ENSE 405 Project Report-out & Lessons Learned

Project name & members

Project Name: Project Vitality

Team Members: Onisokien Ayonoadu & Jaskirat Josan

Project sponsor

Dr. Tim Maciag (ENSE 405 Lecturer)

Business need/opportunity

Studies show that malnutrition can be significantly prevented through implementing good breastfeeding practices from the start of a child's life up to two years and beyond. We want to create a web app that allows community workers to keep track of the progress being made on the correct breastfeeding practices. The web app allows community workers to keep track of the progress of each mother and child through consistent questionnaires and comments that can be viewed in a graphical way to see the change in progress over time. Through tracking the progress in every community, we hope that it can help the community workers and supervisors make informed decisions on what is working and what is not, or request more resources if needed. Furthermore, the data collected through our web app would help the United Nations in understanding how the information that is being taught on breastfeeding is being received and implemented through different communities all around the world.

Reflections on project planning

United Nation's Sustainable Development Goals selected: This project aims to support UN Goal 2, Zero Hunger, and subgoal 2.2 which states "By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons." Goal 2 was interesting to us because we both come from countries that suffer greatly from malnutrition. Working on this goal made us feel as if we were helping the cause to end malnutrition and make a positive change in not only the countries we come from but communities all around the world.

Key findings from community research and understanding: While researching our project, we could not find any similar technologies.

Selected north star & carryover customers: Our Northstar customer is the community workers as the tool is currently for the community workers to track progress in their community. The carryover customers are the community supervisors (in charge of multiple communities) and the UN. The web app can be used to report back to the supervisors and the UN to show the impact of the current techniques implemented by the UN and also to track the progress of various communities.

Assumptions made and constraints uncovered: We assumed that every community worker would have access to a mobile device and would have basic technological knowledge. We also assumed that the community workers could read and write in English as the web app is made in English. The constraint for our project was time. Time was very limited throughout this semester due to capstone and other project-based classes.

Discuss initial & the evolution of your technology stack selection drafted prototypes, and initial Minimum Viable Products (MVPs)

We initially had a different idea of what we were going to build. We originally wanted to create a condensed educational learning site for community workers that would link to modules and digestible highlights of the three most important topics for UN Goal 2. These three topics included Breastfeeding awareness, micronutrient intervention, and the first 1000 days of a child's life. We started running into multiple issues as our project progressed. We were having technical issues regarding the core aspect of our design which was the modules. The current UN e-learning module site had many technical issues. For example, the email verification system is broken and takes days to verify your email. Also, The e-learning modules were set up in a way that could not be duplicated onto our site without essentially creating it from scratch. Given the timeline of our project, we felt that the module feature had to be omitted and we realized since the module feature was not going to be part of our website, the site was not going to have the same impact as originally planned. And this is because the main point was to have condensed information lead into the modules and then be able to track progress. So we had to go back to the drawing board and refine our idea and redesign our Lofi. Due to the redirection of our project we were able to narrow the scope of our project to just focus on breastfeeding awareness and also come up with a fresh new idea which became the MVP we eventually presented during the final presentation. We constructed our lo-fi's by hand and used Google Firebase and React JS all throughout the semester. We were quite familiar with the combination due to using it in our capstone for the past eight months.

Reflections on Project Results

Best Project Results: Our final MVP was very close to the original prototype we had designed (except for the graphing library that turned into a tabular format).

Google Firebase proved yet again to be a great hosting service. It handles authentication and also organizes our database in an orderly manner. It can be used for applications of all scopes and would be suitable to grow with our project.

The MVP was refined during each scrum with the feedback of students and the teacher. We implemented everything we could justify in the timeframe we had to make our MVP even better. An example of this is the flagging feature on our web app, which was suggested to us by Dr.Maciag.

Poor Project Results: Due to the extremely busy semester and roughly one month of development time on our web app, we were not able to provide as refined an MVP as possible. However, we did deliver what we said we would deliver.

Summarize what went well during the project: We were able to use our knowledge of React JS and Firebase from our capstone project and use it in this class to create a web app as well.

Summarize what did not go well during the project: This class was taken during the final semester of engineering which included various other project classes including capstone. This did not allow us to spend as much time on this project as we wanted. Time really proved to be an issue this semester due to the workload from all the classes we were in.

What would you do the same for future projects? We think it was smart of us to use the knowledge we learned through capstone in regards to React Js and Firebase. For future projects, we will continue to apply the knowledge we have learned through different projects on future projects as it strengthens previous knowledge learned and sets up a foundation for new knowledge to be learned.

What would you do differently on future projects? We would love to take on projects that we can invest the appropriate amount of time in, which unfortunately was not the case during this class as we had multiple other projects going on as well.

Summarize opportunities and design ideas for future work: For future MVP's we would like to add the option of also adding a picture of the child every time the questionnaire is done. Furthermore, it would be beneficial if we adopted the app in different languages to better suit different regions that the UN operates in. We could also implement role-based access which allows the supervisors to directly comment on reports and maintain a stream of communication with the community workers.