Notes on procedure for setting up the “stick figure dog” in Maya:

1. I imported a skeleton created last quarter. Had to adjust the length of the bones to match the motion capture markers. I used the insert key to try to keep the z axis pointing down the bone, but somehow they went off.
2. After the bones were aligned with the motion capture marker data, I selected all of the joints and did “freeze transformations.”
3. I selected all of the joints and oriented all of their axes with z down the bone using the mel script “joint –e –oj zyx;”
4. Next, I went into component mode and had to select each axis on the dog and rotate them so that not only z was down the bone, but all of the y axes pointed to the dog’s left.
5. I then created individual polygon cylinders. I moved them onto the bones, scaled and rotated them into alignment.
6. Freeze transformations on the cylinders.
7. Created Squares for the joints between the bones – moved and scaled them into position.
8. Created Spheres for the joints between the bones – moved and scaled them into position. (I decided to go with the squares).
9. I experimented with different colors for the squares at the joints. I used red for the right legs, cyan for the left legs, and blue for the spine joints as well as all the cylinder bones. (These colors changed when I had to edit the VRML code).
10. Freeze transformations on the squares and spheres.
11. Select each piece of geometry and its corresponding joint and bound each using “rigid” setting.
12. I then ran Rotate Plane IK handles along all the bones. None of these crossed any root joints.
13. I then point constrained the IK handles to the motion capture locators.
14. I found that the added toe bones (which did not have a corresponding motion capture locator because I couldn’t get a marker on the tip of the dogs’ toes when I motion captured them) weren’t working right. I had tried point constraining the toe IK handles to the mocap locator above that the metatarsals/metacarpals were constrained to.
15. So, I removed the IK handles on the toes and they looked better. All they needed was to be rigid bound to the metatarsal/metacarpal joints. Created a static angle of the toes that didn’t look natural throughout every step of the animation.
    The toe bones really need to be hand keyed for animation to look right. Note: I finally just decided to delete the toe bones.