****CCIS CollegeSE401 Project

# Objective:

# The aim of this project is to allow students apply the software testing process on a real software product.

# Description:

Assume that you work in a software development company that develops different types of software applications including 2D games. Your manager assigned you to work in a group of three to perform software testing for one of the Java games. The game name is Domination that can be accessed through: <http://domination.sourceforge.net/>

The link provides the source code of this game. Select the latest stable version. The rules for the Domination Game can be accessed through: <http://domination.sourceforge.net/applet/help/rules.htm>

Run the game and try to play the game; this helps you understand how the game works.

The work on the Testing Project will be on phases detailed as follows:

**Phase One – Test Plan [5%]:**

Prepare a **Test Plan** for adequately testing the selected game. Use the IEEE test plan template and check the provided rubric. Make sure to plan for conducting White Box unit and integration testing, and Black Box System Testing.

To make sure that you understand the code, you are required to create a **Class** and an **Activity** diagrams for the selected game. You are also required to create a list of requirements that you think are important for that game.

**Phase Two - Test Cases [5%]:**

You are required to design and prepare detailed test cases for all the type of tests that you have planned earlier: Unit Testing, Integration Testing, and System Testing. The following is required:

1. A detailed list of specifications (in a tabular format) of your selected test cases for each type of testing.
2. What techniques/methods did you use to design the test cases? Justify.

**Phase Three - Test Execution [5%]:**

Execute the test cases that you designed in Phase Two and make sure to include the following

1. The Junit/testing code
2. The integration testing code
3. The testing report (Pass/Fail) for all created test cases
4. A Code Coverage Report

**Submission:**

1. One team member is required to upload a copy of the solution on Moodle before the specified deadline for each phase:

* Phase one is due on: (Tuesday, November 2, 2021), Week 10.
* Phase two is due on: (Tuesday, November 16, 2021), Week 12.
* Phase three is due on: (Tuesday, December 7, 2021), Week 14.
* Project Presentation is due on: (Monday, December 15, 2021), Week 15.

1. Deadlines are very strict, and extensions are not allowed.
2. With each phase, prepare a detailed report that specifies task distribution and contribution of each team member.

**Phases Expectations:**

Phase one

* A logical list of important functional and non-functional requirements
* Complete Class and an Activity diagrams that reflects the current classes and activities of the system
* A well-written introduction that provides a clear description of the aim of the document and the topics that will be covered in the document
* Identify and describe the features to be tested and the features not to be tested
* Test Types are reasonably identified with consideration to system type and requirements.
* Identify and describe risks and rational mitigations
* Test logistics are clearly and logically identified
* A well written Test Objective that clearly describes the aim of the testing process
* Both Suspension and Exit criteria are rationally specified
* Rationally specify required system and human resources
* The test environment required to execute the planed testes is clearly described
* Rational scheduling estimation is provided for all testing tasks
* Realistic test deliverables are listed

Phase two

* Logical well written and consistent with the requirements Unit Test cases.
* Logical well written and consistent with the requirements Integration test cases.
* Logical well written and consistent with the requirements System (functional) test cases.
* Clearly describe the techniques used to create the test cases.

Phase three

* Unit test cases are tested correctly and the code is consistent with unit test cases.
* Unit test cases and the final evaluation results are included in the report
* Integration test cases are tested correctly and the code is consistent with integration test cases.
* Integration test cases and the final evaluation results are included in the report
* Major functionality of the system is successfully tested. The report should illustrate all testing details clearly and show the result from executing each test case
* Coverage reports are available for all test types

Phase four (Presentation)

* Demonstrating thorough research of the project
* Engaging choice of content from the project
* Your contribution in the project
* Engaging style and Lessons learned