

COMP3201 – Computer Graphics

Assignment 1: “2D Prairie Dog”

Assignment Due: **electronic submission by 6pm on Monday 20 March**

Task:

Construct a simple 2D model of the prairie dog.

Objectives:

- To understand how to create a 2D scene in Computer Graphics.
- In particular, to understand the basics of windowing systems and Computer Graphics, including
 - opening and positioning of window
 - processing keyboard input
 - graphics primitives – lines, triangles, quads, strips and fans
 - colour and shading
 - OpenGL states (e.g. line thickness)

Submission

Assignments are to be submitted electronically via the web at <http://submit.itee.uq.edu.au/> . Code must **not** be compressed (e.g. zipped) for submission.

Code Style

Code must be written in ISO C90 and conform to the coding style available from http://www.itee.uq.edu.au/~comp3201/_c_coding_style.html . Code must compile under Solaris with the Makefile available for download from <http://www.itee.uq.edu.au/~comp3201/Makefile> .

Remarking of Assignments

Any request for an assignment to be re-marked must be made in writing (not e-mail) to the lecturer (and not to the tutors). The request must contain details of why a re-mark should be granted (e.g. you believe there has been an error in marking a particular section of the code). Such requests must be made within 2 weeks of the assignment-feedback being sent to the students.

Demo Executable

A demo version of this assignment can be downloaded from the web site (choose your platform) and run, to allow verification of the functionality of this program. The demo contains the colour and position information required to create the prairie dog. The annotation information provided in the demo is *not* part of the assignment.

Program Functionality:

- open a window in the centre of the screen, using GLUT as the windowing framework;
- the modelling coordinates have the vertical range -10 to +250, and a horizontal range from -70 to +70.
- background colour is bluish – specifically $R = 0.1$, $G = 0.2$, $B=0.6$, $A = 1.0$;
- ‘d’ – toggle display of the 2d prairie dog;
- ‘w’ – wire/fill toggle for polygon mode;
- space bar – toggle between smooth and flat shading;
- the program should compile and execute on both Solaris and Windows. It shouldn’t unexpectedly terminate during execution