

# Maemo Diablo Introduction Training Material

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# Preface

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# Chapter 1

## Introduction

### 1.1 Introduction to Maemo Technology Overview



Internet Tablets made by Nokia run on top of the maemo™ platform. This material gives you an overview of the maemo platform architecture and shows what are the components and their functions inside the platform that runs on the Internet Tablet. Maemo is based on a Debian Linux, so it is quite logical that the material covers some basics of the generic Linux architecture also. This material does not include code examples, but some basic knowledge of programming is necessary to understand the concepts described within material.

Target audience: software developers who are planning to develop appli-

cations or services on top of the maemo platform.

Prerequisites: Basic knowledge on C or C++ programming, general operating system concepts (especially Linux), open source licenses and related IPR issues.

This version of the material covers maemo SDK version 4.x.

More information about the maemo training material is available from maemo training wiki pages [http://wiki.maemo.org/Maemo\\_training](http://wiki.maemo.org/Maemo_training) maintained by maemo community. Notice that the information in maemo wiki is not verified by Nokia and thus Nokia cannot be responsible of that information.

## Chapter 2

# List of Terminology

### 2.1 Terminology and definitions

**ABI** Application Binary Interface provides object code level compatibility.

**ALSA** Advanced Linux Sound Architecture. Linux kernel component intended to replace the original Open Sound System (OSS) for providing device drivers for sound cards.

**API** Application Programming Interface provides source code level compatibility.

**applet** A small application that integrates to Hildon Desktop.

**ARMEL** A name that e.g. Debian uses for the little endian ARM EABI (ABI for the ARM architecture).

**Bluetooth** An open specification for seamless wireless short-range communications of data and voice between both mobile and stationary devices.

**BT** Bluetooth.

**cURL** cURL is a command line tool for transferring files with URL syntax.

**devkit** Part of the maemo SDK that contains software development tools. The SDK contains multiple devkits e.g. doctools devkit.

**ESD** Enlightened Sound Daemon. This program is designed to mix together several digitized audio streams for playback by a single device.

**GPL** GNU General Public License. A software license that provides a high degree of freedom in a collaborative software development effort.

**GStreamer** A cross-platform multimedia framework that serves a host of multimedia applications, such as video editors, streaming media broadcasters, and media players.

**GTK+ (GUI ToolKit+)** A library of object-oriented graphical interface elements (widgets) for developing X Window applications.

**GUI** Graphical User Interface. A graphical presentation of interface which allows user to interact with computers.

**Hildon** Application framework used in the maemo platform. Developed by Nokia and based on GNOME/GTK+ technologies, currently in the process of becoming an upstream project in [gnome.org](http://gnome.org).

**Hildon Desktop** The main user interface component of the maemo release Chinook, rewrite of maemo desktop.

**Internet Tablet** Product category for Internet optimized mobile devices with touchscreen. The term was coined by Nokia but is being used more widely to include other devices.

**initfs** Initial file system used as the root file system during Linux kernel boot e.g. for hardware initialization (contains kernel modules and utilities for initializing them). Mounted after boot to `/mnt/initfs`.

**LGPL** GNU Lesser General Public License. A compromise between the strong-copyleft GNU General Public License and permissive licenses such as the BSD licenses and the MIT License.

**Linux** Strictly speaking, Linux is the kernel of a Unix-like operating system, though the word is more commonly used to describe the the whole Linux operating system, consisting of a kernel, application programs and utilities.

**maemo** Software platform for mobile devices developed by Nokia, based on GNU/Linux and GNOME/GTK+ technologies. It includes proprietary components to make it work on the Nokia Internet Tablets.

**maemo.org** Developer community web site maintained by Nokia, main point of reference for open source and third party developers in general.

**maemo desktop** version of main user interface component of the maemo release Bora.

**maemo-af-desktop** Same as maemo desktop.

**maemo SDK** Software Development Kit to create and port applications to the maemo platform using a PC.

**Nokia Internet Tablet OS** maemo platform + proprietary applications packaged to an official device image provided by Nokia.

**OpenSSL** OpenSSL is an open source implementation of the SSL and TLS protocols.

**OSSO** Open Source Software Operations, Nokia organization developing and integrating software for Internet Tablets.

**rootfs** Root file system on the device.

**rootstrap** Part of the SDK that contains selected software components from rootfs. Rootstrap is the root file system of a target inside Scratchbox.



**Sardine** An experimental distribution based on Hildon for maemo, primarily of interest for developers who wish to test "bleeding edge" features that are being developed for future releases of maemo.

**SSL** The Secure Sockets Layer. Commonly-used protocol for managing the security of a message transmission on the Internet.

**toolchain** Part of the SDK that contains ARM cross compilation tools like compiler and linker.

**TLS** Transport Layer Security. Internet Standard similar to SSL.

**Widget** Element of a graphical user interface (GUI) that displays information or provides a way for a user to interact with the application. Examples of widgets: buttons, menus, scrollbars, forms, etc.