Project 3: Build a prototype of an application of your team's choosing

Due Date: 11:59 PM, Sunday, April 4, 2021

- All teams must have a code freeze as of 11:59 PM, Sunday, April 4, 2021.
- The timestamp will be judged by the final commit on your master branch of the team's Github repository.
- You can continue to work on other branches but cannot update your master branch after the freeze date.
- You must demo your code the week of April 5 in your lab based on that master branch as of the code freeze.
- All artifacts (code and documentation) must be in your repository on your master branch.
- Your CATME Peer Reviews for each team member are also due at this time.

Overview

- There are two projects left in the course, this one and Project 4.
- They are going to be connected.
- What you must do for project 3 is come up with an idea for an application and build a prototype.
- It can be any platform, any language, anything really.
- Make sure your idea is scalable enough in scope to last for both Project 3 and 4.
- In Project 4, you will be finishing the product that you prototyped for project 3.

Requirements

- Your team must all agree on the application, language, and platform.
- Use one of the Requirements Engineering artifacts to document the requirements of your application and identify which requirements you intend to include in the prototype.
- Approval from your GTA is required before moving forward.
- The ceiling on scope and difficulty is up to your team, but your GTA has the right to increase the difficulty if he or she feels it is necessary.

Language and Platform

- Team's choice

Plagiarism

- You can use existing libraries, but you must cite all sources of code you did not author in your documentation.
- This assignment, or variations of it, has been done in other EECS 448 classes.
- **You may not use code from those classes (even if you cite it)!**
- Like any good programmer would do, you may certainly look at these projects for ideas, but you may not use any of the code.

Grading Rubric

- Team Score (80% of grade – team based)
  - This portion of the project will be graded by your GTA.
  - The project points are broken down into the following sections.
  - Demo (40%)
    - You will demo on a device of your choice in the lab during the week of April 5.
    - The prototype features documented and approved by your GTA in the Requirements Engineering artifact of your choice should work.
  - System Documentation (40%)
    - GTA approved Requirement Engineering artifact describing the features of your project and prototype (10%)
    - Estimate of person-hours for completing the prototype (this should be done as soon as possible after your GTA signs off on your requirements – 5%)
      - Provide the details of how you arrived at the estimate (e.g., LOC, using the Agile user story method where Projects 1 and 2 represent your inventory of projects)
    - Actual accounting of the person-hours required to complete the prototype (5%)
      - This needs to be a day-by-day accounting from each team member on how many hours they spent on the project, including team and GTA meetings, coding, testing, documenting, etc. Do not include time attending 448 lectures or working on in-class problems.
      - You WILL NOT be penalized for taking longer (or shorter) than your estimate.
      - You WILL be penalized, if you do not have a day-to-day accounting or it looks like to the GTA that you created the accounting just to meet this requirement.
    - Identify the design paradigm you (i.e., the team) chose for your prototype and explain why you chose that paradigm (250-350 words – 5%).
    - Within the context of your chosen design paradigm, describe the software architecture of your prototype (250-350 words – 5%).
    - Use one or more of the UML modeling diagrams to design your prototype (5%).
    - Identify the design patterns you used in your design and explain how you applied them (250-350 words - 5%).
    - On your github repository, have a folder called "documentation" that contains all the system documentation described above.
- Team Evaluations (20% of grade – individual based)
  - This part will be determined by CATME Peer Review.