ArchPi cheat book

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Preface

Howto book to learn you a few things you need to know about ArchLinux ARM on RPi. From basic setup of the system to side packages installation to turn your Raspberry into a music sharing or even a versioning control server.

Structure of book

The first part of this book will be focused on system setup and basic settings as keyboard language, user account and others. The second part will describe how to install some third party sofwares as git and mpd server.

Author words

I am not an expert in linux system as ArchLinux and even less in electronic stuff. However, as a developer I like to tinker with my new toy which is a Raspberry Pi.

I had a lot of troubles when I decided to find uses for it and tried to install some third party software. As a result, I am glad to write this « book » to help you to install things on your RPi with ArchLinux.

Chapitre 1

Introduction

1.1 Are you interested ?

This book is written by a non-specialist of ArchLinux with basic knowledge of linux system so I will try to made it as simple as possible for people who have no idea about what is console. Indeed, all commands will be explained for a better comprehension and an index will be available for you.

No matter if you are an expert or a novice, you will be able to find how to install stuff on your your Pi plus tips which includes all the problems I encounter during my first installation.

1.2 What is a Raspberry Pi

If you succeed to find this book I guess you allready know but some people buy a Raspberry with OpenELEC [1] pre-installed so here is a little explaination.

The Raspberry Pi is a credit-size computer with low performances if you compare with a common PC. Nevertheless, it means its power consumption is very low (1W for B+ version [2]) so it is not a problem to let it on forever.

Finally if you install a good linux distribution on it you can turn this old computer into a cheap server on which you will have the control. You can use it at home for file sharing, media player or others but it is also possible

1. Tiny linux system based on XBMC media center. More details on openelec.tv
2. Most robust version of RPi with 512MB of RAM and 4 usb ports

to host a website which will be available on the internet [3].

1.3 ArchLinux versus Raspbian

The operating system recommended by the Raspberry fundation is Raspbian – a custom version of the famous Debian [4] system – optimized for RPi hardware.

In general it will be the default choice for an inexperienced user to get a user interface and most common softwares allready installed at the first boot. However we forget the limited performances of the Raspberry and you will be able to realize that for yourself if you decided to install Raspbian.

A server does not need a user interface except a terminal which is enough to manage it everyday from anywhere. As a result, my choice has been focused on ArchLinux which is a pretty light and fast system. In addition, system updates are based on rolling release [5] model, so it means you do not have one version of the system. You will just receive updates frequentely – as soon as their availability – and it will be not necessary to reboot during the upgrade process.

3. An example of website hosted by a Rpi on raspberrypi.goddess-gate.com
4. One of the most popular linux system. See debian.org for more details
5. Definition on wikipedia/Rolling_release

Chapitre 2

ArchLinux installation

2.1 We are Noobs

There are two ways to install ArchLinux on a Raspberry Pi : the first is the ArchLinux way – no idea if it is the same with other systems – and the second is an official manager which works with many systems.

— follow instructions from archlinuxarm.org [1] but you need to have a linux system
— use NOOBS, an operating system install manager provided by the Raspberry fundation [2]

I choose NOOBS because it is the easiest way to install a system on a RPi and in addition you get an extra « boot manager » which is usefull. Moreover, you can complete the full setup of your SD card on any system by following the RPi website guide.

NOOBS is available on two forms : one for offline installation and the other – the smallest one – downloads automatically the last release of the system online. The offline installer contains many systems – which takes a large space – but you can just keep ArchLinux and remove others (in `os` folder). Anyway, you need to know that other systems files will be keeped after the installation so it is loose space. If you still want to use the offline way because you have no choices, you will have to find an older version of NOOBS because ArchLinux has been removed since the last release.

1. Specific instruction on archlinuxarm.org/platforms/armv6/raspberry-pi
2. Details on www.raspberrypi.org/help/ noobs-setup

2.2 Installer usage

According to the Noobs documentation, you just have to download the last Noobs release and format your SD card before unzip it and copy files on the card.

After putting the card into the RPi and power on it, you will get the installer interface with a list of all systems you can install. If you choose the online way you have to connect your ethernet cable in the Raspberry even if you want to use a wifi dongle later.

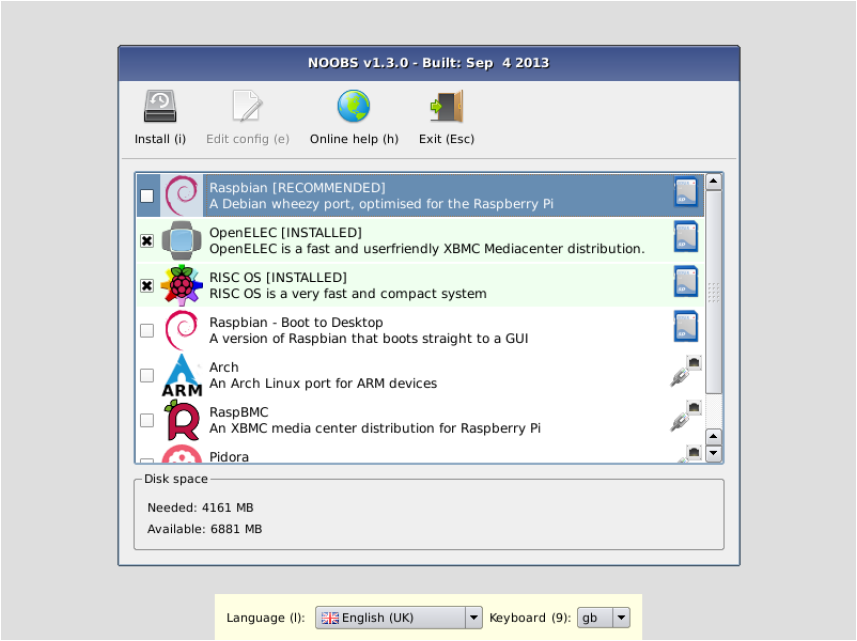

FIGURE 2.1 – Noobs installer menu

From the menu, select ArchLinux with arrow keys and press « `space` » to valid your choice. Then, you can change system and keyborad language with respectively « `l` » and « `0` » keys before pressing « `i` » to begin ArchLinux installation on your RPi.

Chapitre 3

Basic setup

The default username and password for ArchLinux is `root/root`, the root user got all right on the system it means he can do anything – even break the system – so it is not recommanded to use it.

```
$ useradd -m jeremy
$ passwd jeremy
$ visudo: jeremy ALL=(ALL) ALL
```

Listing 3.1 – Create a new user called jeremy