KF6018 Assignment Report

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3D models

For this project we chose to create a theatre with a misty forest scene on the stage.

The 3D models created in this scene include:

* A Theatre stage - 2 brown cubes to designate the floor of the stage, and 3 dark grey cubes denoting the edges of the stage
* Front and Back Theatre curtains - 3 planes that have been distorted to form a wave pattern using a dedicated function
* Multiple trees on the stage - using multiple brown cylinders, and spheres for the trunk and branches, and green spheres for the leaves, each one a child of the previous piece
* Stairs to the stage and the floor - a series of cubes, on each side of the stage to connect the stage area to the audience area
* The seats in the audience section – a series of chairs created by cubes that are looped through to create the seats that stretch to the back of the room
* Walls, ceiling and floor – these are plane geometries that have highlights on the floor to make the scene have carpets

Special effects

There are 2 special effects within this animation:

* The movement of the curtains – which uses a series of Booleans to detect whether the curtains should be opening or closing
* The 2 smoke machines – which are constantly pushing smoke particles from 2 points either side of the stage

User interaction

* The scene is render using stereo camera which makes the scene VR, the scene is also fully controlled via a phone’s gyroscopic controls
* The curtains can be opened and closed on touch or click

Graphical rendering

* All materials in the scene are rendered with phong mesh materials giving each object dynamic shading
* Two lights are rendered to give the theatre realistic theatre lighting with a large spotlight in centre stage giving an iconic spotlight effect on the floor and a pointlight giving the rest of the theatre a dim light, giving the stage centre stage

# QR Code

