Assessment Submission Coversheet:  
Physics for Games   
Task 2 – Document Your Custom Physics Engine

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| **Course Stream:** | 10702NAT – Advanced Diploma of Professional Game Development |
| **Assessment Name:** | Physics for Games |
| **Units Covered:** | ICTGAM556 – Develop and implement physics in 3-D digital games |
| **Teacher/s:** | Jesse James Donlevy |
| **Due Date:** | As defined by your teacher/s. |
| **Date of Submission:** | *Will be automatically recorded on Canvas* |
| **Assessment Work Location** | Canvas/Drive location/file path |

*For more information on these parts, please click on the* [***Subject and Assessment Guide***](https://aie.instructure.com/courses/1027/files/723141?wrap=1) *link in the course* ***Game Programming Year 2*** *under the subject* ***Physics for Games*** *on* [*https://aie.instructure.com*](https://aie.instructure.com) *and read the* ***2023 Subject & Assessment Guide – Physics for Games*** *and go to* ***Assessment Tasks – Engine Documentation.***

**Naming Convention**

* Yourname\_PfG\_CPP\_Doc.pdf

**Declaration**

By submitting this work under my name, I declare that my submission is my own work with respect to plagiarism and does not violate any copyright laws. I have retained a copy of this assessment material that I can produce if requested.

Tick to acknowledge you have read and agree with this declaration.

Name: Ethan Dawkins Date: 18/02/2023

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**Work Submitted:***Tick to acknowledge you have submitted this part of the assessment.*

1. Class Diagrams:   
   Create class diagrams for the Custom Physics Simulation that includes the physics system’s classes, their properties, relationships and how they interact together. Your class diagrams should be included in your documentation.  
     
   In a few short sentences or dot points, please describe what you submitted for this part of the assessment

I created a class diagram that outlined the ‘Physics Object’ class and the inheriting classes ‘Rigidbody’ and ‘Plane’. The diagram also shows the child ‘Rigidbody’ child classes ‘Circle’ and ‘Box’.

1. Documentation:   
   Write documentation for your physics system that includes:  
   - References and research material used to influence the creation of the Custom Physics Simulation  
   - What the Custom Physics Simulation is demonstrating and how the physical bodies are interacting together  
   - Third-party libraries used to create the Custom Physics Simulation, if any  
   - What improvements could be made to the Custom Physics Simulation to support further features and more accurate simulations  
     
   In a few short sentences or dot points, please describe what you submitted for this part of the assessment.

I completed the documentation for the project including any research involved to finish the document. I also outlined all sources / references for research as well as the third party libraries involved in making the actual physics engine.

Name: Ethan Dawkins Date: 18/02/2023