**Faculty of Computing, Engineering
and Science**

Assessment Cover Sheet and Feedback Form - Resit 2017-18

Module Code: CS4S765	Module Title: Game Engine Optimisation	Module Lecturer: Gaius Mulley
Assessment Title: Extend the functionality or realism of a physics engine (PGE) (August)		Assessment No. 1
No. of pages submitted in total including this page: Completed by student		Word Count of submission (if applicable): Completed by student

Date Set: 21-Jun-2018 00:00:00	Submission Date: 01-Aug-2018 23:59:00	Return Date: 29-Aug-2018 23:59:00

Part A: Record of Submission (to be completed by Student)
Extenuating Circumstances If there are any exceptional circumstances that may have affected your ability to undertake or submit this assignment, make sure you contact the Advice Centre on your campus prior to your submission deadline.
Fit to sit policy: The University operates a fit to sit policy whereby you, in submitting or presenting yourself for an assessment, are declaring that you are fit to sit the assessment. You cannot subsequently claim that your performance in this assessment was affected by extenuating factors.
Plagiarism and Unfair Practice Declaration: By submitting this assessment, you declare that it is your own work and that the sources of information and material you have used (including the internet) have been fully identified and properly acknowledged as required[1]. Additionally, the work presented has not been submitted for any other assessment. You also understand that the Faculty reserves the right to investigate allegations of plagiarism or unfair practice which, if proven, could result in a fail in this assessment and may affect your progress.
Intellectual Property and Retention of Student Work: You understand that the University will retain a copy of any assessments submitted electronically for evidence and quality assurance purposes; requests for the removal of assessments will only be considered if the work contains information that is either politically and/or commercially sensitive (as determined by the University) and where requests are made by the relevant module leader or dissertation supervisor.
Details of Submission: Note that all work handed in after the submission date and within 5 working days will be capped at 40%[2]. No marks will be awarded if the assessment is submitted after the late submission date unless extenuating circumstances are applied for and accepted (Advice Centre to be consulted).

You are required to acknowledge that you have read the above statements by writing	Student Number(s):

[1] University Academic Misconduct Regulations

[2] Information on exclusions to this rule is available from the Advice Centre at each Campus

your student number(s) in the box:	

IT IS YOUR RESPONSIBILITY TO KEEP RECORDS OF ALL WORK SUBMITTED

Part B: Marking and Assessment **(to be completed by Module Lecturer)**
This assignment will be marked out of 100% This assignment contributes to 50% of the total module marks. This assignment is bonded
Learning Outcomes to be assessed (as specified in the validated module descriptor https://icis.southwales.ac.uk/): *1) Demonstrate the ability to analyse and critically evaluate techniques used to optimise game engines2) Demonstrate the ability to analyse, create and evaluate game engine code*

Feedback/feed-forward (linked to assessment criteria):
- Areas where you have done well:

- Feedback from this assessment to help you to improve future assessments:

- Other comments

Mark:	Marker's Signature:	Date:

- **Work on this module has been marked, double marked/moderated in line with USW procedures.**

Provisional mark only: subject to change and/or confirmation by the Assessment Board

Part C: Reflections on Assessment (to be completed by student – optional)
Use of previous feedback: In this assessment, I have taken/took note of the following points in feedback on previous work:
Please indicate which of the following you feel/felt applies/applied to your submitted work • A reasonable attempt. I could have developed some of the sections further. ☐ • A good attempt, displaying my understanding and learning, with analysis in some parts. ☐ • A very good attempt. The work demonstrates my clear understanding of the learning supported by relevant literature and scholarly work with good analysis and evaluation. ☐ • An excellent attempt, with clear application of literature and scholarly work, demonstrating significant analysis and evaluation. ☐

What I found most difficult about this assessment:	
The areas where I would value/would have valued feedback:	

N sided polygon 30%	• Very poor N sided polygon. The N sided polygon was missing or barely started	• Poor N sided polygon. The N sided polygon implementation is fundamentally flawed	• Satisfactory N sided polygon. A sensible attempt was started in the creation of the N sided polygon	• Good N sided polygon. The N sided polygon was implemented - even if aspects were limited/ugly	• Very good N sided polygon. The N sided polygon works completely but the design or implementation is not elegant	• Excellent N sided polygon. The N sided polygon works completely and the API and design is elegant
Tiny 2D game using bungee object 40%	• Very poor Tiny 2D game using bungee object. The example game is completely broken or absent	• Poor Tiny 2D game using bungee object. The game example does not utilise the bungee object	• Satisfactory Tiny 2D game using bungee object. The example game is limited and shows off minimal aspects of the bungee object	• Good Tiny 2D game using bungee object. The example game shows of most of the aspects of the bungee	• Very good Tiny 2D game using bungee object. The example shows off all aspects of the bungee	• Excellent Tiny 2D game using bungee object. The example game is creative and shows off all aspects of the bungee
Implement the bungee spring object within PGE 30%	• Very poor Implement the bungee spring object within PGE, the bungee implementation didn't start	• Poor Implement the bungee spring object within PGE, the bungee implementation is fundamentally flawed	• Satisfactory Implement the bungee spring object within PGE, a sensible attempt at the bungee implementation was made	• Good Implement the bungee spring object within PGE, bungee works but there maybe issues	• Very good Implement the bungee spring object within PGE. The bungee works effectively	• Excellent Implement the bungee spring object within PGE. The bungee works effectively and has an elegant design/API/implementation

The aim of this coursework is threefold:

(i) implement a bungee spring object within PGE.

(ii) implement a tiny 2D game using at least one bungee object.

(iii) extend the PGE API to include the ability to create a N sided polygon (possibly by creating multiple triangle objects).
Marks will be awarded to the elegance of the design.

Your changes to the engine should be mapped onto the Python API in PGE to allow for ease of use and testing.

For each improvement you make you should generate simple Python test cases to demonstrate your code is working.

Your report must consist of a program listing, a line by commentary of any changes made and appropriate screen shots.
It should also document the changes to the API and any data structure changes.
The word count is 2000 words which does not include any code.