

Assessment Cover Sheet 2019-20

Module Code:	Module Title:	Module Team:
CS4S765	Game Engine Optimisation	Gaius Mulley
Assessment Title:		Assessment No.:
Extend the functionality or realism of a physics engine.		1
Date Set:	Submission Date:	Return Date:
23-Sep-2019 23:55	06-Mar-2020 23:55	01-Apr-2020 23:55

IT IS YOUR RESPONSIBILITY TO KEEP RECORDS OF ALL WORK SUBMITTED.

Marking and Assessment

This assignment will be marked out of **100%**.

This assignment contributes to **50%** of the total module marks.

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 engines
- 2) Demonstrate the ability to analyse, create and evaluate game engine code

Awarded mark is only provisional: subject to change and / or confirmation by the Assessment Board.

Assessment Task

The aim of this coursework is fourfold:

- (i) implement object interpenetration optimisation within PGE.
- (ii) implement rotating polygons within PGE.
- (iii) implement a tiny 2D game using at least one rotating polygon object.
- (iv) provide an analysis of the effects of your optimisation made in (i).

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.

The word count is 2000 words which does not include any code.

Marking Scheme

	Fail (0/29)	Narrow Fail (30/39)	3rd Class / Pass (40/49)	Lower 2nd Class / Pass (50/59)	Upper 2nd Class / Merit (60/69)	1st Class / Distinction (70/100)
implementation of an interpenetrating optimisation within PGE (30%)	<input type="checkbox"/> Very poor implementation of an interpenetrating optimisation within PGE	<input type="checkbox"/> Poor implementation of an interpenetrating optimisation within PGE	<input type="checkbox"/> Satisfactory implementation of an interpenetrating optimisation within PGE. A single feature was changed. Some obvious code weaknesses exist, but the overall direction was sensible	<input type="checkbox"/> Good implementation of an interpenetrating optimisation within PGE. Sensible changes attempted, code contains some errors but is along the correct path	<input type="checkbox"/> Very good implementation of an interpenetrating optimisation within PGE. Interesting and effective changes made	<input type="checkbox"/> Excellent implementation of an interpenetrating optimisation within PGE. Code contains independent ideas and is well crafted
implementation of the new object within PGE (20%)	<input type="checkbox"/> Very poor implementation of the new object within PGE	<input type="checkbox"/> Poor implementation of the new object within PGE	<input type="checkbox"/> Satisfactory implementation of the new object within PGE	<input type="checkbox"/> Good implementation of the new object within PGE	<input type="checkbox"/> Very good implementation of the new object within PGE. Using material presented in lectures sensibly	<input type="checkbox"/> Excellent implementation of the new object within PGE. Drawing from lectures and possibly other sources
implementation of a tiny 2D game using the new object (30%)	<input type="checkbox"/> Very poor implementation of a tiny 2D game using the new object	<input type="checkbox"/> Poor implementation of a tiny 2D game using the new object	<input type="checkbox"/> Satisfactory implementation of a tiny 2D game using the new object. Basic game implemented using objects already in PGE	<input type="checkbox"/> Good implementation of a tiny 2D game using the new object. Game uses many existing objects found in PGE	<input type="checkbox"/> Very good implementation of a tiny 2D game using the new object. An interesting game using a new object	<input type="checkbox"/> Excellent implementation of a tiny 2D game using the new object. An excellent implementation utilising well the game engine changes made
analysis of the effects your optimisation made in PGE (20%)	<input type="checkbox"/> Very poor analysis of the effects your optimisation made in PGE	<input type="checkbox"/> Poor analysis of the effects your optimisation made in PGE	<input type="checkbox"/> Satisfactory analysis of the effects your optimisation made in PGE. The analysis addresses some of the areas with errors and omissions	<input type="checkbox"/> Good analysis of the effects your optimisation made in PGE. The analysis addresses the majority of areas with a few errors or omissions	<input type="checkbox"/> Very good analysis of the effects your optimisation made in PGE. The analysis addresses the majority of areas with no major errors or omissions	<input type="checkbox"/> Excellent analysis of the effects your optimisation made in PGE. The analysis contains a high amount of independent thought and also all the major areas are covered without errors
Global:						