

COMP 3004 - Deliverable 1

Alacrity Development - Schedule:

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Schedula is a mobile application that allows students at Carleton University to efficiently and effectively build their course schedules for an upcoming semester. Our goal is to ultimately substitute the painstaking trial and error process of building a schedule through Carleton Central with an easier and much more user friendly process. We will use an extensive algorithm to generate up to ten possible schedules based on a user's inputted course selections and preferences. By integrating our app with a local database of Carleton's courses offered in a given semester, students simply have to begin typing in a course code to make course selections.

Whether it be for the Summer, Fall, or Winter semesters, planning for your academic life is stressful. You have classes, extra-curricular activities, family commitments and hopefully some free time to consider. And not to mention the worry of understanding all the prerequisite material. Building your timetable through Carleton Central makes this task even more daunting. Many students take the easy route and go with the very first schedule they create that has no time conflicts. And, undoubtedly, regret it when the assignments and tests start piling up. Students shouldn't have to be put in this situation and through Schedula, our goal is to ensure that the easy route is the best route.

We believe Schedula is so interesting because of how applicable and useful it will be to not only ourselves and the students in our class, but nearly every single student at Carleton University. Being students ourselves, we instantly have a very good understanding of our target market. We know exactly what our users will want and how to satisfy this. We have gone through the very same schedule building process and, along with everyone else, have identified this as a current and relative issue. Schedula resolves this for a large target market. As well as this, Schedula is expandable. The same algorithm can be applied for students at any university or college. Once a local database for their courses offered is integrated into the app, it would work in the same manner and solve the exact same issue for a much larger target market.

As reported by Flurry Analytics (Yahoo), 2015 saw a 58% rise of mobile app usage and we are showing no signs of slowing down. This immense surge began in the last 3 - 4 years. This is around the same time Carleton, through app developers Push Interactions Inc., began substantial improvements to their already existing app: Carleton Mobile. These improvements include student account information, UI enhancements, and more recently a campus map, and a weekly class schedule view. Schedula intends on improving the latest addition of a weekly class schedule view by allowing students to generate their schedule efficiently and effectively on the very same mobile device. Carleton's push towards mobile applications highlights the target market's need for information and functionality in the palm of their hands. That is, if we needed more validation that students are more frequently turning to their mobile devices. This is why we believe our application is best suited for the mobile platform.

Functional Properties:

1 Allows users to generate up to ten possible timetables

1.1 User selects semester

1.2 User enters course codes in search and bar and clicks add

1.3 User selects time periods they have strict commitments

1.4 User selects preferable time of classes (morning, afternoon, or evening)

1.5 User selects preferable days of the week off

1.6 User clicks to generate possible schedules

1.7 User selects most ideal schedule and course registration numbers are displayed

User Scenarios:

1) Student A is currently working full time during the day and has decided to change career paths by getting a degree. She plans on studying part time, however would like to keep her current job while working towards a degree. This means taking evening classes. At 1.1, she selects the Winter semester and enters in two courses at 1.2. She works 8:30-4:30 Monday to Thursday and 8:30-2:30 on Friday so at 1.3 she enters these times as strict commitments when she cannot have class. Her children also have hockey practice on a Monday at 8-10pm, so she adds this to 1.3. Since her class schedule is purely built around her work schedule, she can simply leave 1.4 and 1.5 empty. Based on her course selections, and number of course sections and tutorials/labs, at 1.7 she is now able to choose from a maximum of 10 mock schedules. Once she chooses the most ideal timetable, the CRNs are displayed to be easily entered into Carleton Central.

With student A's already incredibly busy life, Schedula begins her journey at Carleton simply. The selection of the very best timetables available will help her to manage her work life, family life, and school life as efficiently as possible, during the semester. Ultimately, student A does not have time to waste in both making her schedule and during the semester, and Schedula is the perfect solution.

2) Student B is entering his second year at Carleton. He will be playing for the varsity soccer team as well as studying this Fall semester, so he selects the semester at 1.1 and enters his courses at 1.2. He has soccer practice Monday and Tuesday evening, and has a weekly game every Thursday evening. These commitments cannot be altered so he enters in the exact times at 1.3. Having practices and matches in the evening, he has a daily diet plan that requires time to rest before playing. So, at 1.4 he chooses morning and afternoon classes as a preference. His Thursday matches can either be home or away. In the case they happen to be away matches, he won't be returning home till very early in the morning. After a very busy week, ideally he would like to have Fridays off and enters this in at 1.5. Based on his course selections, and number of course sections and tutorials/labs, at 1.7 he is now able to choose from a maximum of 10 mock schedules. Once he chooses the most ideal timetable, the CRNs are displayed to be easily entered into Carleton Central.

Student B has a very particular schedule with his involvement in the soccer team. Manually finding the best schedule would not only take a lot of time, but also a lot of patience! His use of 1.4 and 1.5 allows him to test preferences with no time lost if it proves to be impossible regardless based on his course selections. This is why Schedula is perfect for him.

3) Student C is entering her first year at Carleton. She is new to the whole idea of making her schedule, as she had a lot of guidance during high school. She knows what classes she wants to take so enters the semester and the courses at 1.1 and 1.2. She only has one commitment during the week so enters Wednesday from 8-10am at 1.3. She knows she might like to have afternoon classes and maybe a day off, but other than that she is really indecisive. She wants to see possible timetables in front of her and then be able to select from a wide range. So, she enters both morning and afternoon classes at 1.4 and leaves 1.5 empty. Since she has selected few restrictions and preferences, the max number of schedules are generated, and at 1.7 she is able to choose the timetable that she prefers the most.

With the newness of university, student C wants options and choice. She doesn't want to make any rash decisions. The ease of Schedula allows her to take her time and see what variations her course selection has to offer. Schedula gives her the start to university that she needs!

Non-Functional Properties:

The first non-functional property that our system needs to support is reliability. Since our application will be used predominantly in the months and weeks leading up to the beginning of a semester, we must ensure users return to use it for subsequent semesters. Encountering an error when first using the app could jeopardise this. This is why quality is so important for us. Trust will only be established with the customer if they have faith in the system and process we have in place. Our application must generate accurate schedules and guarantee that those displayed at 1.6 are indeed the most ideal schedules based on the user's courses, commitments, and preferences entered.

The second non-functional property that our system needs to support is ease of use. Ultimately, the goal of our system is to allow for easier creation of schedules. A complicated user interface and process to generate the schedules contradicts the app itself and will turn users away. It must be user friendly and there cannot be any ambiguity in both the purpose of the app and the functional properties. We plan to accomplish this by a clean and descriptive app layout. Buttons and text fields will be clear and distinguished. Text will be concise, yet detailed. Colours and graphics won't be distracting. We will also ensure that in the event that no possible timetables can be generated because of limited course selection and/or strict commitments, the user is notified of this and is given the option to adjust their selections accordingly. All of this will satisfy the ease of use requirement.

The third non-functional property that our system needs to support is speed. With the option of six courses and six tutorials/labs being selected, a large number of possibilities could be generated. Our algorithm must process these efficiently and narrow it down to a maximum number for the user to easily view and select one. We don't like a buffering screen and we definitely know our users don't either. Therefore, we must keep this to a minimum and work as quickly as possible to provide the feedback at 1.6.

Mock Drawings:

Our mock drawings on the following page very roughly outline Schedula's usage in mobile app form.

Home Page.

SCHEDULE
REGISTRATION THE EASY WAY!
LET US DO THE WORK!
GO

The home page, if applicable, will describe the purpose and usage of the app.



« CLASS-SELECT		
COMP 30 Q		
COMP 3000 ✓		
COMP 3004		
COMP 3005		
COMP 3000 ~~~~~ X	CSGC 1001 ~~~~~ X	PHIL 2003 ~~~~~ X
« BACK	NEXT »	

< Class Search Bar

< Predictive hints.

- Dropdown menu showing possible classes

< Already Selected classes.

- Provides brief summary and ability to remove.

Time requirements

<< OPTIONS

PREFERRED TIME
☐ MORNING (8-12)
☒ AFTERNOON (12-5)
☒ EVENING (5-9)

DAYS OFF

M	T	W	T	F
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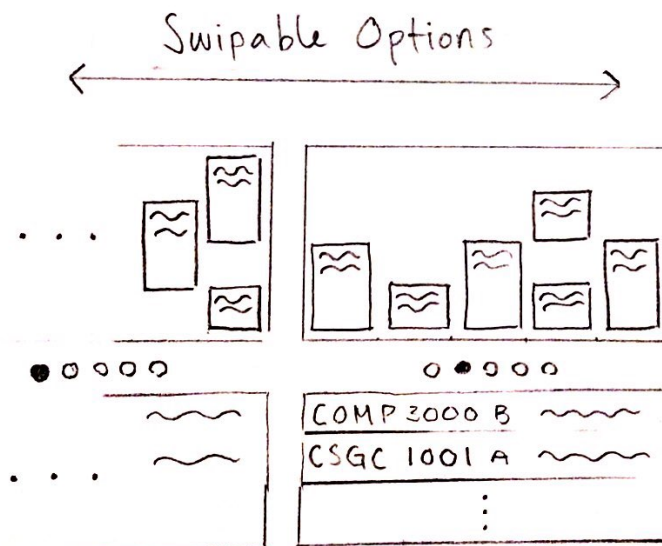
 ...

<< BACK | DONE >>

choose the requirements that restrict availability

< Choose the preferred time to be taking classes

< Choose any days off from classes



YOUR SCHEDULE

...

COMP 3000 A	~~~~~
CSGC 1001 C	~~~~~
...	...

<< BACK | [↑]

< Graphical representation of the chosen schedule.

< List of classes specified in section and time info.

^
 Export
 or
 Done