Introduction to Graphics Programming and its Applications

繪圖程式設計與應用

Assignment 1

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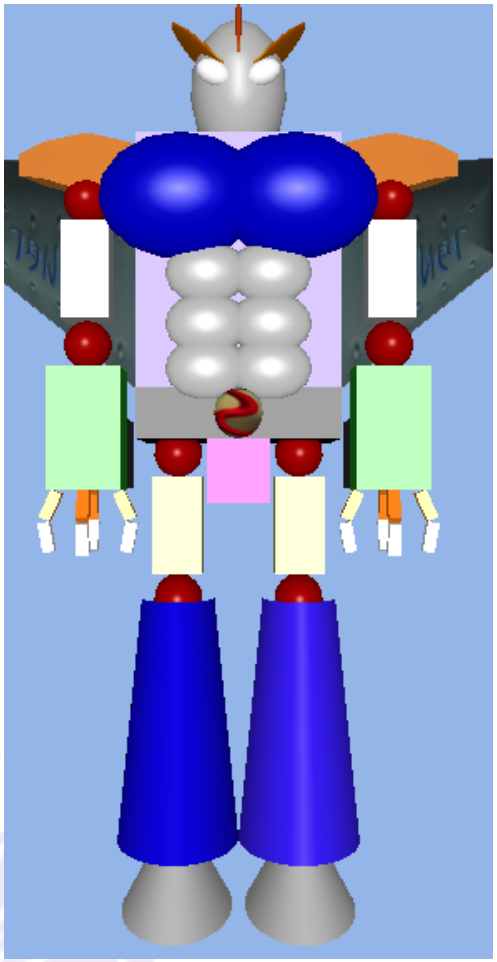
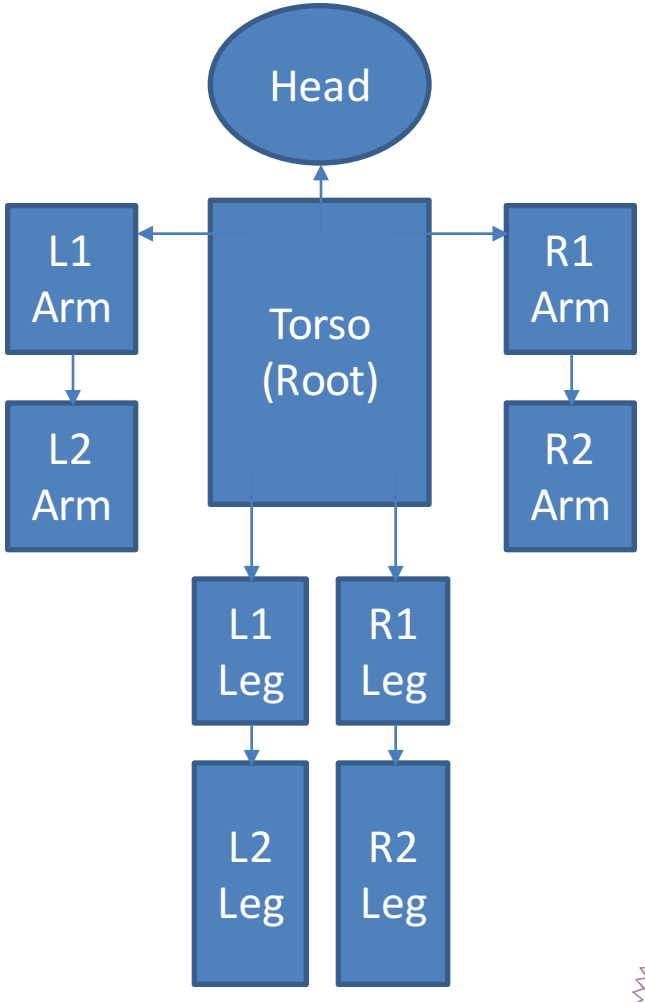
CS4505

Assignment 1

- Design and render an **animated robot** with **OpenGL**

Hierarchy Diagram



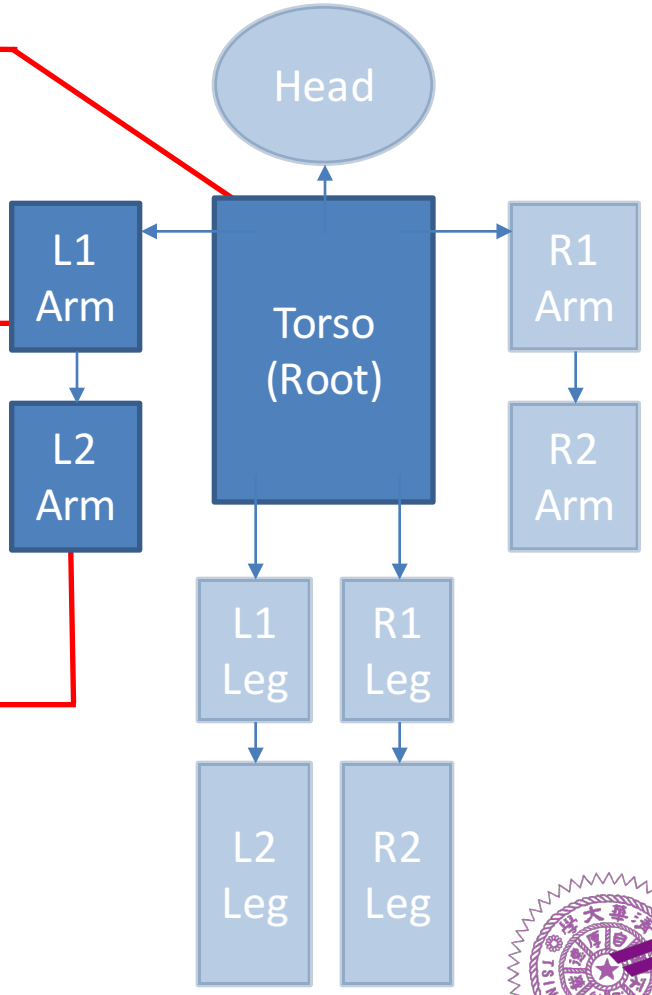


Hierarchy Matrix

$P * V * M_{torso}$

$P * V * M_{arm1} * M_{torso}$

$P * V * M_{arm2} * M_{arm1} * M_{torso}$



Assignment 1

- Announce day: 2017/3/20
- **Due day: 2017/4/3 23:59**
- 10% of semester score
- Hand in your homework by iLMS
  - Source code, **please only upload source codes** (.c, .cpp, .h, .hpp, .sln, .vcxproj, makefile, etc.)
  - Windows(with .dll files) / Mac executables

    name your glut window [學號_AS1]
  - Report in PDF format

Assignment 1

- You get **-10 point** if you use **console input**. No scanf()! Please use GLUT menu, keyboard or mouse event instead
- You got **0 points** if you do these:
  - Doesn't use OpenGL **shader pipeline**
  - **Fully copy source code** of the other students
  - Your provided **executable doesn't run**(you can use your laptop to re-demo if this happens)
  - Your program **doesn't use OpenGL**

Assignment 1

- Remind again , you should use **shader pipeline**
- You can't use **fixed pipeline** and any **GLUT primitive api** such as
  - *glVertex2f() , glTranslatef() , glTexCoord2f() … etc.*
  - *glutSolidCube() , glutSolidSphere() … etc.*
- Don't worry about this if you follow our course slides

Report Format

- Name your file 學號_AS1_Report.pdf
- Required content:
  - 1 screenshot of your window with robot in it
  - The relationship/transformation stack of your robot body parts(example on previous page)
  - Functions in your program/how to use, which IDE and its version do you use, etc.
  - Only 5%, writing a lot won't get you more!

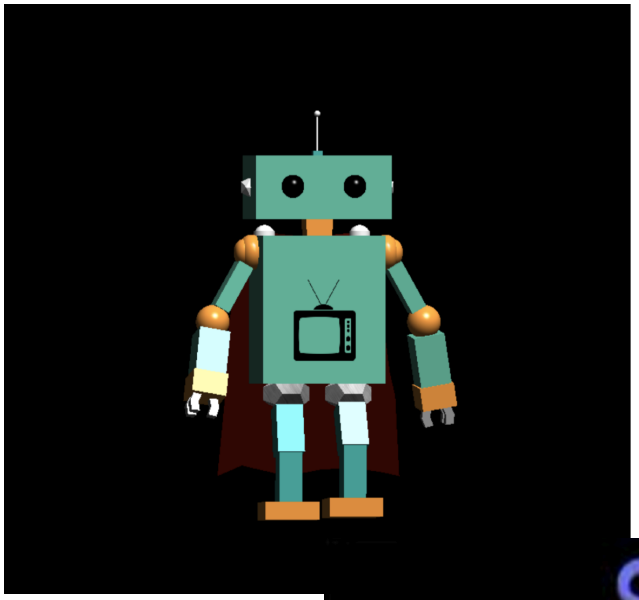
Evaluation

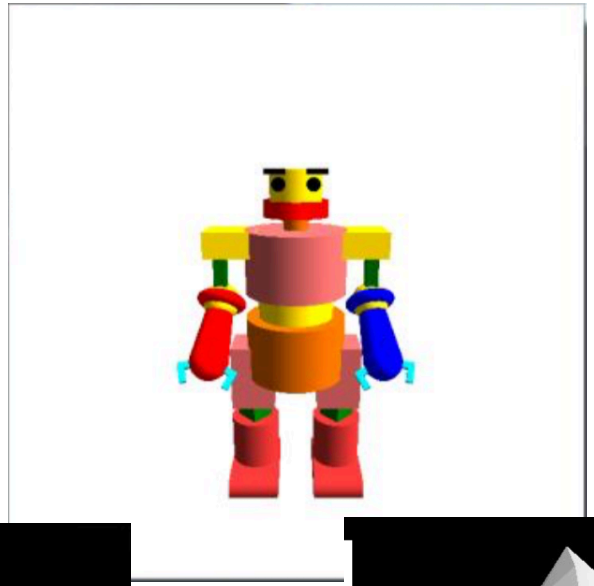
Item	Score
Robot has one cube primitive at least	10%
Robot has a head, a torso, two arms, two legs at least	15%
Robot parts are correctly connected by transformations (diagram)	15%
Animation(1 kind at least) works and it involves all robot body parts	15%
Render works	15%
Use of GLUT menus to start/pause animation or change animation	10%
Use of keyboard/mouse events to manipulate robot rotation/position	10%
Report	5%
Subjective score by teacher and TA	5%

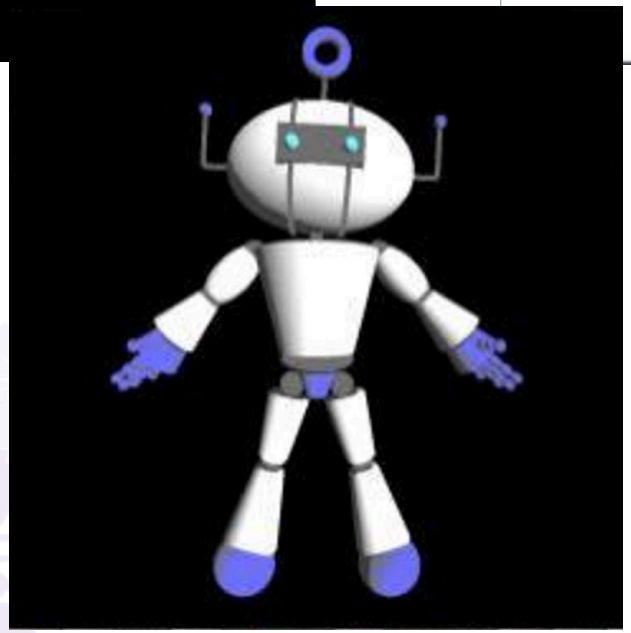
Bonus

Robot has one cylinder primitive at least	5%
Robot has one sphere primitive at least	5%
Use texture on one robot part at least	10%

Example







thank you!
Question