Assessment Submission Coversheet:  
Physics for Games   
Task 1 – Create a Custom Physics Simulation

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| **Student Name:** | Dylan Alvaro |
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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:** | 15/02/2023 |
| **Date of Submission:** | *Will be automatically recorded on Canvas* |
| **Assessment Work Location** | Canvas |

*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 – Create a Custom Physics Simulation.***

**Naming Convention**

* Yourname\_PfG\_CPP\_SourceFiles.zip
* Yourname\_PfG\_CPP\_ReleaseBuild.zip

**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: **Please enter you name.** Date: **Please enter the date**

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Task 1 – Create a Custom Physics Simulation

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

1. Custom Physics Engine:   
   For the first component of the Physics for Games assessment task I will be submitting a game of 8 bit pool which incorporates all of the rulesets of pool.
2. Implement and demonstrate static and dynamic rigid bodies:   
   The implementation of static and dynamic rigid bodies is shown with making objects like the stripes and solid balls kinematic when they are affected by the movement of other balls.
3. Apply forces to physics bodies:  
    The implementation of applied forces to the balls in the game of pool allow for the balls to move around the field.
4. Visualise physics bodies:   
   the physics bodies can be visualised by the use of gizmos line and circle drawing to see the direction the balls will travel.
5. Project and source code:   
   all source code will be the in files attached to this assessment task

Name: Dylan Alvaro Date: 16/02/2023