

ICS370 Computer Graphics

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Lecture 10

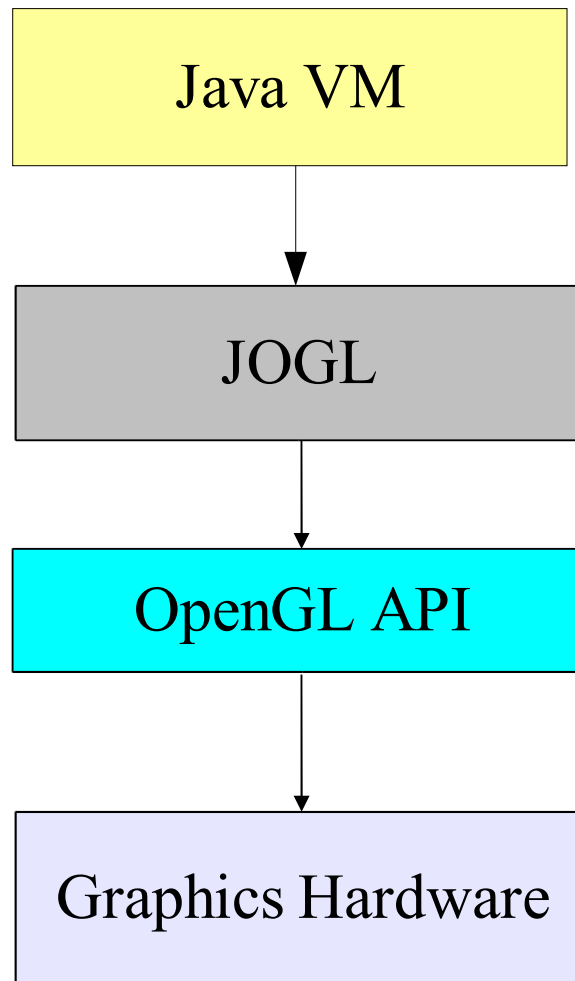


Java OpenGL Lecture



- Java OpenGL (JOGL) is a Java package which provides bindings to the OpenGL libraries for the Java Virtual Machine.
- This allows computer graphics programmers to use the object-oriented tools for Java with hardware-accelerated 2D and 3D graphics from the OpenGL API.
- JOGL is part of a suite of open-source technologies initiated by the Game Technology Group at Sun Microsystems.

Java OpenGL



Steps to get JOGL working:

1. Install JOGL binaries for Java
2. Check they work.
3. Start programming!
 - 3.1 access the OpenGL API
 - 3.2 create a window to display your graphics
 - 3.3 add a canvas to the window
 - 3.4 render the window

Step 1.

Installing JOGL binaries for Java

- Read the ICS370lab9.doc for detailed instructions about how to install the JOGL binaries.
 - note: these instructions will have to be adapted if you are running a different OS (Mac or Linux).

Step 2.

Test to make sure the JOGL binaries are working!

- The ICS370lab9.doc contains a simple java program that you can compile.
- If you can compile it and it runs with both lines of text then JOGL is working.

Step 3.

Start programming!

The ICS370lab9.doc contains details to create a basic program with the following 4 steps:

1. access the OpenGL API
2. create a window to display your graphics
3. add a canvas to the window
4. render the window

GLDrawable, GLCanvas and GLJPanel

- **GLDrawable** is an interface. All of JOGL's OpenGL drawing will happen in GLDrawables.
- **GLCanvas** and **GLJPanel** are both classes that implement GLDrawable.
 - **GLCanvas** is an AWT component. It is heavy, but faster at rendering OpenGL commands than GLJPanel. GLCanvas inherits from `java.awt.Canvas`
 - **GLJPanel** is a Swing component, and is a lightweight component. GLJPanel inherits from `javax.swing.JPanel`