SOFTWARE SYSTEM ENGINEERING
CAPSTONE PROJECT

SHIKSHA THE PLANNER

AFTER ACTION REPORT

-BY CALTOR TEAM

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Content

1. Problem Definition

Normally, the academic transition program students would rely on an excel sheet to manually input their grades then the existing excel template would generate the grades for them. Currently, the excel template consists of many tabs that would let the users have a hard time to navigate, also it consists of many errors that the Instructor needs to fix and redistribute the excel template. We plan to fix that with a user-friendly interface to make it more convenient while also having data confidential and security in mind and less errors.

2. Initial Plan

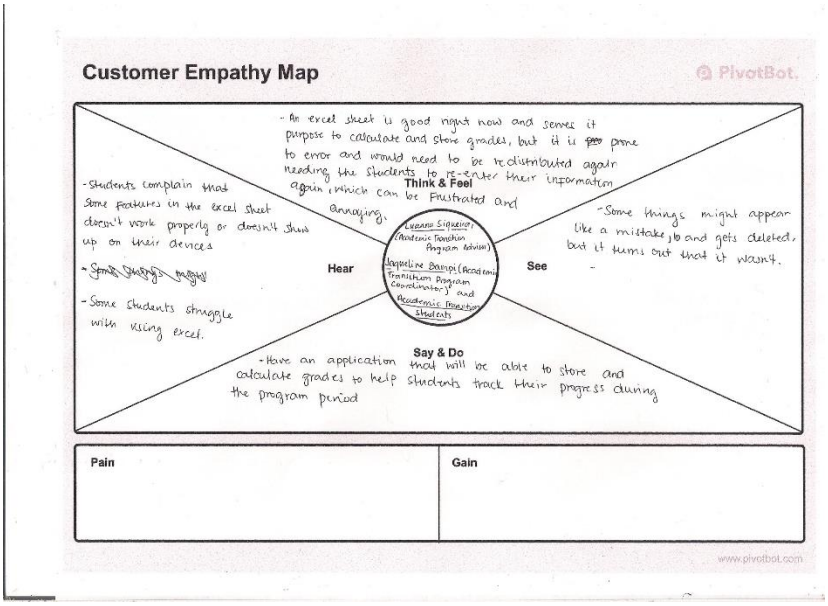
2.1. Scope

SHIKSHA The Planner, an internet – based application is an updated version of the manual system of Grading Calculator and Academic Plan System which is used by Academic transition program in University of Regina. It is specifically designed for students who are in probation period since it will offer a customized interface catered specifically around them. The Grading Calculator System would be available for any students in academic transition program as well as the teachers/professors assigned to academic transition program.

2.2. Initial Methodology

The initial methodology we were following was an agile-waterfall hybrid. Our process was very linear, but at the same time, we would go back a step and re-evaluate and give each other inputs and our stakeholder were involved in all the steps taken.

We started off with getting the problem definitions from our stakeholders Luanna Siqueira and Jaqueline Bampi from the Academic Transition Program in University of Regina. Below is the empathy map we created to get more of a sense on what they were thinking.



Once all the requirements were gathered, we then started to create our low-fidelity pages. Once those were approved with then started to create the prototype.

2.3. Initial Tech Stack Decisions

Our original plan was to use ASP.net framework for our front-end, PHP and MySQL for back-end. Our server would be hosted in AWS. These tech stacks were chosen because we wanted to do something new and learn it.

After having our initial meeting with Luanna, she told us that the web-application needs to be stored in the University of Regina for them to be able to use it. With this constraint, we were not able to use AWS. Then, we had meeting with Glenn from the IT Department to discuss for having access to a server space to store our web application. He told us that they do not support any Microsoft software. Instead he told us to use HTML, CSS and JavaScript for front-end and PHP and MySQL for back-end.

With the new constrains we followed what Glenn said and used those languages to build our website.

2.4. Expected Timeline

Our expected timeline was to gather all requirements, design process completed and finalized by the end of the Fall Semester. The front-end would be completed by the beginning of January and have the back-end development completed by late February or beginning of march.

At the beginning, this plan was working out perfectly. We were able to gather all requirements, have user stories mapping completed, and lo-hi fidelity done by the end of the Fall Semester. At the beginning of January, the front-end was not completely done, but it was close to being done. Example in Figure 1.

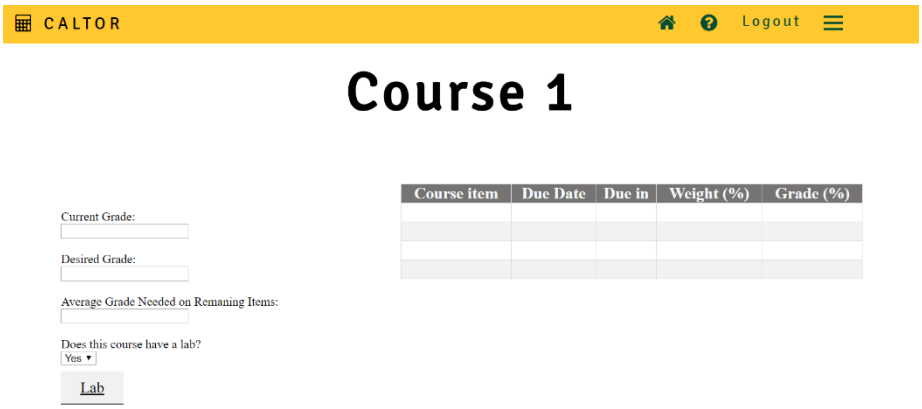


Figure 1

We then had a meeting with Luanna in the middle of January and showed her our final front-end design. Her feedback was, she wanted it to be more dynamic and opposed to the static html that we had. At this point our initial timeline was discarded and we decided to just use React JS to implement the front-end. This set us back, because we had to relearn a new JavaScript library.

3. Actual Outcome

3.1. Final Scope

The final scope was still the same. We are still creating a web application that will be able to help the Academic Transition Program in University of Regina have a better grading calculator and academic plan. This web application will be able to store data being inputted by student and calculate the remaining grade needed for their

classes. Also, students will be able to plan out their academic path using Academic Plan.

3.2. Actual Methodology

The actual methodology, we used to be Agile. Because of our setback, we reevaluated our situation and going forward with the Agile-Waterfall Hybrid would not be a good idea. We changed our User Story Map (USM) on bases of most priority to low priority pages. The picture below (Figure 2) is our updated USM along with MVPs. The plan was to at least have MVP 1 completed before Project Day.

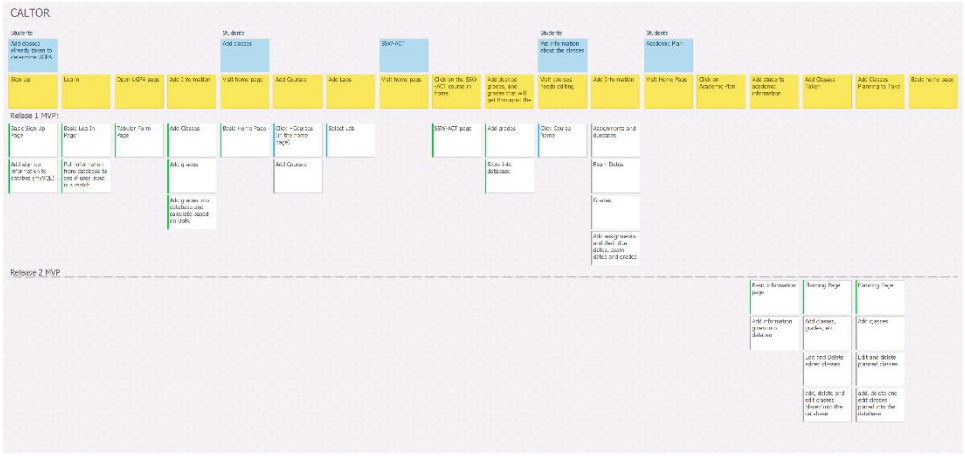


Figure 2

3.3. Final Tech Stack Used

The final Tech Stack used are:

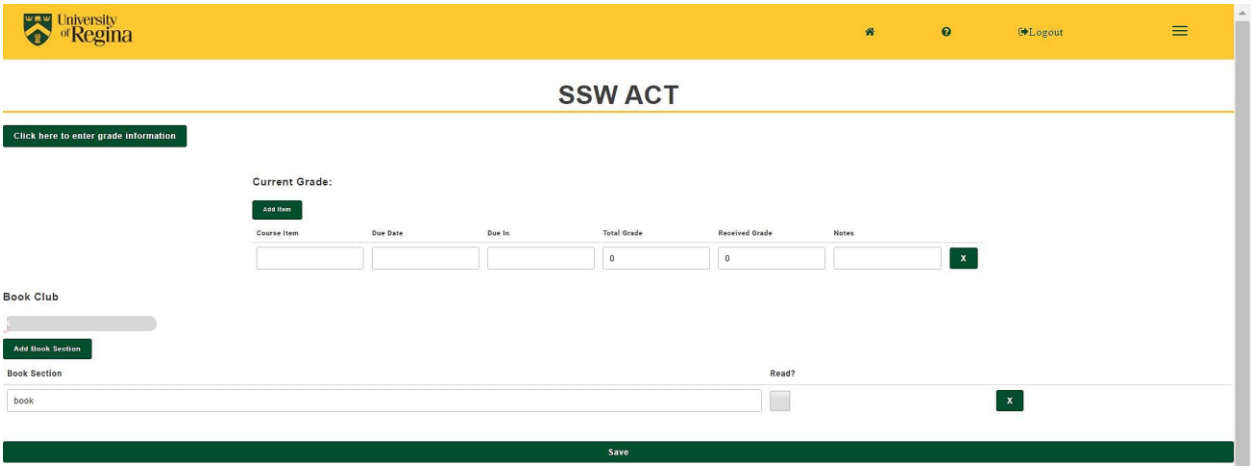
- For front-end, React JS and CSS
- For back-end, PHP, MySQL

3.4. Major changes

The major changes that we made was, changing from static to dynamic which set us back because we technically had to start all over again. We had to learn a completely different type of JavaScript. Our design has not changed drastically, but it is more dynamic.

4. Final Product

By end of March 2020 we got our interactive web-based application ready with our best efforts. Our one of the main pages, SSW ACT of website is shown in picture below.



5. What can be improved

Things that can be improved are:

- We could have used better React JS if we started learning it early into the project.
- Using only Agile should have been implemented at the start.
- Organization of time could have been better. There were barriers from other classes which made it hard for us to focus on project and give time to it.
- Communications and meeting regularly with group members would have resulted better.

6. Conclusion

SHIKSHA The Planner, Web based application created by us (CALTOR Team) was great journey and fun time. We got to learn so many new things. We got an opportunity to work with client through which we got experience of real-world situations. There are barriers coming through our road, but we must continue and if we fall, we must standup with more excitement and energy of working and learning something.