



Mali GPU User Interface Engine Release Note

Media Processing Division

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Abstract

This document contains notes relating to the version 2.3 release of the Mali GPU User Interface Engine.

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General suggestion for additions and improvements are also welcome.

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1 PREFACE

Mali GPU User Interface Engine is a tool for developing User Interfaces that use OpenGL ES 2.0. It provides a C++ library with various modules that abstract out the OpenGL ES 2.0 API and operating systems functions relevant to users of OpenGL ES 2.0. This enables developers to create OpenGL ES 2.0 applications more easily than using just the OpenGL ES API. Currently the supported platforms are Windows XP, Red Hat Enterprise Linux 4 and ARM Embedded Linux. This ensures development of portable applications across these platforms.

This document contains general release information about the Mali GPU User Interface Engine version 2.3 and covers the following topics:

- Deliverables summary
- Known issues

1.1 Change Control

Issue	Date	Change
1.0	September 15, 2009	Release notes for EAC release of Mali GPU Demo Engine version 2.2
2.0	January 25, 2010	Release notes for EAC release of Mali GPU User Interface Engine version 2.3

1.2 References

This document refers to the following documents.

Ref.	Document No.	Title
1.	PR389-PRDC-011117	Mali GPU User Interface Engine Errata
2.	DUI 0505A	Mali GPU User Interface User Guide

Table 1: Table of References

1.3 Intended Audience

This document is written for developers who wish to use the Mali GPU User Interface Engine to develop OpenGL ES 2.0 applications that are portable across desktop GPUs and Mali GPUs.

2 GLOSSARY

The following terminology is used in this manual.

TERM	MEANING
EAC	Early Access
GPU	Graphics Processing Unit
RHEL	Red Hat Enterprise Linux
AEL	ARM Embedded Linux

3 PRODUCT DELIVERABLES

3.1 Files

The deliverables are individually downloadable parts which can be downloaded from <http://www.malideveloper.com>. The names and description of various deliverables that can be downloaded are as detailed in Table 2.

Deliverable Names	Description
Mali_GPU_User_Interface_Engine_RHEL4_v2.3.tgz	Tar Gzipped package for Mali GPU User Interface Engine for Linux
Mali_GPU_User_Interface_Engine_WinXP_v2.2.msi	Windows Installer for Mali GPU User Interface Engine
Mali GPU User interface Engine User Guide.pdf	User guide for Mali GPU User Interface Engine
Mali GPU User Interface Engine Release Note.pdf	This document
Mali GPU User Interface Engine Errata.pdf	Errata for the Mali GPU User Interface Engine

Table 2: List of Parts in the Deliverable

4 DOCUMENTATION

Documents are supplied as “Adobe PDF” (Portable Document Format) files. These files are readable on most common computer platforms and operating systems using an appropriate file reader. A suitable file reader can be downloaded from the Adobe site at <http://www.adobe.com/>. Select “Acrobat” and download the reader for your computer platform/operating system.

The Red Hat Linux system contains an inbuilt PDF reader which can be used to open the PDF files. Go to Applications > Graphics > PDF Viewer or type ‘gpdf’ on a Linux terminal to open the viewer.

4.1 Mali GPU User Interface Engine Release Note

This document contains general release information about the Mali GPU User Interface Engine v2.3 product.

4.2 Mali GPU User Interface Engine Errata document

The errata document describes the errata discovered in the Mali GPU User Interface Engine Tool, categorised by level of severity. Each description includes:

- where the implementation deviates from the specification
- the conditions under which erroneous behavior occurs
- the implications of the erratum with respect to typical applications
- the application and limitations of a ‘work-around’ where possible

4.3 Mali GPU User Interface Engine User Guide

This document provides information on how to use the Mali GPU User Interface Engine product.

5 REQUIRED PLATFORM

The Mali GPU User Interface Engine has been tested on the platforms listed below. ARM Limited recommends the use of Mali GPU User Interface Engine on these platforms.

1. Microsoft® Windows XP™ Professional Service Pack 2 with an ATI Radeon Express Series with driver version 8.522.0.0. Though ARM recommends this version, any other driver version supporting OpenGL 2.0 or more might also work.
2. Red Hat Enterprise GNU/Linux release 4, revision 2.6.9-55.ELsmp with a Nvidia GE Force 8400 graphics card with driver version 180.44. Though ARM recommends this version, any other driver version supporting OpenGL 2.0 or more and GLX 1.4 might also work.
3. ARM Embedded Linux 2.6.24-arm2 on a TeleChips TCC8900 development board.

6 INSTALLATION

6.1 Installation Procedure

For a description on how to install the Mali GPU Engine, see the Mali GPU User Interface Engine User Guide section 2.2 for Windows and section 2.3 for Linux platforms.

7 BUILDING

For a description on how to build the Mali GPU User Interface Engine library and its examples, see the Mali GPU User Interface Engine User Guide, Section 3.1 for windows and section 3.3 and 3.5 for Linux builds.

Note that the build system for these components differ on Windows and Linux. On Windows the build system is a MS Visual Studio 2005 solution which links to a series of Visual Studio projects. See section 3.1 of the Mali GPU User Interface Engine User Guide for details.

On Linux the build system is a GNU Makefile in the bundle and a set of sub-Makefiles, one for each folder in the directory tree that the top level Makefile includes. The top level Makefile provides a set of targets, allowing you to build various parts of the user interface engine and its examples. See section 3.3 and 3.5 of the Mali GPU User Interface Engine User Guide for details.

8 DIFFERENCES FROM PREVIOUS RELEASES

8.1 Notable changes from Mali GPU Demo Engine v2.2

Change	Description
Name changed	The name has been changed to Mali GPU User Interface Engine to better reflect the functionality provided by the tool
Support of event driven mouse handling	The engine now supports event driven mouse handling using the observer pattern, in addition to polling the state of the mouse.
LotionUI example application added	This example demonstrates how to use the engine to write a configurable, portable user interface. It replaces GUIDemo.

9 KNOWN ISSUES AND LIMITATIONS

Issues related to this release are documented in the Mali GPU User Interface Engine Errata document.

In addition to the errata described in these documents there are a few issues and limitations that may not be obvious and which deserve mention:

1. “Timer 1” unit test might fail in some test runs due to imprecision in the test. This is due to a limitation of timing functionality available within the supported Operating Systems.

Please contact malidevelopers@arm.com regarding any issues with the installation and content of this release.