

IS4250 PROJECT GUIDE

The goal of this project is to provide an experience working with course concepts in the context of a real-world setting. The intent of this project is for you to:

- Learn about the healthcare industry and identify a problem that specifically interests you,
- Discuss and apply course concepts in a ‘real-world’ setting, and
- Improve your writing, speaking, team, and analytic skills.

Students generally find this project to be a very effective way to tie together the various pieces of the course, to complement the knowledge from other courses, and to have fun by getting their hands dirty solving a real problem. Some may even use this to launch new ventures!

Your task will be to work with a team of 4-5 people of your choosing to identify a health or healthcare issue faced by patients, healthcare providers, and/or the general public, it can also be an opportunity you see. Then, you are to design a prototype of a solution (e.g. web application) to the identified issue or opportunity. A 6th member will be allowed if a working prototype is to be created. You will have substantial leeway to identify an issue or opportunity and develop a solution.

Do note that it is normal for your identified issue/opportunity or solution to evolve. For instance, you may decide to narrow or widen your scope, change your target group, tweak your prototype, in response to findings from your research or interviews with stakeholders. Please document such changes and include them in your reports where appropriate.

The goal of the project is for you to immerse yourselves in the design of solutions in response to stakeholders’ needs and the challenges and constraints of operating in the healthcare sector. These solutions could be a software product (e.g., application) or an IT-enabled healthcare service. The output will be a final report that describes a) the issue or opportunity being addressed, b) a prototype of the solution you have developed in response, c) a rich description of the design process used to do so, and d) a deployment plan for the solution that you propose.

This project will take time. Although the final report is relatively short in length, developing it will require data collection and analysis, numerous iterations, and a great deal of thinking. Thus, although it is tempting to wait until the end of the semester to begin working on the project, this is always a losing proposition. From experience, effective teams typically set a regular meeting schedule and internal deadlines and plan for contingencies such as other exams and responsibilities.

Project Components

A. Project Proposal (Submit on Canvas) – due 10/2/2023 8:59pm

This is a two-page, single-spaced proposal that outlines your group’s plans and progress for completing the final project. Up to 3 pages of figures/tables to support your analysis are permitted as appendices. The proposal should include:

- A brief (e.g., ½ page) description of the issue or opportunity identified
- A brief (e.g., ½ page) description of why existing products or services are ineffective
- A brief (e.g., few sentences) description of your motivation for choosing this issue/opportunity
- A list of key data sources and proposed interviewees
- A full timeline for completing all steps of the project

It is highly recommended that you collect preliminary data (e.g., interviewing users or evaluating existing solutions if available) and consider a variety of different opportunities before writing your proposal.

B. Midterm report – due: 17/3/2023 8:59 pm

This is a two-page, single-spaced report that outlines your group's progress, preliminary findings and next steps. Include mockups if available in the appendix (5-page limit).

C. STEPS presentation (TBC) – 10 points

Students will have the opportunity to showcase their work in front of industry leaders, entrepreneurs, professors, colleagues and friends. Past projects have resulted in venture capitalists and startup interest!

The grading will comprise ratings from evaluators at STEPS, the hospital hosts (if any) and from the lecturer.

D. Final report (submit on Canvas) - 35 points – due: 27/4/2022 8:59pm

The final component of your project is a fully articulated description of your project. This includes a rich, data-driven description of the issue or opportunity you identified, how your understanding of this issue or opportunity evolved, the data gathered, if any, to understand your setting and issue, the evolution of your prototype, and your proposed solution to the issue or opportunity. Please also include the plan for deployment (e.g., anticipated challenges, resources required for deployment) and a brief discussion of the strategic plan, (e.g., assessment of the competitive environment and business model) as if you were to implement this as a venture.

The final report should be no longer than 15 pages in length (size 12, times new roman, single-spaced, 1" margins, a single cover page which is excluded from the 15-page count may be added), with up to 9 additional pages of exhibits and work cited to support your analysis (e.g., charts, tables, images).

You have considerable latitude in terms of how you wish to structure your analysis. However, successful reports are (1) logically structured, (2) concisely written, and (3) well edited. Remember, this assignment is being evaluated not only on the quality of your analysis but also its presentation.

A good final report should include the following:

- A clear introduction that details the structure and purpose of the report.
- A rich and data-driven description of the issue or opportunity identified, including a clear articulation of why it has yet to be addressed. If your issue or opportunity evolved, please elaborate on it.
- A rich description of your ideation and process, including a) the initial ideas, b) initial prototypes and their evolution through the design process, c) key uncertainties and assumptions.
- A clear description of the proposed product or service, with specific attention to a) how it addresses the initial issue or opportunity, b) its technical, economic, and social or political feasibility, and c) its novelty or value relative to existing alternatives.
- A cogent description of how you may execute and deploy this solution, and the anticipated operational and strategic challenges in the process.

All group members should contribute to all phases of the project.

Your individual project scores will be further moderated based on your peers' evaluation of your contribution to the project at the end of the semester. Feedback will also be sought from the SingHealth partners.

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Tentative Final Report Rubric

Element	Points	Comments
Overall delivery: • <i>Clear introduction and logical structure</i> • <i>Writing is clear, succinct, and well-edited</i> • <i>Report meets all instructions</i>	3	
Description of the opportunity: • <i>Rich and data-driven description of the issue or opportunity identified</i> • <i>Clear articulation of existing alternatives and why they are inadequate</i>	6	
Description of design + ideation process: • <i>Rich description of initial prototypes and their purpose, as well as their evolution over time</i> • <i>Key uncertainties, assumptions, and ideas</i> • <i>Clear application of frameworks discussed in class</i>	8 (6)	
Description of the proposed solution: • <i>How the proposed solution addresses the identified issue or opportunity</i> • <i>Clear consideration of the technical, economic, and political feasibility</i> • <i>Clear articulation of the solution's novelty or value relative to existing alternatives</i>	8	
Mockup/prototype • <i>Rich description of the proposed product or service, with relevant exhibits</i>	5 (7)	
Description of the execution and deployment plan • <i>Description of the execution and deployment steps</i> • <i>Assessment of the operational challenges</i> • <i>Consideration of the resources required to succeed and a plan to acquire them</i>	5	
Total:	35	

* marks in parenthesis are for the grading rubric for those with more development intensive projects.