GIZMONDO™ HARDWARE
A Developer's Perspective

Revision v1.0

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This document is designed as a "no bull" guide to what the Gizmondo device is capable of, in the real world, in the domain of next generation games. It covers all the facts and figures that a game developer would ask, along with the unique levels of support offered by the Gizmondo Studios Developer Support Team.

What's inside the Box?

- A 400MHz Samsung S3C2440 ARM9 CPU
- 64MB Flash memory (The "Hard Disk") and 64MB mobile SDRAM (Main Ram)
- SD/MMC card slot
- 2.8" QVGA Crystal Clear non blurring TFT display
- nVidia GoForce 4500 3D Media Processor
- 48kHz 16-bit stereo audio, plus MIDI/MP3 DSP
- VGA camera
- Bluetooth Connectivity
- GPS
- GSM + GPRS
- USB Desktop PC connectivity using Microsoft® ActiveSync
- Inbuilt Vibrator for rumble effects

Gizmondo runs the Microsoft® Windows CE version 4.2 Operating system with a custom Gizmondo specific user shell (GTShell).

Hardware accelerated 3D via the OpenGL-es 1.0 APIs (with custom added extensions) all provided by nVidia.

Once out of the box, the developer versions of the Gizmondo come with a wealth of materials to make the game development process an easy ride.

Your development PC connects to the Gizmondo unit simply via a USB to Micro USB lead using the supplied USB driver. All access to the unit's flash drive, and SD card is then a matter of drag and drop through Microsoft's Active Sync explorer (of course there are tools to do this via the command line in batch processes for automated builds)

Compilation and/or assembly is achieved through Microsoft's embedded Visual C 4.0 (sp2) with the supplied GTERM SDK (the WINce Kernel APIs for Gizmondo).

All of the build, download, digital signing, debug and profiling process can be seamlessly handled from within eVC straight out of the box. Of course, if you wish any ARM9 compiler that can output (or be converted to) COFF object format should work fine as well.

Using the dedicated 3D hardware is simple via nVidia's OpenGL-es 1.0 compliant SDK.

On top of the core OS and thin layer graphics APIs comes the Gizmondo SDK – this is a little different to most console SDKs, and a breath of fresh air for developers. Essentially the Gizmondo SDK is supplied wherever possible with full source code – no black boxes, use the code "as is", use it as a starting point, or customise it to your hearts content.

You want documents? The developer kits come with help files, documents, white papers, power points – everything you could ever wish to know about the workings of the device.
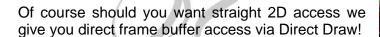

Finally if all else fails – there's a dedicated developer support team manned by game developers that are not only writing and updating the SDKs for you but are also writing actual product for the Gizmondo – so the team know the hardware inside out.

This is a development kit designed by real game developers, for real game developers, supported by real game developers. It's our job to make your job as easy as possible.

What's Gizmondo™ Capable of ?

Straight out of the box you've got a true hardware accelerated 3D and 2D GPU.

- o 1280K on board video ram
- o On chip 3D transformation engine
- o Multi texturing (four texture surfaces + fog + antialias)
- o Z buffering
- o Mip Mapping
- o Bilinear Filtering
- o Fogging
- o Alpha blending
- o Colour combining
- o All internal interpolants are perspective correct
- o Hi-Colour, Palettised and DXT compressed texturing
- o Antialiased point and line drawing
- o Both fixed 16:16 and floating point vertex formats
- o Enough fill rate for x16 overdraw ~ .072 Giga Pixels of fill.
- o Fully power managed GPU core to get the best from your battery.

Of course should you want straight 2D access we give you direct frame buffer access via Direct Draw!

On the multimedia front you've got an inbuilt audio DSP to handle both MIDI and MP3 decoding, plus out of the box support for WMA and PCM audio, WMV and MPEG2 video decoding all via DirectShow.

You can also access the camera systems and pull images live - directly into your product. Place your own face onto an avatar!

With Gizmondo's unique GPS receiver hardware you can calculate a player's position anywhere in the world with an accuracy down to 1 metre – opening up a whole new genre of "location based" gaming.

Multiplayer support; we've got all the protocol stacks you need built into the system core via the "sockets" apis. For close range play you can support four players via Bluetooth, or for more global play use GPRS for a true online experience.

THIS TRULY IS CONSOLE HARDWARE IN YOUR POCKET