

CAD/CAM

Homework 4

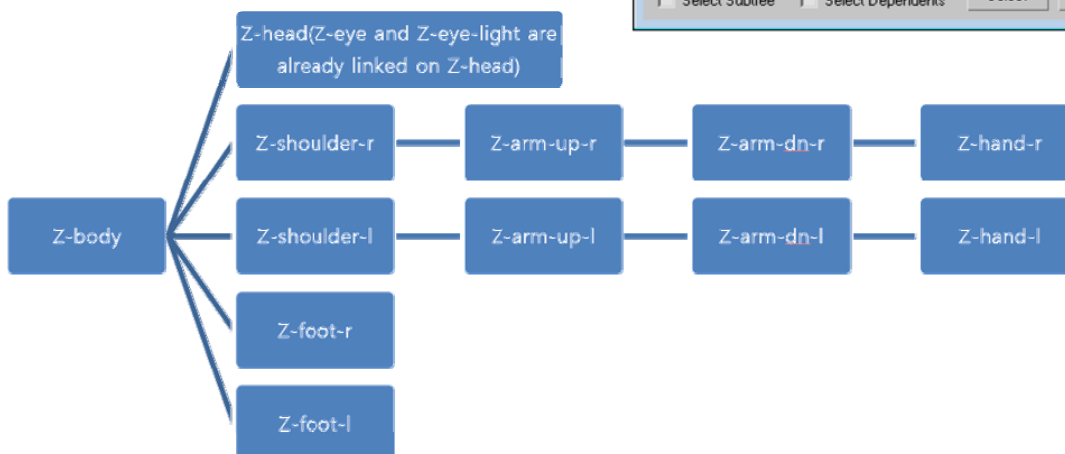
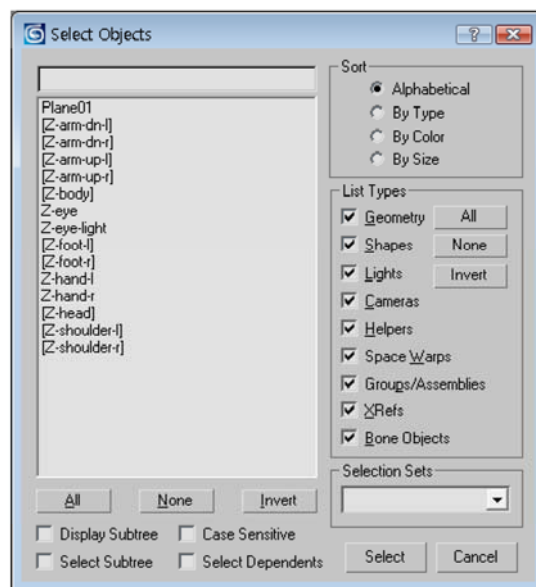
3D MAX

Due Date : 2009.10.21. 23:59:59

Walking Robot

- Use attached files to make movie that robot is walking to positive x-direction.
 1. Open “hw_robot.max”
 2. Use ‘Link’ to robot. I already made some groups on this file.
 - Z-body is the top layer object of this robot.
 - (If you move Z-body group, every part of this robot should be move together)

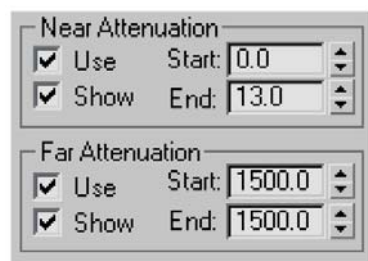
You must link parts follow this hierarchy



Walking Robot

3. Use two lights for this movie

- Original file have a skylight.
 - (Actually there are one more omni light is attached on robot eye)
- **Make one more light source that 'Target Spot Light'**
- **Target Spot**
 - Position of light source: (200,200,200)
 - Position of target point at start(0,0,50)
 - Color of light : White
 - Multiplier of light source : 0.4
 - Shadow : on
 - Check 'Near Attribution' And Far Attribution'



- **Link target point of light to Z-body.** Reduce intensity(multiplier) of skylight from 1.0 to 0.3.

Walking Robot

4. Camera

- Create two cameras.
- Camera 1 – Target Camera
 - Select 20mm lens(from stock lenses)
 - Position – (500,500,200)
 - Target at start – (0,0,0)
 - **Link target point to Z-body**
- Camera 2 – Free Camera
 - Select 20mm lens(from stock lenses)
 - Position – (50,0,85)
 - Direction of view : Positive X-direction
 - **Link camera2 to Z-eye**

5. Walk

- Move Robot to X-direction during 100 frames.
 - at frame 0 : position of Z-body : 0,0,0
 - at frame 100 : position of Z-body : 500,0,0
- During walking motion, **legs and arms should swing for walk 2 times**. Lower body is a very simple model, so do not consider the reality of walking.

Walking Robot

6. Rotate Eye

- During walking motion, Z-eye part will rotate.
- center(0frame) – 30 degree right(25frame) – center(50frame) – 30 degree left(75frame) – center(100frame)

7. Mapping

- Mapping “sand01.jpg” to plane01
- Right Click on the viewport and click “Unhide all”
 - You can see a large sphere.
- Mapping “star01.jpg” to sphere02

8. Rendering

- Rendering to create movie.
- Movie1
 - Camera1, 0-100frame, 30fps.
 - file name : max_camera1.avi
- Movie2
 - Camera2, 0-100frame, 30fps
 - file name : max_camera2.avi
- file format: avi (recommended codec :Microsoft video 1)

Submission Details

- Due : Oct 21, 2009 23:59:59
 - Credit : 10 points
 - Penalty
 - Don't make movie files : -5
 - Don't make link properly : -3
 - Other mistakes : -1 for each
 - Delay : -1 per one hour
 - Bonus: represent materials of robot.
 - Express the metal : maximum 2
 - using material editor, mapping image

- Objects on demand :
 - max file
 - (Save as "hw_max_student number.max")
 - max_camera1.avi
 - max_camera2.avi
 - Mapping images that you use in max file.
 - readme.txt
 - Describe your process for this homework



Submission Details

- Submit : <http://etl.snu.ac.kr/>
 - You must compress above all files as a **Zip** file named “HW4_student ID.zip”
 - Upload to Assignment Board (과제)
 - Ex) HW4_200012345.zip
 - **Penalty for other formats!!!**

- Question :
 - E-mail : toya84@snu.ac.kr
 - Tel : 02 - 880 - 7447