

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**



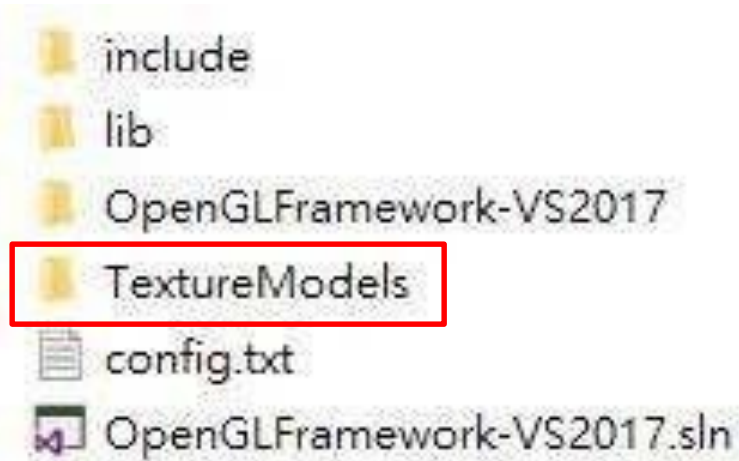
Assignment 3

- ◆ Announce date: 2024/05/22
- ◆ Deadline: **2024/06/05 23:59 (UTC+8)**
- ◆ Late work will be penalized by 20/week.
- ◆ **Copy & paste others' code will get 0.**
- ◆ Hand in your homework to **eeclase** in the following format(**-10 for penalty**)
 - ◆ studentID_HW3.zip
 - ◆ studentID_HW3_Report.pdf

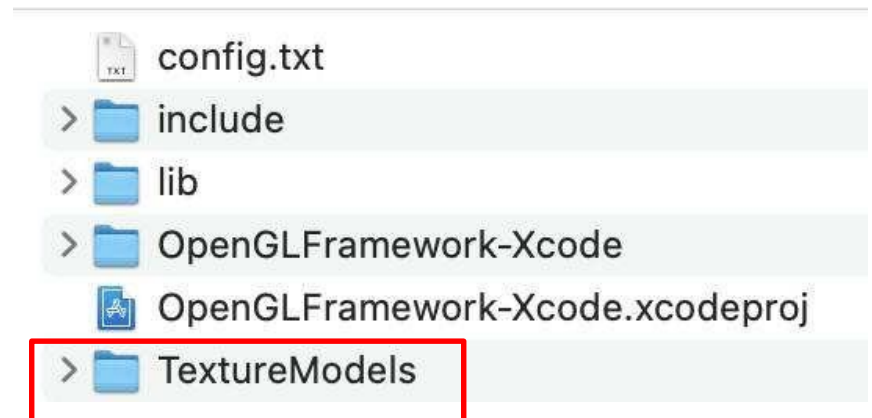


Settings

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



For Windows

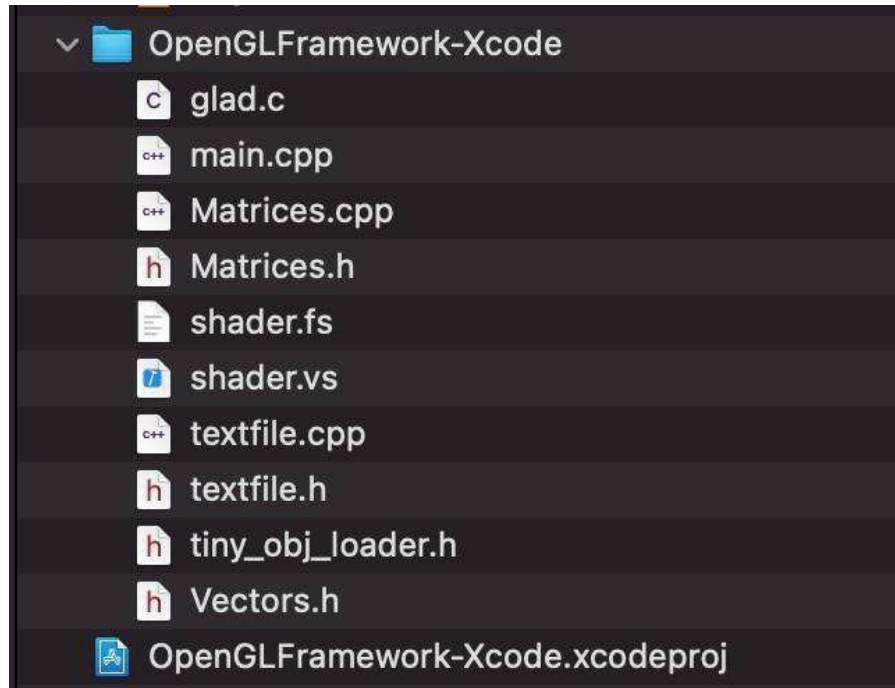


For Mac



In studentID_HW3.zip

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

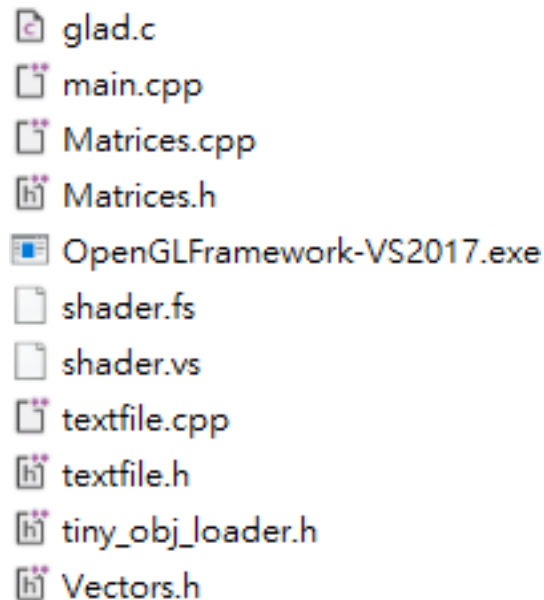


For Mac



In studentID_HW3.zip

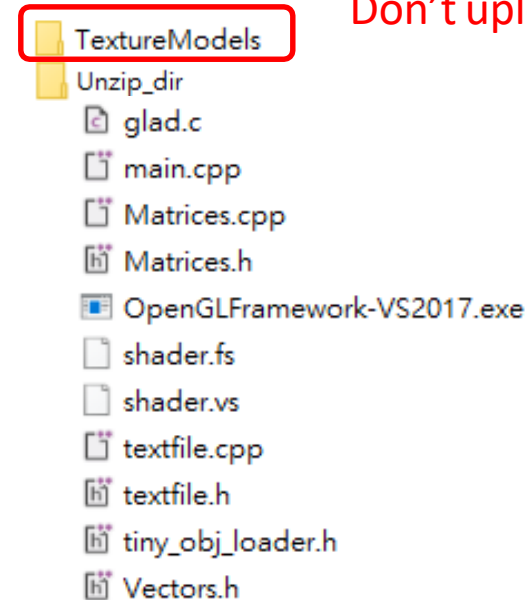
- ◆ Depend on your device
- ◆ **-10 for those upload “x64” or “TextureModels”**



A list of files and executables for a Windows submission. The files are: glad.c, main.cpp, Matrices.cpp, Matrices.h, OpenGLFramework-VS2017.exe, shader.fs, shader.vs, textfile.cpp, textfile.h, tiny_obj_loader.h, and Vectors.h. Each file is preceded by a small icon representing its type (e.g., a document icon for .c, .cpp, .h, and .fs files, and a blue square icon for the .exe file).

- 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



A list of files and executables for a submission. The files are: TextureModels (a folder, highlighted with a red box), 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, and Vectors.h. Each file is preceded by a small icon representing its type (e.g., a folder icon for TextureModels and Unzip_dir, a document icon for .c, .cpp, .h, and .fs files, and a blue square icon for the .exe file).

- 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.

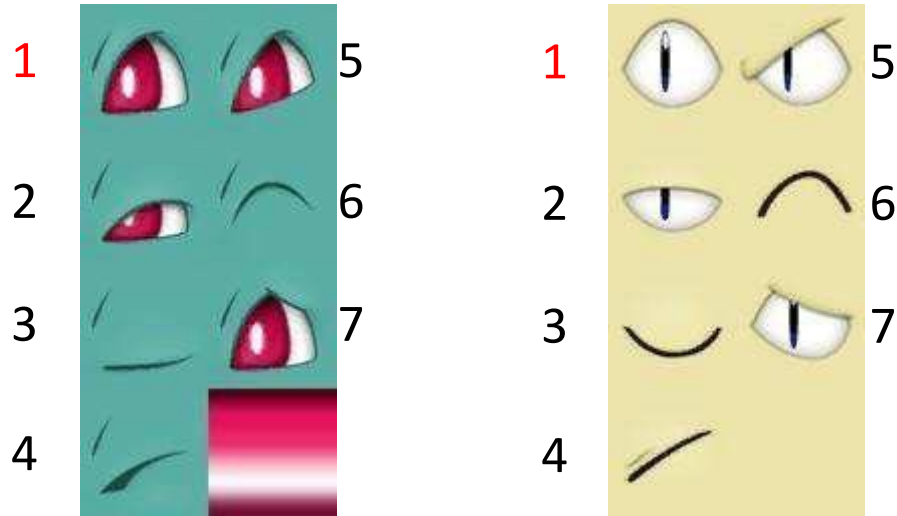


Texture Models

- ◆ 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

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

