CSE 120: Software Engineering Course Fall 2022

Software Capstone Project - Analysis Phase Total Points Possible: 100

Purpose of Assignment

The Software Engineering course covers techniques for dealing with the complexity of software systems. We will focus on the technology of software engineering for the individual and small team, rather than business or management issues. This software capstone project aims to provide an opportunity for students to analyze, design, develop, and deploy a software product that is sponsored by an industry partner. By end of this lab, you will be able to define the parameters of the **analysis phase** of your software capstone project.

This phase of project aims to define the **requirements of a system** (your software product) and how they can be accomplished. By end of this lab, you will be able to define the ontology of your project.

Resources:

1. User story and acceptance criteria:
   - https://tech.gsa.gov/guides/user_story_example/
   - https://www.productplan.com/glossary/user-story/
   - https://rubygarage.org/blog/clear-acceptance-criteria-and-why-its-important
   - https://www.altexsoft.com/blog/business/acceptance-criteria-purposes-formats-and-best-practices/
   - https://www.softwaretestinghelp.com/user-story-acceptance-criteria/
2. Use cases:
   - https://www.utm.mx/~caff/doc/OpenUPWeb/openup/guidances/guidelines/detail_ucs_and_scenarios_6BC56BB7.html (Scroll to the bottom of page and click on Use-Case Specification under Examples. This will take you to a page a page with a .doc file with a detailed example.)
   - https://courses.cs.duke.edu/cps108/spring04/readings/usecaseslarman.pdf
   - https://www.cs.fsu.edu/~myers/cop3331/notes/usecases.html
   - https://www.craiglarman.com/wiki/downloads/applying_uml/larman-ch6-applying-evolutionary-use-cases.pdf
   - https://cs.appstate.edu/~blk/cs4667/podcast-slides/ch02-04.pdf
3. Use case diagrams:
   - https://www.uml-diagrams.org/use-case-diagrams.html
   - https://creately.com/blog/diagrams/use-case-diagram-tutorial/
   - https://www.visual-paradigm.com/guide/uml-unified-modeling-language/what-is-use-case-diagram/
   - https://www.andrew.cmu.edu/course/90-754/umlucdfaq.html
   - https://www.softwaretestinghelp.com/use-case-diagram-tutorial/

Checklist for Lab #02:

1. A **summary** of project progress report (20 points)

2. Discuss the following items in your meeting and make records in your meeting minutes.
   - Select a platform for developing your app. You may be restricted in using certain platform based on your project.
   - Select your prefer programming language, Integrated Development Environment (IDE) and related SDKs for developing your software on the selected platform, such as Microsoft Visual Studio, VS Code, JetBrains Suite, NetBeans, Android Studio, Android Developer Tools (ADT), Android NDK, MIT App Inventor, Xcode, MonoGame, AIDE, Eclipse IDE, Xamrain Studio, etc.

- Do you need a database management system (DBMS)? Select your prefer DBMS (MS SQL, MySQL, SQLite, Firebase, MongoDB, stc.). If not, do you need any other form of datastore (log files, temporary outputs, etc.) that can be other formats like a spreadsheet or a text file? Briefly describe your data management plan.

3. Record the **user stories** and **acceptance tests/criteria** from the result of the meeting with your sponsors. (20 points)

    a. For each of the user stories, list the following **use-case information**: (30 points)
        i. Name of use-case (same as user story)
        ii. Actors
        iii. Event flow
        iv. Entry conditions
        v. Exit conditions
        vi. Special Requirement

        Each team member MUST contribute at least ONE use-case information. Put your name in next to the name of use-case.

4. Create a **Use-Case Diagram** to describe each of the user stories. (30 points)

    Each team member MUST contribute at least ONE diagram of a user story. Put your name in the documents you work on.

5. Submit all the documents (your answers to 1, 3 and 4) to CatCourses before due date. You may use the one-week grace period past the due date to finalize your submission without any penalty if you wish.