

Developing/Testing OpenGL on a LM/VM/Lectura/CS Labs

Overview

Repositories

OpenGL on a Local Machine/Virtual Machine

OpenGL on Lectura via PuTTY/Xming

OpenGL on Lectura via ssh

OpenGL on a CS Lab Machine (i.e. GS 930) via ssh

Repositories

They make your life easier!

- Project content is organized, available, and portable across multiple platforms.
- Plug-ins are available for IDEs.

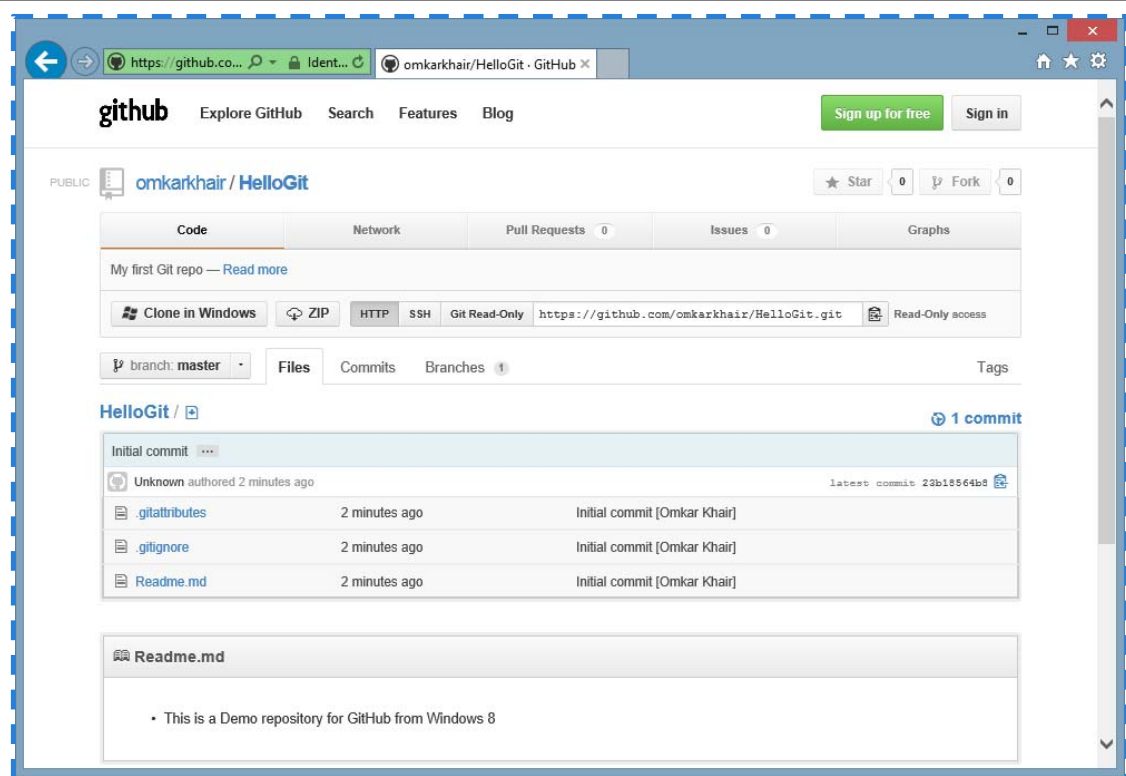
References/Tutorials:

- <http://rogerdudler.github.io/git-guide/>
- <https://www.atlassian.com/git/tutorials/>

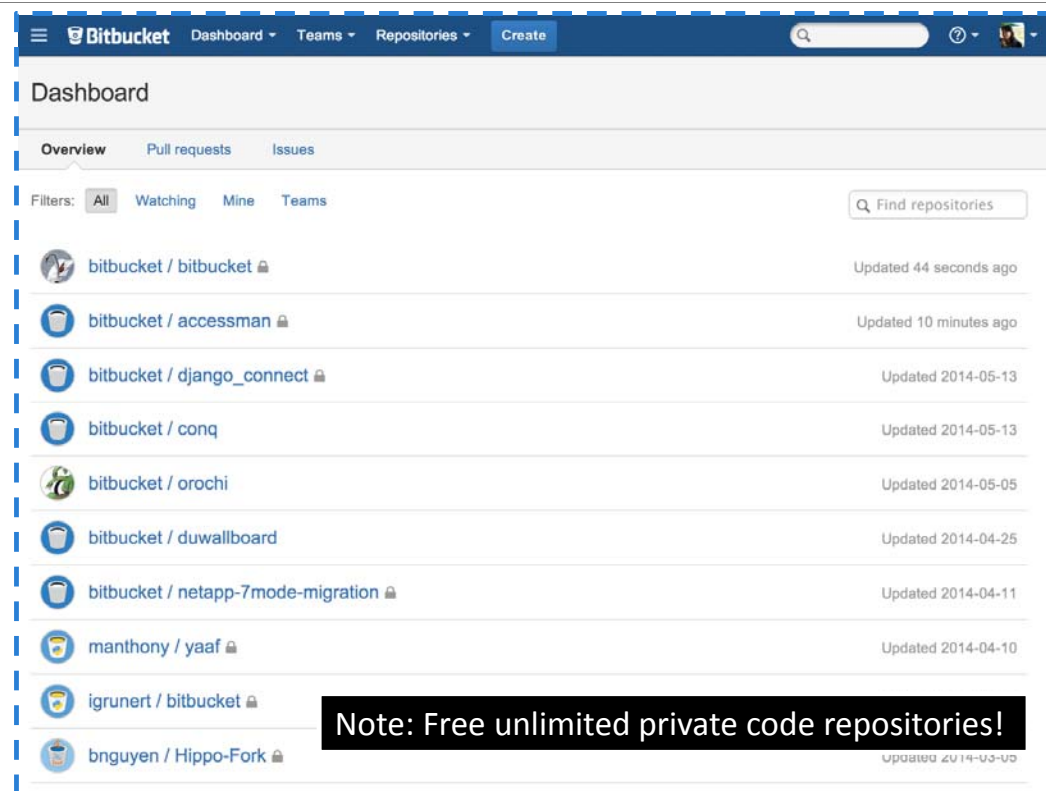


Repositories

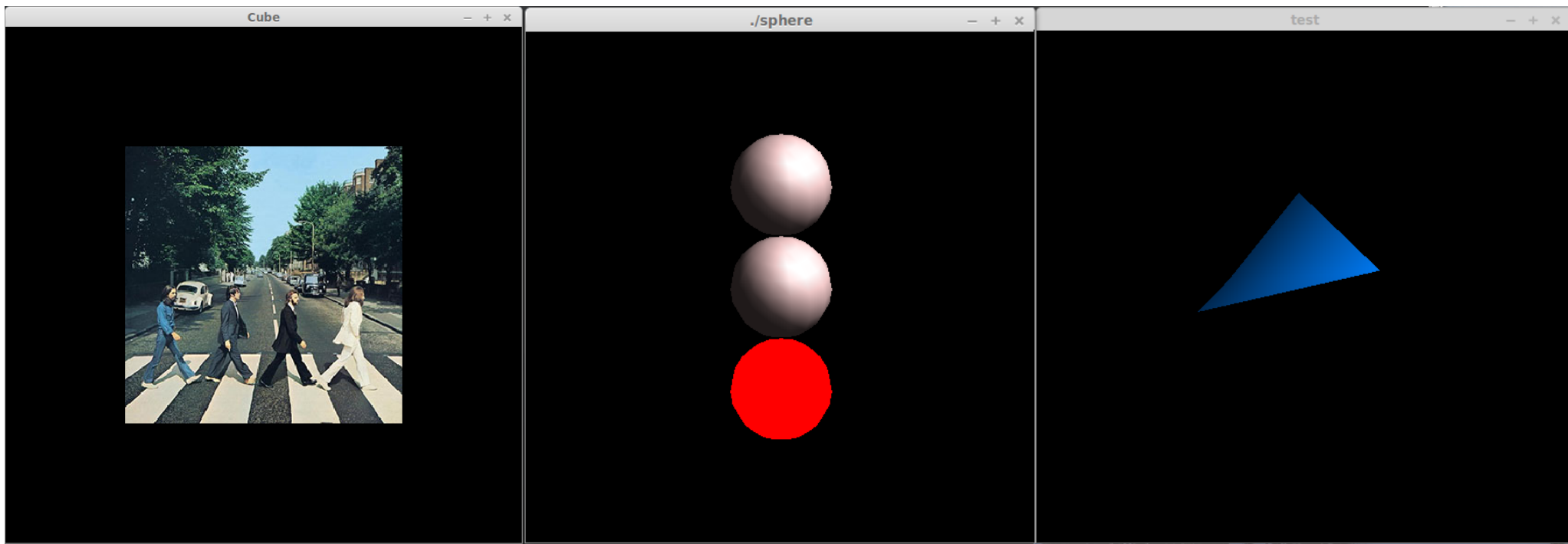
GitHub



Repositories



OpenGL – Source Examples



Cube

Sphere

Transform

OpenGL – Dependencies

`/demo/packages/install_dependencies.sh`

- Bash script for Linux environments (via apt-get).

`/demo/packages/glew-1.10.0.tgz`

- Glew installation package for Linux environments.

`/demo/packages/jpegsrc.v9a.tar.gz`

- Jpeg source installation package for Linux environments.
- Only required for the 'Cube' example.

OpenGL – Dependencies

/demo/packages/install_dependencies.sh

- Bash script for Linux environments (via apt-get).

```
1 #!/bin/bash
2
3 if [ $EUID != 0 ]; then
4     echo "Error: This script must be run using sudo."
5     echo "Usage: sudo ./install_dependencies.sh"
6     exit $exit_code
7     exit 1
8 fi
9
10 apt-get update
11
12 GSTREAMER_VERSION=0.10
13 GSTREAMER_FFMPEG=gstreamer:${GSTREAMER_VERSION}-ffmpeg
14
15 echo "detecting latest gstreamer version"
16 apt-cache show -n libgstreamer1.0-dev
17 exit_code=$?
18 if [ $exit_code = 0 ]; then
19     echo selecting gstreamer 1.0
20     GSTREAMER_VERSION=1.0
21     GSTREAMER_FFMPEG=gstreamer:${GSTREAMER_VERSION}-libav
22 fi
23
24
25 echo "installing OF dependencies"
26 apt-get install freeglut3-dev libasound2-dev libxmu-dev libxft5-dev g++ libgl1-mesa-dev libglu1-mesa-dev libxv1394-dev libudev-dev libdrm-dev libglew-dev libopenal-dev libsndfile-dev libfreeimage-dev libcairo2-dev
27 libgtk2.0-dev python-lxml python-argparse libfreetype6-dev libssl-dev libpulse-dev libusb-1.0-0-dev libgtk2.0-dev
28 exit_code=$?
29 if [ $exit_code != 0 ]; then
30     echo "error installing dependencies, there could be an error with your internet connection"
31     echo "if the error persists, please report an issue in github: http://github.com/openframeworks/openFrameworks/issues"
32     exit $exit_code
33 fi
34
35 echo "installing gstreamer"
36 apt-get install libgstreamer:${GSTREAMER_VERSION}-dev libgstreamer-plugins-base:${GSTREAMER_VERSION}-dev ${GSTREAMER_FFMPEG} gstreamer:${GSTREAMER_VERSION}-pulseaudio gstreamer:${GSTREAMER_VERSION}-x gstreamer
37 ${GSTREAMER_VERSION}-plugins-bad gstreamer:${GSTREAMER_VERSION}-alsa gstreamer:${GSTREAMER_VERSION}-plugins-base gstreamer:${GSTREAMER_VERSION}-plugins-good
38 exit_code=$?
39 if [ $exit_code != 0 ]; then
40     echo "error installing gstreamer, there could be an error with your internet connection"
41     echo "if the error persists, please report an issue in github: http://github.com/openframeworks/openFrameworks/issues"
42     exit $exit_code
43 fi
```

Note: Requires sudo permissions!

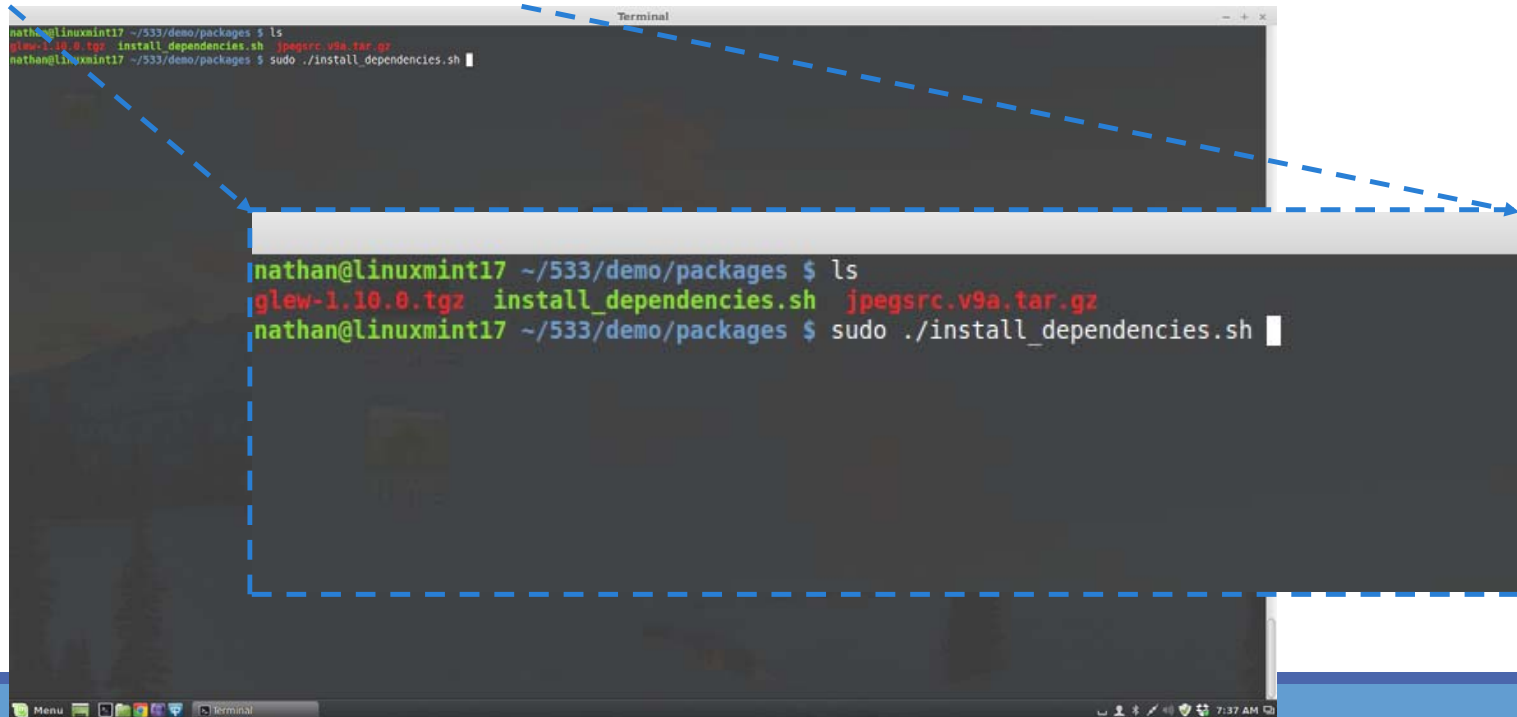
Note: Installation packages are listed accordingly.

OpenGL – Dependencies

/demo/packages/install_dependencies.sh

- Bash script for Linux environments (via apt-get).

Note: Requires sudo permissions!



```
nathan@linuxmint17 ~/533/demo/packages $ ls
glew-1.10.0.tgz  install_dependencies.sh  jpegsrc.v9a.tar.gz
nathan@linuxmint17 ~/533/demo/packages $ sudo ./install_dependencies.sh
```

OpenGL – Dependencies

/demo/packages/install_dependencies.sh

- Bash script for Linux environments (via apt-get).

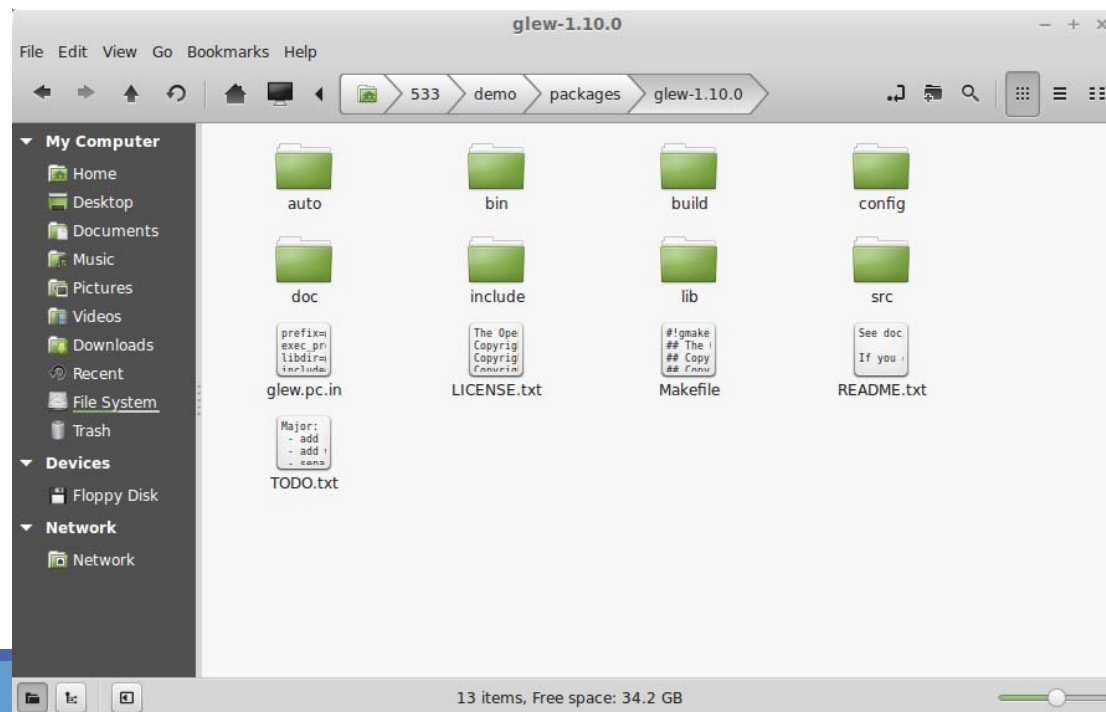
Note: If run twice, you should see 'already the newest version' for the listed packages.

```
Ign http://archive.ubuntu.com trusty/universe Translation-en US
Fetchd 217 KB in 4s (50.9 KB/s)
Reading package lists... Done
Detecting latest gstreamer version
E: Command line option 'n' [from -n] is not known.
Installing OF dependencies
Reading package lists... Done
Building dependency tree
Reading state information... Done
Note, selecting 'libsndfile-dev' instead of 'libsndfile-dev'
Note, selecting 'libpython2.7-stdlib' instead of 'python-argparse'
freeglut3-dev is already the newest version.
g++ is already the newest version.
libasound2-dev is already the newest version.
libglew-dev is already the newest version.
libglu1-mesa-dev is already the newest version.
libpulse-dev is already the newest version.
libpython2.7-stdlib is already the newest version.
libraw1394-dev is already the newest version.
libsndfile1-dev is already the newest version.
libusb-1.0-0-dev is already the newest version.
libxmu-dev is already the newest version.
libxxf86vm-dev is already the newest version.
libfreeimage-dev is already the newest version.
libopenal-dev is already the newest version.
libcairo2-dev is already the newest version.
libdrm-dev is already the newest version.
libfreetype6-dev is already the newest version.
libgl1-mesa-dev is already the newest version.
libgtk2.0-dev is already the newest version.
libssl-dev is already the newest version.
libudev-dev is already the newest version.
python-lxml is already the newest version.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
Installing gstreamer
Reading package lists... Done
Building dependency tree
Reading state information... Done
gstreamer0.10-ffmpeg is already the newest version.
gstreamer0.10-alsa is already the newest version.
gstreamer0.10-plugins-base is already the newest version.
gstreamer0.10-plugins-good is already the newest version.
gstreamer0.10-pulseaudio is already the newest version.
gstreamer0.10-x is already the newest version.
libgstreamer-plugins-base0.10-dev is already the newest version.
libgstreamer0.10-dev is already the newest version.
gstreamer0.10-plugins-bad is already the newest version.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
nathan@linuxmint17: ~/533/demo/packages $
```

OpenGL – Dependencies

/demo/packages/glew-1.10.0.tgz

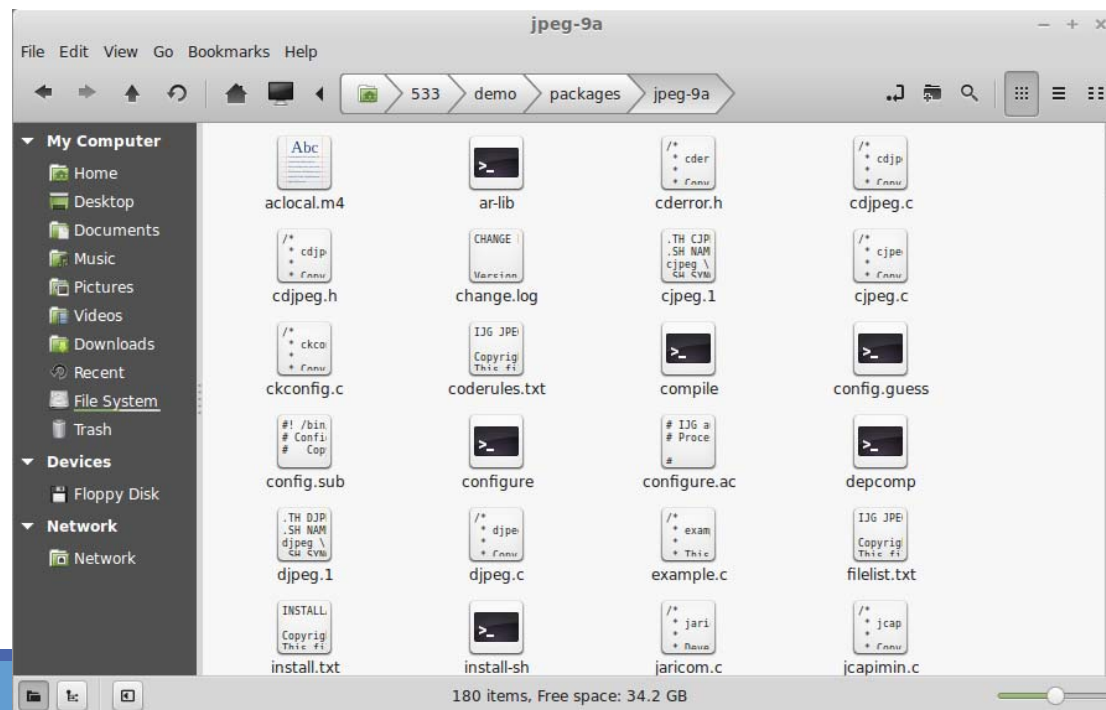
- Glew installation package for Linux environments.



OpenGL – Dependencies

/demo/packages/jpegsrc.v9a.tar.gz

- Jpeg source installation package for Linux environments (only required for the 'Cube' example).

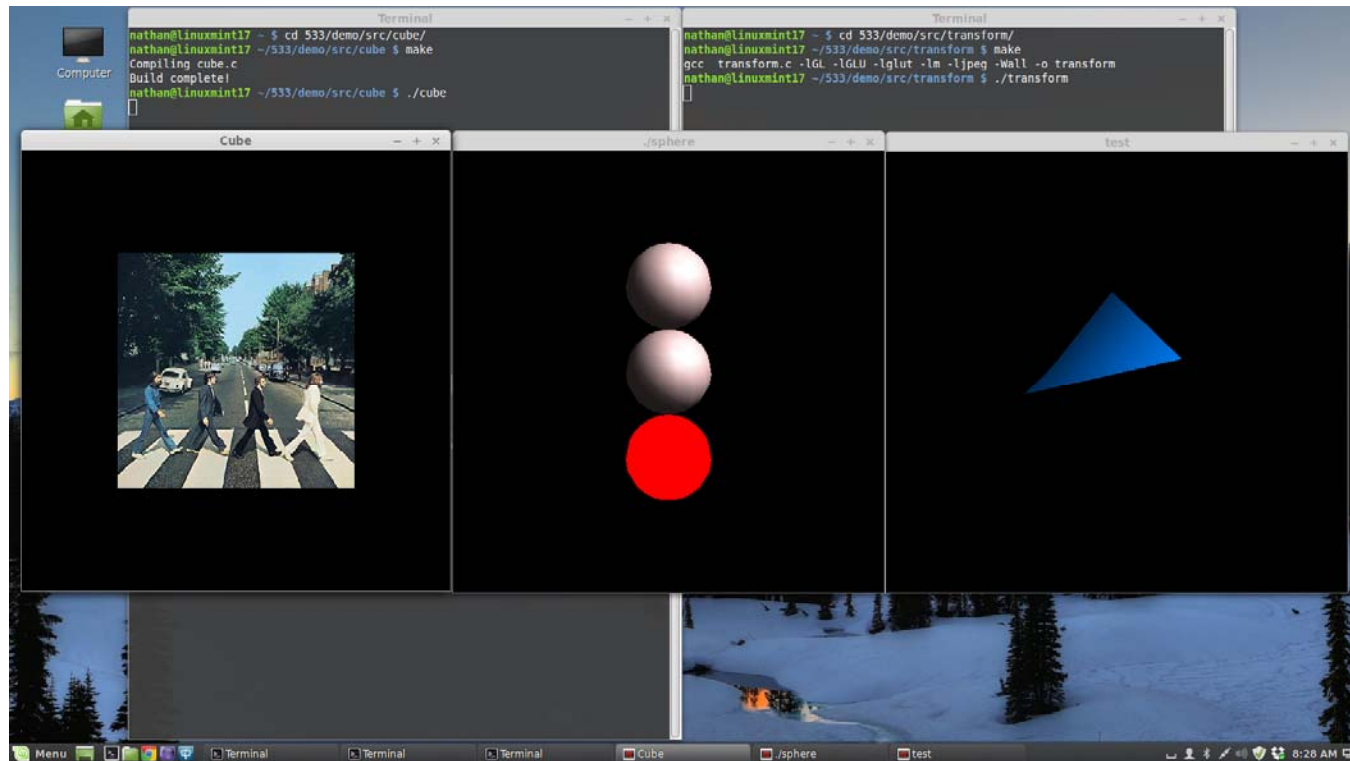


OpenGL on a Local Machine/Virtual Machine

Purpose: Developing/Testing

Rendering: Awesome 😊

Note: The 'Cube' and 'Transform' source examples both involve animation. Running either example on your LM/VM allows you to get a sense of how the OpenGL pipeline can perform on your accelerated graphics hardware, prior to testing across an ssh/X11 connection.



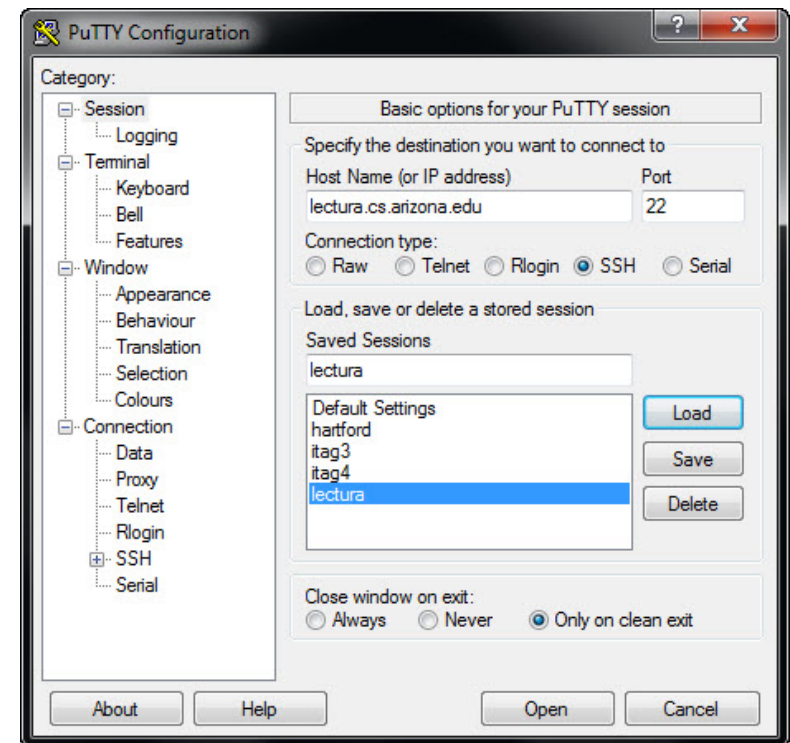
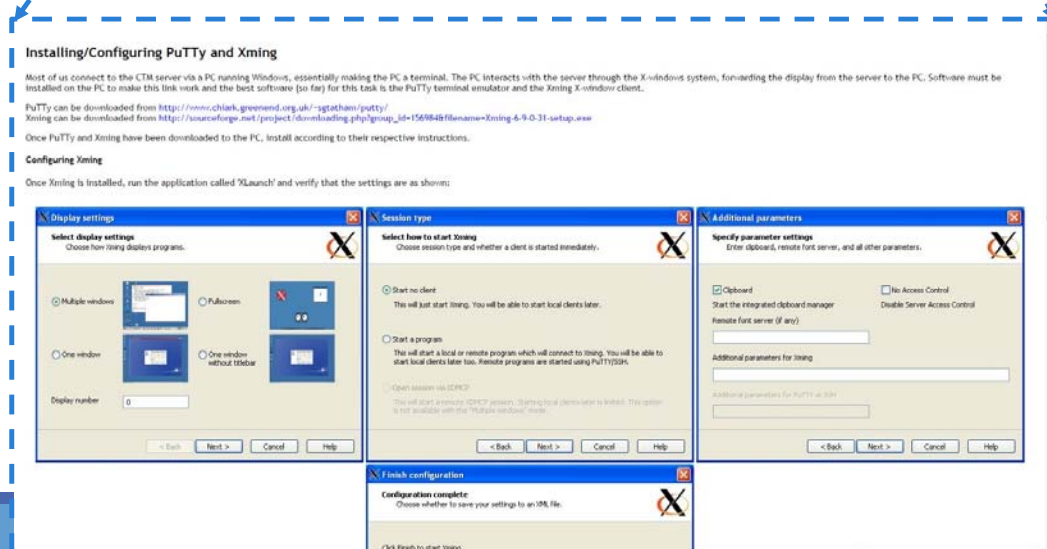
OpenGL on Lectura via PuTTY/Xming

Purpose: Testing/Turnin

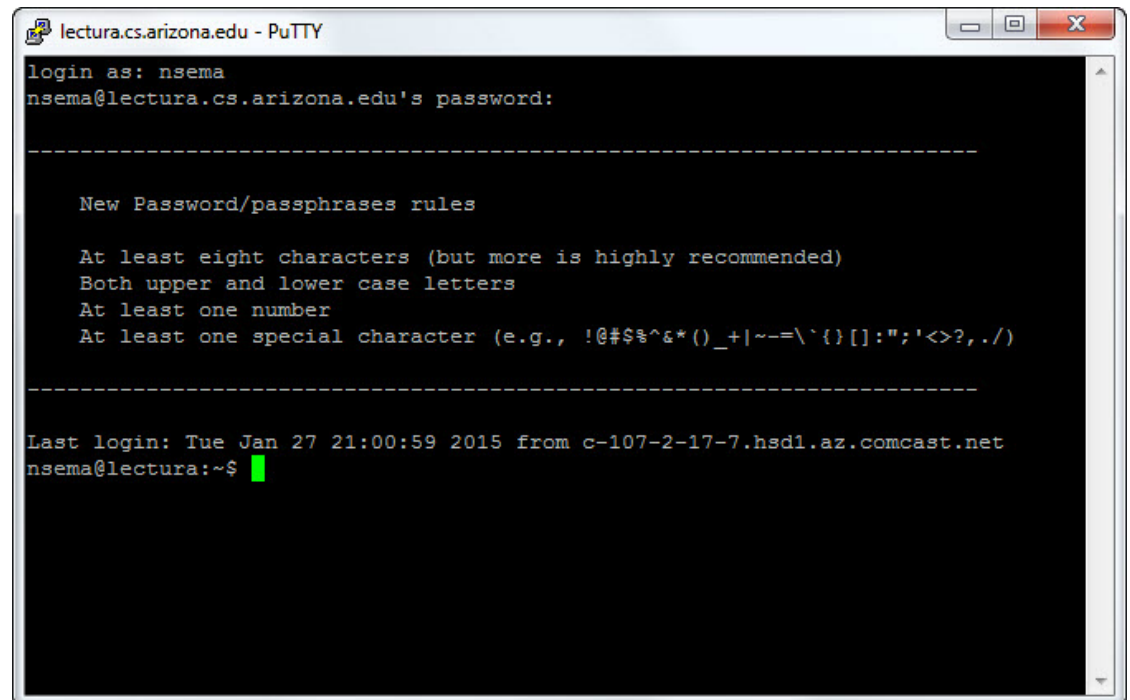
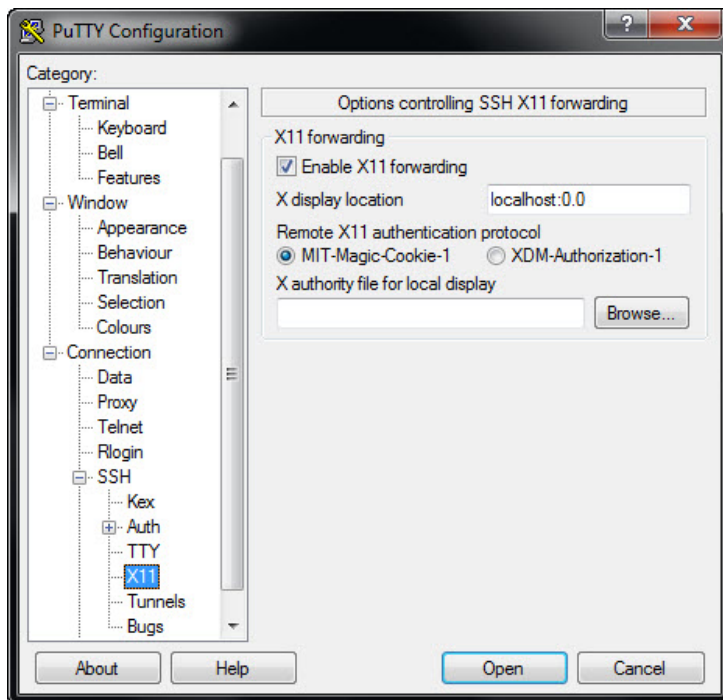
Rendering: Not so awesome ☹

Reference:

- http://www.geo.mtu.edu/geoschem/docs/putty_install.html



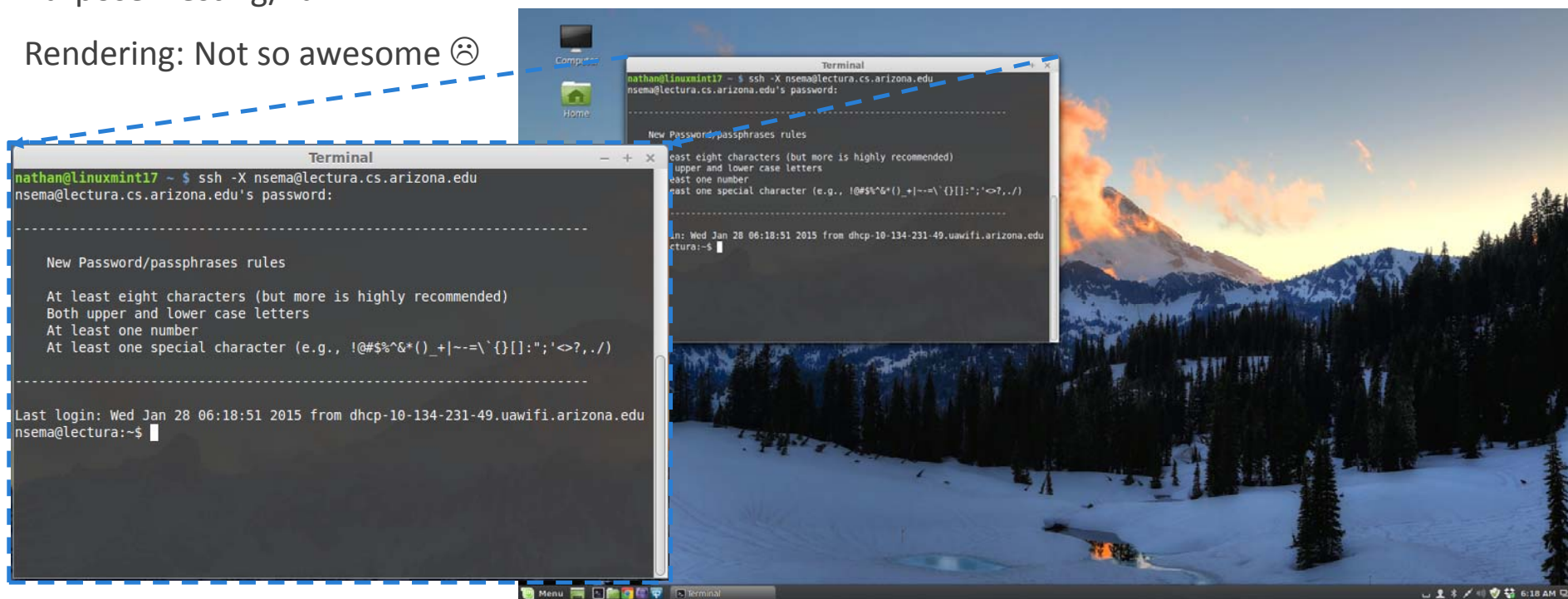
OpenGL on Lectura via PuTTY/Xming



OpenGL on Lectura via ssh

Purpose: Testing/Turnin

Rendering: Not so awesome ☹️



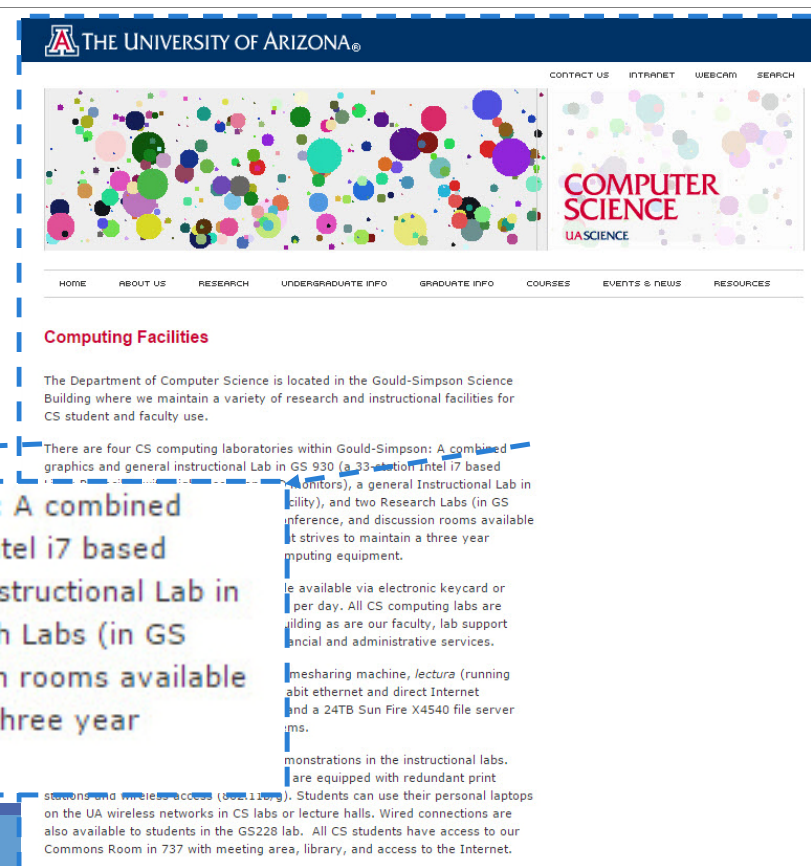
OpenGL on a CS Lab Machine

Purpose: Developing/Testing/Turnin

Rendering: Awesome 😊

Reference:

- <http://www.cs.arizona.edu/computing/facilities/>



THE UNIVERSITY OF ARIZONA®

CONTACT US INTRANET WEBCAM SEARCH

HOME ABOUT US RESEARCH UNDERGRADUATE INFO GRADUATE INFO COURSES EVENTS & NEWS RESOURCES

Computing Facilities

The Department of Computer Science is located in the Gould-Simpson Science Building where we maintain a variety of research and instructional facilities for CS student and faculty use.

There are four CS computing laboratories within Gould-Simpson: A combined graphics and general instructional Lab in GS 930 (a 33-station Intel i7 based Linux PC facility with high resolution LCD monitors), a general Instructional Lab in GS 228 (a 31-station Apple 21.5" iMac facility), and two Research Labs (in GS 748 and 915). There are also project, conference, and discussion rooms available on the 7th and 9th floors. The department strives to maintain a three year replacement cycle on all instructional computing equipment.

Available via electronic keycard or per day. All CS computing labs are staffed as are our faculty, lab support and administrative services.

Meshing machine, *lectura* (running 100Mbit ethernet and direct Internet access) and a 24TB Sun Fire X4540 file server.

Demonstrations in the instructional labs. All labs are equipped with redundant print servers. Students can use their personal laptops on the UA wireless networks in CS labs or lecture halls. Wired connections are also available to students in the GS228 lab. All CS students have access to our Commons Room in 737 with meeting area, library, and access to the Internet.

OpenGL on a CS Lab Machine via ssh

Purpose: Testing/Turnin

Rendering: Sort of awesome 😊

