**Project Description**

This stage is part of the group project for CS3307.

**Purpose of the Stage**

The general purpose of this assignment is to proceed with development on your project, revising your design, and tracking your progress along the way,  In particular this stage will give you experience in:

* developing a large software project in C++
* revising and updating UML diagrams for a large software project as development proceeds
* using Jira for simple agile task management

**Assigned**

Sunday, February 9th, 2025 (please check the main [course website](https://westernu.brightspace.com/d2l/home/68122) regularly for any updates or revisions)

**Due**

This stage is due Friday, March 14th, 2025  by 11:55pm (midnight-ish) through an electronic submission through the [OWL site](https://westernu.brightspace.com/d2l/home/68122). If you require assistance, help is available online through [OWL](https://westernu.brightspace.com/d2l/home/68122).

**Late Penalty**

Late assignments will be accepted for up to two days after the due date, with weekends counting as a single day; the late penalty is 20% of the available marks per day. Lateness is based on the time the assignment is submitted.

**Group Effort**

This stage of the project is expected to be a group effort, with each member of the group contributing equally in a reasonable fashion.   Feel free to discuss ideas with other groups in the class; however, your submission must be the work your own group. If it is determined that you are guilty of cheating on the assignment, you could receive a grade of zero with a notice of this offence submitted to the Dean of your home faculty for inclusion in your academic record.

**What to Hand in**

Your stage submission, as noted above, will be electronically through [OWL](https://westernu.brightspace.com/d2l/home/68122).  You are to submit all relevant documentation as discussed below.  Only one submission per group is necessary.

**Stage Task**

In this stage, you will proceed with development on your project.  As necessary, you will update your designs from Stage 2, and you will need to track your progress on tasks using Jira.  Details on this work are provided below.

**Prototype**

You must choose at least 30% of your user stories (by story points) and have them implemented and fully working.  If your user stories from Stage 2 were deemed insufficient when graded, you will need to improve them and/or add to them accordingly.  Please arrange a meeting with your TA so that this could be discussed further.

When prioritizing user stories for selection, be sure to keep in mind their importance to the project and how foundational they are to other functionality.  This will help you to deliver something that is functional and testable at the end of this stage.

While your code must ultimately be commented using [Doxygen](http://www.doxygen.org/)-style comments (more on this later), you are not required to actually run the [Doxygen](http://www.doxygen.org/) program on your code for this stage.  You will need to do so later, for the final stage of submission, however.

Code for your submission should be stored in the git-based Bitbucket repository service set up for your group as discussed on the previous stage.  This will facilitate sharing amongst your group members as well as versioning to protect your code as it evolves over time.  The actual submission of your code will be through the OWL submission system by the deadline, as it was for your individual assignments. For this assignment though, you will have to demonstrate your code to your TA during your selected TA consulting slot on the week following the submission deadline (that is the week 17th-21st of March.

**UML Class Diagram**

Update your UML class diagram from Stage 2 based on developments since that point.  In doing so, this diagram should represent the current structure of your source code.  As before, your diagram must have:

* Sensible classes
* Attributes, along with their types and visibility
* Methods, along with their parameters, parameter types, return types, and visibility
* Associations, hierarchies, and so on.

As in the previous stage, you are allowed to use whatever diagramming tool you wish to construct your diagram.  You may submit a source/editable version of the diagram if you like, but you must at least submit a portable PDF version of things so that the TAs can grade things independently of the tools use to create the diagrams in the first place.

**Project Tasks**

As noted in Stage 2, it is expected that you keep Jira up to date at all times.  As development proceeds, tasks should progress from To Do, get flagged as In Progress as they are worked on, and ultimately marked as Done when completed and you have confirmed that the acceptance tests from your user stories are passed accordingly.

We will only count stories / tasks that are marked as Done towards your prototype grade.  For each such story / task, we will:

* Run all of your acceptance tests for each story / task to confirm that you have actually run your acceptance tests before marking a story as Done.
* Run some of our own acceptance test for each story.