CMPC Debian 7.1
Referenced Porting Guide

Version 1.0

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Revision History

Versio	Date	Contributor	Comments
0.6	2014-01-09	Zhu Kaiyue	Draft
1.0	2014-02-25	Zhu Kaiyue	Update

Definitions

Term	Definition
CMPC	Classmate PC
ISV	Independent Software Vendor
PDT	Product Development Team
PRD	Product Requirements Document
SAS	Software Architecture Specification
SFS	Software Functional Specification
HLD	High Level Design

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INTEL EMPG SW Release Team

1 Purpose

This documentation keens on how to port function key in the CMPC Debian 7.1 OpenSource Kits, to a Debian 7.1 compliant OS distro. Hopefully the following discussion could help developers do porting work with minimum effort.

If your development environment is NOT Debian 7.1 compliant, then please check "Dependency" section.

2 Scope

The documentation shows the package porting work step by step. It covers the image porting environment setup, dependency and the feature list to be verified.

3 Environment Setup

3.1 Development Environment

This package is developed on Debian 7.1 image. So it could be ported to any Linux distribution which is complaint with Debian 7.1.

The development environment we use is as followings:

Linux OS	Debian 7.1
Kernel Version	3.13.0-rc2
Hardware Platform	Marble Point

3.2 Source code

If this package you get is source code tar ball, then extract it like this:

$ su root

tar xf RDK_Debian7.1-1.0.1.20140225.tar.gz

cd RDK_Debian7.1-1.0.1.20140225

3.3 Dependencies

The function key package depends on the following components:

Dependency	Deb Package	Description
Gtk2	libgtk2.0-dev	Gtk+ develop library
XTST	libxtst-dev	X11 Testing library

1. Firstly make sure you have connected to Internet, then choose an available apt-get source to update software repository in Debian 7.1. Below is the apt-get source I have used in my work:
   deb http://ftp.cn.debian.org/debian wheezy main contrib non-free
   deb-src http://ftp.cn.debian.org/debian wheezy main contrib non-free
2. execute "apt-get update" using root authority after edited the /etc/apt/sources.list
3. Using "apt-get install <package-name>" with root authority to install packages you want.

4 Function Key Package Porting

4.1 Files Description

There are some main files in the package:

cmpc_pm.c
Driver to control brightness and WLAN

cmpc_vkd.c
Driver to fetch key strokes

fnkey.cpp
Function Key daemon

OnScrDsp.cpp
OSD controlling

accel.c
Driver to provide G-sensor data

iscm.c
Driver to provide data to TD

4.2 Build && Install

4.2.1 Build && Install RDK Drivers

$ su root
# cd functionkey-drivers/
# make
# depmod –a

4.2.2 Build && Install RDK Application

$ su root
# cd function-keys/
# ./autogen.sh
# make install
# reboot

4.3 Files List

fnkey.cpp:
    Main source code of fnkey functionality
OnScrDsp.cpp:
    OSD related code
OnScrDsp.h:
    OSD related header
button.h:
    fnkey header
cmpc_pm.h:
    ioctl command definition file