Assignment 1 (Assessed by Group Presentation) Term 1 Week 6 Lab

Due 28 Oct by 15:00

- **Points 100**
- **Available 29 Sep at 9:00 - 28 Oct at 15:00**

Group-based, Interactive 3D Game Development in Unity 3D.

Create an interactive game of your choice using Unity 3D and C# code. The game can have any aim, but must meet the following set of criteria:

1. Contains a 3D environment in which the player can move in the x and z directions (backwards, forwards, left and right) and can also move in the y axis (jumping or climbing or flying etc.).
2. Has a player avatar with some animation which is viewed from a third person perspective by a following camera.
3. The player avatar object must be limited in its movement so that it does not move outside the bounds of the environment.
4. Collision detection between the player avatar and at least five other objects must be detected and used as part of the game play. These objects must be physically different models from each other and include some animation.
5. An object that moves independently in the z and x axis and is used as part of the gameplay.
6. A life system should be implemented so that the player loses lives (or parts of lives) during the game to a point where they have no life left and the game is over.
7. A scoring system based on contact with game objects (collectables) and an achievable objective.
8. A ground plane which has some unevenness i.e. is not flat.
9. Objects which have applied textures.
10. An entry User Interface (splash page and instructions) and exit UI (Game over, You Win and restart).

You may use existing Unity libraries in your development, but you MUST be using C# code and can not use applications which automatically create code.

Criteria	Pts
This criterion is linked to a learning outcomeBasic Specification A mark of up to 40 will be awarded for a game that just meets the basic specification set out in parts 1-10 above in a playable and well-designed manner with no obvious bugs.	40 pts
This criterion is linked to a learning outcomeAdditional Game functionality A mark of up to 40 will be awarded for a development that exceeds the specification set out above .e.g. ◦ Additional interactivity and complexity such as: ▪ complex game play ▪ using different objects controlled independently ▪ creating increasingly harder levels ▪ differential scoring scheme for collecting different objects ▪ Any enhancements or additions to the view, design, layout or action of the game e.g. complex environments, use of more advanced physics, complex animation etc.	40 pts
This criterion is linked to a learning outcomePresentation Your game will be assessed by a 15 minute group presentation where you will demo your game. This will be split into three sections of five minutes each as follows: • PowerPoint presentation outlining the design, structure and functionality of your game. • Game demo. • Question period. Presentations will take place in the lab on Thursday 9th November. There is no late period for this assignment and you are expected to attend as a group. However, not everyone in your group needs to actually present. If you do not attend your group presentation will receive a mark of zero for this component, unless you have mitigating circumstances.	20 pts
Total points: 100	