



## Please read carefully

- This assignment sheet is to be returned back to the lecturer by the student with the completed work. Work handed in after the deadline date will be penalized.
- Students caught copying from other students or plagiarizing (copying from lecturers' notes, handouts, slides, internet, books or any other printed or digital media) will be disqualified and will get a REFERRAL for their assignment or a FAIL if it is the last resit.
- An assessor has the right to ask the student to attend an interview without prior notice if the assessor wishes to confirm that the work submitted has been clearly understood by the student.
- It is the students' responsibility to keep a copy of the assignment for revision.
- This refers ONLY to Level 4 Year 1 students - All resubmissions must be authorised by the Lead Internal Verifier. Only one resubmission is possible per assignment providing that the learner has met initial deadlines set in the assignment or has met an agreed deadline extension. Moreover, the tutor considers that the learner will be able to provide improved evidence without further guidance. Finally evidence submitted for assessment has been authenticated and accompanied by a signed and dated declaration of authenticity by the learner. \*\*Any resubmission evidence must be submitted within 10 working days of receipt of results of assessment.

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Programme	<b>Higher National Diploma in Interactive Media Y2</b>	Academic Year	<b>2015/2016</b>
Assessor's Name	<b>Gerard Said</b>	Group/s	<b>2HND1I</b>

Unit No	<b>70</b>	Unit Name	<b>Computer Interface Design Principles</b>		
Assignment No	<b>1</b>	Sit	<b>First Sit</b>	Type	<b>Home</b>
Assignment Title	<b>Creating an interactive application</b>				
Issue Date		Deadline Date		Date returned to students	
Assignment IV	<b>Chris Farrugia</b>		Date	<b>04 Apr 2016</b>	

Pass Assessment Criteria			Merit Assessment Criteria			Distinction Assessment Criteria		
Criteria	Met	Not Met	Criteria	Met	Not Met	Criteria	Met	Not Met
Unit 70-CIDP : P1.1			Unit 70-CIDP : M1.1			Unit 70-CIDP : D1.1		
Unit 70-CIDP : P1.2			Unit 70-CIDP : M2.1			Unit 70-CIDP : D2.1		
Unit 70-CIDP : P2.1			Unit 70-CIDP : M3.1			Unit 70-CIDP : D3.1		
Unit 70-CIDP : P2.2								
Unit 70-CIDP : P3.1								
Unit 70-CIDP : P3.2								
Unit 70-CIDP : P4.1								
Unit 70-CIDP : P4.2								
Unit 70-CIDP : P4.3								

Note : Computation of final grade for the unit will take into consideration each individual outcome as per assessment criteria.

(C\*) denotes that the criteria was carried from a previous sit.

<b>Assignment Status</b>	
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Assessment Criteria Description	
<b>Unit 70-CIDP : P1.1</b>	Identify interactive media systems
<b>Unit 70-CIDP : P1.2</b>	Evaluate constraints affecting interface design
<b>Unit 70-CIDP : P2.1</b>	Evaluate potential of audio for an interactive interface project
<b>Unit 70-CIDP : P2.2</b>	Record sound for an interactive interface projec
<b>Unit 70-CIDP : P3.1</b>	Investigate the use of visual cues in interactive contexts
<b>Unit 70-CIDP : P3.2</b>	Develop screen design work for a personal interactive interface project
<b>Unit 70-CIDP : P4.1</b>	Conceptualise an interactive interface system
<b>Unit 70-CIDP : P4.2</b>	Use software to produce an interactive interface
<b>Unit 70-CIDP : P4.3</b>	Evaluate own interactive interface design work.
<b>Unit 70-CIDP : M1.1</b>	Identify and apply strategies to find appropriate solutions
<b>Unit 70-CIDP : M2.1</b>	Select/design and apply appropriate methods/techniques
<b>Unit 70-CIDP : M3.1</b>	Present and communicate appropriate findings
<b>Unit 70-CIDP : D1.1</b>	Use critical reflection to evaluate own work and justify valid conclusions
<b>Unit 70-CIDP : D2.1</b>	Take responsibility for managing and organising activities
<b>Unit 70-CIDP : D3.1</b>	Demonstrate convergent/lateral/creative thinking



## COMPUTER INTERFACE DESIGN PRINCIPLES - 2015

This assignment covers the criteria as defined for the Computer Interface Design Principles module.

### GENERAL GUIDELINES

You must follow the following instructions when submitting your assignment:

- This is a home assignment
- Fill in the assignment Cover Sheet and include it with your submission.
- Place all your work files and documentation in a folder using the following naming convention:  
NAME\_SURNAME\_CLASS (2hnd1/2)
- Attach a CD of your submission to your printed submission, which should be bound in a flat file.
- Answers should be properly organised and presented in a professional layout including proper section, task and question titling or numbering.
- Copying and Plagiarism are strictly prohibited and will be penalized through the College's disciplinary procedures.
- The documentation provided should be neatly bound.

## GENERAL DESCRIPTION

A school has asked you to develop an educational game to explain one of the following themes:

- The Environment/Climate change (pollution and its effect on the ecosystem)
- Radioactivity (half-life of an object)
- Moments in physics (balancing weights according to position, such as a crane)

You may choose to develop any one of these themes into a specific game. Please discuss what sort of game mechanic you wish to implement with the lecturer based on the examples that we have worked on in class.

The game must be deployable on a 16:9 aspect ratio and should cater for mouse driven input.

- Player object with score
- Player must implement at least 3 actions
- 3 different game scenes with different background images
- A fully featured menu with a new game/exit button
- 3 different player modifiers which can be picked up
- A specified winning condition
- A clearly documented educational element

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#### TASK 1 – (P1.1)

Identify interactive media systems by answering the following question:

Which are the most important criteria when it comes to choosing a game engine?

List five criteria and justify each criterion with a sentence.

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#### TASK 2 – (P1.2)

Evaluate constraints affecting interface design by completing the following task:

Explain how different screen sizes and aspect ratios are catered for in unity. How does the game engine cater for different screen sizes / resolution?

Write a description and show one screenshot of how the screen limits are calculated based on the camera viewport, with reference to the `Camera.ScreentoviewportPoint` method.

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#### TASK 3 – (P2.1)

Evaluate different sound editing tools for implementing a sound effect in your game. Show how you implemented a sound effect in your game with a sound editing tool of your choice and indicate the reason why you chose that particular sound editing tool for your game sound.

You must also include a description of how sound effects are imported and implemented in Unity, with reference to a unity project where sounds have been imported.

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#### TASK 4 – (P2.2)

Record and generate an effective sound for your game, using any online sound generator or the built in audio editing tools in Unity. To do this you need to present the following three .mp3 format sounds:

- The original sound recorded.
- A description of the effects applied to the sound.
- The final modified sound.

Indicate the folder where the files are located in your documentation.

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#### TASK 5 – (P3.1)

Explain how to raise events in-game, with reference to the collision/trigger functions in Unity.

To achieve this task, paste a sample collision function from your code in your documentation and explain the sequence of events and the use of tags in the collision function you have implemented. You must also explain the difference between a **collision** and a **trigger**

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#### TASK 6 – (P3.2)

Draw a sketch of two screens of your game:

- Main menu
- Game screen

The sketches will show the positions of your GUI elements. The sketches must reflect the layout of the game.

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#### TASK 7 – (P4.1)

Conceptualize an interactive system by explaining the reason for the following 3 methods:

`Start()`, `Update()`, `StartCoroutine("coroutinename")`

Explain the role and timing of each of these methods by using an example from one of your own scripts.

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#### TASK 8 – (P4.2)

Present your game. The game must implement the following functionalities:

- Player object with score
- Player must implement at least 3 actions
- 3 different game scenes with different background images
- A fully featured menu with a new game/exit button using the Unity 5 GUI Canvas
- 3 different player modifiers which can be picked up
- A specified winning condition
- A clearly documented educational element

Your game must be presented as an html5 web player game. Credentials will be provided for the game upload. Include a screenshot of each game screen in your documentation, as well as simple instructions on how to play the game.

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#### TASK 9 – (P4.3)

Write a short paragraph explaining what improvements you would have implemented in the game if you had more time.

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#### TASK 10 – (M1.1)

Show that complex problems with more than one variable have been explored in the context of presenting an interactive application by adding the following functionality to your game:

- 3D model with animation and animator states
- Full use of sound with at least 5 different sound effects
- Background music

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#### TASK 12 – (M3.1)

Use the appropriate structure and approach to creating appropriate visual cues in interactive contexts by adding **animated** elements to the game.

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#### TASK 13 – (M2.1)

Apply relevant theories and techniques to creating an interactive interface project by writing a short paragraph explaining specifically what **genre** of game you have created. Include references to **similar** games which have been created. Show similarities using 2 screenshots. (4 in total, 2 of your game, 2 of the game you used as a reference)

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#### TASK 14 – (D1.1)

Show that realistic improvements have been proposed against defined characteristics for success by explaining how you would update your game to reflect one of the finished titles you used as your inspiration in Task 13. What features are you missing and how would you go about implementing them?

To achieve this task, identify the missing features and explain how these missing features could be implemented in your game.

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#### TASK 15 – (D2.1)

Show activities have been managed by forking the following Github project.

<https://github.com/TheGer/CIDPAssignmentDistinction2016>

All commits must be FULLY documented with the exact features that were implemented in that commit. The sequence of commits must CLEARLY show how the game was implemented over a realistic time span.

To achieve this task, include a link to the project on **Github** that you have been using as part of your project under this task heading, and include a screenshot of the list of commits you have carried out as part of your assignment.

You must have at least 8 fully documented commits with a sequence of commit dates to achieve this criterion.

Your submission must be a valid Pull request to the original project.



### TASK 16 – (D3.1)

Demonstrate convergent/lateral/creative thinking by performing the following task:

Show how professional game development may be achieved by explaining how a professional team of different specialists would have worked on your game. Identify a list of job descriptions in the computer game development context and map them to specific parts of your game development.

To achieve this task, you must identify 4 different job titles and map them to 4 different elements in your game. Once you have identified these jobs, create a timeline showing how the different developers are inter-related and which files and file-types need to be passed along between these developers to achieve a finished product. The timeline must be clearly presented and of professional quality and it must clearly show the work being carried out by the various specializations