OPENGL BASICS

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WHAT IS OPEN GL?

- OpenGL is a specification that is used to as a standard for development of graphics libraries
- OpenGL is not a library
- The actual libraries are developed by graphics hardware manufacturers in the form of drivers
- The drivers are implemented in such a way as to support OpenGL

ANALOGY

- To Understand OpenGL lets use the analogy of software development in java
- First develop the interface that defines the methods and data types that will be contained in a class (this is equivalent to openGL)
- Then develop the actual library based on the interface specification
- Applications can then be developed using the library
- OpenGL adds one more thing: A language specific wrapper library for openGL use in a given programming language

OPENGL SUMMARY DIAGRAM

DEMO: USING JAVA

- Create Interface and corresponding class in java
- Create application that uses the library
- Show how specification is enforced

GETTING STARTED WITH OPENGL IN JAVA

- Install Java and Preferred IDE e.g. Eclipse, NetBeans, IntelliJ
- Download and copy wrapper library for jogl or lwjgl
- Specify directories for the additional OpenGL files
- Copy jar files from lwjgl,lwjgl-glfw,lwjgl-opengl to your lib folder
- Specify the additional configuration for VM (-XStartOnFirstThread) if propmpted

GETTING STARTED WITH OPENGL C++

- Install Visual Studio with C++ Support
- Download GLFW
- Copy library files for header and lib into project folder
- Edit Project configuration to add additional header files and linker folders you just added
- Edit linker configuration to remove unwanted libs and only have: glfw3.lib,opengl32.lib,user32.lib,gdi32.lib,shell32lib

HAPPY OPENGL PROGRAMMING!