

Assignment 3

A 3D Fly By

Due Date: 13 June 2006
Midnight AEST
(Toowoomba)

Value: 20%

Description

Create a 3D island and ocean landscape in OpenGL complete with texturing, water and vegetation the user can fly through using mouse controls.

Tasks

1. Create a several fractal generated islands using a polygon mesh. Texture the mesh using images based on geographical height (e.g. sand for low land, grass for intermediate land and snow for mountain tops).
2. Create fractal vegetation for the landscape using L-Systems. Remember these will not be able to be generated during flight time as they will slow the animation sequence down considerably. You must implement at least 2 different L-Systems (e.g. one for small bushes and one for trees). To make the vegetation appear more natural implement random branch angles and leaves.
3. Allow the user to fly through your landscape using the mouse. The user should be able to accelerate using the left mouse button and decelerate using the right mouse button. Movement controls should be based on tutorial 7's fly through program.
4. Do not be concerned with collision detection.
5. In the documentation discuss and illustrate:
 - the fractal method used to create the landscape
 - how you determined the colouring of the landscape and water
 - the l-systems used to create the vegetation

The program should compile and run under Linux.

Submit your assignment via the CSC3406 website. Be sure to include your documentation (see ASSESSMENT REQUIREMENTS in this booklet), a binary version of your program (e.g. the executable), c code, appropriate headers, images and makefile.
