

**PROJECT I: WEB-BASED SERVICES**

Ambur, Chang & Wang

Bootstrap approach to Wisc Student  
Center class add/search page

# PROJECT I: WEB-BASED SERVICES

## INTRODUCTION

We chose Student Center as the website we study for our project. As far as we know, every student in UW-Madison is forced to use Student Center. We notice most students think it should be made more user-friendly. There have been complaints about the back buttons, the poor search function, dated interface and more. From there, we see great opportunity for redesign.

Among several activities that a student does in Student Center, we chose to study how adding a class is performed. Adding a class is one of the most common activities students do in Student Center. And it is not an easy task, it includes and not limited to going to Student Center, search for class, get information about the class, add class to shopping cart and actually adding the class.

To understand how users actually add a class on Student Center and how they feel about it, we carefully chose and invited three undergraduate UW-Madison students to be interviewed. Two of them are more experienced with Student Center, senior and junior standing respectively, and the other is a second-semester-transferred student. Their majors also varied, one in computer science (and tech-savvy), one is from business school, and one is undeclared. We believe they represent three groups of students both in terms of experience with Student Center and knowledge to computer science, and collectively, our data would be more comprehensive.

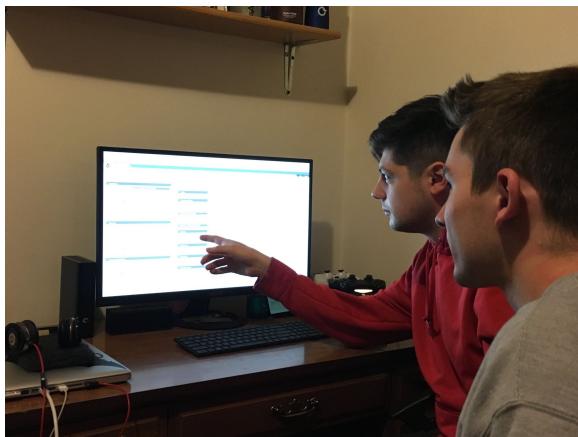
After that, we collected the data from which we brought up affinity diagram and five models. We then brainstormed about design ideas, made some sketches, and came up with a lo-fi prototype.

We did interviews on those three interviewees, and with the feedback we made some changes and made the hi-fi prototype.

From that we have our final solution. In this process book, each of the steps we made, and why we did so will be talked about in detail.

# PROJECT I: WEB-BASED SERVICES UNDERSTANDING

When going into our contextual inquiries we weren't worried about not getting enough data since Student Center is widely used across all UW-Madison students and is highly criticized for being such a poorly designed website. In fact, as soon as we described the premise of the project and what website we were working on, our interviewee's were not shy at all. They instantly began describing aspects of the website that they disliked and already had new improvements that could be made to the site. This was a good Master-Apprentice application of our interview that we took where we let the interviewee take lead and critique the website as we annotated their observations. To get more information from the interviewee we had them do a think-aloud as they added a class to their current schedule. This was the most successful part of the interview because it is where we really saw the breakdowns of the website and the frustration of the user.

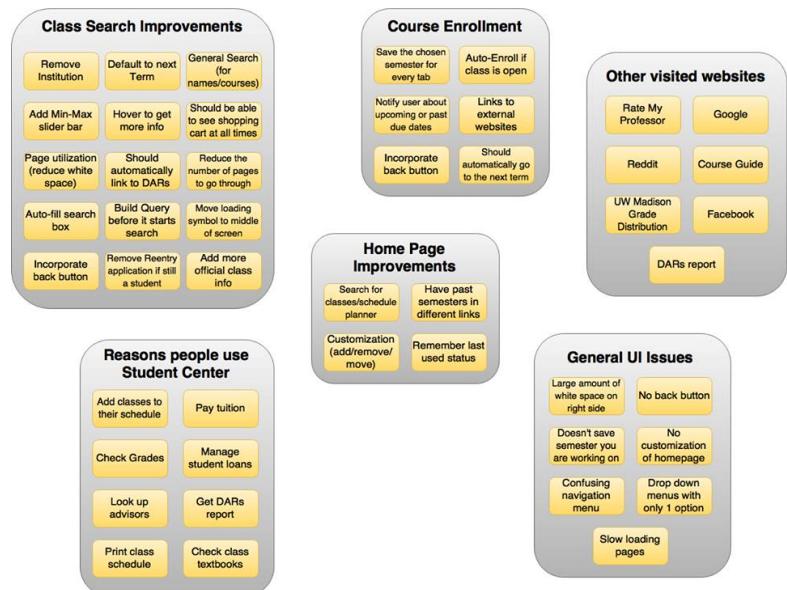


Whether it was the slow loading of each page or the many clicks it took to do a simple task, the interviewee was not afraid to point it out to us. Since all three of us were very familiar with Student Center we already knew its major flaws so going into the contextual inquiries we weren't certain that we would get much more out of them; but we were proven wrong almost immediately.

Yes, each interviewee pointed out the obvious design errors of the website that we already knew such as: no back button functionality, poor use of the entire screen, slow transitions between pages, and the hard to navigate menu. We also discovered so many new things, for example our biggest discovery is that each user has their own way of choosing their classes and they all were different. We didn't even know there were so many ways to choose classes but each user would use a different service or website to find their classes each with their own motive. Some would use the Student Center since it is in the same website, when others would use the course guide because it has a better search function and better layout of classes, and finally even some users would first go to websites to find the best class and see what past students would say about each class. This pointed out the amount of redundancies the Student Center has as well as the thing we need to improve the most; the class search function. There should be no reason a user has to use multiple websites to search for a class, all of these features should all be incorporated into the Student Center.

Following is the affinity diagram that concludes the flaws that we've found from the interview.

## Affinity Diagram



# PROJECT I: WEB-BASED SERVICES IDEATION

Among the flaws that we have found, aside from a completely redone Student Center, we think changing the following places could definitely improve the way users interact with Student Center:

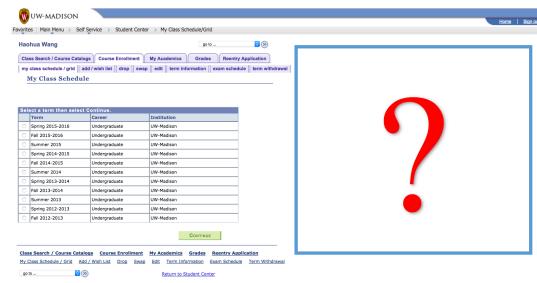
## a. Search Function

Student Center seemed slow because there are so many drop down menus in the Class Search page and after a student changes a drop down option the current page has to reload before the user can move on to the next step. Most of the drop down menus can be simplified or deleted and add a search bar with auto fill and predictive text to enhance the search page.

The current search function only search within a specific category, a better search function would be incorporating the categories and be more general.

## b. Layout

Students usually go on Student Center on computer even though the page is also accessible through smart phone. It is because the page does not adjust its layout according to the window size. Student Center does not utilize the sizes of different screens. So users would have to zoom in and scroll left and right to be able to see the whole page on smart phone. And half a screen of white page is blank when using a 13" laptop to log in to Student Center. A better UI design would dynamically adjust its layout with current window size.



## c. Page Transition Within Student Center

Within the Student Center, students usually refer to DARS, current schedule, and shopping cart when they try to add a class. Currently, multiple tabs are opened during the process.

A better design would be that a student could choose his information to be scanned. And then system would automatically show what classes are needed and the new schedule would be like after adding a potential class. And 'add class' button of a class should be green and clickable, yellow and clickable, and red and unclickable. Ideally adding a class should be done within the click and a page transition from class search page.

## d. External Link

Students usually find course information currently provided by school is not enough. Few other sites that students usually refer to are Google, Grade Distribution, and Ratemyprofessor. We feel adding the external link button would facilitate the users.

## e. Minor Improvements

- Make the loading icon in the center of the page instead of far top right corner where it is barely noticeable
- Make the navigation clearer

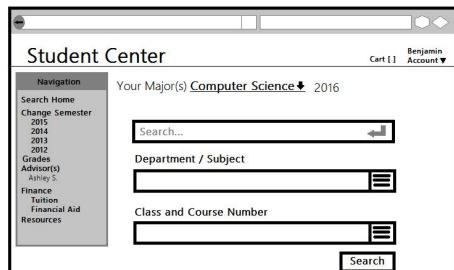
To solve the function issue, we thought by including a search bar, adding external link buttons and load data from DARS. And for UI, we thought by incorporating Bootstrap framework to make Student Center more user friendly. A big advantage of using Bootstrap is its ability to create responsive designs that are compatible with all modern browsers and automatically adjust themselves to the device being used, whether it be a smartphone, tablet, or desktop computer.



# PROJECT I: WEB-BASED SERVICES PROTOTYPING

## Search Home – General Layout

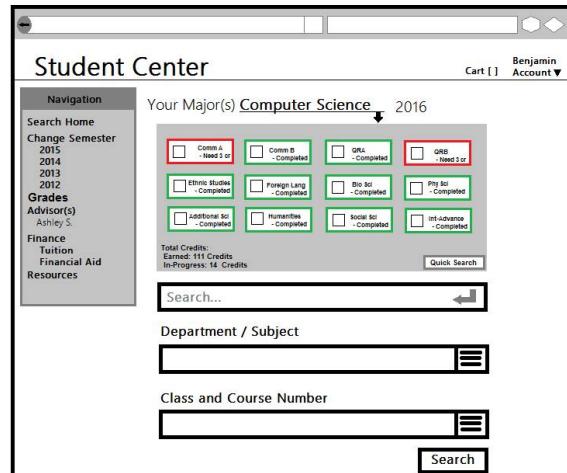
This is the main Search Page of Student Center. It has your major and allows you to generally search, search by department or subject, or if the user knows the class and course number. During our contextual inquiries, the interviewees already knew many of the courses or department they wanted to view. By adding a few (three) search boxes, we could get rid of many of the drop down menus and clickable buttons that flooded the screen and cluttered the Student Center search page. This Student Center Search Home page also has a navigational menu on the left-hand side that allows the user to easily change between semesters and most used functions. As for the top right, user account and how many courses are in cart were taken from commonly used sites like Facebook and Amazon.



## Search Home – DARS Integration / Search

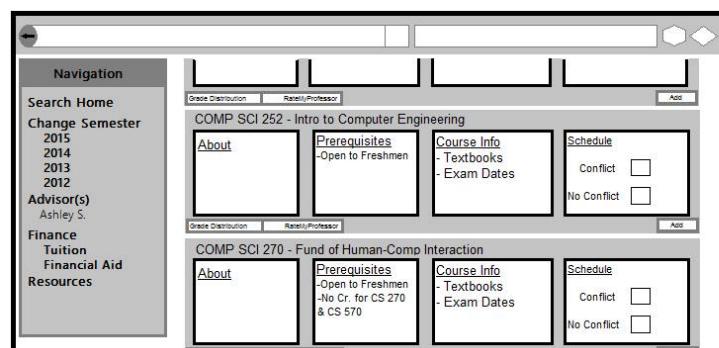
This drop down is obtained from the student's DARS report and is a simplified version of it. It tells the user how many credits a user needs for specific breadths. Within each box of different breadths, the user can check mark the box by clicking on it and click the "Quick Search" button to quickly search for the classes that fulfil what the user selected. At the bottom left of the drop down shows the total number of

credits earned and in-progress, which our interviewees' thought was "cool" information.



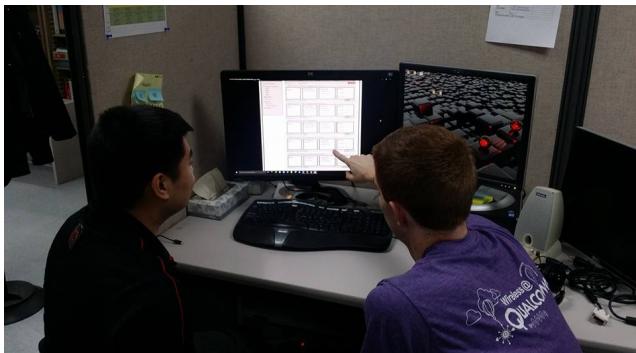
## Searching for Classes

As the users scrolls through the department of courses, the navigational menu moves down with them, allowing the user to have continuous access to different functions of Student Center. During our initial thought process of using Bootstrap to help with responsive design, we thought the use of boxes that expand upon being pressed to show more information that cannot be shown would be a good idea. By having multiple boxes that show varying information about the courses users could easily see basic information without having to click on the specific course first. In addition to having boxes of information, users could add class right from the page or see if the course is full, as well as click on buttons for the grade distribution for that specific course or RateMyProfessor if applicable.



## PROJECT I: WEB-BASED SERVICES EVALUATION

After of Lo-Fi prototyping we performed a contextual inquiry on how the interviewee would use or like this if it was the new Student Center. Through a combination of asking the user to click on things to get to know how it would respond and explaining what the software would do, we got good feedback on things we should change, what was better than the current Student Center, and ideas of improvement for our Hi-Fi prototype.

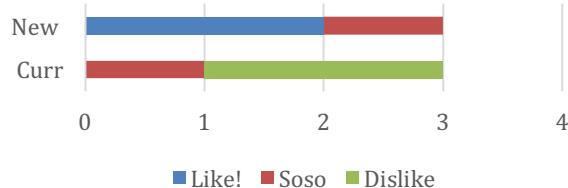


Some ideas the interviewees liked were the navigational menu on the left-hand side, DARS integration of how many credits needed in certain breadths, seeing if the courses were open or closed, and ability to add courses without having to load multiple screens before being able to click “add to cart.” Another thing our interviewees’ liked was having much of the information easily accessible on the searching page.

Some ideas the interviewees did not like were having to click on each box to expand it within the searching for classes page to see more information that cannot be shown. In addition to that, one interviewee said they do not see a need for their advisor to be in the navigation menu. The other interviewee also said having three search bars looks redundant and the general search bar, on the Student Center’s Search Home page, “looks weird and out of place.”

In the end of the interview, we asked if they would rate the new and current Student Center. They said the overall changes are good, and two of them really like it. As the following chart show the difference between the designs.

Overall Rating on new and current Student Center



# PROJECT I: WEB-BASED SERVICES

# FINAL SOLUTION

When starting to create our high fidelity prototype, it was time to take all the information we have gathered about the Student Center (good and bad) and combine it into one working website. Our main goal was to create a clean, organized and inviting website that students wouldn't hate going to. After evolving our design ideas from sketches, to testing our low fidelity prototypes with students; it was now time to start developing our final layout in Photoshop, where we then brought our Photoshop illustrations to InVision App where our still screenshots came to life with working buttons.

Our group decided to focus on the most popular and arguably the most important function of Student Center, searching for a class. Major changes we made to the final high fidelity prototype are:

## Search Functionality

In the old Student Center the search function is in such need of improvement most students don't use it. It is in its own page, there are drop down menus when there doesn't need to be, many unnecessary search options, and a confusing layout. Here we have incorporated the entire search menu on the left side of the screen. This menu will move down with you as you scroll for classes, enabling you to complete a re-search in the same page instead of going back to a different page. A key new feature is that it now **links with DARS report** so

The screenshot shows a web-based student center interface. On the left, a sidebar titled "Student Center" contains a "Find Courses" section with a search bar and filters for "Term" (Spring 2015 - 2016, Summer 2016), "School or College" (+), "Subject" (+), and "Breadth" (+). Below these are checkboxes for various academic categories like Biological Science, Humanities, Literature, etc. At the bottom of the sidebar are buttons for "Instructor" (+), "Level" (+), "Clear", and "Search".

The main content area displays two course search results:

- COMP SCI 252 Introduction to Computer Engineering** (Monday-Friday)
 

Section	Day	Time	Location	Instructor
COMP SCI-252-001 LEC	Monday	9:45 AM - 10:45 AM	MICRODIAL SCIENCES BLDG	Michael Morrow
COMP SCI-252-001 LEC	Tuesday	10:45 AM - 11:45 AM	MICRODIAL SCIENCES BLDG	Michael Morrow
COMP SCI-252-001 LEC	Wednesday	10:45 AM - 11:45 AM	MICRODIAL SCIENCES BLDG	Michael Morrow
COMP SCI-252-001 LEC	Thursday	10:45 AM - 11:45 AM	MICRODIAL SCIENCES BLDG	Michael Morrow
COMP SCI-252-001 LEC	Friday	10:45 AM - 11:45 AM	MICRODIAL SCIENCES BLDG	Michael Morrow
- COMP SCI 302 Introduction to Programming** (Monday-Friday)
 

Section	Day	Time	Location	Instructor
POLY TECH 100-001 LEC	Monday	1:45 PM - 2:45 PM	SULLIVAN HALL 449	Anthony Jakubczak
POLY TECH 100-001 LEC	Tuesday	1:45 PM - 2:45 PM	SULLIVAN HALL 449	Anthony Jakubczak
POLY TECH 100-001 LEC	Wednesday	1:45 PM - 2:45 PM	SULLIVAN HALL 449	Anthony Jakubczak
POLY TECH 100-001 LEC	Thursday	1:45 PM - 2:45 PM	SULLIVAN HALL 449	Anthony Jakubczak
POLY TECH 100-001 LEC	Friday	1:45 PM - 2:45 PM	SULLIVAN HALL 449	Anthony Jakubczak

Both results include sections for "Course Info", "Available Sections", "Grade Distribution", and "Schedule". There is also an "Add Class" button at the top right of each result.

the student can see exactly what classes they have left to take.

## Course Information

After completing a search, on the main section of the website a detailed list of classes will appear each showing the name, title, description, and even what requirements the class fulfills. This makes it very easy for students to compare classes they want to take. The old student center would require multiple clicks to find this information out and no way in which you can compare a class against another class.

There is also a section that shows the professor, their email, as well as a **link to RateMyProfessor page** since every student we interviewed would immediately go to RateMyProfessor once finding out who the professor is.

## Sections/Schedule

Not only did we show the user what sections are currently available, waitlisted, or full; we gave them the opportunity to see if that section will fit in their schedule without completely enrolling in the course. In the old Student Center there was a broken system where you had to add a class to your 'shopping cart' and then go through multiple pages just to see if it will fit in your schedule. Here we make it incredibly easy for the student to see if they will have a conflict with a certain section right in the search functionality of the Student Center.