Homework 4

- Implement a program that renders the following image under the **perspective** projection
  - Use polygons to render 國立中興大學 and the logo
  - Use triangles to render National Chung Hsing University
- Each color and vertex of above polygons and triangles are manually defined by yourself
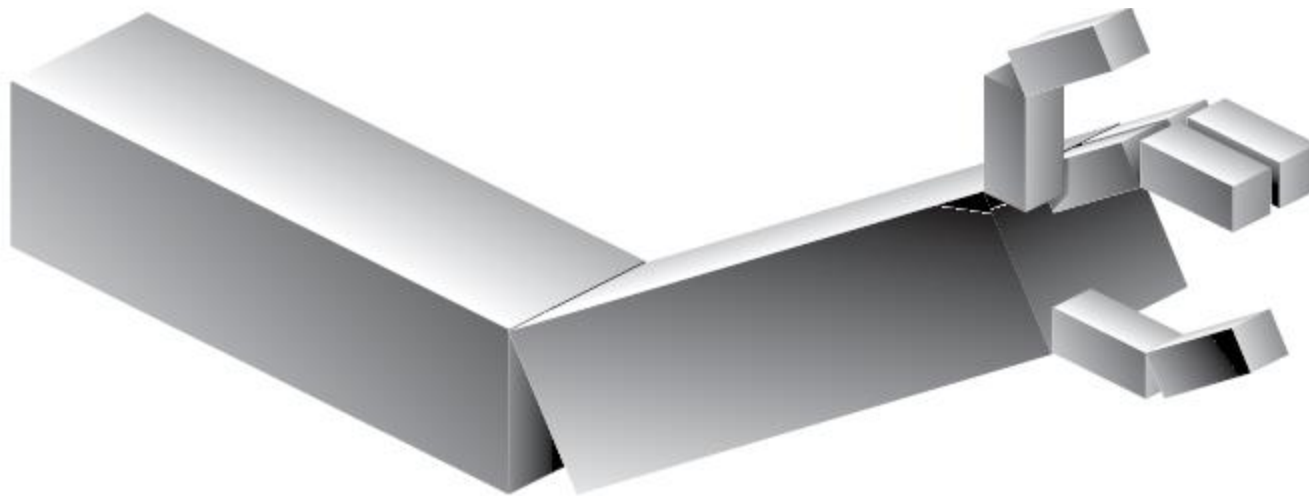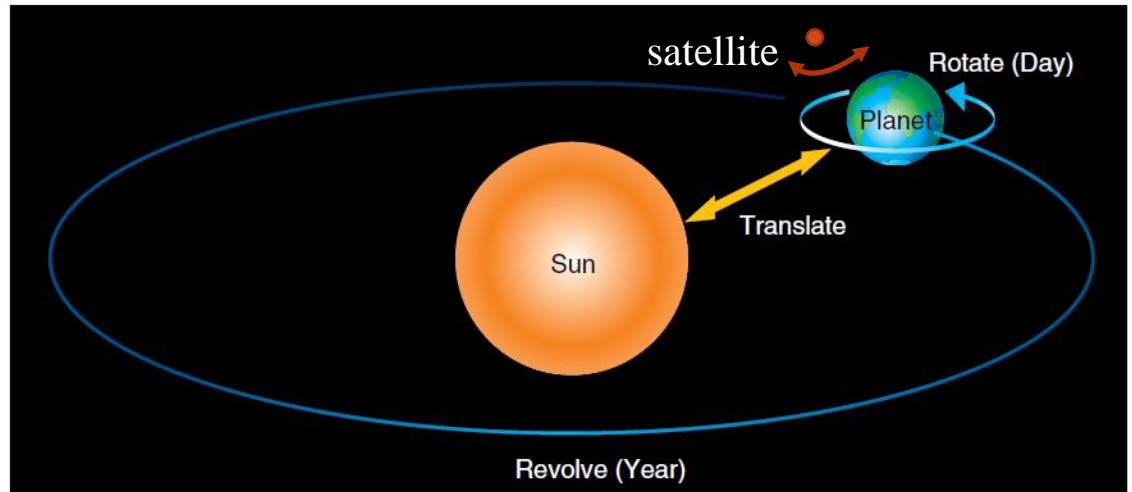
Homework 4

- **glutKeyboardFunc**
- Keyboard w
  - Move forward
- Keyboard a
  - Move to left
- Keyboard s
  - Move backward
- Keyboard d
  - Move to right
- Keyboard space
  - Jump

Homework 4

- Modify example 3-7 to add additional segments to the robot arm and add a solar system on the hand of the robot arm
  - Give the robot arm several "fingers" at the wrist, as shown in Figure 3-26
  - Hint: Use **glPushMatrix()** and **glPopMatrix()** to save and restore the position and orientation of the coordinate system at the wrist
  - All the fingers must have different material properties
  - Use glutWireSphere and glutWireCube
    - You need to scale the objects by yourself
  - Automatically rotate the plant and the satellite

satellite

Rotate (Day)

Planet

Translate

Sun

Revolve (Year)

Figure 3-26   Robot Arm with Fingers

Homework 4

- Your robot has two arms
  - Keyboard 'z'
    - Fire the solar system from the left arm
    - After hitting or missing the target, redraw the system on the arm
  - Keyboard 'x'
    - Swing the right arm
  - You need to provide the attacking animation
  - When the attack hits the NCHU polygons
    - The hit polygons should disappear
    - You also need to compute the life of the user
    - Press keyboard 'r' to recover the NCHU polygons

Homework 4

- Light your scene by a light as a sun
- Add a floor
  - Restrict the monsters and user on the plane
- The content of the image should not be clipped
- Hint
  - Be sure to use Visual C++ 2013 for coding
    - Otherwise 0
  - Be sure to include glew and glut libs/dlls in your project
    - Otherwise 0
- Always Copy = Delay = 0

- Deadline: 5/15 23:59
- TA賴昀揚
  - g105056037@mail.nchu.edu.tw
  - Upload to E-Campus
    - Zip the whole project and remove complied files!
    - Otherwise your grade will be deducted by 10 each
- Title
  - 成圖技術與應用第4次作業_學號_學生名.zip
    - WindowsProgramming_4thHomework_student number_student name.zip
  - Otherwise your grade will be deducted by 5
- In the source code, you need to add the identifications below
  - Otherwise your grade will be deducted by 20

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