COMP4422

Computer Graphics
Lab 08: Blender Introduction

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Objectives:

- Introduction to Blender
- Interface
- Basic Operations
- 3D Viewing
- Mesh Exporting
3D Modeling
Graphics & Animation Rendering

Big Buck Bunny  http://www.bigbuckbunny.org
Physical Simulation
Game Engine

Yo Frankie!
http://www.yofrankie.org/
Why learn Blender?

• To LEARN CG design
• To SEE state-of-art CG technology
• To CREATE complex objects and scenes
• To UNDERSTAND 3D virtual worlds.
How to learn Blender?

- **Practice**! exercises, assignments...
- Read the source code...
- Browse on-line tutorials, books, articles, videos, discussion forums ...
- On the web:
Blender @ COMP

• Free copy of Blender download from:
  ▪ http://www.blender.org/download/
  ▪ Newest version is 2.76
Look & Feel (0) – screen areas

Main Menu Bar

3D View Window

Left Window

Right Window

Button Window
Look & Feel (1) – window type

3D View Window

Cube

Camera

Light
Split Area
Right Click the border of area -> “Split Area”
Join Areas
Right Click the border of area -> “Join Areas”
3D Scene Navigation: Change 3D Viewport

- Use middle mouse button
- Use NumPad
  - 0: Camera
  - 1: Front
  - 5: Perspective / Orthographic View
- Bottom Window -> View
Add Meshes
Add dynamic features (Physics)

• Choose an object (Right Mouse Click)
• Select **Physics** in Right Window
• Select ‘Rigid body’
• Set the type of static object (Plane) as ‘Passive’
• Press ‘Alt+a’ → Play animation
Rendering

- Press F12 to render current frame
- Press CTRL+F12 to render the whole animation
- Set output path
Mesh Exporting

Exporting a mesh through the software interface, focusing on the export options and settings for converting 3D models into different file formats.
Exercise 1

• Create some 3D objects
• And render the first frame you made
Exercise 2

- Create 3D objects
- Add dynamic features
- What happens when you press ‘Alt+a’?
Exercise 3

• Export objects as .obj file
• Load objects by using webgl
  - Refer to the code in lab07 comp4422-lab-07-code-02-PhongShading.html
Remember!

• **F12**
  - Render current frame

• **Ctrl+F12**
  - Render animation

• **Alt+a**
  - Play Animation
Reference

- [http://www.blender.org/](http://www.blender.org/)
- [http://www.cs.auckland.ac.nz/~jli023/opengl/blender3dtutorial.htm](http://www.cs.auckland.ac.nz/~jli023/opengl/blender3dtutorial.htm)
Download:

http://www.comp.polyu.edu.hk/~csgeorge/comp4422/lab/
Try things out...