Project Brief

Documentation for My Brief

This is a template to help guide you on writing the brief for your project. Feel free to edit and modify this as you choose as long as it meets the requirements laid forth in the rubric as defined on Canvas and the Subject and Assessment Guide.

Each section will contain a brief passage of text that describes what you should expect to write. Please remove these passages before submitting your brief for review.

You may amend your brief throughout the subject where necessary with discussion with your instructor.

# Project Overview

I plan to design and implement a 3d ball physics game where the player uses their mouse to pick up and drop the ball to have it go through an obstacle course.

## Assessment Requirements

* Physics Joints – many obstacles can easily work off of a joints system.
* Ragdoll Physics – not quite sure yet maybe an objective?
* Raycast into simulation's scene to pick up the ball and drop it at a chosen point on the course.
* Trigger systems with callback functions will be implemented through collisions and possible save points on the level for the ball to trigger.
* Use of Character Controller physics bodies supporting dynamic and kinematic rigid bodies – not quite sure yet

# Additional Third-Party Libraries

Please identify and provide a link and license for each third-party library planned to be used to implement this brief.

When discussing each third-party library, discuss why it is included rather being completely implemented by yourself.

No third party libraries currently planned.

# Underlying Mathematical Operations and Algorithms

## Mathematical Operations

Please list and explain the reason for any notable **mathematical operations** that your brief will need to undertake. The use of vector math alone is not notable – it is very common in game development to make use of vectors.

For example, it is notable and worth mentioning that your project will calculation *barycentric coordinates* to create a software renderer that will interpolate values for use in its fragment shader stage.

## Advanced Algorithms

Additionally, please list and explain the reason for any notable **advanced algorithms** that your brief will need to undertake.

For example, it is notable and worth mentioning that your program will implement *behavior trees* as a part of creating a robust set of designer-friendly tools for authoring behavior trees.

# Research Material

Optionally, please include links or references to other research material that helped you develop this brief.

# Technical Risks

If there any risks or further considerations that provide cause for concern, please list them here.

# Credits

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