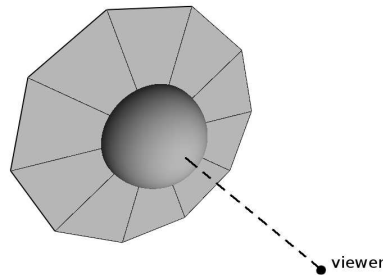


Computer Graphics - Programming Exercises

Assignment 9 [4 Points] (Alpha Blending)

In this assignment, you have to perform alpha blending to create a halo around the sun as can be seen in the solution. Creating such an effect is rather simple. You just have to draw a viewer-aligned and unlit polygon around the sun and blend it with the geometry behind it.

- a) Draw a triangle fan with the center vertex at the origin (i.e. the center of the sun) and a radius of 50. The figure below provides an illustration. The color of the entire fan should be yellow, however, the alpha values should be 1.0 at the center and 0.0 at the outer vertices. Make sure that the alpha values of the other objects in the scene are 1.0 since they should not be transparent. Before drawing the fan, enable OpenGL blending and to set the appropriate blending function with `glBlendFunc`. Note that the non-transparent objects should be drawn first. You don't need to 'freeze' the z-buffer afterwards (as mentioned in the script) since there is only one transparent object in the scene.



- b) Since the fan should always be perpendicular to the viewer, you have to transform it according to the current viewer position. You should have enough knowledge about transformation matrices by now to perform the required operation.

Implementation Guidelines

A little hint: You can bind arbitrary matrices, hence you could create a `Model Matrix` that positions the corona around the sun and facing the camera. Please use a buffer to draw the corona.

Again, you are welcome to extend your existing framework!

Good Luck!

Your source code will be copied from your handin directory on:

Monday, 12.01.2015 14:00 pm

all subsequent changes cannot be taken into account!