Application support on Nokia 500

This article explains that 3D graphics don't work on the Nokia 500, and that apps with complex graphics /animations should be tested on this device as performance may not be acceptable.

Overview

Nokia 500 is a new addition to the Symbian^3 family. Like other S^3 devices, it uses the latest Symbian experience based on Symbian Anna. However, on the hardware side there is one minor difference that applications targeting Nokia 500 have to consider: Nokia 500 lacks hardware acceleration for 3D graphics, which in turn means that there is no support for OpenGL ES. OpenVG-based graphics acceleration is, however, supported in the device. Similar screen resolution and sensors such as accelerometer, magnetometer, and proximity sensor are present as in other members of the S^3 family.

Because applications utilising OpenGL ES are not compatible with Nokia 500, games and applications with 3D graphics don't work on this device. Applications utilising complex graphics and demanding animations may suffer from performance limitations and should be tested on the device. However, games and graphics applications which utilise OpenVG should work fine on Nokia 500.

Full device specifications can be found here.

Nokia Developer Example Projects

Some Nokia Developer projects (mostly 3D games) utilise OpenGL ES technology, and so cannot be run on Nokia 500. However, some games and graphical apps don't require OpenGL ES for graphics rendering, for example the Solitaire game and Qt Bubble Level.

Also note that some 2D graphics projects utilise OpenGL ES to speed up the graphics rendering. In such cases, the projects may also have a version built for Symbian^1 which does not use OpenGL ES. Examples of such projects are Compass and AirSwype. Developers can utilise similar techniques to make their applications available on Nokia 500.

Graphics Acceleration

As mentioned above, Nokia 500 doesn't support 3D graphics acceleration, though it supports 2D graphics acceleration using OpenVG graphics engine. Qt/Qt Quick applications running on Nokia 500 use OpenVG graphics engine, by default. Following table gives approximate graphics performance figures, for an fairly complex animation containing 20 moving objects.

Device	OpenVG (fps)	Raster (fps)
Nokia N8	60	26
Nokia E6	55	26
Nokia 500	29	16-21

Please note, that the above table only provides rough figures for the attached sample application. The performance of an application would vary depending on complexity of graphics, animations, and various other factors.

Download test application: File:QmlFps.zip

Graphics Optimisation

The following blog series offers very good insights into graphics and performance factors related to graphics rendering. These articles are highly recommended for beginners as well as experts, and they are generally applicable to all applications developed with Qt. However, in case of simple applications, optimisation is not always required.

- Qt Graphics and Performance – What's Hot and what's Not
- Qt Graphics and Performance – An Overview
- Qt Graphics and Performance – The Raster Engine
- Qt Graphics and Performance – OpenVG
- Qt Graphics and Performance – OpenGL
- Qt Graphics and Performance – The Cost of Convenience
- Qt Graphics and Performance – Fast Text

Summary

Most common applications should work fine on Nokia 500. However, compatibility with other Symbian^3 devices doesn't mean that the application can be assumed to work with Nokia 500 as well. Any application targeting Nokia 500 should therefore be tested and verified on the device before being submitted to the Nokia Store. If the application development team doesn't have access to the device, the Remote Device Access (RDA) service can be used for this purpose.

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