Requirements Specifications – Part 2 (graded)

The deliverable for this milestone is requirements specifications for both of your proposed projects. The requirements specification for each project consists of:

- A use-case diagram connecting actors to the functional requirements of the project.
    - Aim for 2-3 main actors and 5-6 non-trivial requirements.
- A description of each actor (1-2 sentences).
- A list of the project's functional requirements, as listed in the use case diagram. For each requirement, specify
    - The name of the requirement
    - A short description of the requirement (1-2 sentences)
    - Primary actor(s)
    - Success scenario(s) (in bullet points)
    - Failure scenario(s) (in bullet points).
- Screen mockups (optional, only if needed and help explain the requirements).
- A list of non-functional requirements (aim for 2-3 non-trivial requirements). For each requirement, explain in 1-2 sentences why this requirement is needed/relevant for your project and how it will be validated.

You will use assistive AI technology (namely, ChatGPT 3.5) when working on this assignment. One of the educational objectives of this assignment is to explore the usefulness of AI tools in software engineering processes. As such, you must document and critically analyze all usages of ChatGPT during the process of working on this assignment in a systematic way described below. This analysis must be submitted as part of the assignment and will be graded. Using ChatGPT 4 or any other version is not allowed, for fairness (so that all students will get the same level of support).

WORKFLOW:

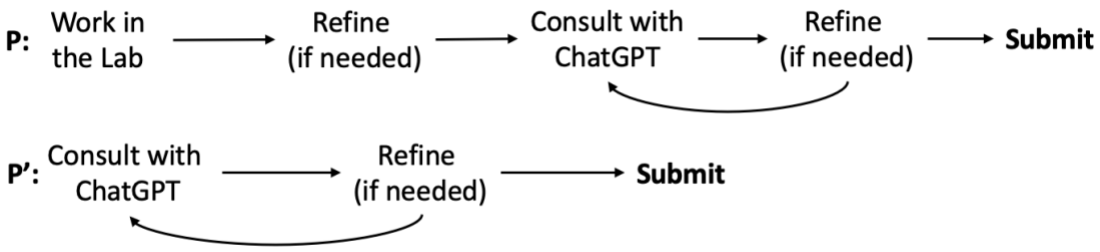
1) Convert the initial requirement specification document produced in the lab for the project selected by the TA (referred to as Project P in the rest of this document) into a digital format.
2) Refine it as needed.
3) Use ChatGPT (GPT-3.5: https://chat.openai.com/) as a virtual consultant to assist you in further refining this specification.
    - Keep a record of all your conversations with ChatGPT (prompts and replies). You will also submit all conversations with ChatGPT to show how your conversations led to the final deliverable.
    - Keep in mind that the responsibility for the final deliverable, which will be graded, is fully **yours**. As such, you will need to critically review the outputs of ChatGPT, ask follow-up questions to improve the result, and ensure you are satisfied with the deliverable before you submit it.
4) If your conversation with ChatGPT does not lead to a satisfactory result after several iterations, you can decide to stop and provide your own final solution. You will need to provide an explanation of whether and how ChatGPT improved your initial submitted draft and why you decided to stop using the tool.

Once you are satisfied with the final deliverable for P, start working on the other project idea that you provided (referred to as Project P' in the rest of this document).

5) For P', start with using ChatGPT to identify the requirement specification for the project: list of actors, functional and non-functional requirements, the use case diagram, and (optionally) mockup descriptions.
6) Repeat the process specified in items 3 and 4 above.

In summary,

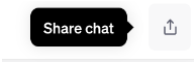
- **For project P**, you will start from the initial project specification defined in the lab and refine it with the assistance of ChatGPT.
- **For project P',** you will start from the initial specification provided by ChatGPT and further refine it with the assistance of this technology.



SUBMISSION. The submission for this milestone will include two parts:

PART I: All ChatGPT conversations (prompts and replies) used when working on this milestone. Each conversation should be saved and uploaded as an HTML file, using the procedure described below:

- Click on the "Share Chat" icon in the top right corner of the ChatGPT Web window.



- Click on "Copy Link". The link to the chat will be copied to clipboard.
- Open the link in a new page of a Web browser.
- Save the page by pressing Ctrl + S.
- Name the file using the following schema: X_N.html, where
  - X is the name of the project: either P or P'
  - N is the sequential number of the chat for the same project. For example, "P _2" is the second chat for project P.
    - You must have at least one conversation per project. If you only have one conversation, you must still add a sequential number for consistency, e.g., "P' _1".

PART II: a PDF file which includes the following information:

- For both P and P'

    - A short description of the project
    - Requirements specifications for the project
    - Whether ChatGPT output was used “as is” for the final specification. If not, why not?
- Reflections
    - Which process (starting with an initial spec as in P or starting with ChatGPT as in P’) allowed you to arrive at a higher-quality result and why?
    - How long did each of the processes take, overall? Which process was faster and why?
    - Which process was more enjoyable and why?
    - What are the advantages of using ChatGPT?
    - What are the disadvantages of using ChatGPT?
    - Is there anything else you would like to share about this process?