

# MAT 494 — SpTp: Computer Graphics, Spring 2005

## Homework #6, Due on Friday, February 25th

In this homework you will be drawing a robot with many movable joints. In this project, your goal is to produce a running robot that has fluid motion.

### **Project Requirements:**

1. Draw a robot using only `glutWireCube` and `glutSolidSphere`. The robot should have a sphere for a head, a cube for a body and a total of 8 cubes representing the arms and legs (as shown in the demo in class).
2. Your robot should have as many independent rotations as required to allow for fluid running movement.
3. The user should be able to turn running on and off by pressing the 'r' key. You will use an idle function (via `glutIdle()`) to handle the running motion.
4. The old keyboard from last project should still exist. These rotations should include the elbow (using the 'e' key), the shoulder (using the 's' key), the knee (using the 'k' key) and the hip (using the 'h' key).
5. Lastly, produce a method for rotation about the robot by using the 't' key.
6. You may find that it might help to add some minor geometry to the scene. This may result in translating the robot (and camera) as the robot runs by the geometry.

### **Grading Information:**

1. User Interface/Implementation: 100