Games and Multimedia

Practical Assignment 2

Authors:

Joao Santos – student nº 2231132

Gergely Gombás – student nº 2232997

Professors:

Bruno Madeira

Luís Monteiro

Ricardo Antunes

Samuel Martins

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Game Programming

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1 Implemented Algorithms

1.1 Inheritance of the mines:

For the inheritance of the mines, all the mines are launched by the submarine script which then each type of mine has a specific script for it to do the wanted effect which then all the mines' scripts are connected to a general script which manages when and how the mines are destroyed.

1.2 Submarine Spawning and Lane Occupancy:

For the submarine spawning and lane occupancy we created a submarine spawner script and four empty game objects for the lanes (where each one of them has a different Y value).

On the spawner script there is a serialized List with the four lane positions and the script starts by trying to spawn a submarine on three of the four available lanes. Firstly it checks if the lane is occupied, if not it will add that lane to the "free lanes" list and then if the number of free lanes is higher than 0 it will then spawn the submarine on the available lane in a random position between a minimum and a maximum value of X.

1.3 Fine-Tuning Process for Object-Pools initial amounts of Game Objects:

For the fine-tuning process for the initial amounts of pooled game objects we had to check the number of each type of mines needed during the game, making sure that the number of mines on the field would be the same or as close as (lower) the initial pooled amount, so that during the game we wouldn't have nor game objects that are never being used, nor game objects that are being created and destroyed.

Class Diagram:
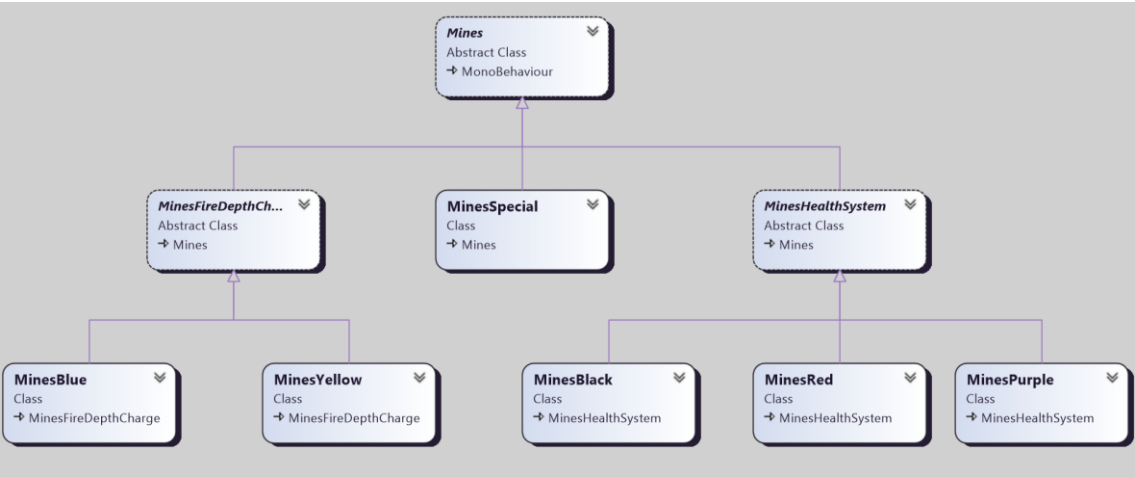
2 Implemented Features

All the features required in the practical assignment corresponding to this evaluation were fulfilled except...

2.1 Partially Implemented Features

The features that were partially implemented were:

- The mines launched by the airplanes don't physically collide with the submarines.

3 Bibliography

During the development of this work, the following references were consulted:

- https://www.youtube.com/watch?v=hypDgKReP0c