COSC363 Report

Jack van Heugten Breurkes

jsv22 23859472

## Model 1: Bowl of curry

The bowl of curry model was created using surface levels drawn using GL\_TRIANGLE\_STRIP. The shape of the bowl is a paraboloid and is calculated using an equation instead of storing the points in arrays.

## Model 2: Paper airplane

The paper airplane model was created using a GL\_TRIANGLE\_FAN for both the sides and for the back face. The model is animated to fly in circles around the museum using a rotation about the centre of the museum. The plane also moves up and down as it flies in a sinusoidal manner.

## Model 3:

## Extra feature 1: Billboarding

Cylindrical billboarding has been implemented by taking an object’s global position and using it to calculate a vector from the object to the camera. This vector is used to calculate the angle by which to rotate the object.

A close up of text on a white background

Description automatically generated

The position of the object in world coordinates has been calculated using the GL\_MODELVIEW\_MATRIX, via the method explained in <http://www.lighthouse3d.com/opengl/billboarding/billboardingtut.pdf>