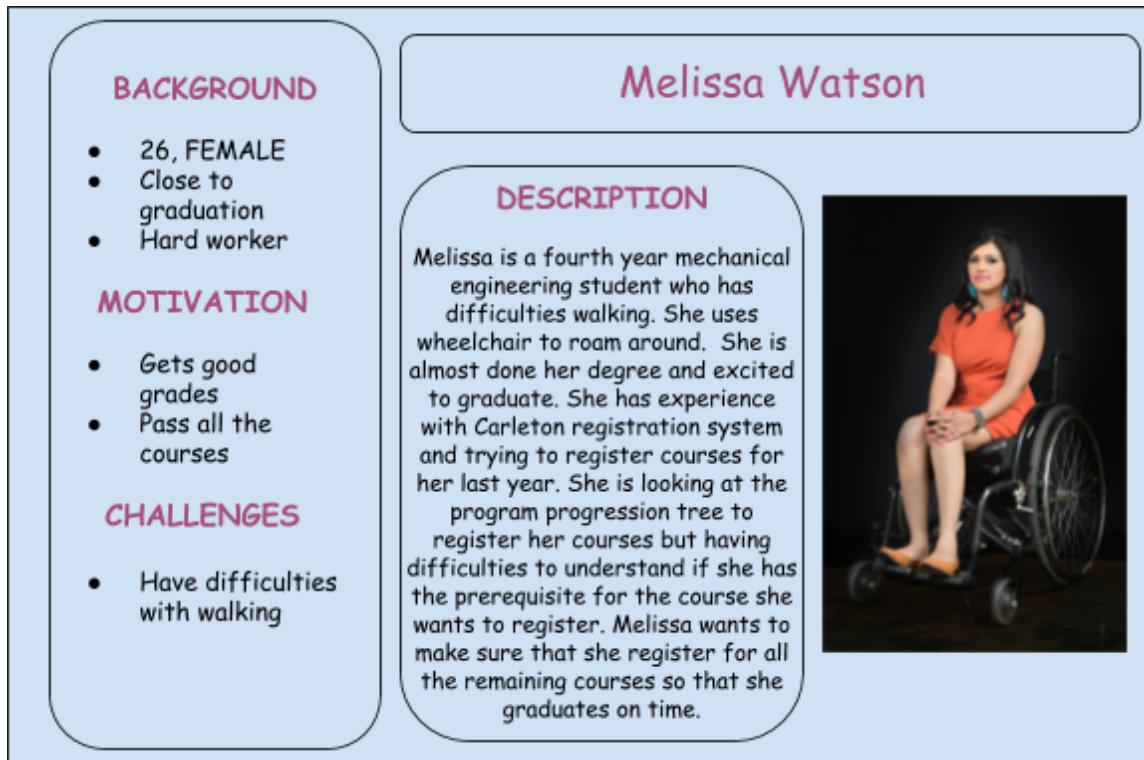


Figure 2: Persona 2 - Melissa Watson

1.1.3 Ali is a second year mechanical engineering student who has learning disability called dyslexia. He has trouble reading accurately and fluently. It is hard for him to read the program progression tree because it is too complicated to understand. The better version of program progression tree is going to help him understand the tree more easily. Ali can click on one course and any other courses related to that course will be highlighted. He should be able to see if he has the prerequisite related to that course and what future courses he can take once he has completed that course.



Figure 3: Persona 3 - Ali Rehman

1.1.4 Peter Lieu is a third year engineering student who is thinking of switching into a different program because his CGPA is below minimum CGPA requirement of his program. The audit currently displays the CGPA and the grades students have earned over the past few years. Audit screen can be reconstructed in a better way that will help students to apply in an alternate program if their CGPA is below the minimum requirement of their current program.



Figure 4: Persona 4 - Peter Lieu

1.2 Scenario

1.2.1 First Scenario

Scenario:

First Scenario is when students are trying to register into their courses but they are unable to do it because of conflict. They have registered some of their courses for the semester and want to register for the rest of the courses before the registration closes.

Source of Information:

Inspect how students will register into their courses when conflict occurs during registration process.

Details:

1. User logs in to the Carleton Central by entering their student number and password.
2. User clicks on the Add/Drop courses.
3. Selects the term the user wants to register in.
4. User searches the course by entering the course code.
5. The user clicks on the search button to search the course
6. The system checks if the student has all the academic requirement for the specific course.
7. The system displays the results with conflict with one of the section.
8. Student registers into the section which doesn't conflict with their current registered course.
9. System adds the course to the worksheet and checks if the student meets all the academic requirement for the upcoming Academic year.
10. Student submits the worksheet by clicking on the submit button for registration.
11. Student is registered in the course for the upcoming Academic year.
12. Student logs out of the system.

1.2.2 Second Scenario

Scenario:

Second Scenario is when students are registering into their courses by referring to their program progression tree. They have completed some of their courses and trying to register for the next Academic year.

Source of Information:

Inspect how students will register into their courses by referring to their program progression tree.

Details:

1. User logs in to the Carleton Central by entering their student number and password.
2. User clicks on Program Progression Tree.
3. The system shows their program progression tree.
4. Student clicks on the course that he wants to register in.
5. The system highlights the link related to that specific course.
6. Student resets the tree by clicking on the reset button.
7. System resets the tree to its initial state
8. Student logs out of the system.

1.2.3 Third Scenario

Scenario:

The Third Scenario is when students are trying to continue in alternate program because their CGPA is below minimum CGPA requirement of their program.

Source of Information:

Inspect how students will apply to continue in alternate program based on their current CGPA for early graduation.

Details:

1. Student logs in to the Carleton Central by entering their student number and password.
2. Student clicks on Audit.
3. System checks that the CGPA is below the minimum CGPA requirement for the program that they are registered in.

4. The system displays their audit with current CGPA and alternate program they can apply to continue in based on their present CGPA.
5. Student selects the program that they are interested in.
6. The system displays a What-if Audit that shows what courses can be transferred from their current degree program towards the new program.
7. The student applies for the new program by clicking the apply button.
8. The system accepts their request and displays Application in process
9. Student logs out of the system.

1.3 Interview Response

1. Hey Good Morning/ Good Afternoon ! How are you today?
2. How is school coming along for you?
3. Thank you for taking out your time to participate in our survey. Before we start the interview do you consent to record your interview responses to help improve the user interface of carleton central for our class project? Response : Yes/No
4. How often do you use carleton central throughout your day?
5. Do you think the current Carleton central system is easier to understand and user friendly. Why or why not?
6. What would you like to change in Carleton Central?
7. How often do you refer to your prerequisite tree to refer to your degree requirement?
8. How do you keep track of your degree requirements?
9. What can help you better understand these requirements?
10. Does Prerequisite tree help you track your degree requirement?
11. What would make the prerequisite tree that is currently available easier to use?
12. How often do you check your Audit for minimum CGPA requirement for the current program you are registered in?
13. What feature do you like the most about Audit?
14. Is there something that you would like to change ? why or why not?
15. Do you have any idea about how many credits you are left with in your current degree requirement?
16. How will you find if your Audit suggested to continue in alternate program based on your completed course and your current CGPA for early graduation?
17. How do you manage your Student TimeTable?
18. How do you keep track of courses that you need to register for upcoming Academic year based on your degree requirement?

19. When registering for your courses, do you think it would be easier to see conflict with the course before you add that specific course to worksheet?
20. Thats it from my side. Thank you so much for your time and your responses. Is there anything that you would like add to improve your experience with Carleton Central?

1.3.1 Harris Ghauri

1. Hey Good Morning/ Good Afternoon ! How are you today?

I am very well.
Thank you for asking.

2. How is school coming along for you?

It's tough. I heard the third year is generally tough.
Too much workload had piled up.

3. Thank you for taking out your time to participate in our survey. Before we start the interview do you consent to record your interview responses to help improve the user interface of carleton central for our class project? Response : Yes/No

Yes

4. How often do you use carleton central throughout your day?

Once a day. Maybe twice

5. Do you think the current Carleton central system is easier to understand and user friendly. Why or why not?

No, it can be a little difficult sometimes to use the Central Carleton. There's so much happening on the main page of Central Carleton and sometimes you just lose track of things

6. What would you like to change in Carleton Central?

Yes

7. How often do you refer to your prerequisite tree to refer to your degree requirement?

Basically, All the time.

8. How do you keep track of your degree requirements?

I use my audit to keep track of which courses I have taken and which courses I need to take

9. What can help you better understand these requirements?

I don't mind a bit more user-friendly audit.

10. Does Prerequisite tree help you track your degree requirement?

It doesn't. There are so many lines on it that it gets frustrating to keep track of the lines.

11. What would make the prerequisite tree that is currently available easier to use?

We could have an interactive prerequisite tree. What I mean by that is that lets say we click a course on the prerequisite tree, the course and the related lines should glow. This will improve the readability of the tree.

12. How often do you check your Audit for minimum CGPA requirement for the current program you are registered in?

I check that every now and then.

13.What feature do you like the most about Audit?

I like the pie diagram and the courses bars on the top and top left side of the audit. They show how many credits we have completed and how many we are left with.

14.Is there something that you would like to change ? why or why not?

It's already straightforward and user friendly. I don't think I would like to change anything about it.

15.Do you have any idea about how many credits you are left with in your current degree requirement?

I use the audit every now and then to see how many courses I am left with and how many credits I have completed.

16.How will you find if your Audit suggested to continue in alternate program based on your completed course and your current CGPA for early graduation?

I mean, it's a good feature to have on the audit. But it's for the students who are struggling with their program.

17. How do you manage your Student TimeTable?

I personally like and use the engineering schedule tool available for Carleton. I don't know if its available for all the students or just for the engineering students only, but it's a pretty good tool

18. How do you keep track of courses that you need to register for upcoming Academic year based on your degree requirement?

I look at the prerequisite tree for that.

19. When registering for your courses, do you think it would be easier to see conflict with the course before you add that specific course to worksheet?

Yes, I would like to see that. Because now I have to open a new window with the engineering scheduler and then later register the courses on Central Carleton page.
It will be nice to have a built-in conflict feature on the central Carleton page, instead having to open a new tab.

20. Thats it from my side. Thank you so much for your time and your responses. Is there anything that you would like add to improve your experience with Carleton Central?

No I don't have anything to say. Thank you !!

1.3.2 Mohib Singh

1. Hey Good Morning/ Good Afternoon ! How are you today?

Good.

2. How is school coming along for you?

Not bad so far.

3. Thank you for taking out your time to participate in our survey. Before we start the interview do you consent to record your interview responses to help improve the user interface of carleton central for our class project? Response : Yes/No

Yes

4. How often do you use carleton central throughout your day?

1-2 times a day when I need to check grades, audit, registration or 5-10 times a day when I need to find a co-op job

5. Do you think the current Carleton central system is easier to understand and user friendly. Why or why not?

No, there are 2 things that I don't like in this current Carleton central system:

- When you click on either coop, careers, mySuccess, center for Student Academic Support... it will go to one info page with a button, you have to click that "Continue" button to go to the page that you need
- Registration is not user friendly at all. You don't know which courses will count toward your credits until you run audit.

6. What would you like to change in Carleton Central?

- Have more info of what courses we can take and no confliction.
- Group similar things into one link instead of multiple links go to the same webpage.
- Any links that students can't use should be removed such as Faculty TA Management System, it makes Carleton Central a mess

7. How often do you refer to your prerequisite tree to refer to your degree requirement?

A lot. I have to make sure that I can meet the requirement and can take this course while making sure that it won't conflict with other courses.

8. How do you keep track of your degree requirements?

The only way I know is running Audit

9. What can help you better understand these requirements?

If I am given a quick report of my progress on main page would be nicer than running audit every time and lose it in 2 days.

10. Does Prerequisite tree help you track your degree requirement?

Not really. I refer to it only for registration purposes and to check if I meet the prerequisites for the course I am interested in.

11. What would make the prerequisite tree that is currently available easier to use?

The existing trees is not easily readable. Specially to check the perquisite requirements of any courses. I sometime make mistakes in reading the lines and end up with registering for a wrong course or get an error for not having a prerequisite done. That causes going back to the tree and properly follow the lines with either pen or pencil.

12. How often do you check your Audit for minimum CGPA requirement for the current program you are registered in?

At least a couple of times each term.

13. What feature do you like the most about Audit?

The graphs that are provided in audit.

14. Is there something that you would like to change ? why or why not?

Simplified summary of courses besides term-by-term courses and their results.

15. Do you have any idea about how many credits you are left with in your current degree requirement?

13, I guess. Not sure though. I will have to double check with audit.

16. How will you find if your Audit suggested to continue in alternate program based on your completed course and your current CGPA for early graduation?

That would be nice. Since there is currently now way to find this out.

17. How do you manage your Student TimeTable?

I use engsoc scheduler.

18. How do you keep track of courses that you need to register for upcoming Academic year based on your degree requirement?

I have a hard copy of my tree that I use to mark for the completed courses. That way it is easier to keep track of what courses I have done so far and courses to be taken in future.

19. When registering for your courses, do you think it would be easier to see conflict with the course before you add that specific course to worksheet?

Yes, that would be sweet!

20. That's it from my side. Thank you so much for your time and your responses. Is there anything that you would like add to improve your experience with Carleton Central?

My pleasure. I think the Carleton central page looks crowded at the moment and could be more user friendly. For example it is sometime hard to find a link I am looking for and instead of reading all those small font size links, I prefer to use browser's search function to find the link. It saves so much time!

1.3.3 Arsalan Sadiq

1. Hey Good Morning/ Good Afternoon ! How are you today?

Very well, thank you.

2. How is school coming along for you?

It's going well, still some ups and down.

3. Thank you for taking out your time to participate in our survey. Before we start the interview do you consent to record your interview responses to help improve the user interface of carleton central for our class project? Response : Yes/No

Yes

4. How often do you use carleton central throughout your day?

I check it every now and then.

5. Do you think the current Carleton central system is easier to understand and user friendly. Why or why not?

No, sorry. I think Carleton could modify the main page a bit.
Too much is happening and the font is too small

6. What would you like to change in Carleton Central?

I don't mind an increase in the font size.

7. How often do you refer to your prerequisite tree to refer to your degree requirement?

I check that every now and then.

8. How do you keep track of your degree requirements?

I refer to the prerequisite tree and check Audit through carleton central

9. What can help you better understand these requirements?

More detailed explanation in audit or an interactive Progression tree.

10. Does Prerequisite tree help you track your degree requirement?

Not quite. Again, when you refer to the tree, seems like there's too much happening on it. And it's easy to lose track

11. What would make the prerequisite tree that is currently available easier to use?

A user friendly prerequisite tree would be quite helpful.

12. How often do you check your Audit for minimum CGPA requirement for the current program you are registered in?

I check that every now and then.

13. What feature do you like the most about Audit?

Shows graphical representation of progress.

14. Is there something that you would like to change ? why or why not?

The description of credits earned could be simplified and represented in more user friendly way.

15. Do you have any idea about how many credits you are left with in your current degree requirement?

yes

16. How will you find if your Audit suggested to continue in alternate program based on your completed course and your current CGPA for early graduation?

Not a bad idea. It could help students to explore alternate option available to them.

17. How do you manage your Student TimeTable?

Through carleton central timetable

18. How do you keep track of courses that you need to register for upcoming Academic year based on your degree requirement?

Using progression tree

19. When registering for your courses, do you think it would be easier to see conflict with the course before you add that specific course to worksheet?

Yes, that would be helpful.

20. Thats it from my side. Thank you so much for your time and your responses. Is there anything that you would like add to improve your experience with Carleton Central?

Cannot think of anything at the moment

1.3.4 Syed Ahsan Ali

1. Hey Good Morning/ Good Afternoon ! How are you today?

I'm fine

2. How is school coming along for you?

It's getting busy as we approach the end of the first half of the semester with assignments, tests and midterms.

3. Thank you for taking out your time to participate in our survey. Before we start the interview do you consent to record your interview responses to help improve the user interface of carleton central for our class project? Response : Yes/No

Yes

4. How often do you use carleton central throughout your day?

About 3-4 times a week. (0 to 1 time a day)

5. Do you think the current Carleton central system is easier to understand and user friendly. Why or why not?

The current system takes some time to get used to. I've been using it for a while. So, I don't face any problems while using it.

6. What would you like to change in Carleton Central?

Don't know

7. How often do you refer to your prerequisite tree to refer to your degree requirement?

Multiple times during registration time.

8. How do you keep track of your degree requirements?

By running an audit

9. What can help you better understand these requirements?

Make tools that help explain the layout of the audit in detail.

10. Does Prerequisite tree help you track your degree requirement?

Absolutely, It probably is the only and easiest way to keep track of degree requirement in terms of courses.

11. What would make the prerequisite tree that is currently available easier to use?

Maybe try to make it more user interactive.

12. How often do you check your Audit for minimum CGPA requirement for the current program you are registered in?

3 – 4 times a month

13.What feature do you like the most about Audit?

The bar graph and pie chart depiction of courses and gpa

14.Is there something that you would like to change ? why or why not?

Can't think of anything right now

15.Do you have any idea about how many credits you are left with in your current degree requirement?

Yes

16.How will you find if your Audit suggested to continue in alternate program based on your completed course and your current CGPA for early graduation?

I don't know

17. How do you manage your Student TimeTable?

I add all my classes to my iPhone calendar through Carleton Mobile app

18. How do you keep track of courses that you need to register for upcoming Academic year based on your degree requirement?

Undergraduate calendar

19. When registering for your courses, do you think it would be easier to see conflict with the course before you add that specific course to worksheet?

Yes

20. Thats it from my side. Thank you so much for your time and your responses. Is there anything that you would like add to improve your experience with Carleton Central?

No

1.3.5 Shayan Sheikh

1. Hey Good Morning/ Good Afternoon ! How are you today?

I am very good. Thank You for asking.

2. How is school coming along for you?

School is going very good, I have 3 midterms in the upcoming days and I have been grinding a lot for it. Hope it pays off.

3. Thank you for taking out your time to participate in our survey. Before we start the interview do you consent to record your interview responses to help improve the user interface of carleton central for our class project? Response : Yes/No

Yes. Its fine if my responses are taken into consideration to improve the user interface of the university's central of whom I am a student of.

4. How often do you use carleton central throughout your day?

I use the app very extensively to check for the courses or to stay updated with any of the news that's hovering on campus.

5. Do you think the current Carleton central system is easier to understand and user friendly. Why or why not?

Not at all. I think the Carleton Central system is way to messed up to understand and least user friendly. The cluttered text is so much difficult to read for a person like me who has contacts.

6. What would you like to change in Carleton Central?

The system currently is a text user interface, I would like the system to be graphical based so that I know what I am doing, and not constantly reading each and everything so carefully avoiding any mistakes that would cause some other webpage to open.

7. How often do you refer to your prerequisite tree to refer to your degree requirement?

Many times, in a month. Around 5 to 6 times.

8. How do you keep track of your degree requirements?

I refer the prerequisite tree and make sure that the courses I must take in future are available beforehand so that I can take other difficult courses at that time.

9. What can help you better understand these requirements?

An Automated system that specifies that these are the specific courses that you must take and these are the courses if you can take early in hand if you would like to graduate early.

10. Does Prerequisite tree help you track your degree requirement?

Yes, it does keep me on track.

11. What would make the prerequisite tree that is currently available easier to use?

I want the trees dependency to be correctly displayed with the information of the courses that I am taking current.

12. How often do you check your Audit for minimum CGPA requirement for the current program you are registered in?

Not very frequently, and the reason for this is that the audit is very ugly to run and difficult to understand and read. And I don't think it is helpful in the format it is right now.

13.What feature do you like the most about Audit?

The background coloring is very good. Makes you feel motivated. But there is no specific feature in the design I like.

14.Is there something that you would like to change ? why or why not?

Graphical User Interface for the system that tells what are the courses you need to take and what grade in each course you need to get a certain specific gpa. I am talking in the sense of Machine learning and AI

15.Do you have any idea about how many credits you are left with in your current degree requirement?

I am left with 10-12 courses because I refer to prerequisite tree a lot.

16.How will you find if your Audit suggested to continue in alternate program based on your completed course and your current CGPA for early graduation?

Of Course that would be something very much interesting, but I wouldn't want the audit to suggest me to take an Arts program and complete this with a good GPA when I can't graduate from an engineering program with my current GPA and knowledge, that would help me build my prospective better.

17. How do you manage your Student TimeTable?

Due to the inefficacy of the time table maker and course choosing options, I make sure that All my classes are conflict free and clustered together

18. How do you keep track of courses that you need to register for upcoming Academic year based on your degree requirement?

I keep on refereeing to my tree and the course time table to check if they are offered early.

19. When registering for your courses, do you think it would be easier to see conflict with the course before you add that specific course to worksheet?

Yes, I would like to see that.

20. Thats it from my side. Thank you so much for your time and your responses. Is there anything that you would like add to improve your experience with Carleton Central?

When I came across of choosing my courses, it was hard as the system was unorganized and I didn't know much about the courses I'll be taking in my degree and I didn't know anything about the perquisite tree either, so If there is an AI implementation on the system that would suggest which courses to take in the program than it would be very helpful for the all the students.

1.4 Improved Scenario and Personas

The three scenarios that we came up with in this project are, student is registering into a course but cannot register because of a course conflict, student is registering into their courses for next academic year by referring to their program progression tree, student wants to continue in an alternate program because their CGPA is below minimum CGPA requirement of the program.

The result of the interview was that students were not satisfied with the third scenario. Students want highlighted and linked course to be displayed on the next page instead just being highlighted on the same page. The initial design of the third scenario was that whenever a students clicks on the course, the course gets highlighted and all the links related to that course are emphasized as well. Students want the program progression tree to be more readable so that they can understand the links better.

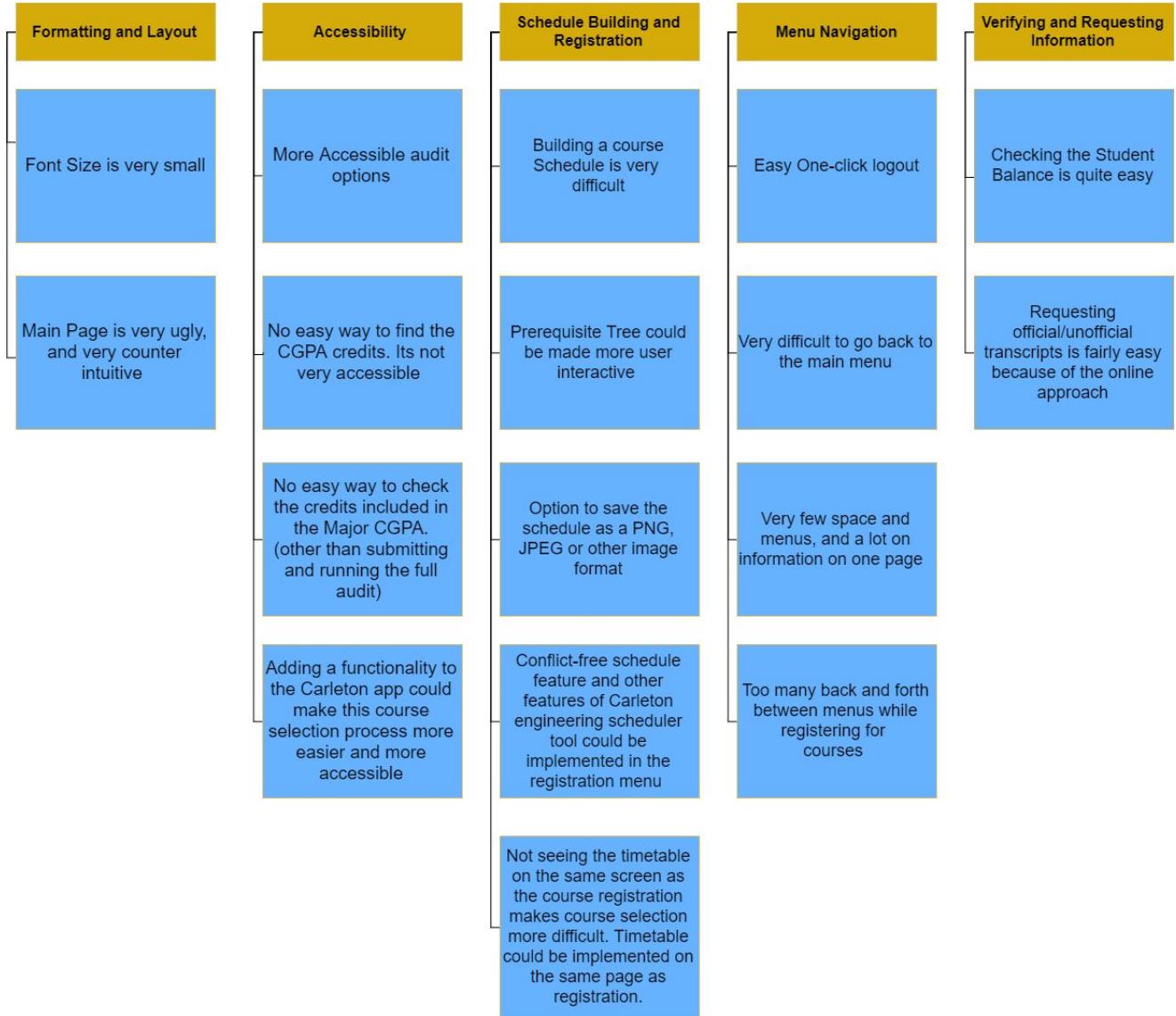
We have changed the third scenario and it now focuses more on displaying highlighted courses on the different page rather than showing it on one page. This way students can get a clear picture of which prerequisite courses they need to register into. Our team have also decided to colour code the highlighted courses in different categories.

For the third scenario, colour coding technique will be used so that students can understand the tree better. If students want to check if they have the prerequisite of the course they wish to register in, they can click on the course and all the courses related

to that specific course will be highlighted in either orange, green, red or blue. The orange colour pops up when you select a course. The green link will mean that the student has completed that course. The red link means that student has not completed the course yet and can be taken if and only if the student has pre-requisite of it. To check if student is eligible for the missing course, student has to reset the tree and click on the red one to check if the prerequisites of it are completed or not. The blue link means that what course they can take in future after completing that course. The scenario to step three has been changed and the shown below.

1. User logs in to the Carleton Central by entering their student number and password.
2. User clicks on Program Progression Tree.
3. The system shows their program progression tree.
4. Student clicks on the course that he wants to register in.
5. The system highlights the link related to that specific course.
6. The system displays the link related to that course onto the next page.
7. The prerequisite link related to that course turns green.
8. Student resets the tree by clicking on the reset button.
9. System resets the tree to its initial state
10. Student logs out of the system.

1.5 Affinity Diagram



1.6 Key Requirement

The major requirement for this project is to implement a better version of Carleton Central. The current Carleton Central does not have a good User Interface and it is hard for the students to understand because of its font size. The goal of this project is to build a user friendly graphical interface where student can learn the system easily and understand how it works.

After conducting the interviews, the major requirement that was highlighted by the students are listed below:

Scenario 1: if there is a conflict with the course then it should be visible before the course gets added to the worksheet and returns a conflict error right away and including the course it has a conflict with.

Scenario 2: Highlighting the links in the program progression tree when a course is clicked.

Scenario 3: Audit should display to continue in alternate program if CGPA is below the minimum requirement that the student is enrolled in.

2. Initial Design Alternatives

2.1 Design Name

In spite of each design needing a name, which identifies its characteristics of designs and usage, team 48 was not very creative with coming up with the name of the designs. Our two Moqups designs are named RegIt-I and RegIt-II, respectively. However, from the previous steps (i.e. the interviews we conducted, the scenarios/personas and our affinity diagrams), our team had a better idea on how to identify the key requirements which we would be highlighting in the designs.

2.2 Rationale

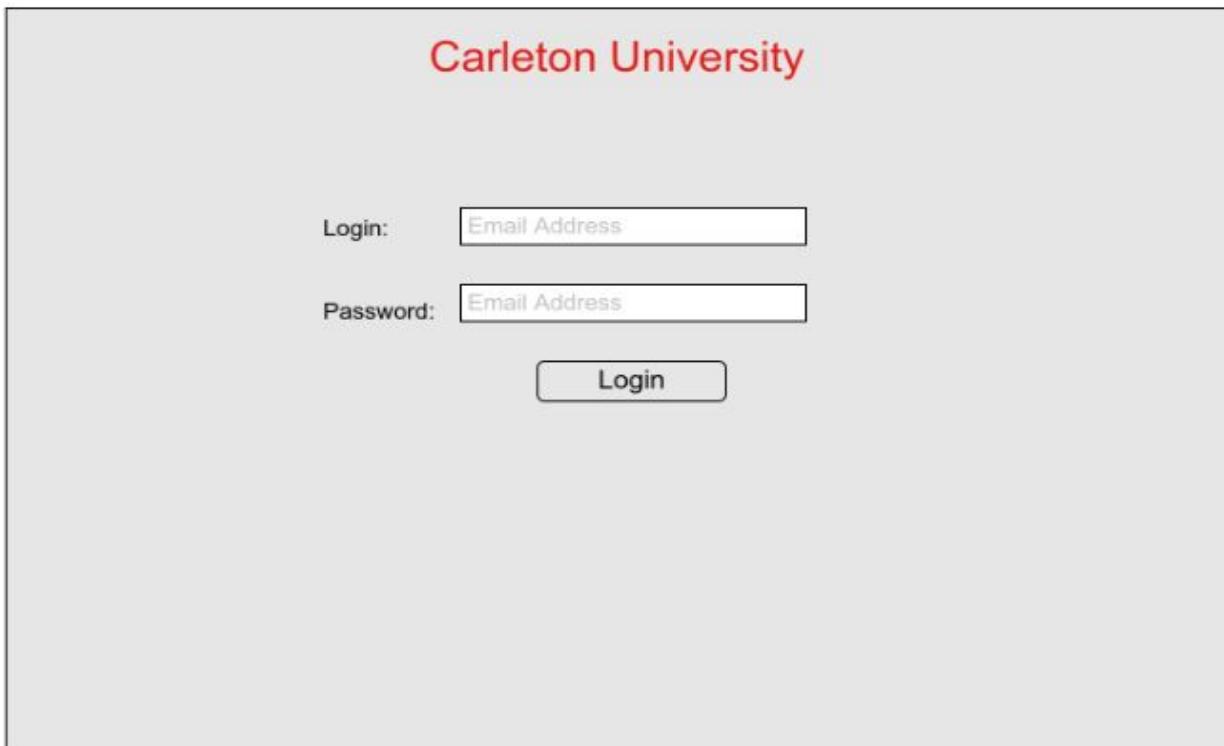
The first design RegIt-I, was an attempt to highlight the course selection process. The Carleton engineering students that were interviewed for improving the design of RegIt-I, all agreed that course selection is a large part of a good application, and it should be as intuitive as possible. Large font, as well as visible buttons were used to garner a sense of linearity through the procedure of registering for a course. A login screen is directly served to the student, with several options displayed after. Each option (add/drop classes, display grades and display audit) directly corresponds to a key requirement that the team derived from students' interviews and scenario roleplaying. The registration process has been made easier, in a way that user will know right away about the conflicts he/she is having with the selected courses. Our Moqups section illustrates this RegIt-I scenario. We also focused on having a built-in Progression tree feature in our Central Carleton menu, and the students who were interviewed, agreed, that an Interactive Prerequisite tree would be a great idea. The advantage of RegIt-I is that it directly displays all the key requirements in an intuitive

and functional manner, allowing students to quickly perform the task that they desire to do. However, RegIt-I does have one disadvantage: The first design has no easy way to switch tasks.

The entire user interface is just options, with no “main toolbar” of any sort; the only way to perform a different task is to press the back button until the page displayed after logging in is reached.

The second design, RegIt-II aims to solve the shortcomings of RegIt-I. After conducting some interviews, we made some improvements on RegIt-I, and made it even more user-friendly. The second design of RegIt-II adds a modified search toolbar for the courses in the Add Courses task, allowing students to easily search courses to be added to his/her schedule. Another modification is that we have changed the way Prerequisite tree looks. The user selects a course on a prerequisite tree and that course becomes interactive, and all the courses linked with that course become bold/highlighted.

2.3 Moqups (Low-fidelity images)



A low-fidelity image of a Carleton University login form. The form is contained within a light gray rectangular box. At the top center, the text "Carleton University" is displayed in red. Below this, there are two input fields: "Login:" followed by an input box labeled "Email Address" and "Password:" followed by an input box labeled "Email Address". At the bottom center of the form is a single "Login" button.

Carleton University

Student Name, Student ID

Logout

Back

Course Search

Term: Options ▾

Course: Options ▾

Search

Student Account

Add/Drop courses

Program Progression Tree

Grades

My Audit

Carleton University

Student Name, Student ID

Logout

Back

Course Search

Term: Fall 2018 ▾

Course: All ▾

Search

Student Account

Add/Drop courses

Program Progression Tree

Grades

My Audit

Carleton University

Fall 2018 Course Offerings

[Logout](#)

[Back](#)

<input type="checkbox"/> ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

[Register Now](#)

Carleton University

Fall 2018 Course Offerings

[Logout](#)

[Back](#)

<input checked="" type="checkbox"/> ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/> ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

[Register Now](#)

Carleton University

Fall 2018 Course Offerings

[Logout](#)

[Back](#)

<input checked="" type="checkbox"/> ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECOR 1101 Mon-	
<input checked="" type="checkbox"/> ECOR 1101 Mon-	
<input type="checkbox"/> ECOR 1101 Mon-	
<input type="checkbox"/> ECOR 1101 Mon-	
<input type="checkbox"/> ECON 1101 Tue-T	
<input checked="" type="checkbox"/> ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	

[Register Now](#)

Carleton University

Fall 2018 Course Offerings

[Logout](#)

[Back](#)

<input checked="" type="checkbox"/> ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	
<input checked="" type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	
<input checked="" type="checkbox"/> ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	

[Register Now](#)

Carleton University

Fall 2018 Course Offerings

Logout Back

<input checked="" type="checkbox"/> ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	
<input checked="" type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	
<input checked="" type="checkbox"/> ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	

Notification

Registration Successful!

Okay

Register Now

Carleton University

Fall 2018 Course Offerings

Logout Back

<input checked="" type="checkbox"/> ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	
<input checked="" type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	
<input checked="" type="checkbox"/> ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.	

Register Now

Carleton University

Logout Back

Student Name, Student ID

Program Progression Tree

Student Account
Add/Drop courses
Program Progression Tree
Grades
My Audit

Search

Carleton University

Logout Back

Student Name, Student ID

Program Progression Tree

Student Account
Add/Drop courses
Program Progression Tree
Grades
My Audit

Reset

Carleton University

Logout

Back

Student Name, Student ID

Program Progression Tree

```

graph LR
    ECOR1101_1[ECOR 1101] --> ECOR1101_2[ECOR 1101]
    ECOR1101_2 --> ECOR1101_3[ECOR 1101]
    ECOR1101_3 --> ECOR4101[ECOR 4101]
    ECOR1101_1 --> ECOR2101[ECOR 2101]
    ECOR2101 --> ECOR3001[ECOR 3001]
    ECOR3001 --> ECOR1101_4[ECOR 1101]
    ECOR3001 --> ECOR4001[ECOR 4001]
    ECOR1101_4 --> ECOR4001
    ECOR2101 --> ECOR1101_5[ECOR 1101]
    ECOR1101_5 --> ECOR3001
    ECOR1101_5 --> ECOR1101_6[ECOR 1101]
    ECOR1101_6 --> ECOR4001
    ECOR3001 --> ECOR1101_7[ECOR 1101]
    ECOR1101_7 --> ECOR4001
    ECOR4001 --> ECOR1101_8[ECOR 1101]
    ECOR1101_8 --> ECOR4101
  
```

Search

Student Account

Add/Drop courses

Program Progression Tree

Grades

My Audit

Carleton University

Logout

Back

Student Name, Student ID

Program Progression Tree

```

graph LR
    ECOR1101_1[ECOR 1101] --> ECOR1101_2[ECOR 1101]
    ECOR1101_2 --> ECOR1101_3[ECOR 1101]
    ECOR1101_3 --> ECOR4101[ECOR 4101]
    ECOR1101_1 --> ECOR2101[ECOR 2101]
    ECOR2101 --> ECOR3001[ECOR 3001]
    ECOR3001 --> ECOR1101_4[ECOR 1101]
    ECOR3001 --> ECOR4001[ECOR 4001]
    ECOR1101_4 --> ECOR4001
    ECOR2101 --> ECOR1101_5[ECOR 1101]
    ECOR1101_5 --> ECOR3001
    ECOR1101_5 --> ECOR1101_6[ECOR 1101]
    ECOR1101_6 --> ECOR4001
    ECOR3001 --> ECOR1101_7[ECOR 1101]
    ECOR1101_7 --> ECOR4001
    ECOR4001 --> ECOR1101_8[ECOR 1101]
    ECOR1101_8 --> ECOR4101
  
```

Reset

Student Account

Add/Drop courses

Program Progression Tree

Grades

My Audit

Carleton University

Logout
Back

Student Name, Student ID

Program Overview/Evaluation

- [Student Account](#)
- [Add/Drop courses](#)
- [Program Progression Tree](#)
- [Grades](#)
- [My Audit](#)

Credits Earned:		
ECOR 1101 D-	ECOR 1010 C	MATH 1004 A-
PHYS 1104 A+	MATH1104 A+	PHYS 1004 A-
MATH 1005 B+	ECOR 1606 C	MATH 2004 A-
MAAE 2400 D-	MAAE 2100 C-	MAAE 2101 D+

Credits Remaining:		
ECOR 2101	ECOR 2010	MATH 3004
CHEM 3101	MATH 2104	PHYS 2004
MATH 2005	ECOR 2606	MATH 2004
MAAE 4400	MAAE 3100	MAAE 2101

[Alternate Program Options](#)

Carleton University

Logout
Back

Student Name, Student ID

Program Overview/Evaluation

- [Student](#)
- [Add/Drop](#)
- [Prog](#)
- [Progress](#)
- [Grads](#)
- [My A](#)

Notification

Note: This Alternate Programs feature may not be accurate and can only be used as a reference guide.

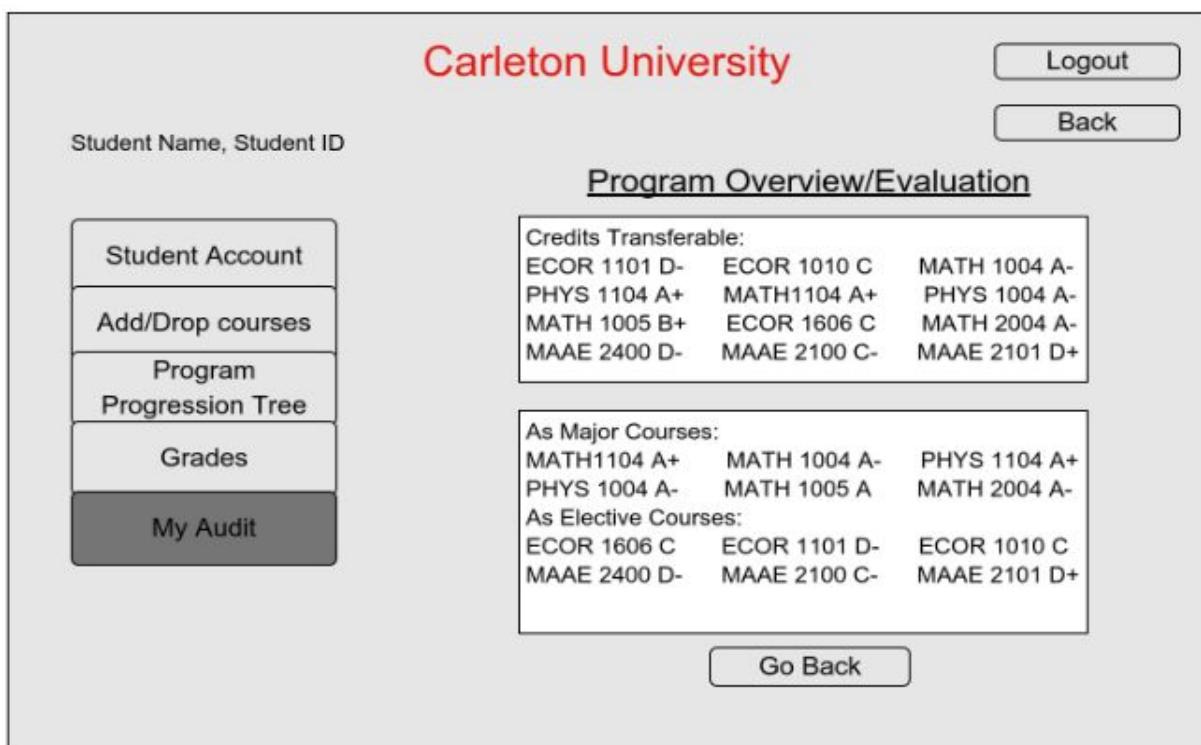
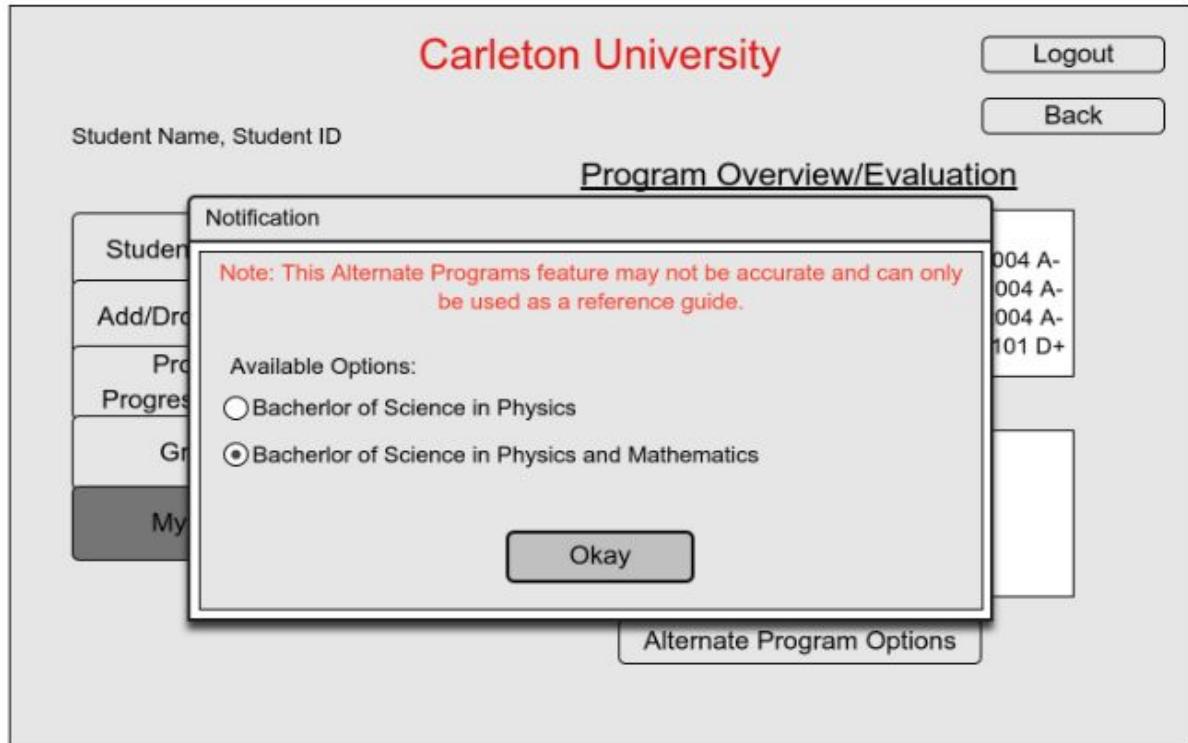
Available Options:

Bachelor of Science in Physics

Bachelor of Science in Physics and Mathematics

[Okay](#)

[Alternate Program Options](#)



Figures 5-23: low fidelity RegIt-I Moqups

PROTOTYPE 2:


Carleton
UNIVERSITY

Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

Course Search

Term:

Subject:

Course #:

Student Accounts

Add/Drop Courses

Program Progression Tree

Grades

Audit


Carleton
UNIVERSITY

Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

Course Search

Term:

Subject:

Course #:

Student Accounts

Add/Drop Courses

Program Progression Tree

Grades

Audit

 Carleton Central
Fall 2018 Course Offerings

ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.

ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.

ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

[Register Now](#)

[Logout](#) [Back](#)

 Carleton Central
Fall 2018 Course Offerings

ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.

ECOR 1101 Mon-

ECOR 1101 Mon-

ECOR 1101 Mon-

ECOR 1101 Mon-

ECON 1101 Tue-T

ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

Error
Oops! Seems like you have a course conflict.
Please resolve the conflict before we proceed
to register!

[Register Now](#)

[Logout](#) [Back](#)

 Carleton Central
Fall 2018 Course Offerings

<input checked="" type="checkbox"/>	ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/>	ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

[Register Now](#)

 Carleton Central
Fall 2018 Course Offerings

<input checked="" type="checkbox"/>	ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/>	ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

[Register Now](#)

 Carleton Central
Fall 2018 Course Offerings

[Logout](#) [Back](#)

<input checked="" type="checkbox"/>	ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-
<input checked="" type="checkbox"/>	ECOR 1101 Mon-
<input type="checkbox"/>	ECOR 1101 Mon-
<input type="checkbox"/>	ECOR 1101 Mon-
<input checked="" type="checkbox"/>	ECON 1101 Tue-Thu
<input type="checkbox"/>	ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

[Notification](#)

Registration Successful!



[Okay](#)

[Register Now](#)

 Carleton Central
Fall 2018 Course Offerings

[Logout](#) [Back](#)

<input checked="" type="checkbox"/>	ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/>	ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

[Register Now](#)

 Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

Student Accounts

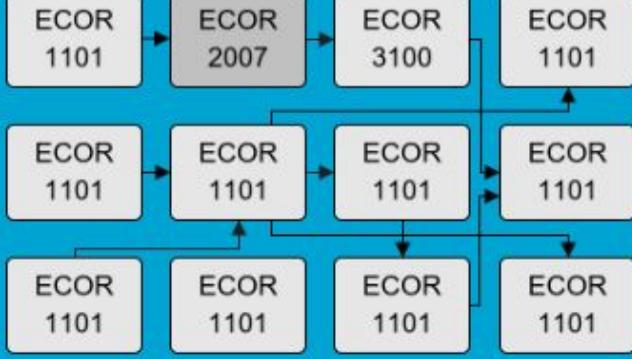
Add/Drop Courses

Program Progression Tree

Grades

Audit

Program Progression Tree



```

graph LR
    A[ECOR 1101] --> B[ECOR 2007]
    B --> C[ECOR 3100]
    D[ECOR 1101] --> E[ECOR 1101]
    E --> F[ECOR 1101]
    F --> G[ECOR 3100]
    H[ECOR 1101] --> I[ECOR 1101]
    I --> J[ECOR 1101]
    J --> K[ECOR 1101]
    L[ECOR 1101] --> M[ECOR 1101]
    M --> N[ECOR 1101]
    N --> O[ECOR 1101]
    P[ECOR 1101] --> Q[ECOR 1101]
    Q --> R[ECOR 1101]
    R --> S[ECOR 1101]
    C --> T[ECOR 1101]
    T --> U[ECOR 1101]
    U --> V[ECOR 1101]
    V --> W[ECOR 1101]
    G --> X[ECOR 1101]
    X --> Y[ECOR 1101]
    Y --> Z[ECOR 1101]
    
```

[Search](#)

 Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

Student Accounts

Add/Drop Courses

Program Progression Tree

Grades

Audit

Program Progression Tree



```

graph LR
    A[ECOR 1101] --> B[ECOR 2007]
    B --> C[ECOR 3100]
    
```

[Go Back](#)

 Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

Student Accounts

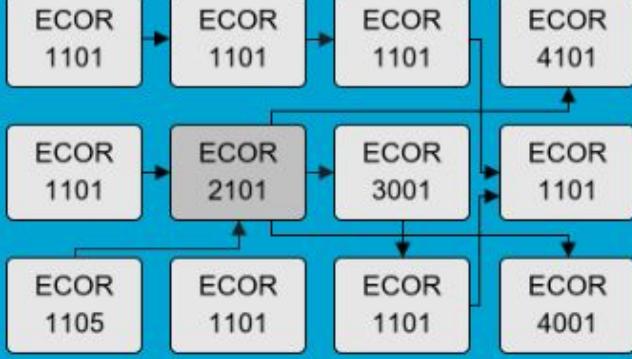
Add/Drop Courses

Program Progression Tree

Grades

Audit

Program Progression Tree



Search

 Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

Student Accounts

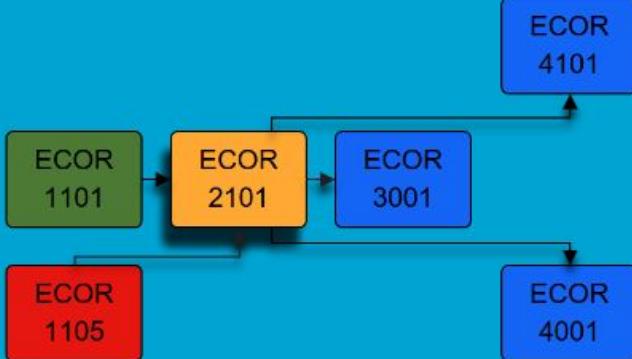
Add/Drop Courses

Program Progression Tree

Grades

Audit

Program Progression Tree



Go Back



Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

Program Overview/Evaluation

[Student Accounts](#)
[Add/Drop Courses](#)
[Program Progression Tree](#)
[Grades](#)
[Audit](#)

Credits Earned:		
ECOR 1101 D-	ECOR 1010 C	MATH 1004 A-
PHYS 1104 A+	MATH1104 A+	PHYS 1004 A-
MATH 1005 B+	ECOR 1606 C	MATH 2004 A-
MAAE 2400 D-	MAAE 2100 C-	MAAE 2101 D+

Credits Remaining:		
ECOR 2101	ECOR 2010	MATH 3004
CHEM 3101	MATH 2104	PHYS 2004
MATH 2005	ECOR 2606	MATH 2004
MAAE 4400	MAAE 3100	MAAE 2101

[Program Switch](#)



Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

Program Overview/Evaluation

[Student Accounts](#)
[Add/Drop Courses](#)
[Program Progression Tree](#)
[Grades](#)
[Audit](#)

Notification

Note: This Program Switch feature may not be accurate. All credit transfers using this feature are subjected to departmental approval!

Available Options:

Bachelor of Science in Physics

Bachelor of Science in Physics and Mathematics

[Okay](#)

[Program Switch](#)



Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

Program Overview/Evaluation

Notification

Note: This Program Switch feature may not be accurate. All credit transfers using this feature are subjected to departmental approval.

Available Options:

Bachelor of Science in Physics

Bachelor of Science in Physics and Mathematics

[Okay](#)

Student Accounts
Add/Drop Courses
Program Progression Tree
Grades
Audit

004 A-
004 A-
004 A-
101 D+

[Program Switch](#)



Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

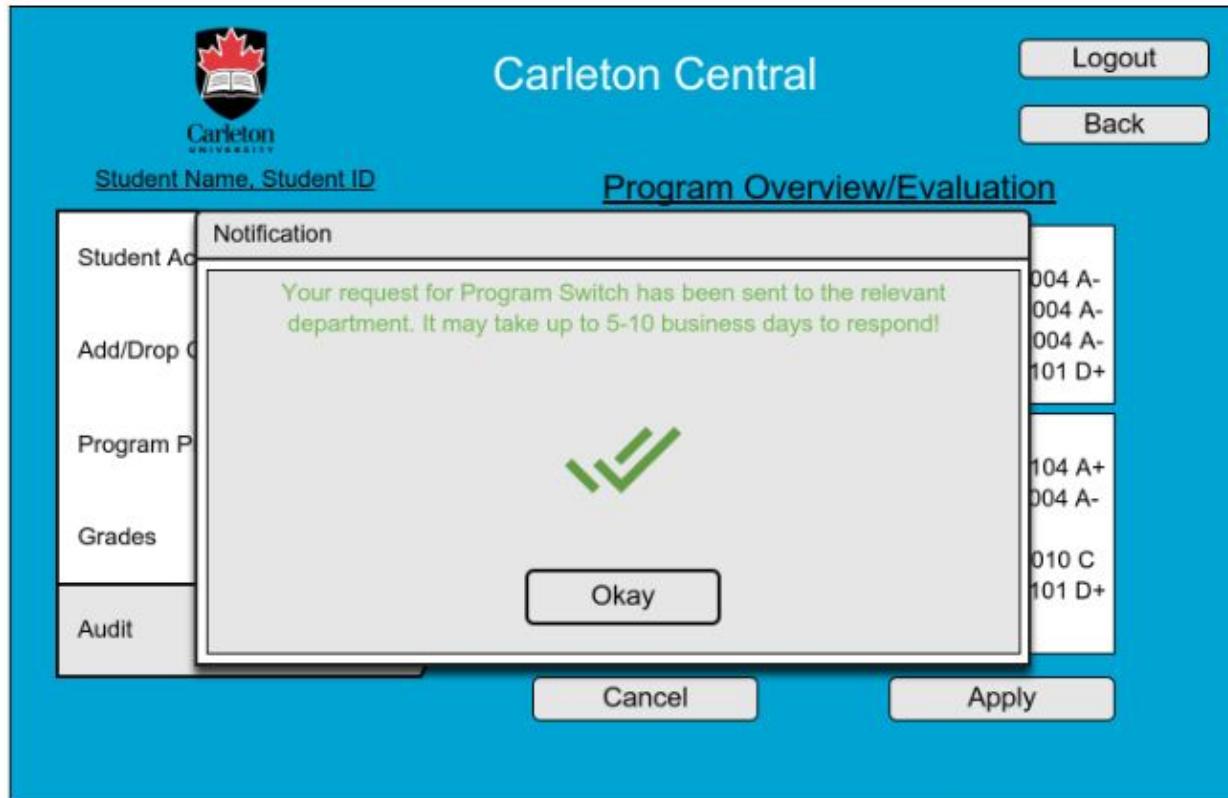
Program Overview/Evaluation

Student Accounts
Add/Drop Courses
Program Progression Tree
Grades
Audit

Credits Transferable:	ECOR 1101 D-	ECOR 1010 C	MATH 1004 A-
	PHYS 1104 A+	MATH1104 A+	PHYS 1004 A-
	MATH 1005 B+	ECOR 1606 C	MATH 2004 A-
	MAAE 2400 D-	MAAE 2100 C-	MAAE 2101 D+

As Major Courses:	MATH1104 A+	MATH 1004 A-	PHYS 1104 A+
	PHYS 1004 A-	MATH 1005 A	MATH 2004 A-
As Elective Courses:	ECOR 1606 C	ECOR 1101 D-	ECOR 1010 C
	MAAE 2400 D-	MAAE 2100 C-	MAAE 2101 D+

[Cancel](#) [Apply](#)



Figures 24-42:RegIt-II Moqups

2.4 Storyboard

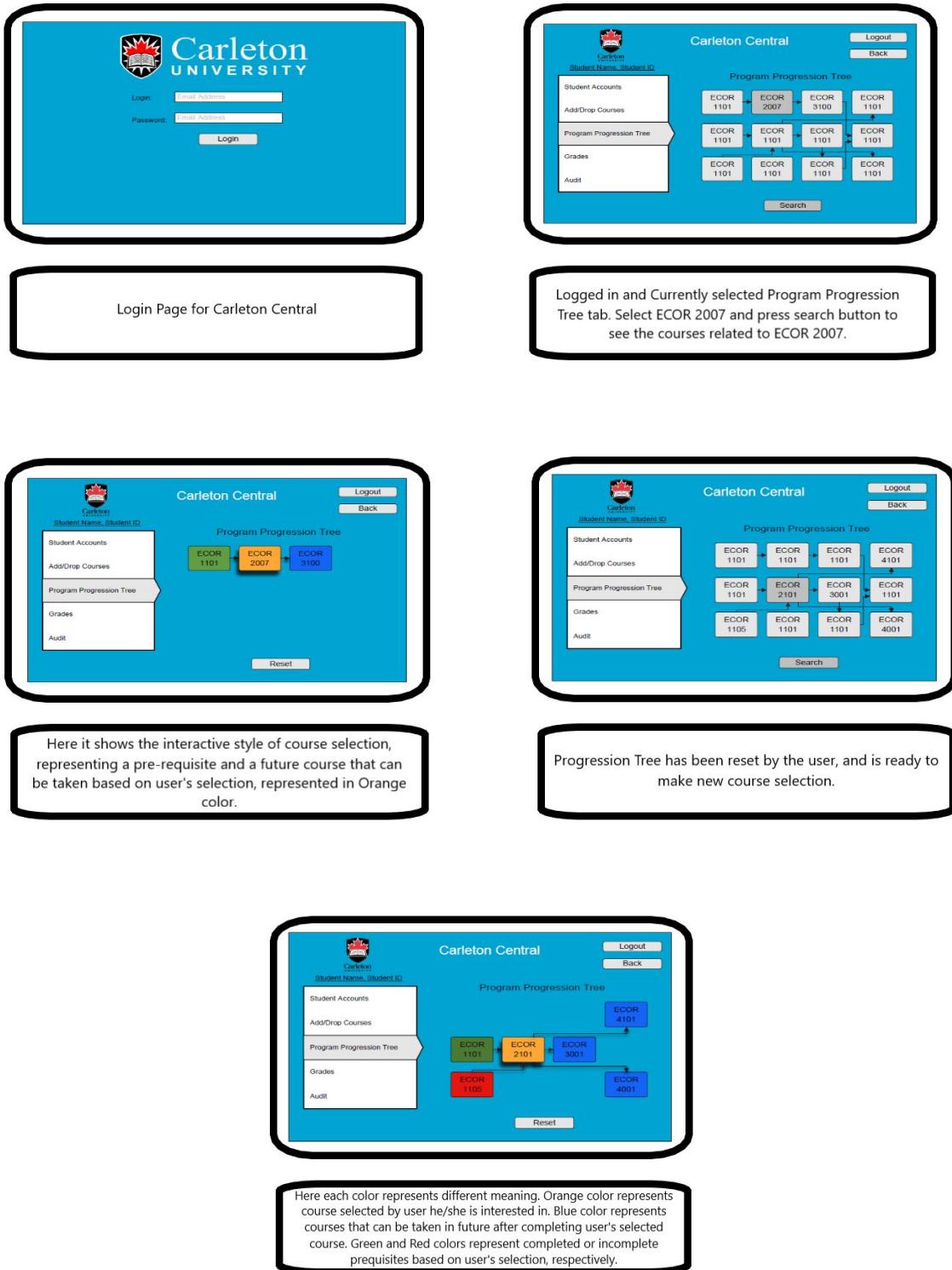


Figure 43: Storyboard: Filtration of prerequisite tree shown left to right

3 Prototype Evaluation and Iteration

3.1 Prototype Walkthroughs

In the above two sections, we used Moqups web-based application to create the two low-fidelity prototypes, RegIt-I and RegIt-II. Both prototypes were quite similar and had minor problems; so, to decide what prototype design we were going to proceed with, we conducted a cognitive walkthrough for each of the above prototype. These prototypes were not an exact replica of the full Carleton Central system so many of the features were not implemented nor tested in our walkthrough. We performed some basic tasks a user would perform and determined how easy each task would be to perform if the user is new to the system.

3.1.1 First Cognitive Walkthrough for RegIt-I

In this project RegIt-I, there were three designs for the simpler version of the Carleton Central. The Users of these designs are Mechanical Engineering students of Carleton University and they used the low fidelity designs.

The advantages of this design:

- Easier login for students
- Easier conflict free registration process
- Easier User Interactive Engineering Progression tree
- Easier one-click change of program option in the audit

The disadvantages of this design:

- Students can not view their timetable while they are selecting the courses
- The design can be made a little more colorful, so it stands out
- There should be a toolbar to go to a specific menu

This RegIt-I design has a lot of flaws in it because it is very basic. A better version of this design could be implemented, and that design will make the registration process easier. It will be more user interactive. In the new version of Central Carleton design, students will be able to navigate through menus easily.

RegIt-II will be made more colorful, just to make things easier to read. The font size will slightly be increased for better readability. If students try to register for a course and that course has a conflict with their current timetable, they will know about the course conflict right away. The progression tree is also made a bit more user interactive.

3.1.2 Second Cognitive Walkthrough for RegIt-II

In RegIt-II we conducted a second cognitive walkthrough. In this design prototype, we modified our design 1 prototype and recorded tasks required. The tasks include: adding some colours to the layout, made the Prerequisite more interactive, and added a search toolbar.

The advantages of this design prototype are as follows: The tasks are very linear with little deviation. For instance, clicking add/drop classes from the main menu will take the user in a linear order, either continuing with the search for a course or clicking back button to go to the previous page. This makes it less likely for new users to lose track. The design is very easy on the eyes. The layout also looks more colour oriented. Some disadvantages for this design prototype are as follows: There is no menu navigation. While in the middle of adding a course, the user cannot go back to the main menu; Add/drop courses is a long process with multiple pages; As mentioned above, this prototype design comes with some advantages and a few disadvantages, but we can conclude that we are most certainly heading in to the right direction.

3.1.3 Final Prototype

In deciding the final prototype, we compared the advantages and disadvantages of both RegIt- I and RegIt-II prototypes. We concluded that RegIt-II was the superior prototype for the following reasons: The interface is much cleaner; Font size is slightly increased, and the design is more readable.

Although both prototypes have issues, we decided that Prototype Two is the superior out of the two.

3.2 Test Results

3.2.1 First Iteration:

We showed the participants Figure 24-42 from the above. We cited their behaviour and satisfaction with our selected prototype.

3.2.1.1 Participant 1:

Our first participant started off by logging in without any issues. The login seemed intuitive. The participant commented on the bigger font being appealing and the page being easy to navigate in general. Some negatives the participant noted were that it was too simple and lacked visual appeal. Some important functions were missing such as the CGPA was not showing while running the audit and there was no reset

button added on the progression tree page. Sometimes this made navigating a course a bit unintuitive and difficult.

Overall satisfaction: 3.5/5

3.2.1.2 Participant 2:

The second participant started by easily logging into the system. Then, they proceeded to click the button to go check the audit. The participant had an easy time navigating through the audit but remarked that the system was like the old system and was missing the CGPA information. The font size and simplicity were a plus, the participant was able to figure out how to add courses but overall didn't appear too impressed because the audit system was lacking to show the GPA slot. They suggested to add a feature to show the CGPA on the audit to show the progress.

Overall satisfaction: 3/5

3.2.1.3 Participant 3:

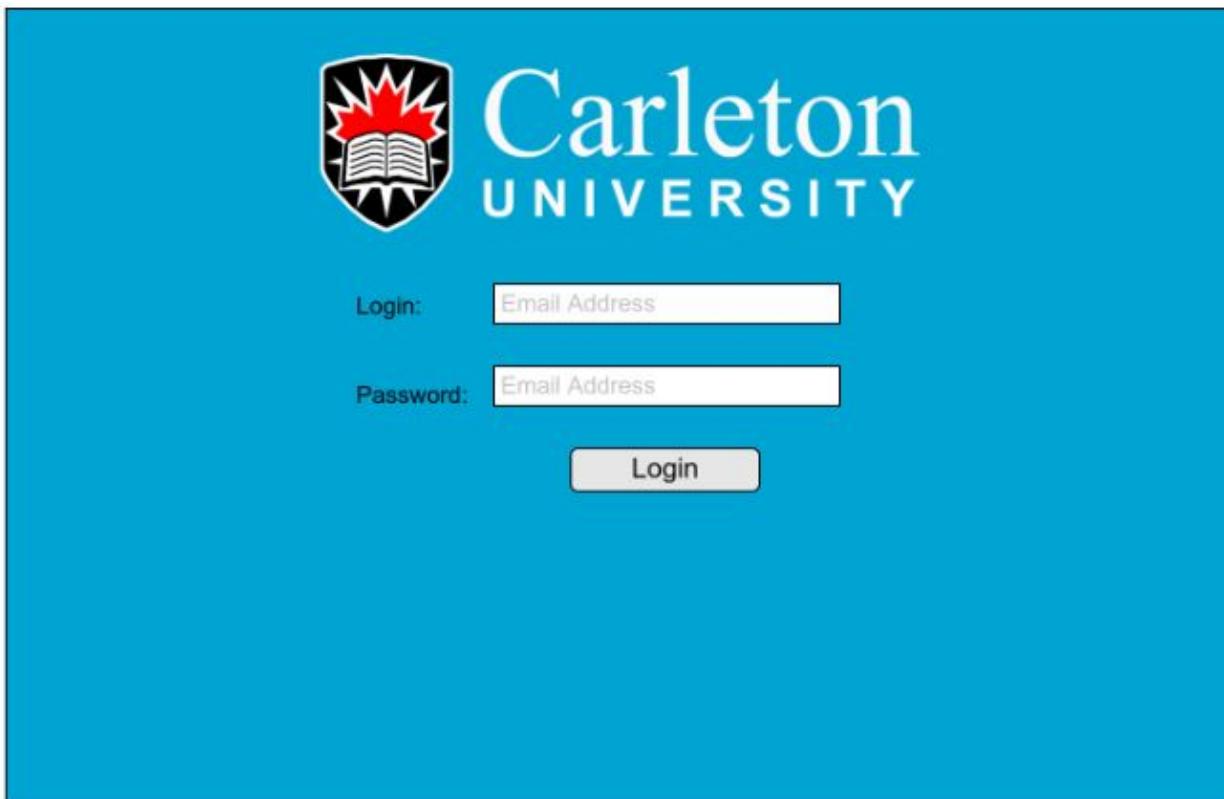
The third participant started by easily logging into the system. Then they proceeded to the audit. When they entered the audit menu, they asked about the CGPA pie representation on the audit. They were unsatisfied with the idea of not having the graphical chart to show the completed/uncompleted credits in their degree. This user also mentioned that the navigation is too linear and there are too few options to return to previous menus. Other than that, there are some benefits to this layout because it is much simpler and easier to grasp, so the learning curve is much lower.

Overall satisfaction: 3 /5

3.2.1.4 New Changes to make:

- CGPA is missing in the audit menu
- Graphical chart of the degree progression is missing
- Go back button is changed to reset

3.2.2 Second Iteration:



A screenshot of the Carleton Central dashboard. At the top left is the Carleton logo. In the center, the text "Carleton Central" is displayed above a "Course Search" section. This section includes dropdown menus for "Term: Options", "Subject: Options", and "Course #: Options", and a "Search" button. To the left of the search section is a vertical sidebar with links: "Student Accounts", "Add/Drop Courses", "Program Progression Tree", "Grades", and "Audit". At the top right of the dashboard are "Logout" and "Back" buttons.


Carleton
UNIVERSITY

Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

[Student Accounts](#)

[Add/Drop Courses](#)

[Program Progression Tree](#)

[Grades](#)

[Audit](#)

Course Search

Term: Fall 2018

Subject: All

Course #: -

[Search](#)


Carleton Central

Fall 2018 Course Offerings

[Logout](#)

[Back](#)

<input type="checkbox"/> ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

[Register Now](#)

 Carleton Central
Fall 2018 Course Offerings

<input checked="" type="checkbox"/>	ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/>	ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

[Register Now](#)

 Carleton Central
Fall 2018 Course Offerings

<input checked="" type="checkbox"/>	ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/>	ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

[Register Now](#)

 Carleton Central
Fall 2018 Course Offerings

[Logout](#) [Back](#)

<input checked="" type="checkbox"/>	ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-
<input checked="" type="checkbox"/>	ECOR 1101 Mon-
<input type="checkbox"/>	ECOR 1101 Mon-
<input type="checkbox"/>	ECOR 1101 Mon-
<input checked="" type="checkbox"/>	ECON 1101 Tue-Thu
<input type="checkbox"/>	ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

[Notification](#)

Registration Successful!



[Okay](#)

[Register Now](#)

 Carleton Central
Fall 2018 Course Offerings

[Logout](#) [Back](#)

<input checked="" type="checkbox"/>	ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/>	ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

[Register Now](#)

 Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

Student Accounts

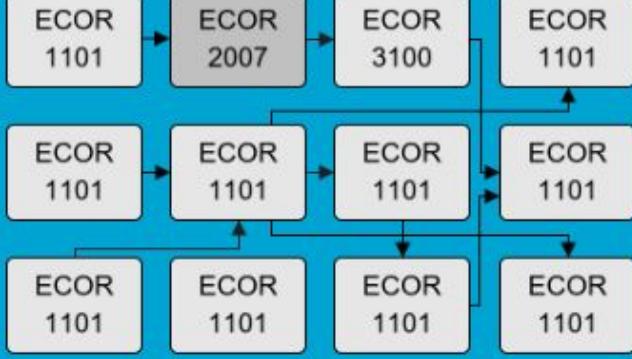
Add/Drop Courses

Program Progression Tree

Grades

Audit

Program Progression Tree



```

graph LR
    A[ECOR 1101] --> B[ECOR 2007]
    B --> C[ECOR 3100]
    D[ECOR 1101] --> E[ECOR 1101]
    E --> F[ECOR 1101]
    F --> G[ECOR 3100]
    H[ECOR 1101] --> I[ECOR 1101]
    I --> J[ECOR 1101]
    J --> K[ECOR 1101]
    L[ECOR 1101] --> M[ECOR 1101]
    M --> N[ECOR 1101]
    N --> O[ECOR 1101]
    P[ECOR 1101] --> Q[ECOR 1101]
    Q --> R[ECOR 1101]
    R --> S[ECOR 1101]
    C --> T[ECOR 1101]
    T --> U[ECOR 1101]
    U --> V[ECOR 1101]
    V --> W[ECOR 1101]
    G --> X[ECOR 1101]
    X --> Y[ECOR 1101]
    Y --> Z[ECOR 1101]
    
```

[Search](#)

 Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

Student Accounts

Add/Drop Courses

Program Progression Tree

Grades

Audit

Program Progression Tree



```

graph LR
    A[ECOR 1101] --> B[ECOR 2007]
    B --> C[ECOR 3100]
    
```

[Reset](#)


Carleton Central

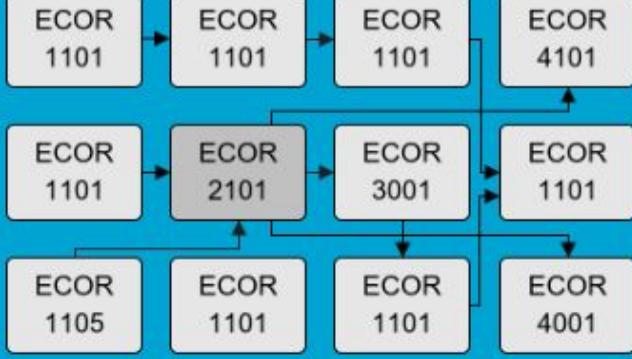
[Logout](#)

[Back](#)

Student Name, Student ID

Student Accounts
Add/Drop Courses
Program Progression Tree
Grades
Audit

Program Progression Tree



[Search](#)


Carleton Central

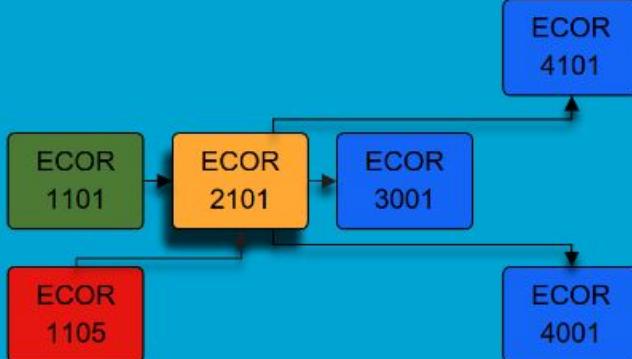
[Logout](#)

[Back](#)

Student Name, Student ID

Student Accounts
Add/Drop Courses
Program Progression Tree
Grades
Audit

Program Progression Tree



[Reset](#)

 Carleton Central

[Logout](#) [Back](#)

Student Name, Student ID

Student Accounts
Add/Drop Courses
Program Progression Tree
Grades
Audit

Program Overview/Evaluation

CGPA:
Current - 5.0 CGPA Required - 5.5 CGPA

Credits Earned:		
ECOR 1101 D-	ECOR 1010 C	MATH 1004 A-
PHYS 1104 A+	MATH1104 A+	PHYS 1004 A-
MATH 1005 B+	ECOR 1606 C	MATH 2004 A-
MAAE 2400 D-	MAAE 2100 C-	MAAE 2101 D+

Credits Remaining:		
ECOR 2101	ECOR 2010	MATH 3004
CHEM 3101	MATH 2104	PHYS 2004
MATH 2005	ECOR 2606	MATH 2004
MAAE 4400	MAAE 3100	MAAE 2101

[Graphical Interface](#) [Program Switch](#)

 Carleton Central

[Logout](#) [Back](#)

Student Name, Student ID

Student Accounts
Add/Drop Courses
Program Progression Tree
Grades
Audit

Program Overview/Evaluation

CGPA:
Current - 5.0 CGPA Required - 5.5 CGPA



Completed
In Progress
Remaining

[Graphical Interface](#) [Program Switch](#)



Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

Program Overview/Evaluation

Notification

Note: This Program Switch feature may not be accurate. All credit transfers using this feature are subjected to departmental approval!

Available Options:

- Bachelor of Science in Physics
- Bachelor of Science in Physics and Mathematics

[Okay](#)

CGPA

Graphical Interface Program Switch

Student Ac... Add/Drop C... Program P... Grades Audit



Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

Program Overview/Evaluation

Notification

Note: This Program Switch feature may not be accurate. All credit transfers using this feature are subjected to departmental approval!

Available Options:

- Bachelor of Science in Physics
- Bachelor of Science in Physics and Mathematics

[Okay](#)

CGPA

Graphical Interface Program Switch

Student Ac... Add/Drop C... Program P... Grades Audit

Carleton Central

Logout Back

New Program Overview/Evaluation

Student Name, Student ID

Student Accounts
Add/Drop Courses
Program Progression Tree
Grades
Audit

Credits Transferable:

ECOR 1101 D-	ECOR 1010 C	MATH 1004 A-
PHYS 1104 A+	MATH1104 A+	PHYS 1004 A-
MATH 1005 B+	ECOR 1606 C	MATH 2004 A-
MAAE 2400 D-	MAAE 2100 C-	MAAE 2101 D+

As Major Courses:

MATH1104 A+	MATH 1004 A-	PHYS 1104 A+
PHYS 1004 A-	MATH 1005 A	MATH 2004 A-

As Elective Courses:

ECOR 1606 C	ECOR 1101 D-	ECOR 1010 C
MAAE 2400 D-	MAAE 2100 C-	MAAE 2101 D+

Cancel Apply

Carleton Central

Logout Back

New Program Overview/Evaluation

Student Name, Student ID

Student Accounts
Add/Drop Courses
Program Progression Tree
Grades
Audit

Notification

Your request for Program Switch has been sent to the relevant department. It may take up to 5-10 business days to respond!

004 A-
004 A-
004 A-
101 D+

104 A+
004 A-

010 C
101 D+

Okay

Cancel Apply

Figures 44-62:Iteration 2 Moqups

3.2.2.1 Participant 1:

The first participant started by logging in with ease. They entered the menu to check the audit and noticed that the audit now shows the GPA on top. The navigation to that page was quite easy as well. The user was also very happy to see the reset button on the progression tree page. The course search is much easier to work with now. The progression tree is a lot more interactive and the user did not have to go to the back menu to reset the progression tree but instead they could refresh the page and start the prerequisite tree again. They mentioned one improvement to make from the previous iteration though, they said that the blue background colour is not too appealing to them and suggested that we need to modify it to the red and white (which is basically the Carleton trademark colour).

Overall Satisfaction: 3.5/5

3.2.2.2 Participant 2:

The second participant started by logging into the system. Then they straight away proceeded to check the audit. They seemed happy to notice that the GPA was showing on the audit page now. They noticed that the layout still looks like the old Carleton system and suggested if we could slightly change the colours of the Central Carleton. They also suggested on modifying the prerequisite/progression tree a little. We the user click the course on the tree, it fills the course box and the user didn't find it too appealing.

Overall Satisfaction: 3/5

3.2.2.3 Participant 3:

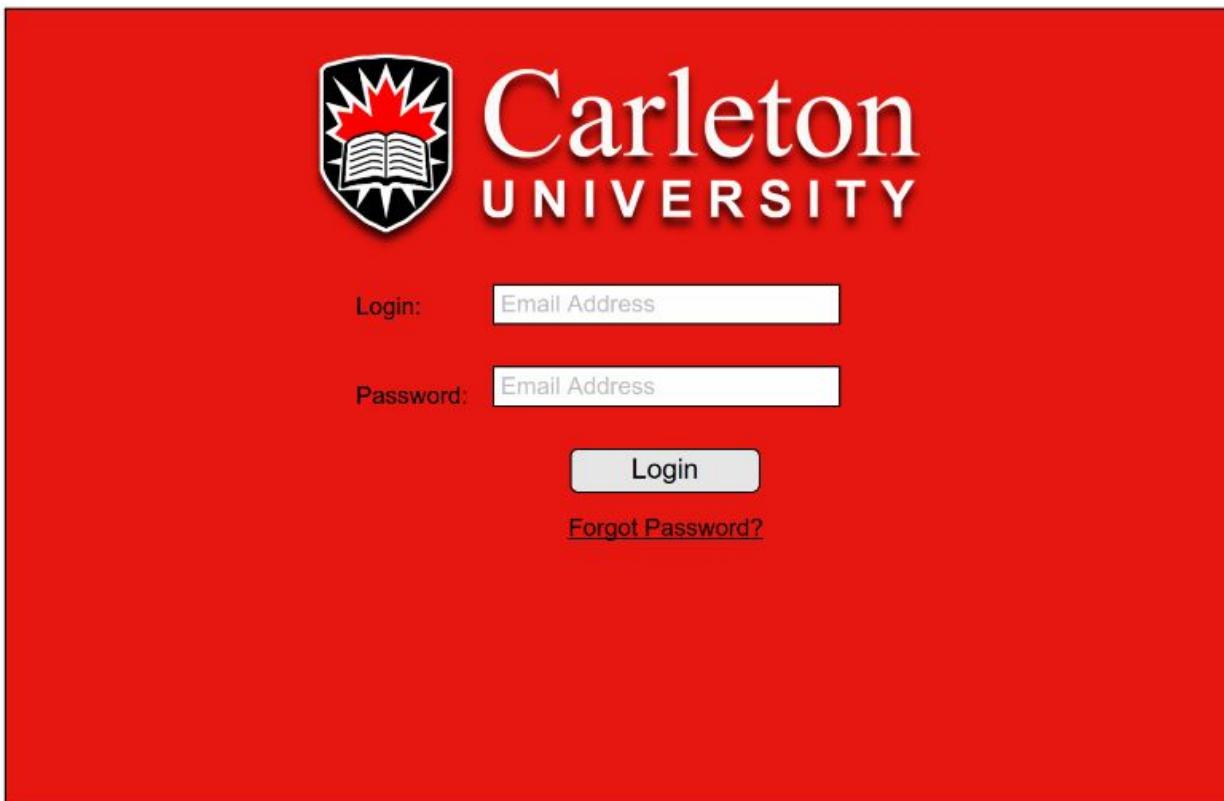
The third participant started by entering their username/password on the main page. Turned out the user had forgotten the password for their account. It took them a little while to remember their password and once they remembered it, the further login step was easy. This situation led the user to suggest us a modification for the main page. They suggested us to add a “forgot password” button on the main page, which will help the users to be at ease if they somehow do forget the password. The user had asked to put a graphical chart on the audit and were quite happy to notice this modification on the main audit page.

Overall Satisfaction: 3.5/5

3.2.2.4 New Changes:

- Background colour change (red on white)
- Progression tree fill colours
- “Forgot password” link on main page

3.2.3 Third Iteration:

A screenshot of the Carleton Central dashboard. The header "Carleton Central" is displayed in red at the top center. On the left side, there is a sidebar with a navigation menu:

- Student Accounts
- Add/Drop Courses
- Program Progression Tree
- Grades
- Audit

On the right side, there is a "Course Search" form:

Term: Options ▾

Subject: Options ▾

Course #: Options ▾

Search

At the top right of the dashboard, there are two buttons: "Logout" and "Back".


Carleton
UNIVERSITY

Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

[Student Accounts](#)
[Add/Drop Courses](#)
[Program Progression Tree](#)
[Grades](#)
[Audit](#)

Course Search

Term:

Subject:

Course #:

[Search](#)


Carleton
UNIVERSITY

Carleton Central

[Logout](#)

[Back](#)

Fall 2018 Course Offerings

<input type="checkbox"/> ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

[Register Now](#)

 Carleton Central

Fall 2018 Course Offerings

[Logout](#)

[Back](#)

<input checked="" type="checkbox"/>	ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-
<input checked="" type="checkbox"/>	ECOR 1101 Mon-
<input type="checkbox"/>	ECOR 1101 Mon-
<input type="checkbox"/>	ECOR 1101 Mon-
<input type="checkbox"/>	ECON 1101 Tue-Th
<input checked="" type="checkbox"/>	ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

Error

Oops! Seems like you have a course conflict.
Please resolve the conflict before we proceed
to register!

X

[Okay](#)

[Register Now](#)

 Carleton Central

Fall 2018 Course Offerings

[Logout](#)

[Back](#)

<input checked="" type="checkbox"/>	ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/>	ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

[Register Now](#)

 Carleton Central

[Logout](#)

[Back](#)

Fall 2018 Course Offerings

<input checked="" type="checkbox"/>	ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/>	ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

[Register Now](#)

 Carleton Central

[Logout](#)

[Back](#)

Fall 2018 Course Offerings

<input checked="" type="checkbox"/>	ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-
<input checked="" type="checkbox"/>	ECOR 1101 Mon-
<input type="checkbox"/>	ECOR 1101 Mon-
<input type="checkbox"/>	ECOR 1101 Mon-
<input checked="" type="checkbox"/>	ECON 1101 Tue-T
<input type="checkbox"/>	ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/>	ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

Notification

Registration Successful!



Okay

[Register Now](#)


Carleton UNIVERSITY

Carleton Central

Fall 2018 Course Offerings

[Logout](#)

[Back](#)

<input checked="" type="checkbox"/> ECOR 1100 Mon-Wed 11:35-12:55 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input checked="" type="checkbox"/> ECON 1101 Tue-Thu 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECON 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.
<input type="checkbox"/> ECOR 1101 Mon-Wed 10:05-11:25 Room: AT 301 Glenn M.

[Register Now](#)


Carleton UNIVERSITY

Carleton Central

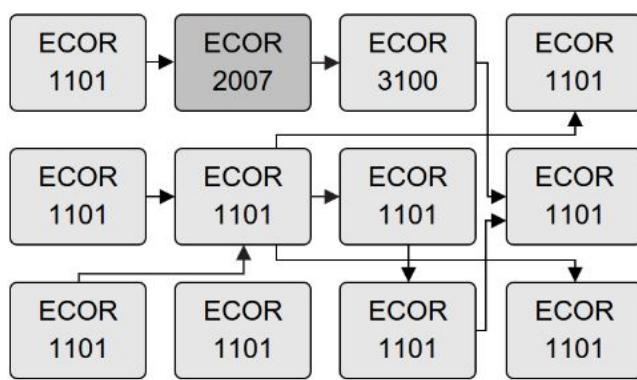
[Logout](#)

[Back](#)

Student Name, Student ID

[Student Accounts](#)
[Add/Drop Courses](#)
[Program Progression Tree](#)
[Grades](#)
[Audit](#)

Program Progression Tree



[Search](#)


Carleton
UNIVERSITY

Student Name, Student ID

Logout Back

Student Accounts
Add/Drop Courses
Program Progression Tree
Grades
Audit

Program Progression Tree



Reset

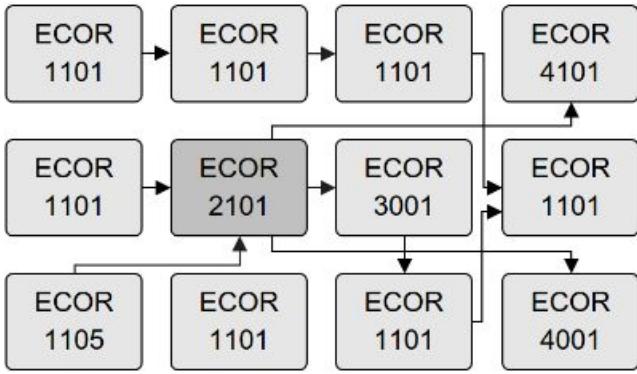

Carleton
UNIVERSITY

Student Name, Student ID

Logout Back

Student Accounts
Add/Drop Courses
Program Progression Tree
Grades
Audit

Program Progression Tree



Search

 Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

Student Accounts

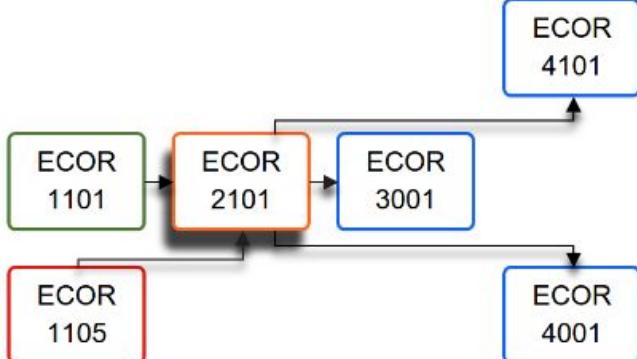
Add/Drop Courses

Program Progression Tree

Grades

Audit

Program Progression Tree



```

graph LR
    A[ECOR 1101] --> B[ECOR 2101]
    B --> C[ECOR 3001]
    C --> D[ECOR 4001]
    E[ECOR 1105] --> B
    F[ECOR 4101] --> C
  
```

[Reset](#)

 Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

Student Accounts

Add/Drop Courses

Program Progression Tree

Grades

Audit

Program Overview/Evaluation

CGPA:

Current - 5.0 CGPA

Required - 5.5 CGPA

Credits Earned:		
ECOR 1101 D-	ECOR 1010 C	MATH 1004 A-
PHYS 1104 A+	MATH1104 A+	PHYS 1004 A-
MATH 1005 B+	ECOR 1606 C	MATH 2004 A-
MAAE 2400 D-	MAAE 2100 C-	MAAE 2101 D+

Credits Remaining:		
ECOR 2101	ECOR 2010	MATH 3004
CHEM 3101	MATH 2104	PHYS 2004
MATH 2005	ECOR 2606	MATH 2004
MAAE 4400	MAAE 3100	MAAE 2101

[Graphical Interface](#)

[Program Switch](#)


Carleton
UNIVERSITY

Student Name, Student ID

Student Accounts

Add/Drop Courses

Program Progression Tree

Grades

Audit

Carleton Central

[Logout](#)

[Back](#)

Program Overview/Evaluation

CGPA:
Current - 5.0 CGPA Required - 5.5 CGPA



[Graphical Interface](#)

[Program Switch](#)


Carleton
UNIVERSITY

Student Name, Student ID

Carleton Central

[Logout](#)

[Back](#)

Program Overview/Evaluation

Student Ac

Add/Drop C

Program P

Grades

Audit

Notification

Note: This Program Switch feature may not be accurate. All credit transfers using this feature are subjected to departmental approval!

Available Options:

Bachelor of Science in Physics

Bachelor of Science in Physics and Mathematics

[Okay](#)

CGPA

[Graphical Interface](#)

[Program Switch](#)


Carleton
UNIVERSITY

Carleton Central

[Logout](#)

[Back](#)

Student Name, Student ID

Program Overview/Evaluation

Student Accounts Add/Drop Courses Program Progression Tree Grades Audit	Notification <p>Note: This Program Switch feature may not be accurate. All credit transfers using this feature are subjected to departmental approval!</p> <p>Available Options:</p> <ul style="list-style-type: none"> <input type="radio"/> Bachelor of Science in Physics <input checked="" type="radio"/> Bachelor of Science in Physics and Mathematics <p style="text-align: center;">Okay</p>	CGPA
---	---	-------------

[Graphical Interface](#) [Program Switch](#)


Carleton
UNIVERSITY

Carleton Central

[Logout](#)

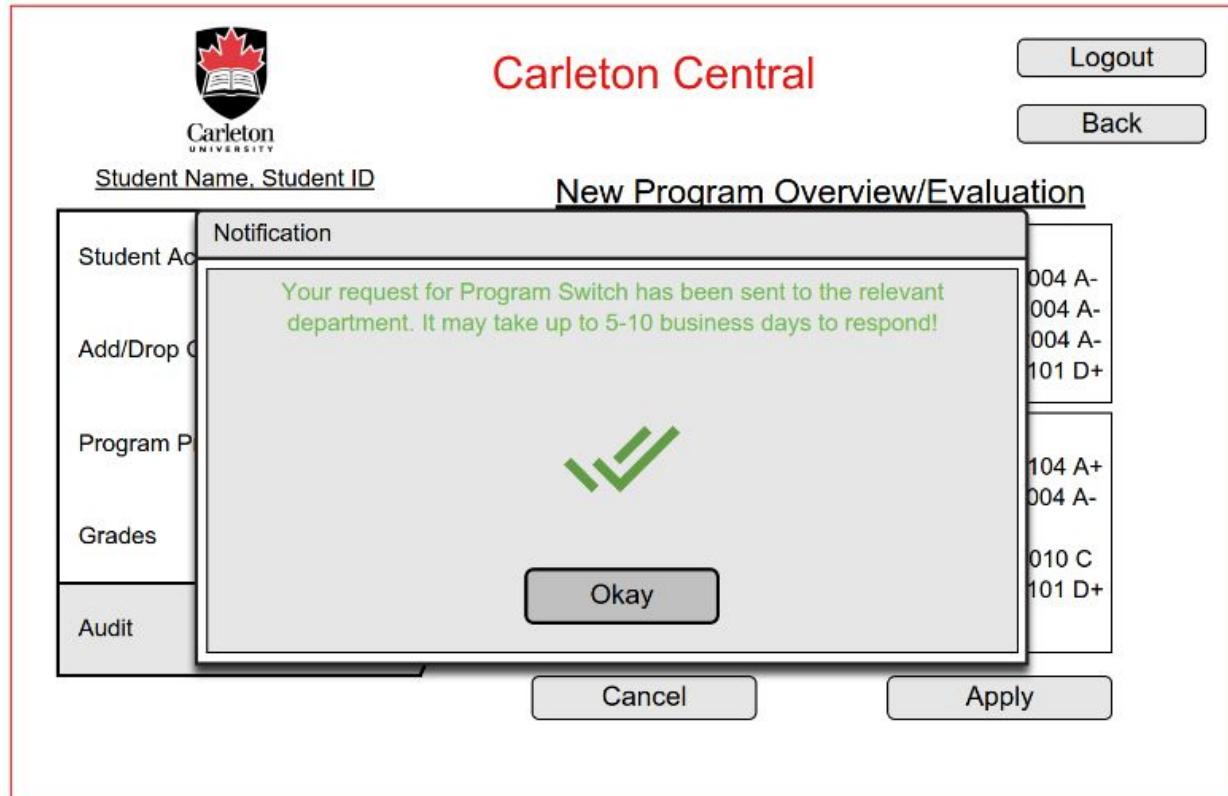
[Back](#)

Student Name, Student ID

New Program Overview/Evaluation

Student Accounts Add/Drop Courses Program Progression Tree Grades Audit	<p>Credits Transferable:</p> <table border="0"> <tr> <td>ECOR 1101 D-</td> <td>ECOR 1010 C</td> <td>MATH 1004 A-</td> </tr> <tr> <td>PHYS 1104 A+</td> <td>MATH1104 A+</td> <td>PHYS 1004 A-</td> </tr> <tr> <td>MATH 1005 B+</td> <td>ECOR 1606 C</td> <td>MATH 2004 A-</td> </tr> <tr> <td>MAAE 2400 D-</td> <td>MAAE 2100 C-</td> <td>MAAE 2101 D+</td> </tr> </table> <p>As Major Courses:</p> <table border="0"> <tr> <td>MATH1104 A+</td> <td>MATH 1004 A-</td> <td>PHYS 1104 A+</td> </tr> <tr> <td>PHYS 1004 A-</td> <td>MATH 1005 A</td> <td>MATH 2004 A-</td> </tr> </table> <p>As Elective Courses:</p> <table border="0"> <tr> <td>ECOR 1606 C</td> <td>ECOR 1101 D-</td> <td>ECOR 1010 C</td> </tr> <tr> <td>MAAE 2400 D-</td> <td>MAAE 2100 C-</td> <td>MAAE 2101 D+</td> </tr> </table>	ECOR 1101 D-	ECOR 1010 C	MATH 1004 A-	PHYS 1104 A+	MATH1104 A+	PHYS 1004 A-	MATH 1005 B+	ECOR 1606 C	MATH 2004 A-	MAAE 2400 D-	MAAE 2100 C-	MAAE 2101 D+	MATH1104 A+	MATH 1004 A-	PHYS 1104 A+	PHYS 1004 A-	MATH 1005 A	MATH 2004 A-	ECOR 1606 C	ECOR 1101 D-	ECOR 1010 C	MAAE 2400 D-	MAAE 2100 C-	MAAE 2101 D+
ECOR 1101 D-	ECOR 1010 C	MATH 1004 A-																							
PHYS 1104 A+	MATH1104 A+	PHYS 1004 A-																							
MATH 1005 B+	ECOR 1606 C	MATH 2004 A-																							
MAAE 2400 D-	MAAE 2100 C-	MAAE 2101 D+																							
MATH1104 A+	MATH 1004 A-	PHYS 1104 A+																							
PHYS 1004 A-	MATH 1005 A	MATH 2004 A-																							
ECOR 1606 C	ECOR 1101 D-	ECOR 1010 C																							
MAAE 2400 D-	MAAE 2100 C-	MAAE 2101 D+																							

[Cancel](#) [Apply](#)



Figures 63-81: Iteration 3 Moqups

3.2.3.1 Participant 1:

The first participant logged into the system. They started by clicking on course registration. They were amazed at how nice the layout looked.

Overall Satisfaction: 5/5

3.2.3.2 Participant 2:

The second participant started by logging in and began the course registration process. Later they clicked on the Prerequisite tree menu and instantly noticed that we had changed the way the prerequisite page looks. All their issues with the prototype had been fixed. They concluded that this was a fine place to end.

Overall Satisfaction: 4.5/5

3.2.3.3 Participant 3:

The third participant logged in, this time, with no issues. The user seemed to love this little demo and was quite satisfied with this final look.

Overall Satisfaction: 5/5

4 Usability Inspection Evaluation

4.1 Heuristics Evaluation

4.1.1 Thuong Mai

01. Visibility of system status

Our project doesn't really need visibility of system status since there is no such thing that requires time to load up and keep the users posted with actions besides errors, alerts, and notifications.

02. Match between system and the real world

Our project carried forward all the naming conventions being used in existing Carleton central, which helps users to not to learn anything new or struggle with new names and their features.

03. User control and freedom

Users have complete freedom to all the menus offering older and new features. The UI is designed in a way that users can switch between menus very easily and can exit the system any moment they wish not to pursue any feature any further.

04. Consistency and standards

This project keeps the consistency and standards being used by Carleton University for their system. It helps users to navigate easily without any hurdles.

05. Error prevention

This project has built-in feature of reminding users through notifications, alerts, and errors related to actions they take or about take.

06. Recognition rather than recall

All options are well recognizable to the users since our project carried forward the objects from older version of Carleton central that is already familiar to most users.

07. Flexibility and efficiency of use

We have added the flexibility of switching between menus without going back to the main-menu, which is an efficient way of navigating between different features.

08. Aesthetic and minimalist design

Our project design is very simple and straightforward, which doesn't require any new learning to the existing users who are already familiar with older Carleton central to use our new features.

09. Help users recognize, diagnose, and recover from errors

All errors pertinent to our project have been carefully handled to ensure that the system is easy-to-use and eradicate any errors that may occur by providing proper instructions on screen using pop-up dialogue boxes.

10. Help and documentation

Our project currently lacks help and documentation, addition of this feature will be useful to the users.

4.1.2 Syed Arsal Abbas

01. Visibility of system status

Our framework underpins client-side interpretation that doesn not need bother with a page reload. In this way, we don't need to update the page as often as possible with current status.

02. Match between system and the real world

Thinking about Carleton University, we endeavored to keep every one of the names and marking traditions same as unique accessible on Carleton framework, with which clients/understudies are exceptionally well recognizable.

03. User control and freedom

For clients' availability, we have kept the primary menu accessible to them generally, for which they don't have to go back and forth to switch between various menu tabs. Clients have opportunity to choose another menu from an already opened menu. Logout is likewise always accessible that let the clients leave the framework whenever they wish.

04. Consistency and standards

Our enhanced Carleton focal page keeps up the consistency and standard of Carleton University and also industry principles. Every naming tradition are same other than the design is altogether different than unique.

05. Error prevention

Our task bolsters every one of the blunders that may happen amid the enrollment of courses or applying for program switch. Intuitive program movement tree needn't bother with blunder anticipation.

06. Recognition rather than recall

All articles and choices are all around perceived by the clients since our undertaking conveyed forward the items that are as of now recognizable to clients. Or on the other hand, well unmistakable to the clients since our undertaking conveyed forward the items from more seasoned adaptation of Carleton focal that is as of now recognizable to generally clients.

07. Flexibility and efficiency of use

Our undertaking didn't require any adaptability; nonetheless, it is proficient in a way that it does its activity extremely well and the way it should do.

08. Aesthetic and minimalist design

We ensured that our new Carleton focal entryway is as straightforward and moderate as conceivable to the clients. We endeavored to tackle the prolonged issues existed inside the past Carleton focal site, for example, jumbled with joins and having little size text style making hard locate the valuable connections unless clients have great memory of where that connection exists and have a place with.

09. Help users recognize, diagnose, and recover from errors

All mistakes that happen inside the area of our venture, we have ensured that they are easy to understand and simple to peruse or explore through the blunders to settle them.

10. Help and documentation

Since Carleton focal space is just utilized by understudies and workforce, they know about the framework and how to utilize it, other than recently conceded understudies who figure out how to utilize the framework through connections and recordings gave on the Carleton University's page. Along these lines, our venture didn't/neglected to consider the assistance and documentation part of how-to-utilize

Carleton focal entryway. It is however a smart thought to furnish clients with the assistance and documentation worked in the framework. Or on the other hand, be that as it may it is a smart thought to incorporate the assistance and documentation data inside the framework.

4.1.3 Muhammad Junaid Farooqui

01. Visibility of system status

Our system supports client-side rendition that doesn't need a page reload or refresh to load the contents. Therefore, we don't have to keep the users posted with system status, everything happens real-time in a blink of an eye unless there are network issues that would return an error for no connection available.

02. Match between system and the real world

Considering Carleton University a mini-world, we tried to keep all the names and labeling conventions same as original available on Carleton central system, with which users/students are very well familiar.

03. User control and freedom

For users' accessibility, we have kept the main menu available to them at all times, for which they don't need to go back and forth to switch between different menu tabs. Users have freedom to select a new menu from an already opened menu. Logout button is also always available that let the users exit the system at any time they wish.

04. Consistency and standards

Our improved Carleton central page maintains the consistency and standard of Carleton University as well as industry standards. All naming conventions are same besides the layout is very different than original.

05. Error prevention

Our project supports all the errors that may occur during the registration of courses or applying for program switch. Interactive program progression tree doesn't need error prevention.

06. Recognition rather than recall

All objects and options are well recognized by the users since our project carried forward the objects that are already familiar to users.

07. Flexibility and efficiency of use

Our project didn't require any flexibility; however, it is efficient in a way that it does its job very well and the way it is supposed to do.

08. Aesthetic and minimalist design

We made sure that our new Carleton central portal is as simple and minimalistic as possible to the users. We tried to solve the elongated issues existed within the previous Carleton central website, such as cluttered with links and having very small size font causing hard to find the useful links unless users have very good memory of where that link exists and belong to.

09. Help users recognize, diagnose, and recover from errors

All errors that occur within the domain of our project, we have made sure that they are user-friendly and easy to read or navigate through the errors to fix them.

10. Help and documentation

Since Carleton central domain is only used by students and faculty, they are well aware of the system and how to use it, besides newly admitted students who learn how to use the system through links and videos provided on the Carleton University's webpage. Therefore, our project didn't/failed to consider the help and documentation aspect of how-to-use Carleton central portal. However, it is a good idea to integrate the help and documentation info within the system.

