

# ***Assignment 3 – Texture Mapping Detail Instruction***

***by Ruen-Rone Lee  
ICL/ITRI***



# Goal

- ◆ **Binding and passing the texture to shader.**
- ◆ **Modify the texture filtering & wrapping mode.**
- ◆ **Finish the code in main.cpp, vertex shader and fragment shader**



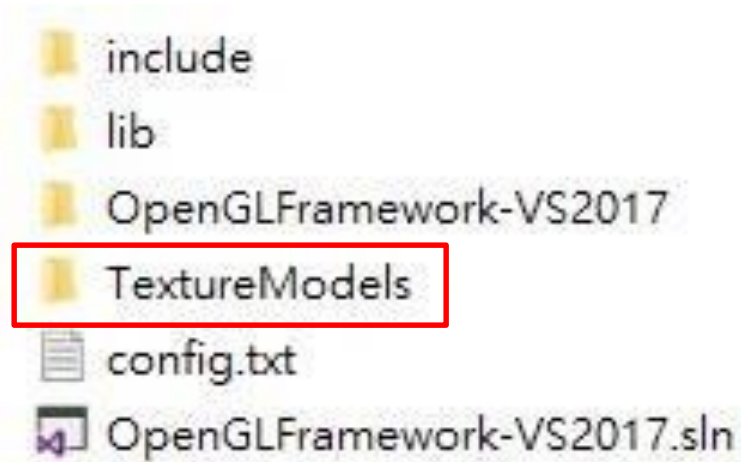
# Assignment 3

- ◆ **Announce date: 2023/05/24**
- ◆ **Deadline: 2023/06/07 23:59 (UTC+8)**
- ◆ **Late work will be penalized by 20/week.**
- ◆ **Copy & paste others' code will get 0.**
- ◆ **Hand in your homework to eeclass in the following format(-10 for penalty)**
  - ◆ **studentID\_HW3.zip**
  - ◆ **studentID\_HW3\_Report.pdf**

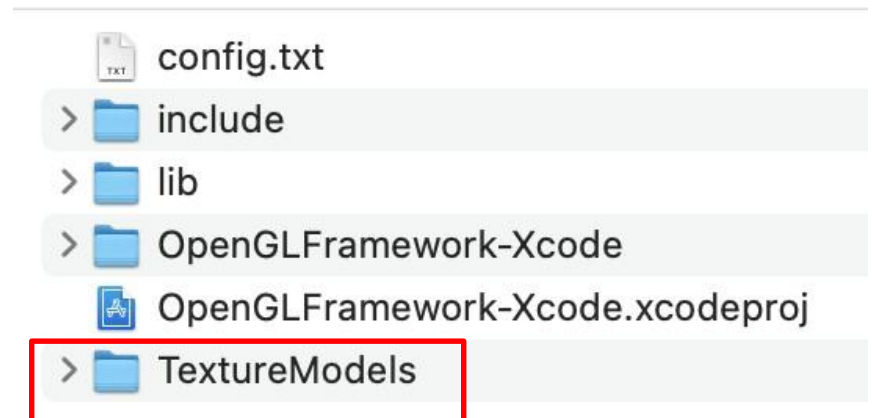


# Settings

- ◆ TextureModels inside framework would exceed max upload size.
- ◆ Unzip TextureModels.zip inside below folder.



**For Windows**

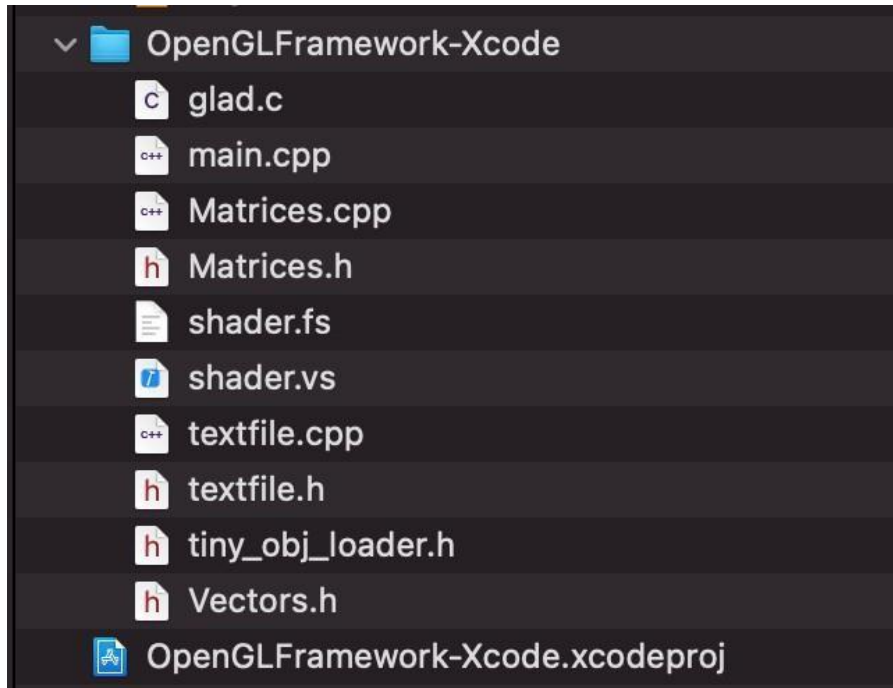


**For Mac**



# *In studentID\_HW3.zip*

- ◆ Depend on your device
- ◆ **-10 for those upload “TextureModels”**

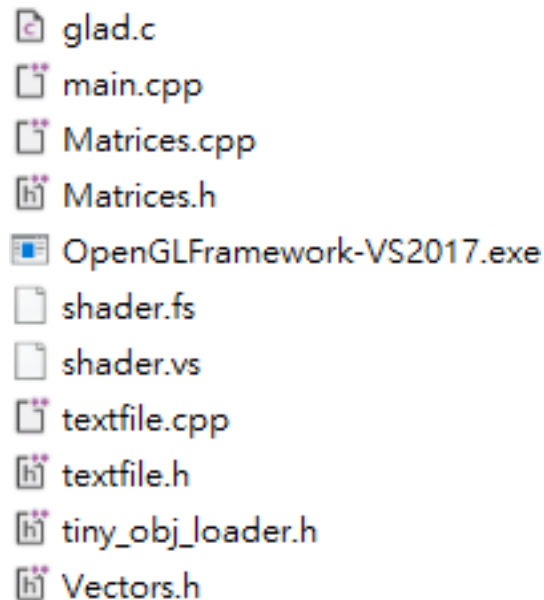


**For Mac**



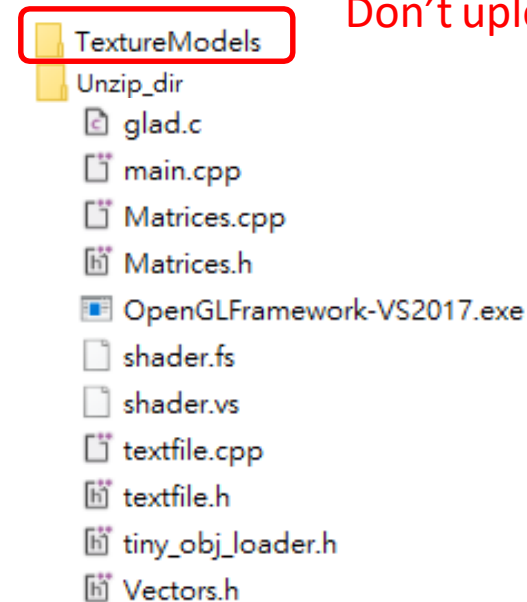
# *In studentID\_HW3.zip*

- ◆ Depend on your device
- ◆ **-10 for those upload “x64” or “TextureModels”**



glad.c  
main.cpp  
Matrices.cpp  
Matrices.h  
OpenGLFramework-VS2017.exe  
shader.fs  
shader.vs  
textfile.cpp  
textfile.h  
tiny\_obj\_loader.h  
Vectors.h

**For Windows**



TextureModels  
Unzip\_dir  
glad.c  
main.cpp  
Matrices.cpp  
Matrices.h  
OpenGLFramework-VS2017.exe  
shader.fs  
shader.vs  
textfile.cpp  
textfile.h  
tiny\_obj\_loader.h  
Vectors.h

Don't upload!!!

**Make Sure exe can run**



# Key Mapping

- ◆ Please follow the spec bellow, or you would not get the score of item.
- ◆ You **must** make sure your key mapping is **exactly same** to ours.
- ◆ Transformation and lighting are the same with previous assignments



# Key Mapping

- ◆ G: switch the magnification texture filtering mode between **nearest** / **linear** sampling
- ◆ B: switch the minification texture filtering mode between **nearest** / **linear\_mipmap\_linear** sampling





# Key Mapping

- ◆ Texture transform on some Pokemon models' eyes
- ◆ Apply change on **normal order (1-7)** when press **right arrow** key.
- ◆ Apply change on **reverse order (7-1)** when press **left arrow** key.
- ◆ Always use **repeat mode** for texture coordinate addressing.

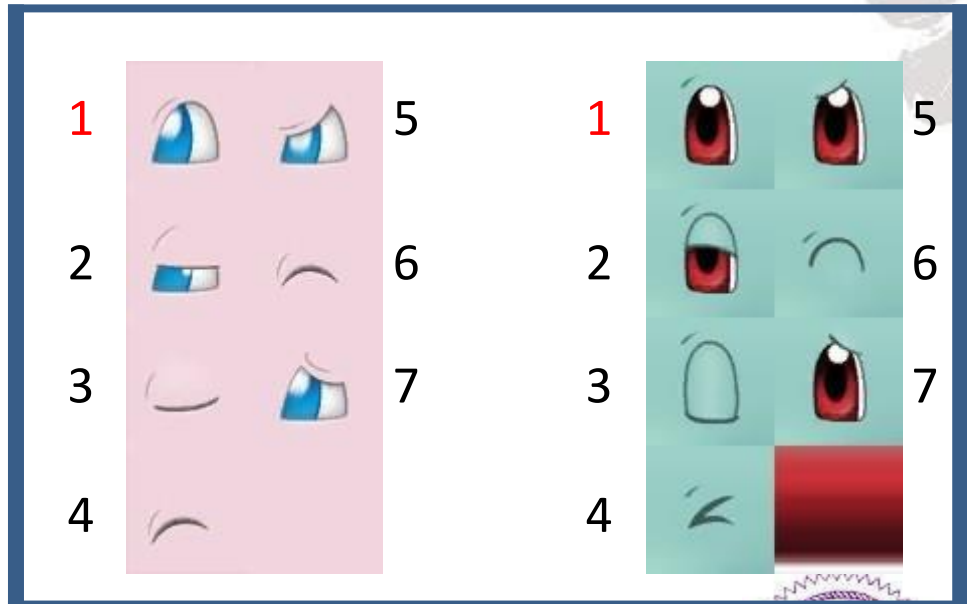
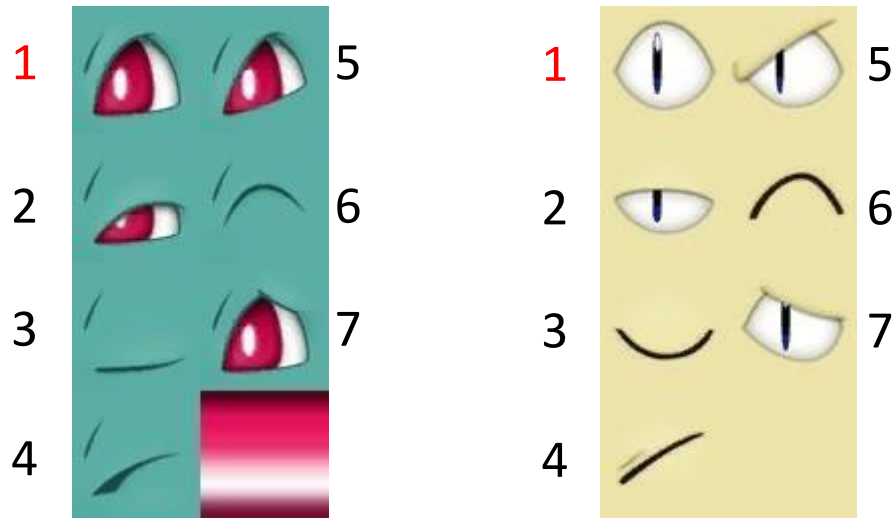


# Texture Models

- ◆ A: Normal texture coordinate (  $[0, 1]$  )
- ◆ B: Need texture wrapping (texture coordinate  $> 1$ )
- ◆ You can check the “vt” value defined in .obj file

A

B



# ***Report***

- ◆ **Some screen shot**
- ◆ **Description of your program control instructions**
- ◆ **Other special things you have done**



# ***Grading Policy***

<b>Item</b>	<b>Score</b>
<b>Textured model rendered</b>	<b>35%</b>
<b>Magnification texture filtering mode switch</b>	<b>20%</b>
<b>Minification texture filtering mode switch</b>	<b>20%</b>
<b>Texture transform</b>	<b>20%</b>
<b>Report</b>	<b>5%</b>
<b>Total</b>	<b>100%</b>

