OpenGL|ES Tutorials: Introduction

OpenGL and OpenGL|ES

"OpenGL ES is a royalty-free, cross-platform API for full-function 2D and 3D graphics on embedded systems - including handheld devices, appliances and vehicles. It is a well-defined subset of desktop OpenGL, creating a flexible and powerful low-level interface between software and graphics acceleration. OpenGL ES includes Common and Common-Lite profiles for floating-point and fixed-point systems and the EGL specification for portably binding to native windowing systems. OpenGL ES 1.1 emphasizes hardware acceleration of the API, while OpenGL ES 1.0 focuses on enabling software-only implementations. OpenGL ES 1.1 is fully backwards compatible with 1.0 - enabling easy porting of applications between the two versions of the API."

- *Khronos Group*

OpenGL|ES is simply OpenGL for **E**mbedded **S**ystems. There is however some differences between the two. (See the "OpenGL|ES Game Development" book for more information). OpenGL|ES was developed by the Khronos Group (http://www.khronos.org).

GI Tutorials

The GI tutorials are a set of documentations to get you started on developing games (and applications in some cases), by using OpenGL|ES. They are specifically for the Gizmondo, and focus only on that hardware. For some general OpenGL|ES tutorials you can visit:

- http//www.typhoonlabs.com
- http//www.zeuscmd.com

(Note that in the production of these tutorials, Grant James' Zeus CMD tutorials have been used frequently. For example, the LoadTextures() function, and the code from the "Waving Flag" tutorial, has been used here. I recommend you visit his site for further tutorials as well)

To use this tutorial you will need a basic understanding of C++, as this is necessary fundamental which, not only these tutorials uses throughout, but you will also need if your serious about coding

a game or application for the Gizmondo. It is advisable you learn C++ before reading these tutorials, and I recommend you use this tutorial to do so:

- Learn C++ in 21 days: http://cma.zdnet.com/book/c++/

I recommend you read this book even if your C++ isn't up to good standard. This tutorial will not deal with any C++ issues – only OpenGL|ES.

Another highly recommended source of reading is the tutorials at:

- http://nehe.gamedev.net

There are 40 tutorials on OpenGL. Although it is a more general tutorial, not specific to the Gizmondo, or OpenGL|ES, it is a good source to learn about OpenGL first. There are also very few differences between OpenGL and OpenGL|ES. And if you are serious about game development, then I highly recommend you read this book:

- OpenGL|ES Game Development (http://glbook.gamedev.net/)

If you have any trouble with these tutorials, I recommend you contact myself at the following email address, or you can find me usually on the GizzedINC IRC Channel:

- King@GizmondoForums.com
- Channel: #GizzedINC (Efnet, Europe Server)

Acknowledgements

In the production of these tutorials, I have often used resources from else where. Below is a list of the resources I have used, with their authors, and their original sources.

- *Framework.lib* – Official GTERM SDK, (No Original Source Available)

- *LoadBitmap and LoadTextures Function* – Grant James' ZeusCMD Tutorials, (www.zeuscmd.com)

- *Khronos GL/EGL Headers* – Khronos Group, (www.khronos.org)

- *Khronos OpenGL|ES Documentation* – Khronos Group, (www.khronos.org)

- *Tuturial 8: Waving Flag Code* – Grant James' ZeusCMD Tutorials, (www.zeuscmd.com)

- *Vincent Implementation* – Vincent Mobile 3D Rendering Library,
	(http://sourceforge.net/project/showfiles.php?group_id=87506)

- End of OpenGL|ES Tutorials: Introduction -