CT3536 Unity Lab 5
# Continuing the Asteroids game

From last week, we have:
- A game capable of spawning a number of asteroids, depending on what level it's on
- Asteroids move using physics, always constrained to the x/z plane (where y=0)
- On leaving one side of the screen, Asteroids 'wrap around' to the opposite side

This week, we are adding:
- A player spaceship, which rotates via 'left'/'right' arrow keys and uses its engine via the 'up' arrow key
- Small, short-lived asteroid fragments that eject from any asteroid collision
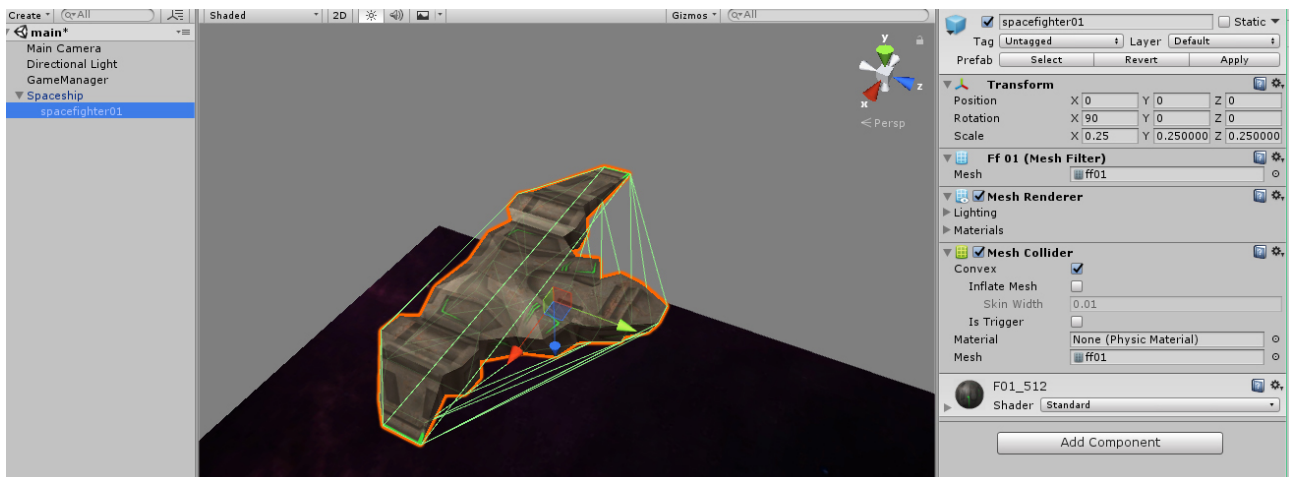
Note that this spacefighter model was created with 'y' as its forward axis. The cleanest way to deal with this is to nest the model inside a parent GameObject and apply a local rotation of 90 degrees on the X axis to the child model. This means that we can operate on the parent GameObject as normal, with Z being its forward direction and Y being its up direction. See screenshot above.

- In the GameManager script, make a new method called CreatePlayerSpaceship() which instantiates the player ship in the middle of the screen, i.e. x=0, y=0, z=0. For now, call this function from the from the Start() method.. (this will be changed later when we add a menu system).
- Create a new script called Spaceship, and attach it to the spaceship prefab.
- In the Update() method of the Spaceship script, apply a physics force to accelerate the spaceship forward if the Up arrow is held, or to rotate it left/right if the Left/Right arrows are held. (The prefab will of course need a Rigidbody for this to work)
- Make the player spaceship respond to moving off-screen, in the same way that asteroids already do.
- Now create a prefab containing a very small version of the asteroid mesh, without a normal asteroid script. Each time an asteroid collides with something, spawn a few of these prefabs at the point of impact. They should be destroyed shortly afterwards. They should not have the asteroid script on nor be treated like asteroids in terms of collisions with asteroids, player spaceship, or (later) bullets. They are purely a special effect with no gameplay effect.