

**Lab 11 – Game (80 pts)**  
**CSIS3700 – Dr. Shaffer**  
**Due: May 3, 6:30 PM**

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## 1 Introduction

In this lab you will create a game. This lab is loosely specified but you must have the following elements to obtain a grade of a C:

- Character motion must be animated (at least for the player, if not also for other objects in the world).
- active obstacles (things that move around and can kill the player if he/she collides with them)
- Some types of sub-goals in each level beyond simply surviving (gems/money to collect, puzzles etc)
- Score keeping

Additional points (up to an A level) will be given for:

- A world that is several times wider and/or taller than the window and that scrolls smoothly during game play
- Some passive obstacles, that is, objects in the way of the player that block their progress.
- At least two distinct levels
- Sound effects (including but not limited to background music)
- Secondary player actions including sliding with accompanying animations

You may work in pairs on this lab. If you choose to work in a pair, which I recommend, you:

- must let me know via e-mail who your are working with
- should hand in a single solution for the pair (please do not submit it twice)
- cannot divorce yourself from your partner, you're stuck with them
- must both cooperate and contribute in substantial ways to the *program* (**it is not acceptable** for one partner to be responsible for all of the code while the other creates the graphics and sound, for example)

## 2 Supplied Code

Some “starter” code is supplied with this lab. You are not required to use it **however** your solution to this project must include a well thought-out object-oriented design including meaningful applications of inheritance and polymorphism.

You will find many online tutorials resources that may be helpful in solving various problems you will encounter (detecting and resolving collisions is the biggest). You are not likely to find one that I haven’t seen before and substantially “borrowing” from the code in those resources is not permitted. I want **your solution**.

## 3 Grading

Grading for this lab is subjective. Producing a well-designed working game that satisfies the minimum requirements (above) is enough for a 75% of the points. Additional points will be given for each item from the second list above and consideration will be given for elements that you added to your game that were not required.

## 4 Final Exam Period

We will meet during our scheduled final exam period for you to present your game to me (and anyone else who is interested in seeing the demos). You must present during your scheduled final exam period.

## 5 To hand in

Submit a **zip** file of your complete solution (all source code) on the submission system. Be sure it includes all resource files (bitmap images, sounds etc).