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!

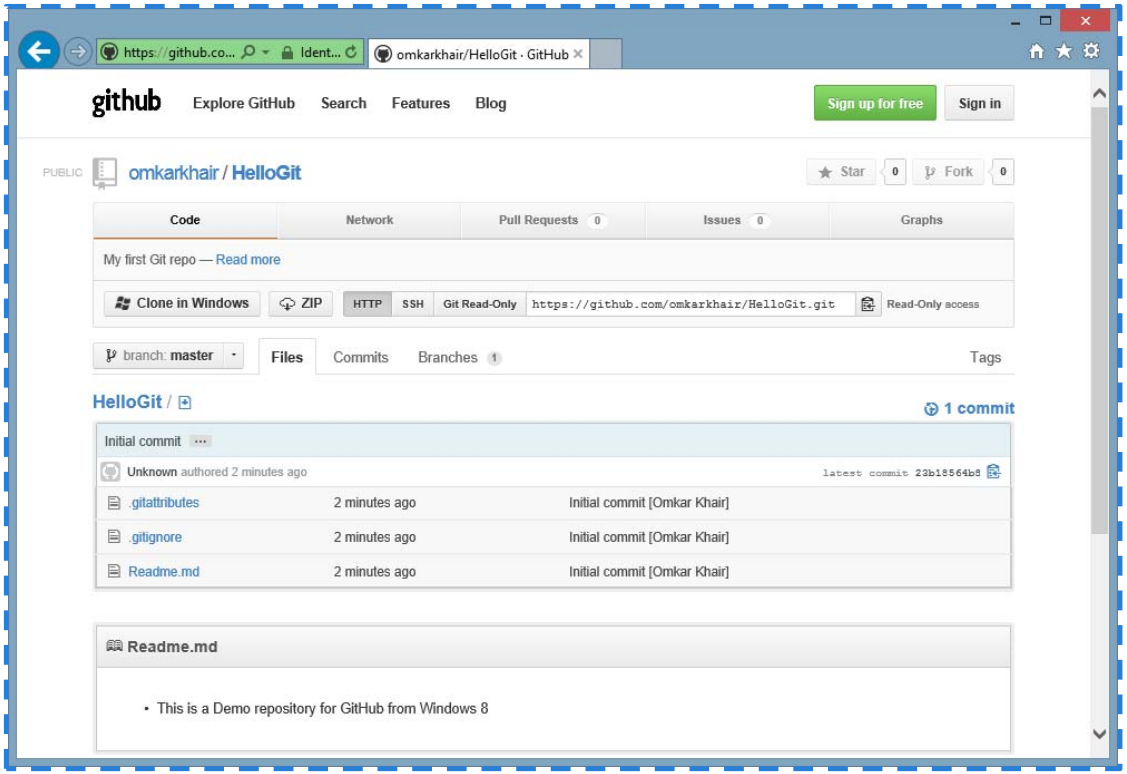
- Project content is organized, available, and portable across multiple platforms.
- Plug-ins are available for IDEs.

References/Tutorials:

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

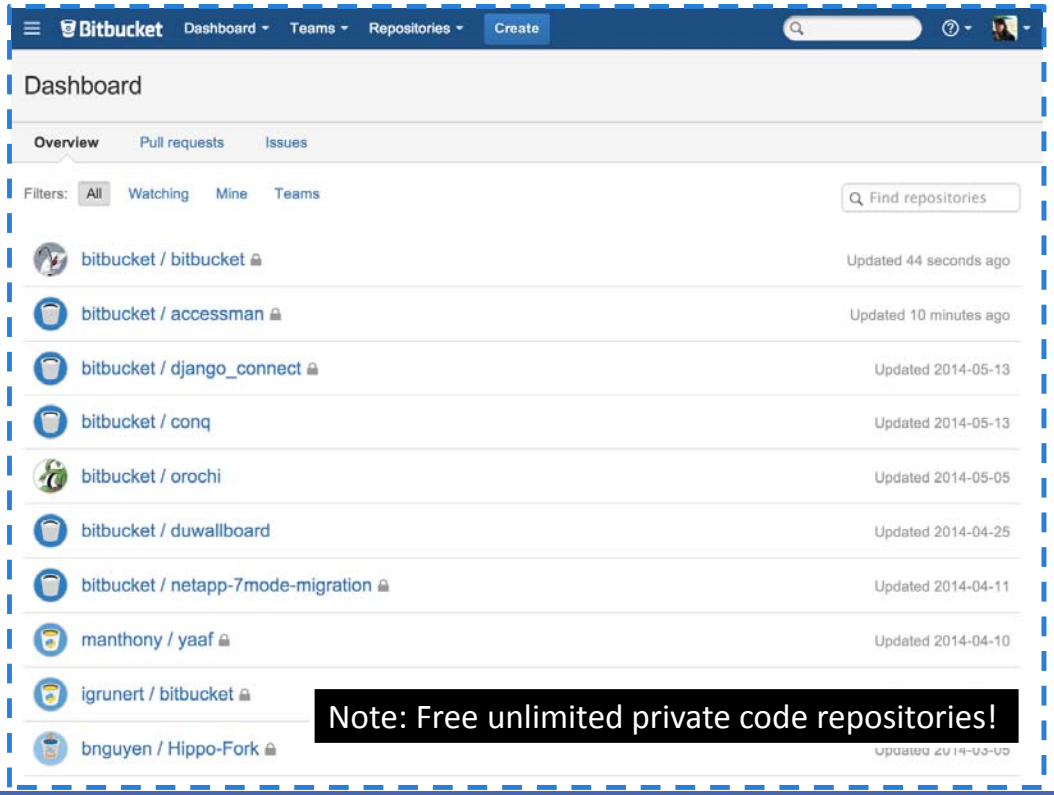
Repositories

GitHub

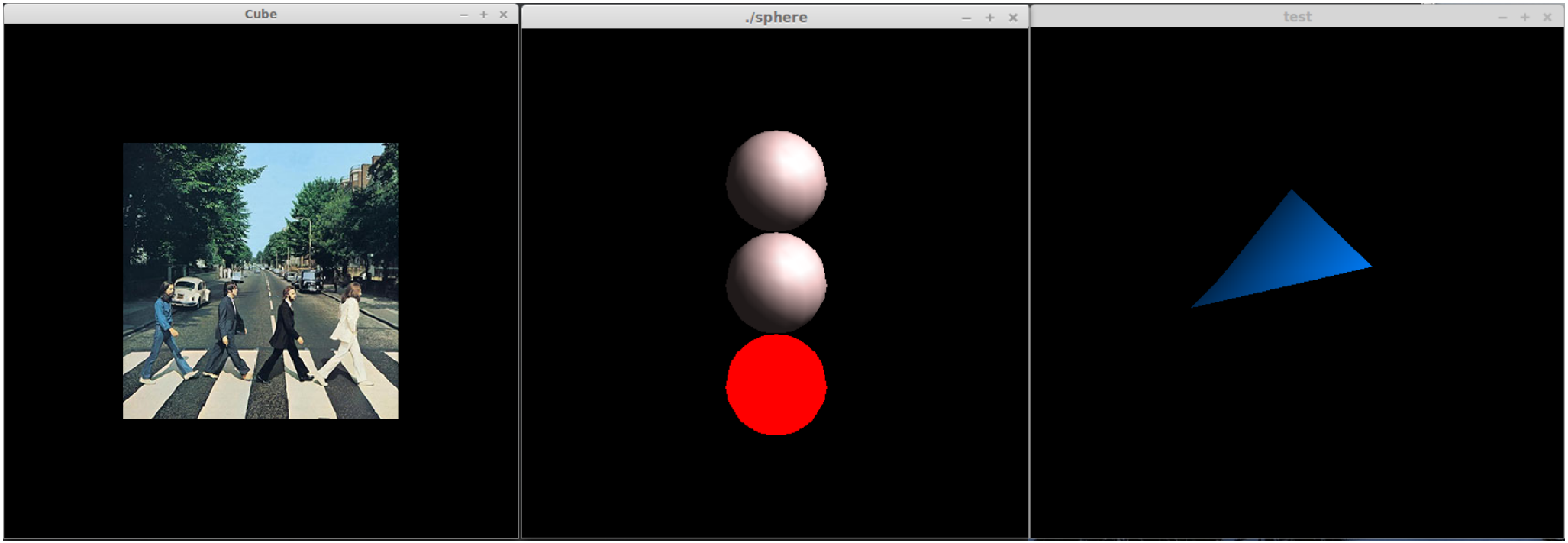


Repositories

Atlassian Bitbucket



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).

```
#!/bin/bash

if [ $EUID != 0 ]; then
    echo "Error: This script must be run using sudo."
    echo "Usage: sudo ./install_dependencies.sh"
    exit $exit_code
   exit 1
fi

apt-get update

GSTREAMER_VERSION=0.10
GSTREAMER_FFMPEG=gstreamer${GSTREAMER_VERSION}-ffmpeg

echo "detecting latest gstreamer version"
apt-cache show -n libgstreamer1.0-dev
exit_code=$?
if [ $exit_code = 0 ]; then
    echo selecting gstreamer 1.0
    GSTREAMER_VERSION=1.0
    GSTREAMER_FFMPEG=gstreamer${GSTREAMER_VERSION}-libav
fi


echo "installing OF dependencies"
apt-get install freeglut3-dev libasound2-dev libxmu-dev libxxf86vm-dev g++ libgl1-mesa-dev libglu1-mesa-dev libraw1394-dev libudev-dev libdrm-dev libglew-dev libopenal-dev libsndfile-dev libfreeimage-dev libcairo2-dev
 libgtk2.0-dev python-lxml python-argparse libfreetype6-dev libssl-dev libpulse-dev libusb-1.0-0-dev libgtk2.0-dev
exit_code=$?
if [ $exit_code != 0 ]; then
    echo "error installing dependencies, there could be an error with your internet connection"
    echo "if the error persists, please report an issue in github: http://github.com/openframeworks/openFrameworks/issues"
    exit $exit_code
fi


echo "installing gstreamer"
apt-get install libgstreamer${GSTREAMER_VERSION}-dev libgstreamer-plugins-base${GSTREAMER_VERSION}-dev  ${GSTREAMER_FFMPEG} gstreamer${GSTREAMER_VERSION}-pulseaudio gstreamer${GSTREAMER_VERSION}-x gstreamer
${GSTREAMER_VERSION}-plugins-bad gstreamer${GSTREAMER_VERSION}-alsa gstreamer${GSTREAMER_VERSION}-plugins-base gstreamer${GSTREAMER_VERSION}-plugins-good
exit_code=$?
if [ $exit_code != 0 ]; then
    echo "error installing gstreamer, there could be an error with your internet connection"
    echo "if the error persists, please report an issue in github: http://github.com/openframeworks/openFrameworks/issues"
    exit $exit_code
fi
```

Note: Requires sudo permissions!

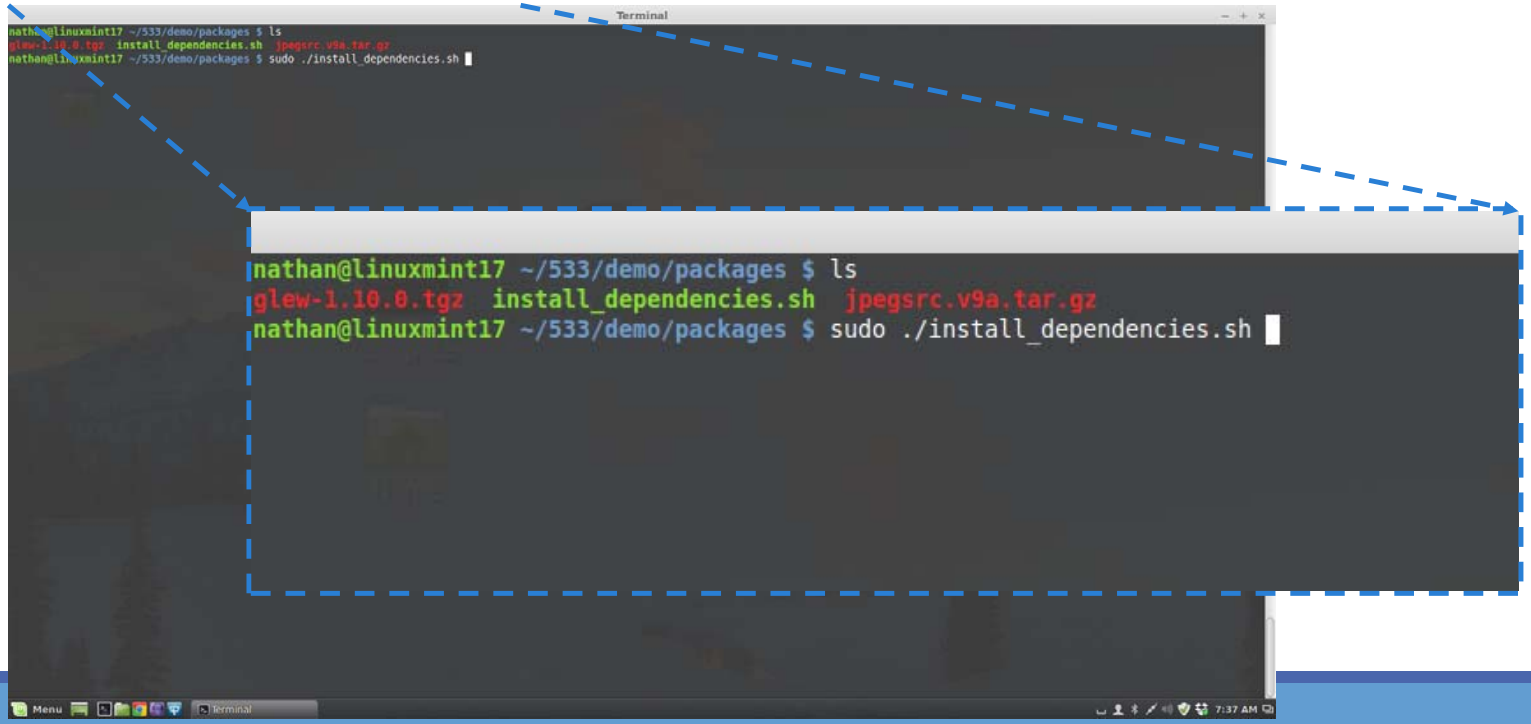
Note: Installation packages are listed accordingly.

OpenGL – Dependencies

/demo/packages/install_dependencies.sh

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

Note: Requires sudo permissions!

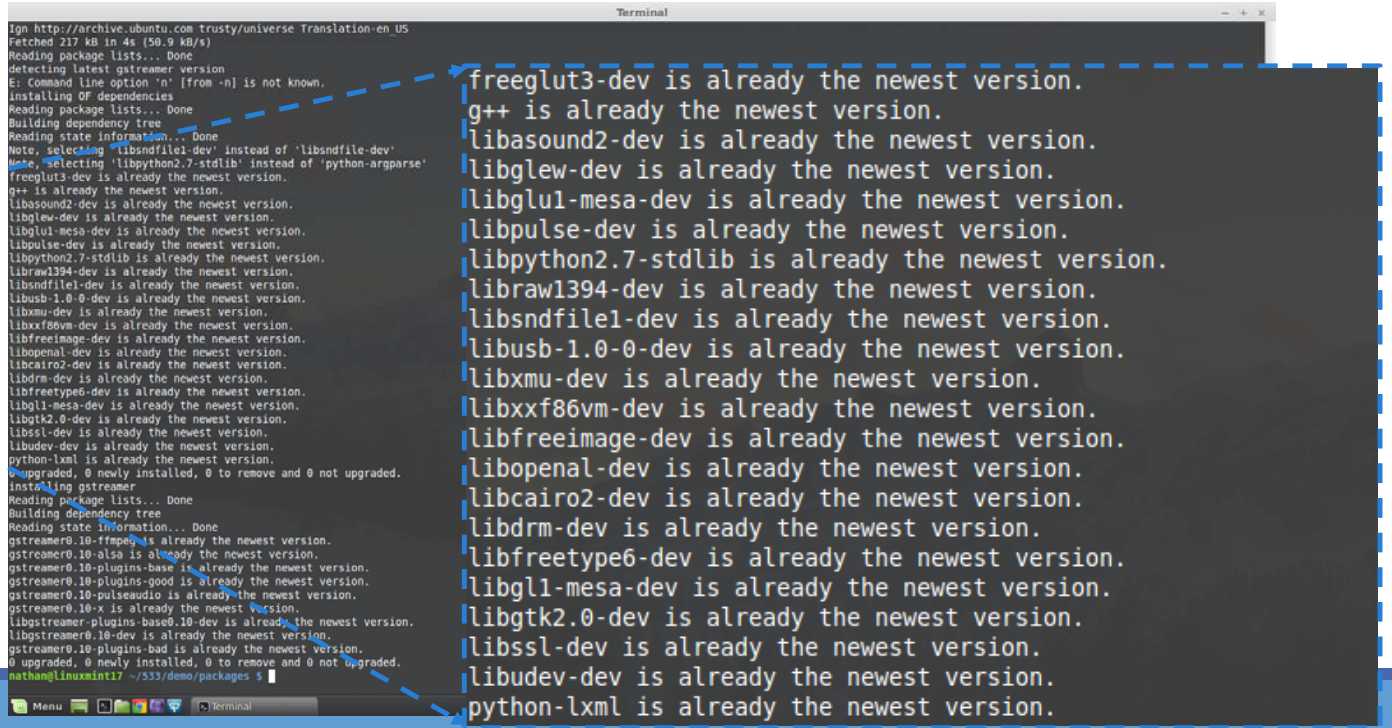


OpenGL – Dependencies

/demo/packages/install_dependencies.sh

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

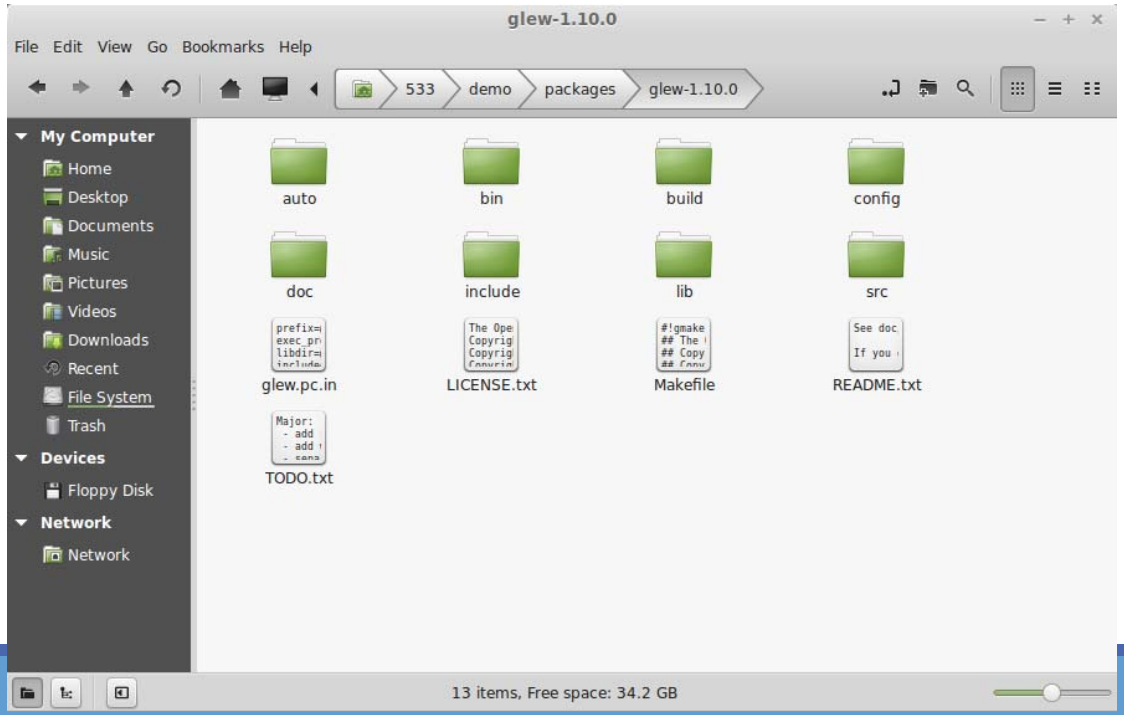
Note: If run twice, you should see ‘already the newest version’ for the listed packages.



OpenGL – Dependencies

/demo/packages/glew-1.10.0.tgz

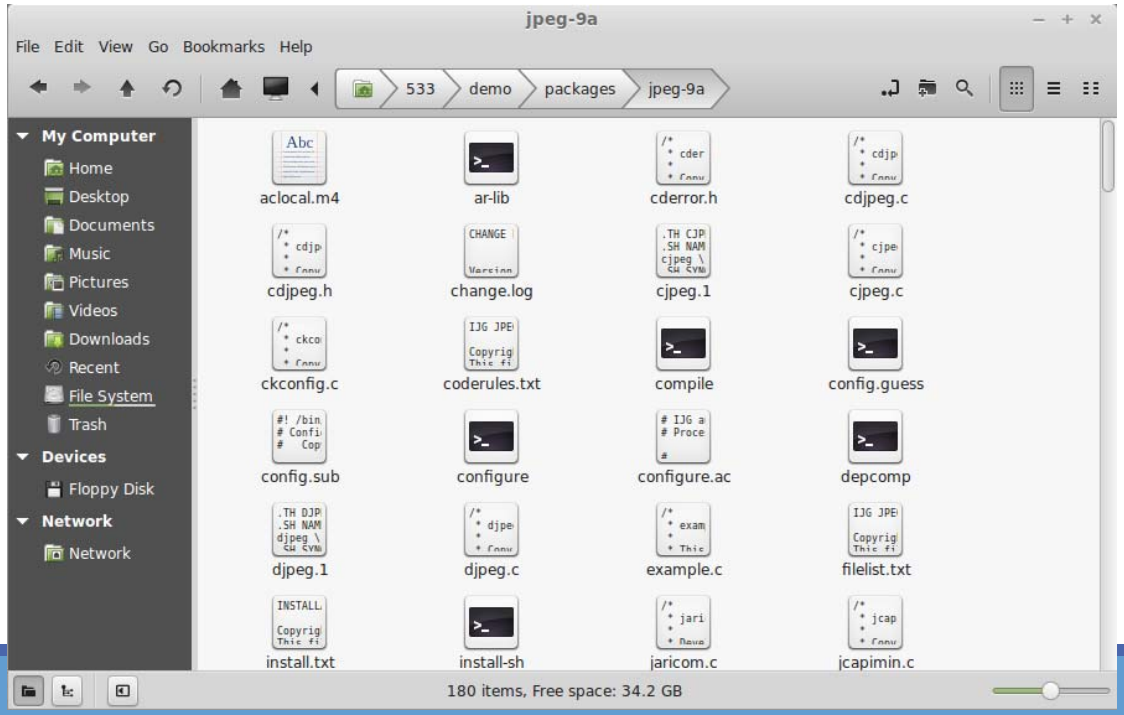
- Glew installation package for Linux environments.



OpenGL – Dependencies

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

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

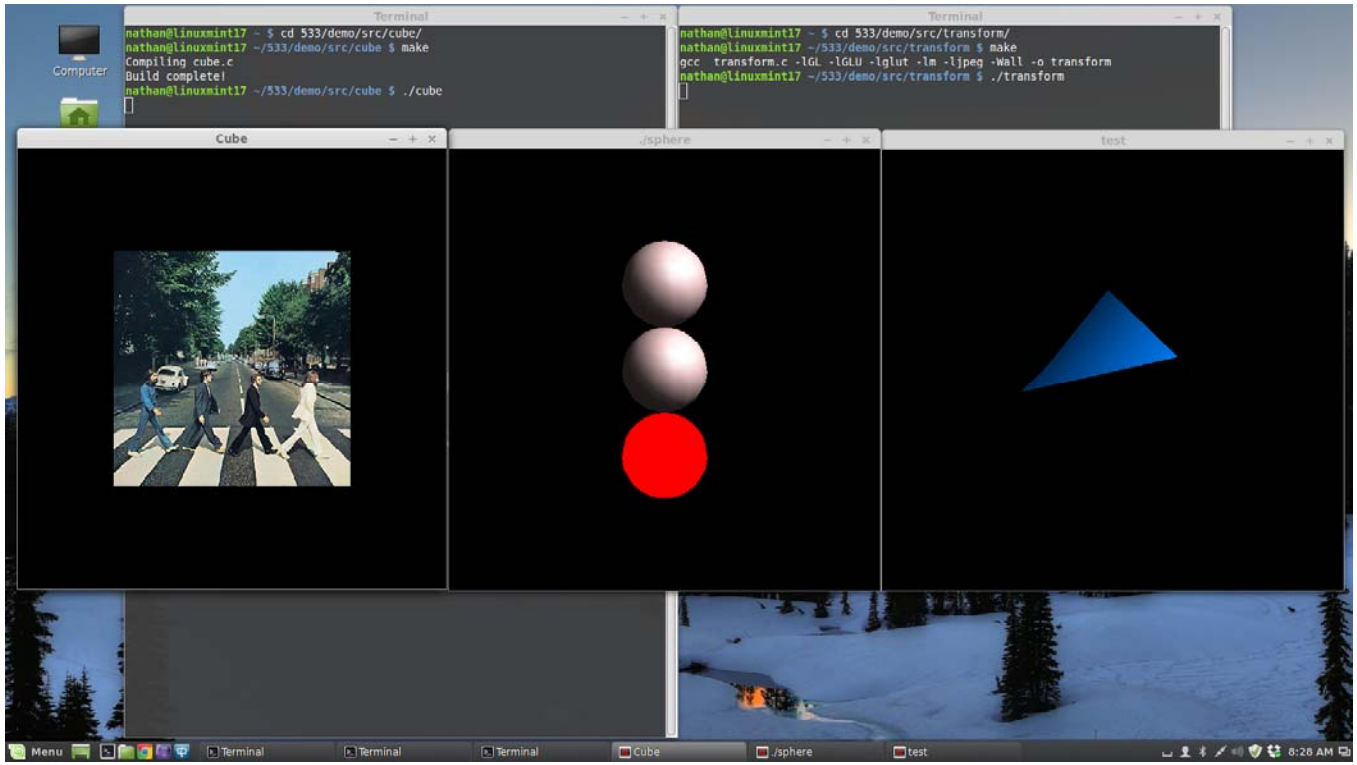


OpenGL on a Local Machine/Virtual Machine

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.



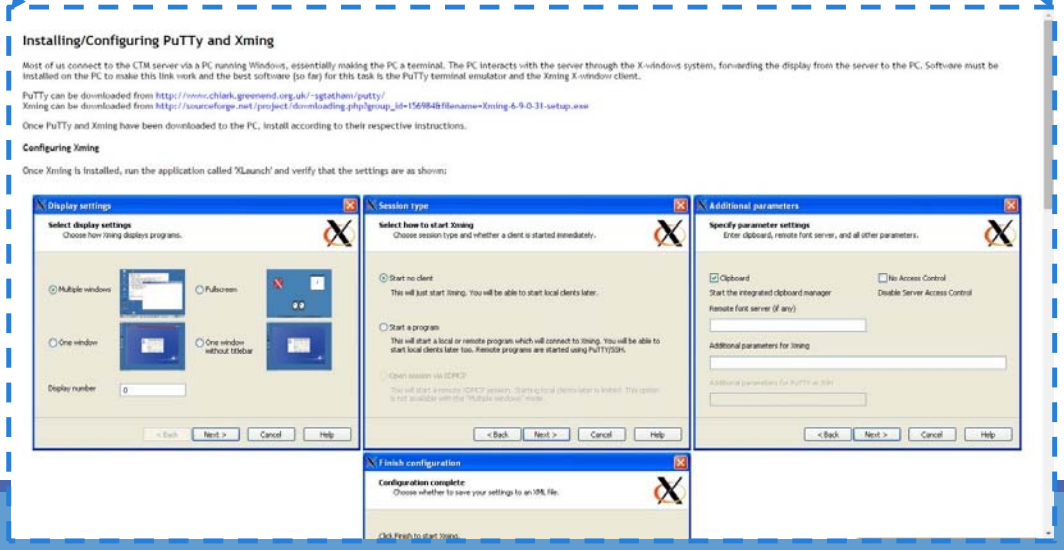
OpenGL on Lectura via PuTTY/Xming

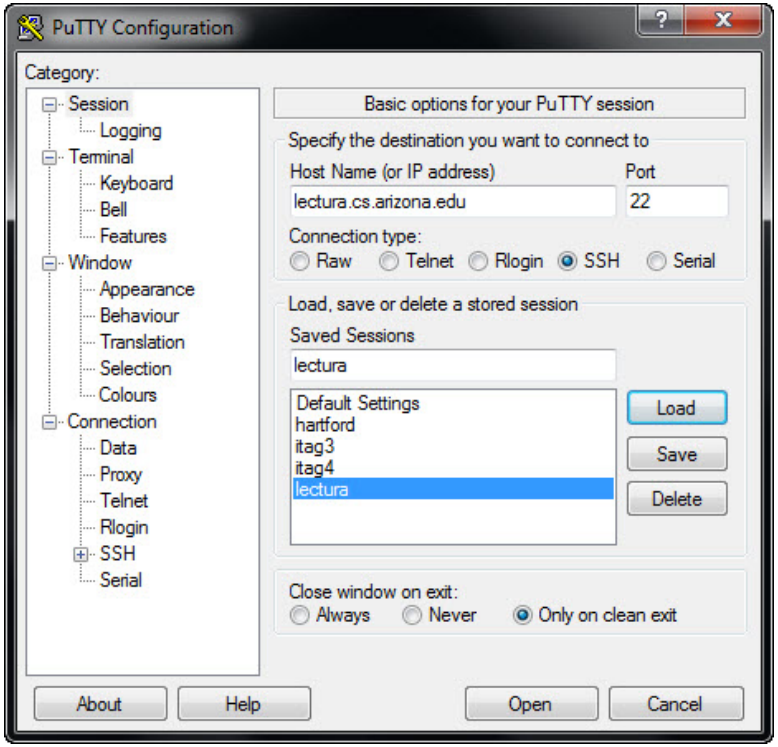
Purpose: Testing/Turnin

Rendering: Not so awesome ☹

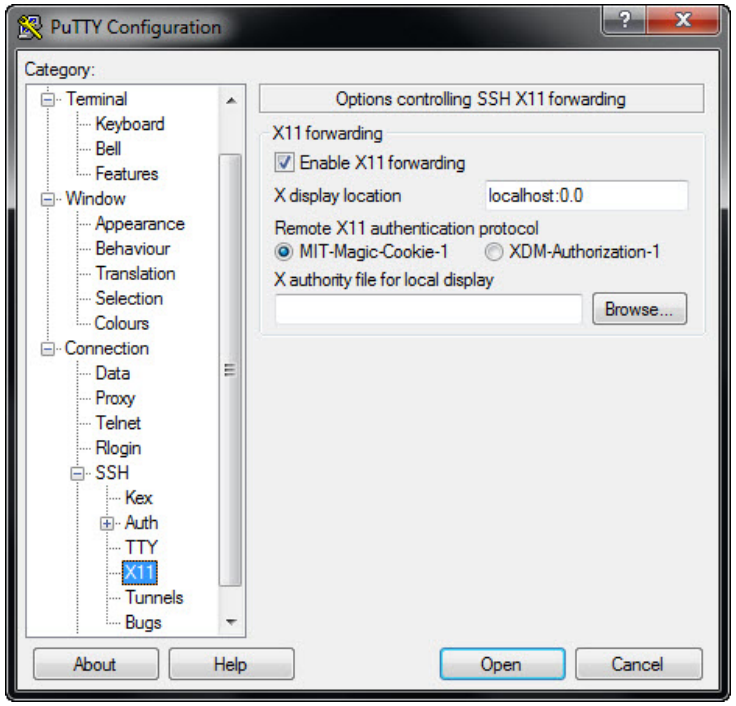
Reference:

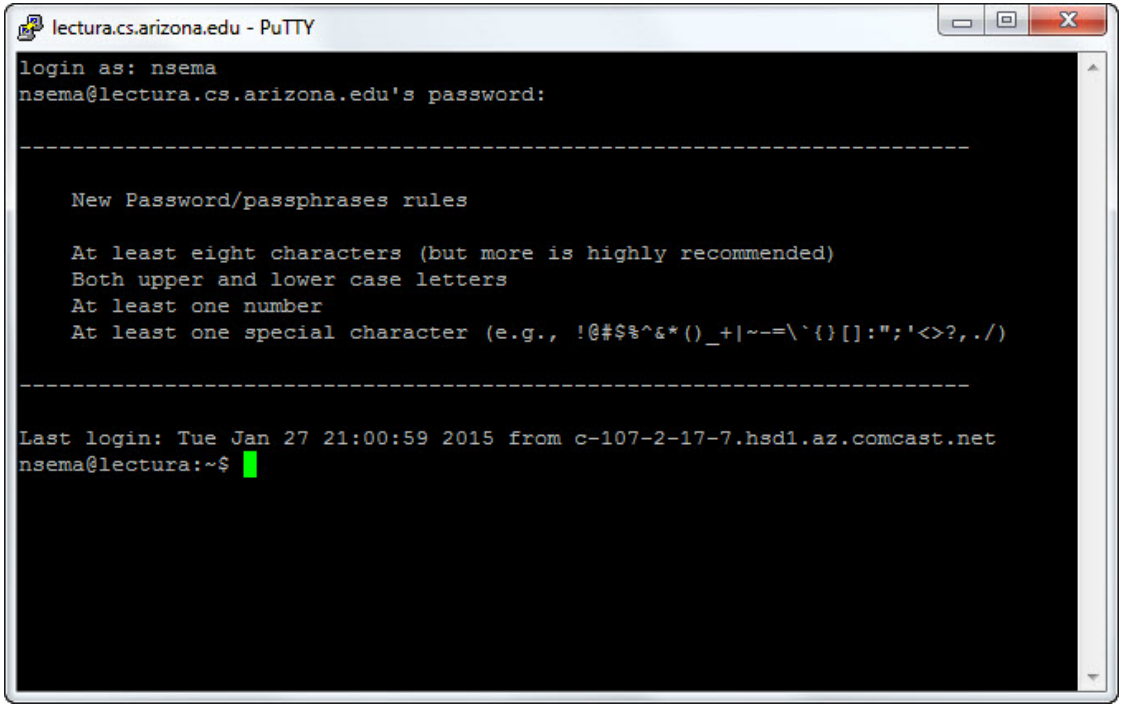
- http://www.geo.mtu.edu/geoschem/docs/putty_install.html





OpenGL on Lectura via PuTTY/Xming

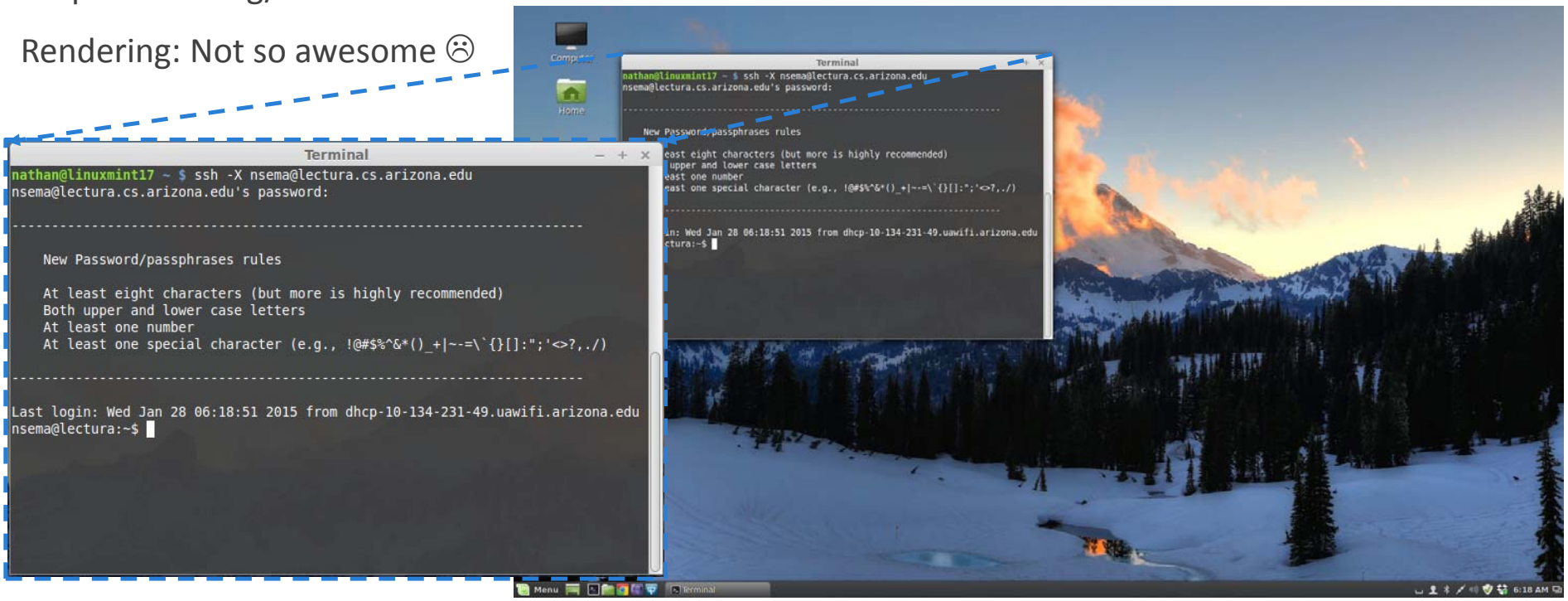




OpenGL on Lectura via ssh

Purpose: Testing/Turnin

Rendering: Not so awesome ☹



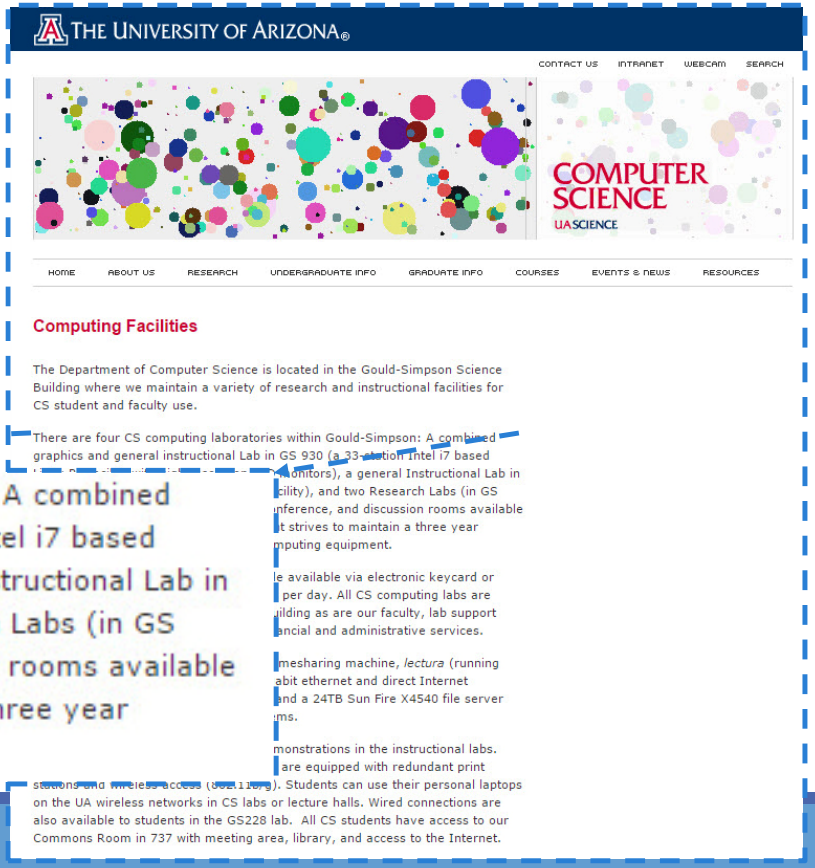
OpenGL on a CS Lab Machine

Purpose: Developing/Testing/Turnin

Rendering: Awesome ☺

Reference:

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



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.

OpenGL on a CS Lab Machine via ssh

Purpose: Testing/Turnin

Rendering: Sort of awesome 😐