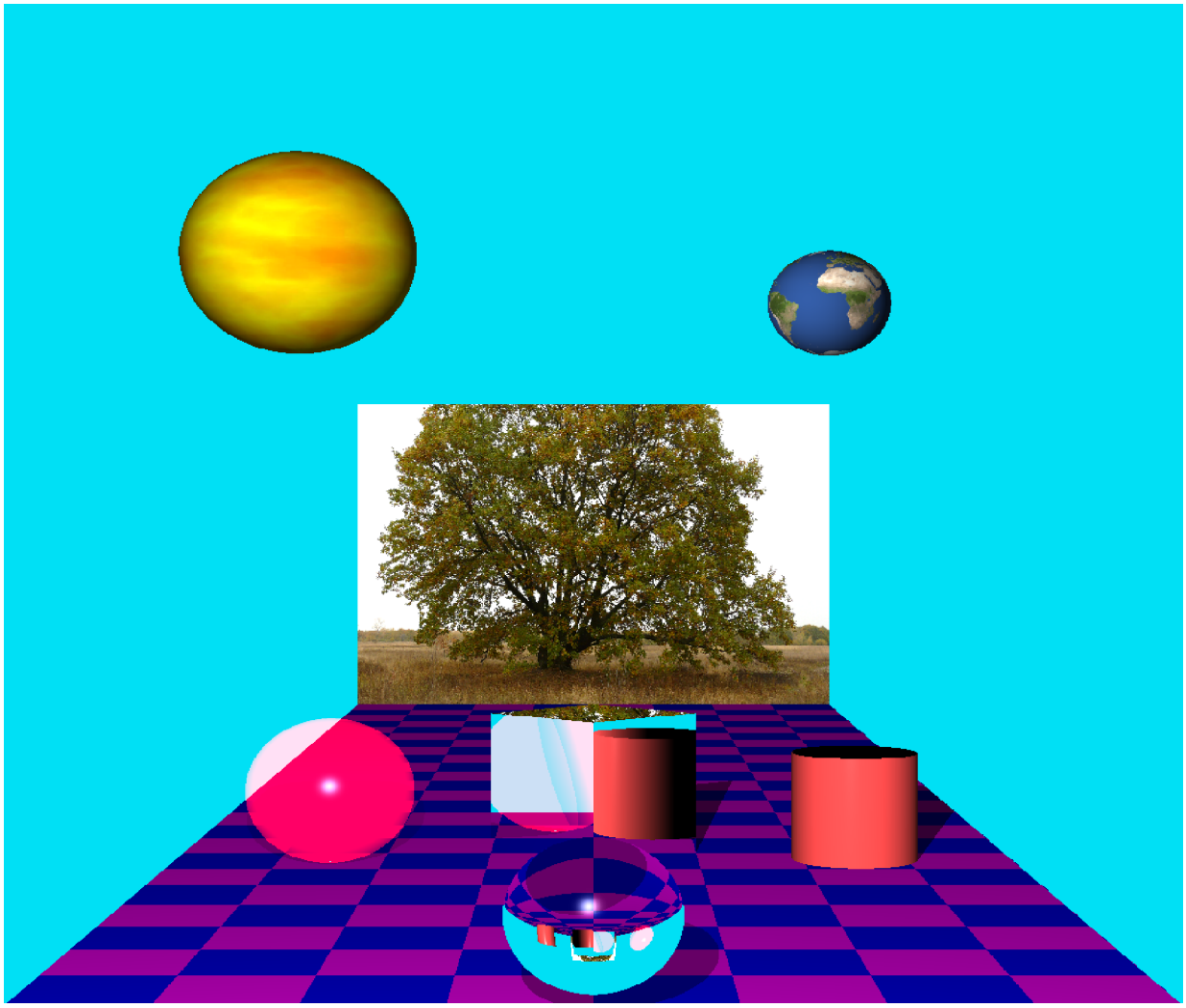
Cosc363 Assignment 2 Report

Toby Morgan - 11562397

The scene consists of a textured plane with an image of a tree as the centrepiece, with a reflective box immediately below constructed using a set of planes, which shows off the left and right pieces, a transparent pink sphere and an orange cylinder respectively. Along the bottom there is placed a refractive glass like sphere, transposed with a clear image of the whole scene, laying atop the blue and magenta chequered plane. In the sky there are two spheres, one textured as the Sun, emitting light onto the scene, and one textured as Earth. For the scene I wanted to show an image seemingly familiar and connected to the natural world, while leaving the Earth in the sky as a reminder that this is not a reality as we know it.



The cylinder's intersection method is obtained by solving the quadratic
D = Direction, P0 = Point of origin, C = Centre of cylinder base, R = Radius
a = (d.x^2) + (d.z^2)
b = 2 * (d.x * (p0.x - c.x) + d.z * (p0.z - c.z)
c = (p0.x - c.x)^2 + (p0.z - c.z)^2 - R ^2

On average the scene took less than 5 seconds to render.

Unzip the folder using WinRAR and build using the CMakeList.txt file provided, QT Creator is recommended.

Textures were taken from texturelib.com which provides free textures for non-commercial and commercial use as long as they are distributed as an integral part of the product.

All other equations and assets were gathered from the course. UV mapping was done using the Wikipedia guide.