

## COMP SCI/SFWR ENG - 3GC3

### Setting up with OpenGL & freglut

#### Linux:

- Use your package manager to install the following: **freeglut3, freeglut3-dev, gcc, g++, make**
- On Ubuntu this is done through the terminal with the following commands:
  - sudo apt-get install freeglut3**
  - sudo apt-get install freeglut3-dev**
  - sudo apt-get install gcc**
  - sudo apt-get install g++**
  - sudo apt-get install make**
- On other Linux distributions your package manager may be different.

#### Mac:

- Download command line tools for developers from the mac developer website

#### Windows:

- Download the MinGW installer. (<http://www.mingw.org/>)
- Run the MinGW installation manager.
- Go to basic setup, check off: **-mingw32-base, -mingw-gcc-g++, -msys-base**
- Click Installation - Apply changes.
- Go to your control panel – system -advanced settings -environment variables - system variables
- Click on the path variable and append **;C:\MinGW\bin** to the list
- Go into **C:/MinGW/bin** folder
- Find mingw32-make.exe, rename to make.exe (make sure you are showing file extensions)
- Open Powershell, type “make” you should see:  
**“make: \*\*\* No targets specified and no makefile found. Stop.”**
- Next type “gcc”. You should see:  
**“gcc.exe: fatal error: no input files compilation terminated.”**
- If you do not see these messages and get a different error message in red, you have made a mistake in a previous step.
- Now download the freeglut 2.8.1 MinGW Package from  
<http://www.transmissionzero.co.uk/software/freeglut-devel/>
- Unzip this package.
- Copy the contents of the include folder into **C:/MinGW/include** (merge the folders if prompted).
- Copy the contents of the lib folder into **C:/MinGW/lib**
- In the bin folder copy the freeglut.dll outside the x64 folder into **C:/MinGW/bin** and **C:/Windows/SysWOW64**
- In the bin/x64 folder copy this freeglut.dll into **C:/Windows/System32**

#### After Setup:

- You should now be able to compile the sample code with the given makefile by using the Terminal or Powershell and the command **“make -f makefile.mak”** while in the correct directory
- Run the compiled program, if you see a teapot, then you have everything working correctly