

Lab 8 – csc 471: Hierarchical modeling

Today's lab we will play with simple hierarchical modeling.

- 1) Closely follow the slide presentation on hierarchical modeling and create a robot arm in 2D using hierarchical modeling:
 - a. The arm should include a fore arm and upper arm
 - b. The fore arm should attach to the upper arm at an elbow joint
 - c. The forearm should be able to be rotated about the elbow joint
 - d. The entire arm should be able to be translated
 - e. The entire arm should be able to be rotated about a shoulder joint in the upper arm.
- 2) You should set up your arm in your world in a reasonable position and orientation (i.e. so that it looks like an arm). You will need to demonstrate bullet points c-d. You may choose to do this by controlling the position and orientation through keyboard events or mouse events.
- 3) Add an idle call back, which animates the arm waving (make the motion realistic by constraining the range of angles that the arm can move). Also add a keyboard event to pause or start the animation so that you can set up the limb into specific positions.

Extra credit: Feel free to be creative and add extra elements as you'd like (a hand, or torso, or the rest of the robot☺) or create the arm in 3D.