CPSC254 Software Development with Open Source Systems

Learning Objectives

After completing the project, you are expected to be able to:
- Develop software that makes appropriate use of fundamental programming constructs to solve a computational problem.
- Develop well-designed code that can adapt to changes in code dependencies.
- Develop well-documented code that the open source community can easily understand and use.
- Demonstrate the ability to use Computer-Assisted Software Engineering (CASE) tools to manage a project. Examples of CASE tools include version control systems, documentation tools, issue trackers, and so forth.
- Demonstrate the ability to use a command-line interface in the course of software development and project management.

You will develop an open source desktop application in groups consisting of two or three members. As a group, you will decide on the goals of your desktop application. It may either (a) solve a problem you identify, (b) facilitate the performance of a difficult task, or (c) provide functionalities that are missing in other applications. The goal should justify the development of your application. Your project ideas will be evaluated by the instructor to ensure that it can be completed within the duration of the course.

The project should also satisfy three requirements to be accepted.
First, the desktop application is developed in a serious high-level language, for example, C++ and will run on a Linux-based system.

Second, it provides a graphical interface using any open source graphics library such as GTK « https://www.gtk.org/ ».

Third, it stores necessary data in an open source database such as Mysql

You will select an appropriate open source license based on the libraries that you have used for your project as well as, according to how you, as a group, want your software to be used by the developer
community.

Requirements for class projects;

1. Work with a small group: no fewer than 2, no more than 3
2. Pick a project that all group members agree to work on
3. Must include existing software, available as open source
4. Must include original code written by your group
5. Must run on a PC or Mac on Linux or Free BSD
6. Must utilize CASE tools to manage the project
7. Project is due the week before Final exam – you will demonstrate it that day

Grading

Although you are developing the project as a group, you will be graded individually. Below is a breakdown of the criteria that the instructor will use for grading.

Use of CASE tools	10%
Communication with group members	25%
Contribution to the code base	15%
Code design	25%
Documentation	25%
Total	**100%**