

CS130: Project Part A Requirements

Due: 01/19/2024, 11:59pm PST

Objective

In this project, you will use the skills acquired through lectures and labs to develop a new application. It can be any kind of application (e.g. web application, mobile app), it can be implemented in a programming language of your choice (e.g. Java, Python, ...) and using any frameworks of your choice (e.g., ReactJS, Node, Ruby on Rails, etc). Our goal is to help you gain insights into the process of software design and development by working on this project.

First, you will start by identifying the requirements from a user perspective. Then you can design a solution in the form of an application to answer the user requirements and create a working prototype of the proposed application. Finally, you may identify key issues around and improve the prototype into a useful product.

Setup: Team Formation and GitHub Repositories

For this project form a team of five to six. The team cannot be changed in the middle of the project and will be final once Part A is submitted. However, the instructor can make an exception under extremely necessary circumstances, so please come and talk to us if exceptional situations arise.

All teams are to create their respective GitHub repositories for housing all things related to the project, and invite the section's TA with administrator (or equivalent) privilege access. GitHub repositories are an essential means to team collaboration and communication, as well as recording the progress of development. So, make sure to commit your code into your repository regularly in Part B and C. Your TA will be watching your repository's statistics in order to track the progress of your project.

- 1A (Yifan Qiao) github username: ivanium
- 1B (Kevin Antony) github username: kevantony

We strongly recommend using this specific repository template (<https://github.com/melaasar/template>) which has been configured with bare-bones Scrum workflow to get teams started.

Part A: Propose Your Idea

After your team is formed, you need to come up with an idea for your application that is both appealing and feasible to pursue. The feasibility of your project is crucial since your team is supposed to implement the proposed idea and produce a working and test-able application for next parts in order to receive a good grade for those parts.

Thus, when proposing an application in Part A, your team must investigate whether the application is feasible to implement and whether your team has the capability to finish the

product within time limits (7 weeks). Please make sure to propose an idea such that its implementation could be completed in the given time and you are able to demonstrate its progress in live demos during presentations for future parts. Thus, it is important to find a good balance between creativity and feasibility!

If your team is struggling with ideas you can also reach out to the professor for project ideas to implement.

Submission Instructions

Please submit a report (as a single PDF file) on Gradescope before the due date. Only one person should submit the PDF file per team. Please also add your planned Epics for your project to your Github by creating an issue for each one before the due date.

Report Structure

Your report should include the following sections:

- **Title Page:**
 - Project Name
 - Team Name
 - Team Members (names and UIDs)
 - GitHub Repository URL
- **Motivation/Concept:**
 - Propose an idea for an application (web/mobile/PC app etc.) that addresses an unmet need.
 - Include a description of why the proposed application is needed by users by describing what the problem is and how your application can be used to solve that problem.
 - Be detailed about your vision for creating the application. Clearly describe the primary features of your application and how they will benefit the intended user.
- **Links to Epics**
 - Please include links to your planned project Epics in your Github.
- **Technology Stack**
 - Please include the languages you intend to use for each portion of the project.
 - If your team is planning to use existing libraries, technologies or external APIs to implement your application, please include high-level descriptions of those libraries and technologies.
 - Additionally, please include high-level descriptions of the technologies you plan to use in order to add CI/CD to your Github repository and to deploy your application.
- **Feasibility**
 - You must include a detailed description of how it is feasible to implement the proposed application within the 7-week time limit. Here are several common factors that could lead to software development failures:
 - A lack of familiarity with APIs

- Unable to deliver on performance
 - Excessive cost
 - Already existing project
 - Too many features
 - Features that are not useful
 - Third-party APIs/services that may not be reliable to use
- If there are any critical-functional requirements, you should explain how your design and implementation is going to comply with those requirements.
- **Capability**
 - You must include specific descriptions of how your team is capable of implementing the proposed application in the 7-week time limit. Please include relevant prior internship/personal projects or class experiences to substantiate and justify your claims about each individual's capability and their estimated role in the team.

Github Epics

In addition to the report, your group must create the Epics for the project by creating a corresponding issue for each Epic in your Github repository. You should have enough Epics to cover all of the main features of your project. Each Epic should include a brief but comprehensive description of the features it covers, explaining what it is and how it benefits the user. It should describe every action the user can perform with that feature. You should include bullet points describing your user stories in your Epics, but you do not need to link them to actual issues for this part of the project.

Part A Checklist

- ☐ Form a team and update sheets with your team information
- ☐ Finalize an idea for your application
- ☐ Ensure every member is added to your team's Github repository
- ☐ Write Part A Proposal Report
- ☐ Submit report on Gradescope (Only one per team)
- ☐ Add your epics to your team's Github repository

Report Length: The report should be less than 4 pages in length, inclusive of everything except the Epic links. Having more pages will not result in better grades! In fact, conciseness and clarity in the report is appreciated.