

Register

OpenGL ES

OpenGL ES (OpenGL for Embedded Systems) is a subset of the OpenGL 3D graphics API designed for embedded devices such as mobile phones, PDAs, and video game consoles. It is defined and promoted by the Khronos Group, a graphics hardware and software industry consortium interested in open APIs for graphics and multimedia.

OpenGL ES 1.0 is drawn up against the OpenGL 1.3 specification, OpenGL ES 1.1 is defined relative to the OpenGL 1.5 specification and OpenGL ES 2.0 is defined relative to the OpenGL 2.0 specification and not backwards compatible.

UIQ

UIQ by UIQ Technology is a software platform based upon Symbian OS. Essentially this is a graphical user interface layer that provides additional components to the core OS, to enable the development of feature-rich mobile phones that are open to expanded capabilities through third-party applications.

Native applications can be written in C++ using the Symbian/UIQ SDK. All UIQ-based phones (2.x and 3.x) also support Java applications.

Mobile 3D Graphics API (JSR 184)

The Mobile 3D Graphics API, commonly referred to as M3G, is a specification defining an API for writing Java programs that produce 3D computer graphics. It extends the capabilities of the Java Platform, Micro Edition, a version of the Java platform tailored for embedded devices such as mobile phones and PDAs. The object-oriented interface consists of 30 classes that can be used to draw complex animated three-dimensional scenes.

M3G provides two ways for developers to draw 3D graphics: immediate mode and retained mode. Retained mode always uses a scene graph that links all geometric objects in the 3D world in a tree structure, and also specifies the camera, lights, and background. Higher-level information about each object — such as its geometric structure, position, and appearance — is retained from frame to frame.

Mobile Media API (JSR 135)

The Mobile Media API (MMAPI) is an API specification for the Java ME platform CDC and CLDC devices such as mobile phones. Depending on how it's implemented, the APIs allow applications to play and record sounds and video, and to capture still images.

`System.getProperty(supports.video.capture)` returns true if video capture is supported, false if it isn't.

Advanced Multimedia Supplements (JSR 234)

The Advanced Multimedia Supplements is an API specification for the Java ME platform. Practically speaking, it is an extension to JSR 135 Mobile Media API providing new features, such as positional 3D audio processing, audio and video effects processing, better controls for digital camera, and better support for analog radio tuner including Radio Data System.)

Java ME (previously named J2ME)

Java ME is a specification of a subset of the Java platform aimed at providing a certified collection of Java APIs for the development of software for tiny, small and resource-constrained devices based on microcontrollers.

Java ME devices implement a profile. The most common of these are the Mobile Information Device Profile aimed at mobile devices, such as cell phones, and the Personal Profile aimed at consumer products and embedded devices like Set-top boxes and PDAs. Profiles are subsets of configurations, of which there are currently two: the Connected Limited Device Configuration (CLDC) and the Connected Device Configuration (CDC).

Connected Limited Device Configuration (CLDC)

The Connected Limited Device Configuration contains a strict subset of the Java-class libraries, and is the minimal amount needed for a Java virtual machine to operate. CLDC is basically used to classify myriad devices into a fixed configuration.

Connected Device Configuration (CDC)

The Connected Device Configuration is a subset of Java SE, containing almost all the libraries that are not GUI related. It is richer than CLDC.

Mobile Information Device Profile (MIDP)

Mobile Information Device Profile is a specification published for the use of Java on embedded devices such as mobile phones and PDAs. MIDP is part of the Java Platform, Micro Edition (Java ME) framework and sits on top of Connected Limited Device Configuration, a set of lower level programming interfaces. MIDP was developed under the Java Community Process as JSR 37 (MIDP 1.0) and JSR 118 (MIDP 2.0).

Blender

Blender is a free 3D animation application. It can be used for modeling, UV unwrapping, texturing, rigging, water simulations, skinning, animating, rendering, particle and other simulations, non-linear editing, compositing, and creating interactive 3D applications. Blender is available for several operating systems, including Microsoft Windows, Mac OS X, Linux, IRIX, Solaris, NetBSD, FreeBSD, OpenBSD. Blender has a robust feature set similar in scope and depth to other high-end 3D software such as Softimage|XSI, Cinema 4D, 3ds Max, Lightwave and Maya. These features include advanced simulation tools such as rigid body, fluid, cloth and softbody dynamics, modifier based modeling tools, powerful character animation tools, a node based material and compositing system and Python for embedded scripting.

Scene Graph

A scene graph is a collection of nodes in a graph or tree structure. A node may have many children but often only a single parent, with the effect of a parent apparent to all its child nodes; an operation applied to a group automatically propagates its effect to all of its members. In many programs, associating a geometrical transformation matrix (see also transformation and matrix) at each group level and concatenating such matrices together is an efficient and natural way to process such operations. A common feature, for instance, is the ability to group related shapes/objects into a compound object which can then be moved, transformed, selected, etc. as easily as a single object.

Java Native Interface (JNI)

The Java Native Interface is a programming framework that allows Java code running in the Java virtual machine (JVM) to call and be called by native applications (programs specific to a hardware and operating system platform) and libraries written in other languages, such as C, C++ and assembly.

Java Native Access (JNA)

Java Native Access provides Java programs easy access to native shared libraries (DLLs on Windows) without using Java Native Interface. JNA's design aims to provide native access in a natural way with a minimum of effort. No boilerplate or generated glue code is required. While some attention is paid to performance, correctness and ease of use take priority. The JNA library uses a small native library stub to dynamically invoke native code. The developer uses a Java interface to describe functions and structures in the target native library. This makes it quite easy to take advantage of native platform features without incurring the high overhead of configuring and building JNI code.

Windows Mobile

Windows Mobile is a compact operating system combined with a suite of basic applications for mobile devices based on the Microsoft Win32 API. Devices that run Windows Mobile include Pocket PCs, Smartphones, Portable Media Centers, and on-board computers for certain automobiles. It is designed to be somewhat similar to desktop versions of Windows, feature-wise and aesthetically. Additionally, third-party software development is available for Windows Mobile.

Direct3D

Direct3D is part of Microsoft's DirectX API. Direct3D is only available for Microsoft's various Windows operating systems (Windows 95 and above) and is the base for the graphics API on the Xbox and Xbox 360 console systems. Direct3D is used to render three dimensional graphics in applications where performance is important, such as games. Direct3D also allows applications to run fullscreen instead of embedded in a window, though they can still run in a window if programmed for that feature. Direct3D uses hardware acceleration if it is available on the graphics card, allowing for hardware acceleration of the entire 3D rendering pipeline or even only partial acceleration. Direct3D exposes the advanced graphics capabilities of 3D graphics hardware, including z-buffering, anti-aliasing, alpha blending, mipmapping, atmospheric effects, and perspective-correct texture mapping. Integration with other DirectX technologies enables Direct3D to deliver such features as video mapping, hardware 3D rendering in 2D overlay planes, and even sprites, providing the use of 2D and 3D graphics in interactive media titles.

DirectX

Microsoft DirectX is a collection of application programming interfaces (APIs) for handling tasks related to multimedia, especially game programming and video, on Microsoft platforms. Originally, the names of these APIs all began with Direct, such as Direct3D, DirectDraw, DirectMusic, DirectPlay, DirectSound, and so forth. DirectX, then, was the generic term for all of these APIs and became the name of the collection. After the introduction of the Xbox, Microsoft has also released multiplatform game development APIs such as XInput, which are designed to supplement or replace individual DirectX components.

DirectShow (DS)

DirectShow, codename Quartz, is a multimedia framework and API produced by Microsoft for software developers to perform various operations with media files or streams. It is the replacement for Microsoft's earlier Video for Windows technology. Based on the Microsoft Windows Component Object Model (COM) framework, DirectShow provides a common interface for media across many programming languages, and is an extensible, filter-based framework that can render or record media files on demand at the behest of the user or developer. The DirectShow development tools and documentation were originally distributed as part of the DirectX SDK, however, they are currently distributed as part of the Windows SDK (formerly known as the Platform SDK).

Component Object Model (COM)

Component Object Model is a Microsoft centric interface standard for software componentry introduced by Microsoft in 1993. It is used to enable interprocess communication and dynamic object creation in any programming language that supports the technology. The term COM is often used in the software development industry as an umbrella term that encompasses the OLE, OLE Automation, ActiveX, COM+ and DCOM technologies.

.NET Framework

The Microsoft .NET Framework is a software technology that is available with several Microsoft Windows operating systems. It includes a large library of pre-coded solutions to common programming problems, a runtime or virtual machine that manages the execution of programs written specifically for the framework, and a set of tools for configuring and building applications. The .NET Framework is a key Microsoft offering and is intended to be used by most new applications created for the Windows platform.

A reduced "Compact" version of the .NET Framework also available on Windows Mobile platforms, including Smartphones.

.NET Compact Framework

The Microsoft .NET Compact Framework (.NET CF) is a version of the .NET Framework that is designed to run on Windows CE based mobile/embedded devices such as PDAs, mobile phones, factory controllers, set-top boxes, etc. The .NET Compact Framework uses some of the same class libraries as the full .NET Framework and also a few libraries designed specifically for mobile devices such as Windows CE InputPanel.