**COMP30019 Project 2 Report**

**Meteor Madness**



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**Tutorial: Monday 3:15pm**

***Report: You must include a report (max. 3 pages) that describes your application, specifically what it does, how to use it, and how you evaluated and improved it. Several paragraphs of text under each of the following headings should be sufficient:***

* **Brief explanation of the game**

Meteor Madness is a simple game ‘paddle and ball’ game, in which players must destroy all the objects in the arena without the ball (read: meteor) falling through them.

For this project we sought inspiration from classic arcade games such as Space Invaders and Brick Breaker.

The player has responsibility of the paddle at the bottom of the screen, where the aim is to ensure that the ball doesn’t fall beneath the paddle.

All objects display rigid properties, so the ball ricochets bounces off any object an object in its path. Each different block (read: asteroid) has a certain amount of health and a specific score associated once it is destroyed. The rectangular blocks require 1 hit to crumble, the diamonds require 2 hits and the circles require 3 hit.

The aim of the game is to get the highest score possible before you die by running out of lives.

In this game we have three different levels, which increases in difficulty as the player progresses.

The main menu contains the option to adjust the volume and perhaps more importantly adjust the difficulty of the game (easy, medium or hard).

Additionally, the blocks may randomly drop some one of 5 different power ups that alter the game play.

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| Type | Image | Description |
| Magnet | Macintosh HD:Users:meadams:Dropbox:Screenshots:Screenshot 2017-10-12 21.26.45.png | Makes the ball stick to the paddle, allowing the player to choice the balls release point |
| Life | Macintosh HD:Users:meadams:Dropbox:Screenshots:Screenshot 2017-10-12 21.26.25.png | Gives the player and additional life |
| Rainbow | Macintosh HD:Users:meadams:Dropbox:Screenshots:Screenshot 2017-10-12 21.30.44.png | Alters the property of the ball, allowing it to destroy any object instantly without deflection |
| Shrink | Macintosh HD:Users:meadams:Dropbox:Screenshots:Screenshot 2017-10-12 21.25.50.png | Reduces the paddles size |
| Enlarge | Macintosh HD:Users:meadams:Dropbox:Screenshots:Screenshot 2017-10-12 21.25.35.png | Increases the paddle size |

* **How to use it (especially the user interface aspects)**

Meteor Madness is a very straightforward game to use by design. From the main menu, the player can personalize his audio and difficulty preferences before playing the game.

To play the game there are three keys: spacebar, left arrow and right arrow.

The spacebar key is used to release the ball from the paddle at the start of the level, after a death and when using the magnate power up.

The left and right arrow keys are used to control the paddle so that the ball stays in the arena.

Besides the ‘shrinking’ power-up, all other power-ups are advantageous and should be used if possible.

* **How you modelled objects and entities**

All the objects in this game take advantage of Unity’s in-built 3D game objects. The boundary walls are cylinders, the paddle and power-ups are capsules, the ball is a sphere and the blocks are either a cube, sphere or cube game object.

This was specifically designed so the game would look authentic and real. People who have played similar games would understand the game layout and feel comfortable with layout. We designed and textured the objects such that the game suited the theme of space without compromising on style.

* **How you handled the graphics pipeline and camera motion**

How did we manage the graphics pipeline???

Since this game is an ‘arcade’ style game, the camera is in a fixed position for the entirety of the game. The camera is position at a 50° slope to walls providing a more realistic and stimulating viewing angle.

* **Descriptions of how the shaders work**

Phong Shader on Ball

Need to another shader!

* **Description of the querying and observational methods used, including:**
* **Description of the participants (how many, demographics),**
* **Description of the methodology (which techniques did you use, what did you have participants do, how did you record the data), and feedback gathered.**
* **Document the changes made to your game based on the information collected during the evaluation.**
* **A statement about any code/APIs you have sourced/used from the internet that is not your own**