



COMP 7051 – Introduction to Games Development

Instructor: Borna Nouredin

Assignment 3

Total marks: 100

Please work in pairs.

Modify your maze game from the previous assignment as follows.

1. [20 marks] Add vertex and pixel shading to mimic a flashlight effect, using vertex and fragment shaders. The user should have a way of turning the flashlight on and off.
2. [20 marks] Add the ability to throw a ball at any direction, and make a sound effect if it hits a wall, the floor or the enemy object. If it hits a wall or the floor, it should bounce. It should only be “alive” for a set amount of time. If it hits the “enemy” object, it should update a score and the ball should disappear immediately.
4. [15 marks] Change one of the walls to be a door that the user walks through to play a mini-game. The mini-game should be the Pong game from assignment 1. This should be a different scene, and swap back to the maze scene once the game is over. If the user enters the door again, the Pong mini-game should restart.
5. [15 marks] The user should be able to save the state of the game, including at least the location of the player and the enemy object and the score from hitting the enemy with a ball.
6. [5 marks] Play a sound effect whenever the user moves. The sound effect should mimic “walking” or footsteps.
7. [5 marks] Play a sound effect whenever the user collides with a wall.
8. [5 marks] Allow the user to start/stop some background music.
9. [5 marks] Now include a second piece of music in your game. One song should be playing during night mode and the other during day mode.
10. [5 marks] If the fog is turned on, change the volume of the music to half the volume it would be otherwise.
11. [5 marks] Modulate the music’s volume as the enemy object moves closer (louder music) or farther away.

Submit your entire project, including documentation (at least a README file with any notes and a description of the user controls for each part) to the D2L dropbox. **You are to work in pairs, and both will receive the same mark.** Your submission should be in a single ZIP file using the naming convention A00ABC_A00XYZ_Asst3.zip, where ABC and XYZ are your student numbers.