

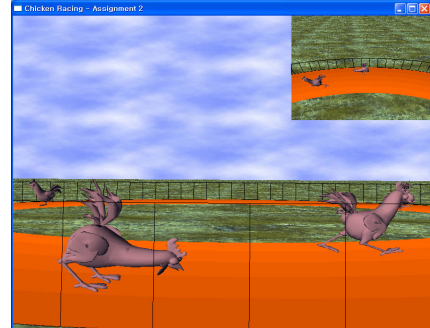
Assignment 2

CMSC 740, Fall 2008

Due: 9:30am Thursday, October 9, 2008

This assignment involves familiarization with OpenGL texturing, viewport, and simple animation. For this assignment, you should make the following extensions to your program from the Assignment 1 with the aid of the start up code and data at <http://www.cs.umd.edu/class/fall2008/cmssc740/assg2/>. The start up code can be compiled on both Windows and Linux and it:

- opens an empty window of size 800×600 .
- provides *BMPImage* class to load bitmap images.
- has a modified *Smesh* class to support animation.
- provides *cloud.bmp*, *ground.bmp*, and a new *chicken.dat* with 50 frames.



Your goal in this assignment is to map *cloud* and *ground* textures, animate/move chickens, and add a new viewport/camera as shown in the figure.

- (a) Texture mapping of cloud and ground and cloud movement.
- Texture map clouds on the four bounding planes – top, left, right, and far. Move the clouds as in the demo program. **(2 Points)**
 - Texture map the ground plane. **(1 Point)**
- (b) Render, animate, and move five chickens along the track:
- Load the chickens using the *Smesh* class and complete the *Smesh::draw* function to render and animate the chickens. **(1 Point)**
 - Place five chickens in the five lanes and move each chicken with a randomly generated speed. **(2 Points)**
 - Adjust the animation speed of each chicken (the rate at which the 50 frames are cycled) to correspond to the spatial displacement rate of that chicken. **(1 Point)**
- (c) Add an additional viewport and camera to track the leading chicken in the new viewport:
- The right-top viewport has a dimension of 266×200 . **(1 Point)**
 - The additional camera tracks the leading chicken as in the figure. **(2 Points)**

Special notes:

- Class forum is at (<https://forum.cs.umd.edu/forumdisplay.php?f=118>).
- Refer to the demo version to resolve any ambiguities that might have remained in the above description.
- Minor differences between the demo program and your program will not affect the grading of your assignment.