CT5510: Computer Graphics

OpenGL – Hello Triangle

BOCHANG MOON

Installation of Visual Studio

https://www.visualstudio.com/vs/community/











Test Hello

- Add a new code
 - Ctrl+Shift+A
- Remain your file name
 - e.g., main.cpp

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- Write down your code in the main.cpp
 - #include <stdio.h>
 - o void main() {
 - printf("Hello World\n");
 - }
- F7
 - Compile and check whether your code is okay
- Ctrl+F5
 - Run your code

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Installation of FreeGlut

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- Go to http://freeglut.sourceforge.n <u>et/</u>
- Click here (Freeglut 3.0.0) ٠
 - Download it and unzip the code

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+ → C 0	reeglut.sourceforge.net	:
	core/compatibility profile context creation, multitouch/multi-pointer input, and support for a larger and growing set of platforms, being just some of them.	
	Help out!	_
	We are looking for developers to help out with further work on the Android and BlackBerry 10 ports. Furthermore, ports to Coco on OSX, and maybe even Wayland are planned, along with some enhancements to the API and implementation.	a
	See here for an overview of the major points on our todo list. You can easily help out by forking the unofficial clone of our sourceforge.net SVN repository on github. For more information about helping out, see the Help Out page and join the freeglut- developer mailing list.	
	Downloads	_
	Below are file links for the FreeGLUT project. README files are included. Have fun!	
	Testing Releases	
	Feel free to test by downloading a <mark>tarball of current trunk, or grabbing a copy from svn</mark> , and give us feedback on how it worked for you. All this will eventually become a FreeGLUT 3.1 release.	
	There are no presently active testing releases.	
\backslash	Stable Releases	E.
	Freeglut 3.0.0 [Released: 7 March 2015]	
	Freeglut 2.8.1 [Released: 5 April 2013]	
	Freeglut 2.8.0 [Released: 2 January 2012]	
	Freeglut 2.6.0 [Released: 27 November 2009]	
	Freeglut 2.4.0 [Released: 9 June 2005]	
	Freeglut 2.2.0 [Kelessed: 12 December 2003]	
	rieegiut 2.0.1 [Keleased: 25 October 2005]	

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- Issues: no visual studio solution files...
 - How to compile and run?
- Cross-platform OpenGL utility and you need to make your solution file
- CMake
 - Widely-used program that supports for cross-platform solution
 - Go to https://cmake.org/download/
 - Install a Cmake version for your platform

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62개 항목

- A solution with many projects
- Change the configuration "Debug" to "Release"
 - Debug: slow (only used for your debugging i.e., finding bugs)
 - Release: fast (used for distributing your program)
- Compile (F7)



- Static library files
 - Your Folder/freeglut-3.0.0/build/lib/Release/*.lib
- Dynamic library files
 - Your Folder/freeglut-3.0.0/build/bin/Release/*.dll
- Header files
 - Your Folder/freeglut-3.0.0/include/GL/*.h





Copy the lib. files to your project

- Copy those files to your hello world project folder
 - Static library files
 - Dynamic library files
 - Header files

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Copy the lib. files to your project

- Copy those files to your hello world project folder
 - Static library files
 - Dynamic library files
 - Header files

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Start with Simple OpenGL



Start with Simple OpenGL

- Write down this simple code
- Compile it (F7) and run (cltr+F5)



ain.cpp* 🕈 🗙	
CG_OpenGL - (Global S	Scope) -
1 #pragma comment(lib,"ope	ngl32.lib")
2 #pragma comment(lib,"glu	32.lib")
<pre>3 #pragma comment(lib,"fre</pre>	eglut_static.lib")
4 ⊡#include "freeglut.h"	
5 #include <gl glu.h=""></gl>	
6 _ [#include <math.h></math.h>	
7	
8 const float PI = 3.14159	265359;
9	
10 _void display() {	
11 glClearColor(0, 0, 0	, 0); // Clear the screen
<pre>12 glBegin(GL_QUADS);</pre>	
13 glVertex2d(-0.5, -0.	5);
14 glVertex2d(-0.5, 0.5);
15 glVertex2d(0.5, 0.5)	;
16 glVertex2d(0.5, -0.5);
17 glEnd();	
18 glFlush();	
19 [}	
20	
21 ⊡void main(int argc, char	* argv[]) {
22 glutInit(&argc, argv);
23 glutInitDisplayMode(GLUT_SINGLE GLUT_RGBA);
24 glutInitWindowSize(5	12, 512);
25 glutInitWindowPositi	on(100, 100);
26 glutCreateWindow("Co	mputer Graphics");
27 glutDisplayFunc(disp	lay);
28 glutMainLoop();	
29 [}	

Can't compile?

- Check your output window
 - Compiler will give some hints
- Still unclear?
 - Google the error code (C2146)



