**Unity5 Game Development Project (50%)**

**Project Brief**

**Due Date for Game:** before 10am, 24th April 2017

**Deliverable:** Unity Game & Demonstration: 50%

# Objective

Individually, you are to design and develop an ORIGINAL interactive, 2D/3D multimedia computer game in Unity5.

In undertaking this project, students are reminded of the software development lifecycle. Every software project has a number of stages before the implementation stage and begins at a research and planning stage. Students are advised to write a one page game concept and present it to their lab tutor ASAP. This will allow the student to choose a project with a scope that is achievable within the allocated timeframe.

# Requirements

The game should ‘make sense’, in that:

* + The player has one or more clear goals to achieve
  + The player is appropriately incentivised to progress within the game.
  + The game becomes progressively more difficult, so that the beginning should be straightforward for most people to complete, but it should require some practice and skill to complete the final parts of the game (so the player has a reason to want to come back to play it several times …)

The game must demonstrate all the following:

* Using buttons to navigate between scenes (main menu / instructions / level 1 / game lost etc.)
* detecting 'collisions' between player and objects, or objects/objects
  + and different actions depending on what being ‘carried’ at time of collision  
    (e.g. if carrying key and hit door, then door opens, if not carrying key then error sounds plays)
* animation of object positions / properties
* instantiation of ‘prefab’ objects
* timers, and their graphical display
* audio, including all the following:
  + background sound (e.g. music)
  + sound effects
* collecting / picking up objects
  + visually displaying to the user what they are carrying / status of carrying/not carrying
* at least 5 scenes
  + level 1 = very easy (user getting to know how to move around in the game world)
  + level 2 is little bit challenging, but still every user should be able to complete it easily  
    (in some non-trivial way, e.g. not just reducing the time available – actual extra elements/challenges in this level …)
  + Welcome (graphics, Audio, imported fonts)
  + Game win (graphics, Audio, imported fonts)
  + Game Lose (graphics, Audio, imported fonts)
* The game should be of a HIGH PRODUCTION QUALITY and have a consistent audio-visual ‘theme’.
* USP - one aspect of the project should be worked on for excellence, the "Unique Selling Point" of the project, whether it be audio, or programming, or animation, or real world textures the student has created themselves etc.
  + This should be discussed with the lecturer

### Game Demo

All marks for the game design will be awarded based on your demonstration.

Students may only demonstrate files from the DVD submitted.

Each student will have 5 minutes to demonstrate their project to the lecturer during labs in week 12.

The demonstration will show your game in action as well as highlighting an iterative approach to the development process, important aspects of your design, gameplay and interface. Any segments of code deamed by you to be important or interesting should be explained also.

Give yourself the best chance of gaining a strong grade by including EVERYTHING important.

# Deliverables be submitted

Students will submit: DVD-ROM x 2 copies. Each DVD contains **all** of the following deliverables:

***(DVDs to be posted into my mailbox (A8) next to photocopying room in E block)***

* Part 1 – concept (not submitted/graded – bring PRINTED into lab for feedback)
  + Next week (bring 2 pages into lab session: one page TYPED + screen sketch)
* Part 2 – design (not submitted/graded – bring PRINTED into lab for feedback)
  + Before Easter (class diagram + feature list + software road map)
* Part 3 – game software (DVD only)
  + (full Unity project folder + PC 32-bit standalone build + sources.txt document)
* Part 4 – any supporting documentation/data. Including original versions of assets where appropriate.
* Part 5 – game demonstration

# Penalties

***N.B. Non-attendance for demonstration or late submissions will not be tolerated. Only documented evidence for valid justifications will be accepted.***

1. Non-attendance at the presentation will score 0%
2. Late submission will result in 0%
3. Unreadable projects/DVDs will score 0%
4. EMAIL submissions will NOT be accepted
5. Student may ONLY demonstrate during their groups timetable lab time.

Note – DVDs will need to be purchased and loaded with data – don’t leave it to the last day!

# Marking criteria

The general criteria upon which the project will be assessed are:

* Originality
  + different from, and lots of ‘value added’ to, the gravity guy lab sheets
* Technical challenge
* Completeness
* Correctness
* Code Quality

**N.B. As a completed version of Gravity Guy is provided in the Gravity Guys 9 lab, a rehashing of the Gravity Guy turorials is not sufficient to score a passing grade. Submitted projects should be substancially different. Lab tutors can advise on game concepts.**