

Answer on Question #53258, Engineering / Software Engineering

Task:

Write a short note on OpenGL.(Multimedia Computing)

Answer:

OpenGL (Open Graphics Library) is the computer industry's standard application program interface (API) for defining 2-D and 3-D graphic images. Prior to OpenGL, any company developing a graphical application typically had to rewrite the graphics part of it for each operating system platform and had to be cognizant of the graphics hardware as well. With OpenGL, an application can create the same effects in any operating system using any OpenGL-adhering graphics adapter.

OpenGL specifies a set of "commands" or immediately executed functions. Each command directs a drawing action or causes special effects. A list of these commands can be created for repetitive effects. OpenGL is independent of the windowing characteristics of each operating system, but provides special "glue" routines for each operating system that enable OpenGL to work in that system's windowing environment. OpenGL comes with a large number of built-in capabilities requestable through the API. These include hidden surface removal, alpha blending (transparency), antialiasing , texture mapping, pixel operations, viewing and modeling transformations, and atmospheric effects (fog, smoke, and haze).

Silicon Graphics, makers of advanced graphics workstation s, initiated the development of OpenGL. Other companies on the industry-wide Architecture Review Board include DEC, Intel, IBM, Microsoft, and Sun Microsystems. There is no cost (other than learning) to developing an application using the OpenGL API. Microsoft offers free downloads of the OpenGL libraries for its Windows systems. Although OpenGL is not itself a development "toolkit," such toolkits are available, including Silicon Graphics object-oriented programming 3D graphics toolkit, Open Inventor.