Framing Sprint Analysis

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October 26, 2020

In the past, whenever I tried to address an engineering problem, my approach was never particularly structured. As a result, I rarely thought very explicitly about some aspects of the solutions I was coming up with. Having completed the framing activity, I realize now the foremost element I failed to consider in the past was the stakeholders. To help cement the understanding I've developed in completing this assignment, this reflection will outline and explain the flawed approach my group and I took initially to developing a stakeholders section, the steps I took to try to correct the problem and understand why it occurred before closing with a brief 'lessons learned' for this activity to summarize my experience with this assignment.

Having decided upon what the focus of our design brief would be - addressing the planning fallacy in students - the first thing we did was develop a stakeholders section to set a foundation for the rest of our report. Initially, our group's understanding was that including more stakeholders would be better, because this would allow us to consider a wider variety of needs and would therefore lead to the development of a product that was more robust as a result. To illustrate this, I've included a screenshot of an early draft of our stakeholders section in Figure 1.

Stakeholders

University of Toronto Engineering Science Students

U of T engineering science students are the primary stakeholders of the solution. They use the solution to improve their learning efficiency (do all the work in minimum amount of time in order to get the best result) in online learning process. As for now, students don't know how many hours they must dedicate for each task on a specific course to get a reasonable mark. Also, to how manage their time in order to have time to do all the tasks they must complete. Subsequently, the solution would help students to define the best way to improve their online learning experience and be more efficient.

Professors and TAs

Professors and TAs are the people who administrate students work; after students they are directly in touch with the problem. It is important to acknowledge them how long it takes students to do the work they assign. ~~As mention in previous stakeholder, the solution will help students to be efficient meaning they will get better marks~~. The solution will improve the average grade of the class for each course. Although professors and TAs cooperation cannot be guaranteed, but this can help them to improve their courses and the way they choose their assigned materials.

Academic Advisors

Academic advisors monitor students' academic success while helping them to have a better learning experience. The solution of this project will make the job of the academic advisors easier. When students know how much time they must indicate for each task they can manage their time in order to do all the works they have to do. Accordingly, the academic advisors need to put less time with students to walk them through the time management and more to how students can use different methods of studying to best use the time they put into a task.

Students' Families

As people who are directly in touch with students, families can benefit from the solution in many ways. When students know how much each task is going to take, they can work more efficiently. This benefits students' families to easier plan the family times because now they know when their son/daughter is free and can spend time with them. Also, when students are efficient in their studies, they will be happy and satisfied; this is resulting them to have less stress and subsequently less stress to their families. Another result of being more efficient in learning and being satisfied with their work, is that students will have a good mental health. All in all, the solution of this project will make students' families happier and will cause them to spend more quality time with each other.

Mental Health Advisors

Mental health advisors help students to maintain their mental health in all circumstances even under stress during studying in university. The solution will help advisors to less focus on anxiety and stress caused by students' low performance in their courses and more into other aspects of their mental health.

University Staff

University staff are always interacting with students. The solution will cause students to be happier and amiable when interacting with staff. This will cause the university to have positive and happy atmosphere.

Figure 1: One of our early drafts of the stakeholders section we developed. Note that the contents of the section are not as important for this point, just that we have a broad range of stakeholders with a broad variety of goals.

Once we started developing our objectives, we began to see why the failures in this approach. First we considered areas where stakeholder interests differed and worked out which stakeholder would take priority in these cases. In doing so, we found that not only was our list not remotely robust enough to support objectives being formed upon it, it was also spread so thin that pairs of stakeholders were holding the exact same objectives in every case, causing us to question whether or not it was worth differentiating between them or excluding one outright.

With my group moving on to focus on other aspects of the assignment, I stayed back to develop the stakeholders section so that it might better help a reader understand our opportunity, instead of just ticking off boxes on a rubric. Generally, when I'm stick in a position like this I like to consult documentation available to make sure I

understand what is intended or required from a specific task. Consulting the lecture on stakeholders provided by Professor Sheridan, I found a slide that contained two pages from a book on reference engineering to be particularly helpful [1][1]. The section presented a model which outlined what could reasonably be considered a stakeholder and why, implying a degree of exclusivity for other matters. The part I found of particular use was in the introduction to the section where it is described how one could think of stake holders in terms of degrees of separation from the opportunity, something I had not considered while we were initially working on our stakeholders section. Using this model, I went back to our stakeholders section and reconsidered which were reasonable to include. With that, I developed the final stakeholder section in Figure 2.

2 Stakeholders and Their Objectives

While students are the main stakeholders in terms of use of the product, several other stakeholders must be considered for a solution to this opportunity. The order of the list of stakeholders and their objectives is not in any particular order.

2.1 Students

As users of the solution, students must be catered to in a solution to this problem. Currently, many students are using nothing better than "dead-reckoning" to judge how long and how well a project will go for them, despite the fact that students tend to be consistently overconfident in these areas. Students in general would therefore benefit from some sort of solution that provides them with guidance for making these decisions.

2.2 Professors and TAs

As the people administering the work students are working on, it is important to keep in mind how they will view and potentially interact with the solution. While the participation or cooperation of course administrators cannot be guaranteed, it is always important to ensure that solutions don't violate their standards for academic honesty and the standards of their course.

2.3 The Facilitators of the Solution

While this group isn't necessary for every conceivable solution, it is likely that there will be a group of people distinct from the greater student body that are responsible for the upkeep and/or distribution of the solution. The function and therefore needs of this group depends on the solution, but should nevertheless be considered.

Figure 2: Stakeholder Section from file our group submitted. Again, the contents of the figure are not critical, just that it is a much more compact section.

It's clear that the final draft is shorter than the first, however I think that, despite this, the information it provides is richer than the early draft. I think I accomplished this by focusing on information that was more clearly relevant to what we wanted to express, instead of presenting as much information as I could and hoping the point would get across through sheer volume. Questioning what information I include in my writing is something I'd like to carry over not only into future Praxis assignments but also whatever other writing I do in the future.

References

[1] J. Dick, *Requirements Engineering*, pp. 118, 119. Springer Inernational PU, 2018.

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[1]I did not include a figure containing the two pages I'm referring to because it would have forced me over 2 pages for it to be legible.