

DOCUMENTATION

This documentation covers everything that was done to create the 2D Asteroid game. This includes:

- Game Mechanics
- Play Instructions
- C# Scripts

Introduction:

This 2D Asteroid game is a simple 2D Shooting game where you shoot and destroy the falling meteors with your spaceship. The purpose of this game is to destroy as many meteors as you can. Each meteor gives you a +1 score. The game ends when a meteor falls on your ship.

Game Mechanics:

The ship moves in a tank-like way. With the keys 'W' and 'S' it moves forward/backward respectively, while with the 'A' and 'D' it moves left/right like a tank steering system. Meaning the whole body of the spaceship moves left or right.

The Meteors spawn in a position and fall every ... sec. Every time a meteor gets destroyed; the spawn timer gets increased by 1. There are 2 spawners, one on the top left and one on the top right.

The Score Keeper gets increased by 1 every time a meteor gets destroyed.

There are 2 menus. A starting menu and a pause menu. With play you start the game. During the game you can press esc to pause it, and either resume, change the sound volume or quit.

Game Instructions:

There are 6 interactive keys, 'W', 'S', 'A', 'D', 'spacebar', 'esc'. Press 'W' to move forward, 'S' to move backward, 'A' to move the body of the ship to the left, 'D' to move the body of the ship to the right. Press the spacebar to shoot the fireballs and destroy the meteors. 'esc' is the key used to enter the pause menu.

Goal of the game is to shoot and destroy as many meteors as possible, before getting hit by the falling meteors.

C# Scripts and Code explanation:

MainMenu.cs

A simple SceneManager.LoadScene script where we change the scene depending on the button. Depending on the scene, we show/suppress the buttons UI.

PauseMenu.cs

A similar script with the MainMenu.cs but since the game is already running, we pause it.

MeteorSpawner.cs

A script to spawn the meteors and increment the time, every time a meteor gets destroyed. This is to make the game harder as the score gets increased.

MeteorSpawner2.cs

The script of the 2nd meteor. The only difference is that there is a different timer/increment time, to make the game more random and feel more natural.

ScoreKeeper.cs

A script to keep track of the score. We initialize the UI of the Score text in this script and every time a meteor gets destroyed, the IncreaseScore() function of this script get called to update the score.

Bullet.cs

The script used to create the bullets. Here we also control the lifetime of the bullet. It gets destroyed if it collided with a Meteor, or after some time (3 units time).

Fire.cs

The scripts used to fire the bullets. We use the 'spacebar' as the input key to fire them.

Player.cs

This script has 2 main functions. The 1st one gets the spaceships inputs and adjusts its speed. The 2nd function gets the cameras position and makes a screen wrapping effect. If the ship exits the cameras position it re-appears from the other side (e.g. The new position will be (-x,y) if it exits from the sides or (x,-y) if it exits from the top/bottom.