**Milestone 2 Write-up**

**Interview Procedures**

In order to verify the conclusions we gathered from the Milestone 1 interviews, we created a series of paper prototypes and interviewed three different people per prototype, after which we would revise the prototypes based on feedback and repeat the interviews again. This process was repeated with three different sets of interviewees. The diversity of the interviewees were based upon the same goals as the Milestone 1 interviews, namely that a wide range of academic years and schools is ideal.

With each iteration of interviews, we would take user feedback, weigh their difficulties and suggestions against the goals of the project, and make changes to the prototype to reflect any weaknesses that we may have come across.

**Methodology for Data Collection**

In order to gain insight into the effectiveness of our current design, we issued a series of tasks for the interviewed user to attempt to accomplish. We decided to forgo a simple “tutorial” task as none of the interviewees seemed to have any difficulty with the concept. Our initial question was also deemed easy enough to effectively serve as a tutorial.

The list of tasks asked can be seen in the *Paper Prototype Interview Process* section. The methodologies used are also described in detail there, upon which new interviews could be conducted, if need be.

In order to minimize the amount of bias present in the interviews, users were only provided a brief description of how a paper prototype would function (how to interact with items, showing how we would manipulate the different pages ourselves). Apart from that, users were encouraged to describe their thought process verbal as much as possible, and while issues and their questions were noted, they were not answer until after the final task. At the end of the interview, any questions they had up until that point were answered, and they were permitted to ask any additional questions or provide critical feedback.

**Addressing Shortcomings from Milestone 1**

While designing the paper prototypes and the accompanying tasks, our main goal was to create a system that would best match the natural thought processes of students when managing their academic status. To that end, we fortunately (or unfortunately) conducted a number of additional interviews during the Milestone 1 revision which better addressed any inconsistencies in our goals. During the design phase we did not feel that we were lacking in any area that would prevent us from determining any goals for the project.

**Creating the Paper Prototype**

To create the prototype we used the pidoco.com. This allowed us to see each others changes and keep track of old versions. It also allowed us to make sure all the pages had a similar feel and look to them. For the actual testing with users we printed and cut out pieces to form our prototype.

Link: <https://pidoco.com/rabbit/edit/260397#/map-view>

(if necessary username: [a.n.santrach@wustl.edu](mailto:a.n.santrach@wustl.edu) password: webstacGroup1!

**Paper Prototype Interview Process**

**Tasks given to interviewees:** The interviewees were given seven tasks to complete via the paper prototype.

* Login and view your user account
* Find the course listing for BIO 101
* View your schedule and the details for Art101
* Review your current course
* Find courses in a department that aren’t full
* Drop a current course
* Complete registration on added courses

We tried to design tasks that would not only accomplish a series of common tasks that we believe a common user would have to accomplish, but also tasks that would require users to access many different pages across the system. Following Milestone 1, it was determined that our site should focus on several key features, which formed the basis of what we wanted to expose to interviewees. These included being able to view details about a student’s semester (such as current schedule, degree audit, academic calendar, etc), being able to search and add courses to a registration queue, and manage a student’s courses. One feature that is not present in WebSTAC but we felt was highly requested enough to add was the ability to reviews to a course. Alongside the usual course description are past reviews for a course, and a particular student’s course reviews can be viewed on their account page.

**Changes made to the prototypes:**

Following each iteration of interviews, the paper prototypes were modified to better reflect issues and critiques found during the interview process. The next iteration would then test on the modified prototype. While some suggestions, such as aesthetic recommendations, are useful to note for later, they were not prudent to the paper prototyping phase of the project. These prototypes, while accurate to the vision of the project, were not meant to be wholly representative of the final project visually. At the end of the paper you can see the notes we took throughout our interview process.

However, functional recommendations were noted, and some of which were utilized to increase the clarity of the project, as noted below:

**Round One:**

The main struggle that users encountered throughout round one were difficulties locating various elements on the page. For the most part, their thought process on how to accomplish a task seemed sound and agreed with our layout, but the options to navigate there were not as straightforward as the user would like. To that end, we added some clearer navigation paths to items, such as adding clearer options on how to add and remove courses from the user’s list. Another common criticism is that the main page seemed a bit sparse. Our thought process was to mimic some of the visual designs of Google, where search classes would take the main visual focus, and other administrative links would be along the top. Users felt that the main page should focus less on searching, and provide equal visual space to various elements. Other changes include:

* Clarifying some UX issues
  + Made it more obvious to add/remove a course
  + Added ability to drop course from course description
* Redesigned main page
  + Renamed ‘home’ to ‘search’ on nav bar
  + Made nav bar more visible

**Round Two:**

One of the main criticisms given during the second round of user testing was related to the usage of the main page. This is something that came up briefly during the first round, but was a much more noted issue during the second round of testing. Users felt that the main page was too ‘sparse’, and that it should provide more immediate functionality. Some suggestions include instead using the account page as the main page or adding additional links to the main page. After some discussion, we elected to not make the account page the main page of the site, in order to maintain a separation between the administrative functionality from the rest of the site. Another request we considered was removing the initial page, which was simply a logo and a ‘login’ button. This page is similar to the initial page on WebSTAC, which has some university news and a login button. For the time being we decided to maintain the page as is. Other features we did add include:

* Ability to change the calendar between a weekly and monthly view
* Converting the ‘Drop Course’ confirmation into a popup rather than its own page
* Revised some confusing UI elements
  + Replaced the “+” button in the ‘Searching for Classes’ page to be more intuitive
* Added additional search filters
  + Showing only courses where Prerequisites are met
  + Showing courses for a specific number level (ex. 200-299)

**Round Three:**

After improving the system based on first two rounds, during this final round, the main complaints from users are focusing on detailed functionality. These functions will directly influence the UX of the system. Beyond that some of the features previously mentioned in prior interview sessions made a recurrence in this round of testing. Something that we thought would be a one-off comment, removing the ‘login’ button page, was brought up again. In the end, we decided to heed the recommendations of the users and remove that page. Now when students visit the site, they will be directly navigated to a login window, similar to how the new canvas system directs students. They claimed that they desire to access the system as soon as possible.

After discussing the interviews, we modified the following items which we think reasonable:

* Added average GPA for the courses have been token on the graduate requirement page
* Added the ability to import the current course schedule to the Google calendar
* Added a link of professor’ personal page on course description page.
* Updated the registration process. First add course from the list to wishlist, then move course from wishlist to the final decision pool. The remove process would go in the opposite way.
* Add the link to WashU academic calendar, also shows the most important events, such as: the deadline to withdraw/drop the course, full break, etc.
* Updated the final exam time on the registration page.
* Added the anonymous review mechanism

**User Demographics:**

Similarly to the first milestone, our goal was to get a population of students that were as varied as possible with regards to academic year and school. In our first round of interviews we had three students, an undeclared sophomore, an accounting senior, and a junior engineering student. These students were all found in the DUC, and asked if they had the spare time to complete a few tasks. Many students were studying or meeting with other groups, but these three had free time for the interview.

In the second round we had one undeclared freshman, a linguistic-major junior, and a BME sophomore. The third person is an international student while the other two are from the US. Finally, the third round featured a 1st year Economics master student, a 2nd year Engineering management masters student, and a European History sophomore student; all of which are international students. This group had both a diverse academic background and a diverse experience with registration.

Altogether, this resulted in one freshman, 3 sophomores, 2 juniors, 1 senior, and 2 graduate students, representing three different academic schools.

**Conclusion**

Throughout this stage of the project, the paper prototype adapted mainly to increase the ease in which a user can locate potential course information, and view and manage their own personal details. While we did receive some suggestions about aesthetics or functionality that weren’t necessarily prudent to this milestone, these are comments that may potentially come in use for later stages of the project. There are some remaining debates, mostly about the placement of pages within the site. However, we feel that we have gained enough insight regarding user expectations and navigation trends to be able to craft a functional and intuitive interface.

**Notes from User Testing**

First round of interviews

* Users struggled with the search bar being on the home page
  + Changed home to search on top menu
* Users found that we forgot to put the drop a course on the course description
  + Added the functionality
* Adding a review was not complete
  + Added screen for that
* Having the search screen as the first page might not be the best option
  + Might want to consider using the account page as main screen.
  + Most users overlook the first screen
* Comments on how top navigation bar is too small and easy to miss
  + More of an aesthetic issue for later, but worth noting
* Drop course button missing from popup?
  + Confirmed that it’s there, may have not printed correctly
* Some confusion on adding courses
  + Added ‘remove course’ buttons on registration confirmation page
* May need to revise tasks: Tasks 1 and 3 both tell them to reach the same page
  + Perhaps a task requiring different parts of account page, or more specialized search

Second round:

* Suggested using account page as main screen
* Suggested adding “registration notification” to main page
* Suggested to not have the initial login page (start directly at the page that you type in wustl id and password then login)
* Suggested to make “Drop Course Confirmation” a pop up window, instead of an individual page
* Suggest to add filter “Met Prerequisite”, “Only 400-level and above”
* Tried to change calendar from monthly view to weekly/daily view
  + Added buttons
* Confusion about what the “+” button does in “Searching for class” page
* \*aesthetic issue\* Comments on the initial login page being not so aesthetically appealing (functioning properly though)
* \*aesthetic issue\* Comments on make course description in the center of the page

Third Round:

* Recent news Miscellaneous (typo)
  + Fixed
* Should be directly to login, since most of the students still want to be straightforward
  + Need to discuss
* Main page should be the one that has current course listing, that can view the current course, search should be on the top. At least, it should not be the main part. \*3
  + Need to discuss, but it seems most of students mentioned this
  + Changed
* Should have time horizontal line to precisely indicate the time
  + Add horizontal line
* Course description action bar is misleading. The content here should be the editing option of the current selected course. The general navigation bar should be moved to other place
* Adding review, anonymously?
  + Add functionality
* The layout of monthly is misleading. Would be better to simulate the MS calendar. Overview of whole semester, vocation, study day
* First add course to waiting list. Then at registration confirmation final confirm. Also be aware of the time schedule
  + Add wishlist pool in the registration page
* In the degree requirement page, add score/GPA, clear difference on which has been token, taking and not
  + Add functionality. The way to display should be discussed.
* Add avg score for certain course
* Professor personal page link, could have available time for professor, add making an appointment
  + Added the link
* Add google calendar to work
  + Add a link to import the calendar to Google
* View my current wishlist
  + Added
* Suggestion on drop course to wishlist
  + Added
* Set an alert for important academic deadline, eg. drop, withdraw
  + Added
* Add exam time
  + added
* If the calendar can be added to google, then the academic calendar is meaningless
  + Added a search icon on the main page
* Academic calendar is meaningless if it can be imported to the google calendar. It can have a link to the important event on Wustl page
* Login button is meaningless