CS 3203
Software Engineering
Group Project

As a student in CS 3203 you will be working on a group project to develop a piece of software from scratch. This document is intended to give you an outline of the basic requirements and constraints for the CS 3203 group project. The purpose of the group project is to give you as practical and real-world of experience as possible in designing, implementing, testing, and "releasing" a software product.

Groups will be formed by students as "self-selected". In class on Tuesday, February 14 students will be given time and opportunity to form groups. Group size must be a minimum of three (3) students and a maximum of four (4) students except by special exception at the instructor's sole discretion. When deciding membership of groups students are encouraged to consider similar class schedules and possibilities for in-person and / or virtual meetings to be conducted outside of CS 3203 class time.

Each group will be empowered to decide on their own software product which they will design, implement / build, test, and demonstrate throughout the rest of the Spring 2023 semester. However, some technical and technological constraints must be met by each group's project regardless of the software's functionality, purpose, or style. These requirements are:

1. Software product may be a web application, desktop application, or mobile application (students are encouraged to self-select one of these types based on their previous experience). The product must be built "from scratch" and not based on a starting point of a product already in existence or for another course.

2. Source code (and, ideally, more such as configuration files) must be kept in a public-accesible GitHub.com repository. A portion of the evaluation for a grade on the project will be based on following reasonable Git and branching practices.

3. Some portion of the software product must involve persistent data stored on a disk or database which lasta longer than a user's individual "session" using the application.

4. Some portion of the software product's functionality must be packaged and accessed as a web service hosted from an Internet-accessible hosting service (of which many free services exist and can be used).

5. Some portion of the software product's functionality must be only accessible after user has authenticated themselves to the software product via either a custom authentication system (i.e., the software stores usernames and passwords such that the user must enter a correct pair of username and password data) or a third-party integrated authentication system (e.g., Google account). It may be that some functionality is accessible without authentication or the software knowing the identity of the user.

6. The software product must have a graphical user interface (GUI) using whatever GUI framework or toolkit the group prefers.

7. The software product development lifecycle must have some form of continuous integration and executable testing such that on commit or push to GitHub some automated actions are taken to compile / build and execute tests to ensure new changes have not broken functionality (which is tested, anyway).

8. The group must commit to meeting at least three times per week (on average) as a kind of semi-daily Scrum meeting to share progress each student has made since the last meeting and potentially identify or work on problems or blockers one or more students may be facing.

Note that any particular programming language is not required and this choice is left to the group to make. Additionally, some requirements above may require the group to learn about tools, technology or techniques they don't already know and gaining this knowledge is the responsibility of the group (perhaps by researching on their own, perhaps by asking instructor or another group with prior experience for help).

There will be deliverable items expected throughout the remaining of the semester for each group to plan for and ensure is completed on time. The last of these deliverable items will be an in-class presentation of about 5 minutes at the end of the semester in which an overview of the product and a demonstration of its completed functionality will be given by one or more members of the team. The first of these deliverables will be a product vision statement written by the group and submitted on Canvas by Thursday, February 23, 2023. Other deliverables will be defined and announced in class as the semester progresses.