Procedural Content Generation Assessment Item 1 Report

**Development Log**

Development started with creating procedural galaxies to fill the background of the diorama and to provide landscape elements. Building on the workshop 8 tasks, galaxies were created with randomness in their constant variables to provide variance between them and are then placed around the diorama. Random colour values are assigned to each individual star in the galaxy, with a rule that made stars closer to the galaxies centre more vibrant (See Figure 1). Doing this procedurally adds more variation than a traditional manual skybox, with very noticeable differences each time.

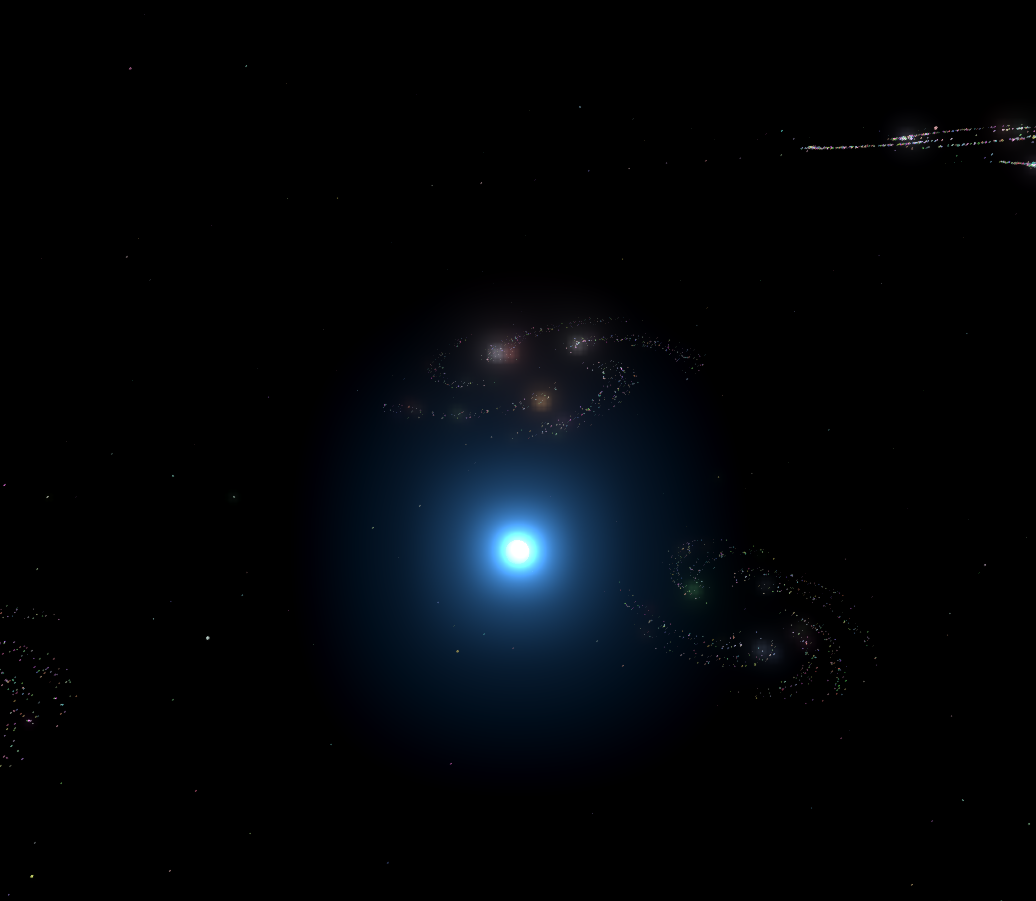


*Figure 1: Procedural distant galaxies being spawned around the diorama.*

**Narrative**

The diorama’s narrative pertains to a new mission by humanity to colonise distant temperate planets in their solar system from their home planet called “Terra”. Two large fleets have assembled above Terra to embark on their journey to expand humanity into the stars.

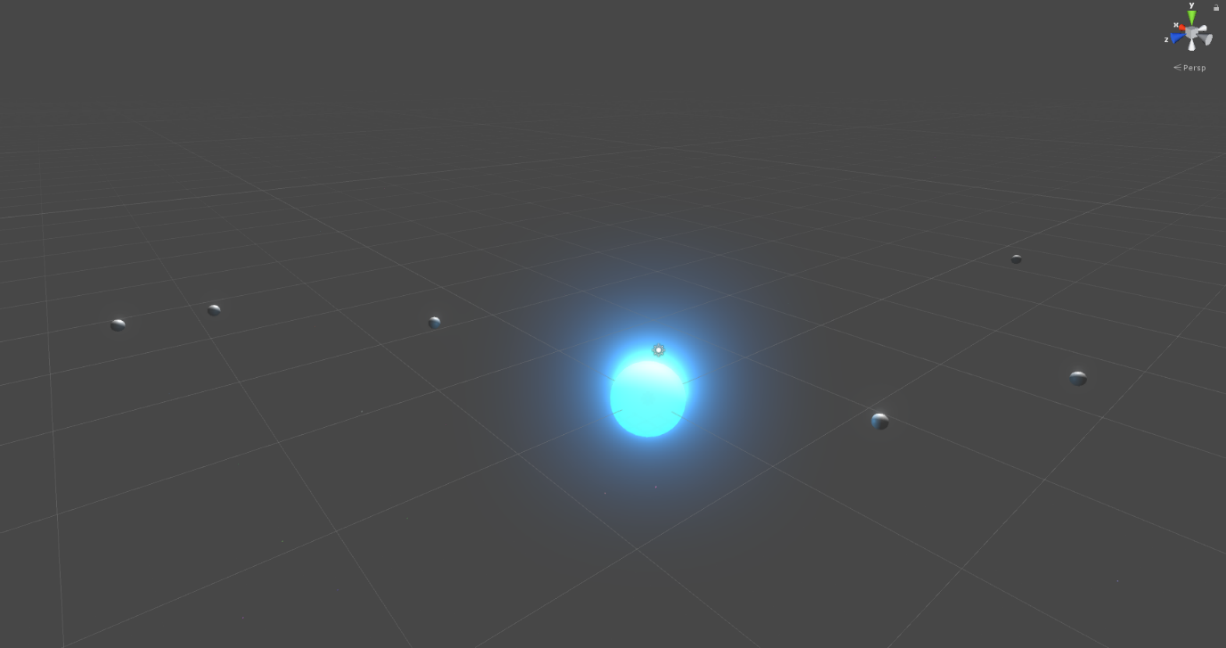
Next the solar system’s star is generated which is given a random size attribute, the scale of the star determines what colour it will result in being, a higher value results in warmer colours (See figure 2).



*Figure 2: A small star (with cooler colours) generated in the diorama.*

Planet placement was solved by using polar coordinates to place them around the star and works by placing one planet after the other with differing minimum and maximum distances based on the previous planet’s position (See figure 3). The number of planets is also affected by the star’s scale.

While simple, this system helps to create vastly different scenes each time the diorama runs, manual placement lowers the



*Figure 3: Spawned planets orbiting around the star using the placement system.*