CSC3231 Coursework

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YouTube Demo

https://www.youtube.com/watch?v=GJEVTzuoTI4

Terrain

The level is set on an alien planet within a forest. The terrain extends beyond the player's horizon and is made up of grassy hills, dirt paths, rock formations, a pond and a variety of vegetation.
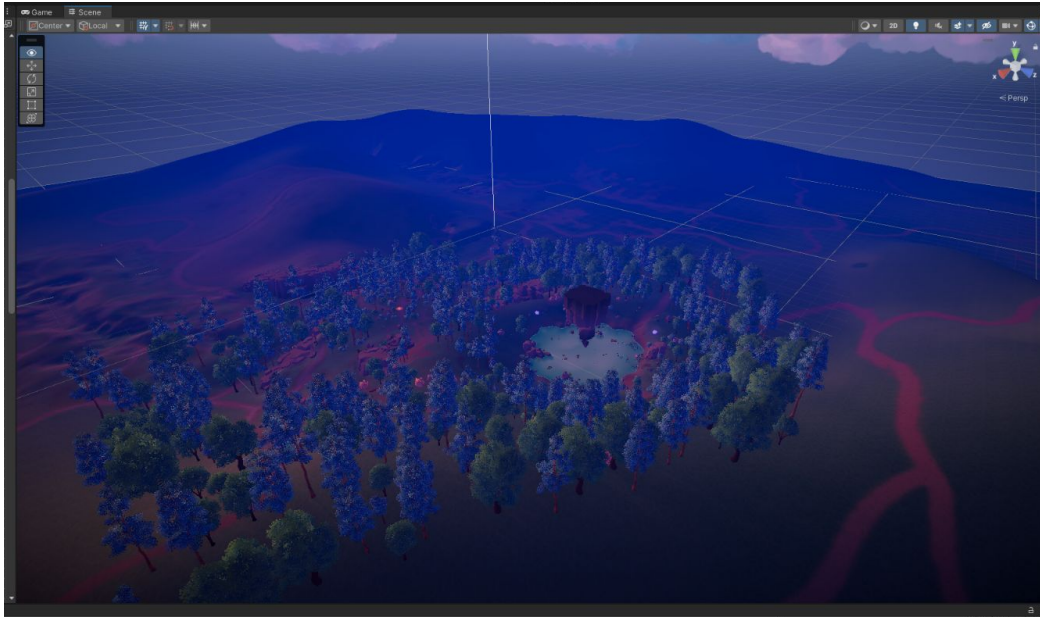
Moving Elements

The centrepiece of the scene is the floating rock formation above the pond. The three piece arrangement rotates in place with a hovering effect while smaller rocks orbit them as though trapped in a gravitational pull.

Scene Changes

Around the pond are three rotating dodecahedrons. If the player collects each of these by colliding with them, the trees will change to an autumnal variation relative to their species after a fade-to-black effect. This reflects a permanent change in the landscape as specified in the coursework features.

Day/Night Cycle

A clock is located in the upper right of the UI. The skybox changes based on the time of day as well as the position of the directional light in the sky to simulate a sun/moon and accurate, dynamic shadows.
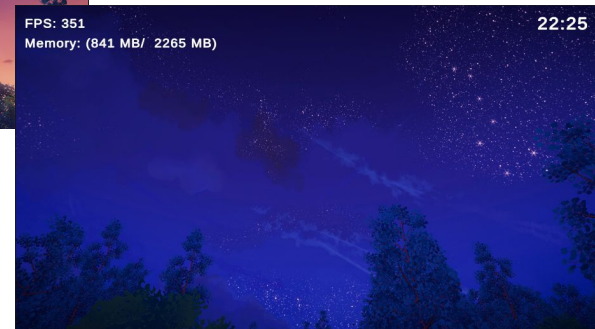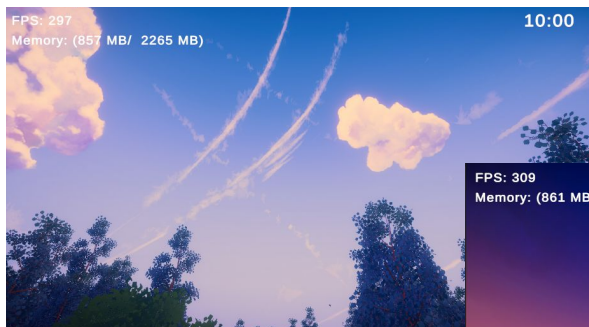
Water

The pond water uses a cartoon style shader that fits with the asset theming used in the scene. It is animated at intersection points with other game objects.

Model LODs

Each model asset came with variations of itself with less polygons per version. A Level of Detail (LOD) group can be created where the game object fades between high and low detail based on the distance from the camera. Less detail is required on objects far from the player's view so resources can be saved by rendering these as low detail objects to increase framerate.
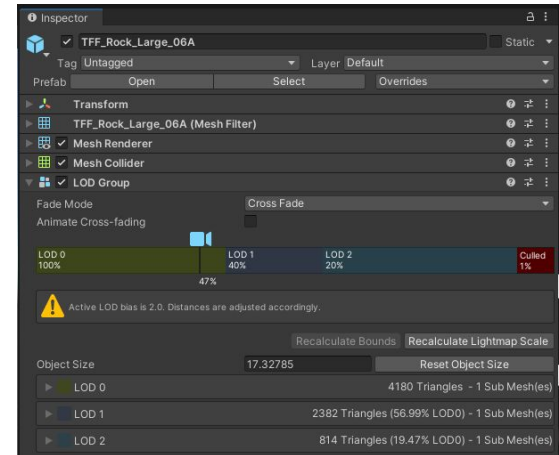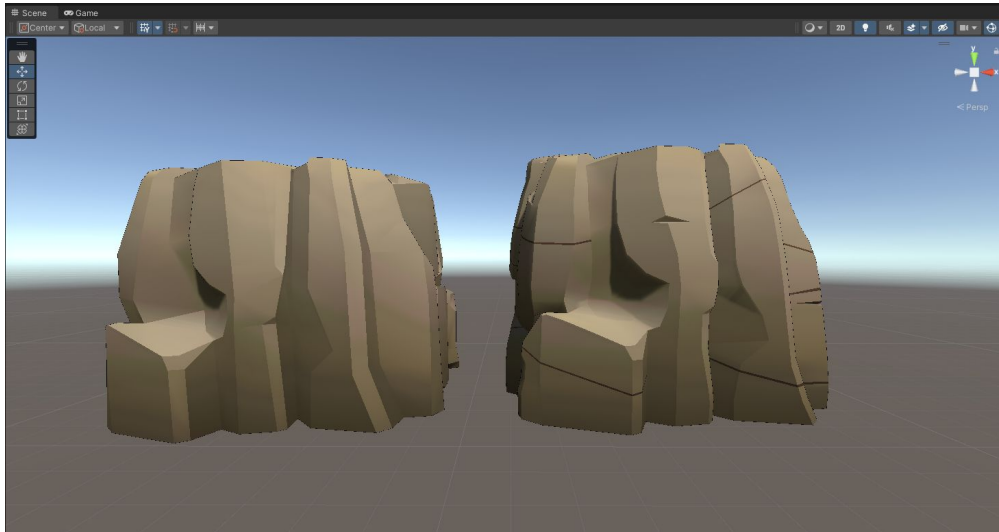
Post Processing

An additional graphical effect I implemented was post processing. Although subjective, I believe adding post processing allowed for a more cinematic look to the game, minimising washed out and flat colours.
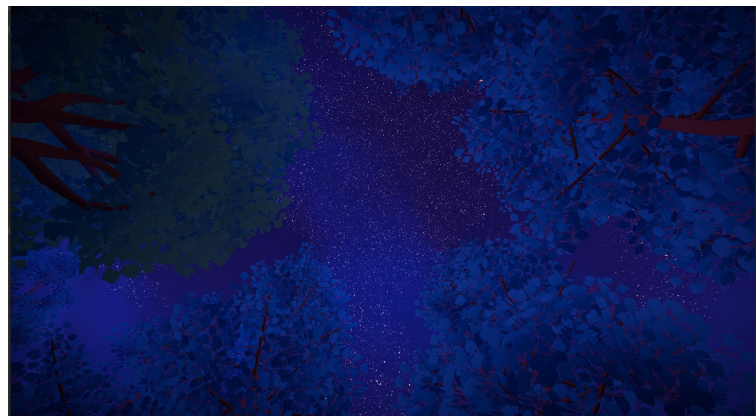

No post processing.

Post processing enabled.

Gallery

Credits

Asset Models:

- Toon Fantasy Nature
  (https://assetstore.unity.com/packages/3d/environments/landscapes/toon-fantasy-nature-215197)

Tutorials:

- GameDevTraum - Fade In/Out Effect
  (https://gamedevtraum.com/en/game-and-app-development-with-unity/unity-tutorials-and-solutions/multi-function-fade-in-fade-out-effect-for-unity-download-package/)
- Ketra Games - Day/Night Cycle (https://www.youtube.com/watch?v=L4t2c1_Szdk)