CUBIEBOARD
http://cubieboard.org

CubieBoard2-20151211-EMMC-Android-SDK-GetStart-v-1.0

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Version	Author	Modification	Check
V-1.0-20151211	Payne	Init version	Aaron

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1. Introduction

Cubieboard2 is the second generation product of Cubieboards , Cubietech customized a android4.2.2 os , and open the source code to the community . Cubietech update Cubieboard2 to Cubieboard2-EMMC that add MIC1 , RTC and change nand flash to EMMC.

2. Overview

This is a quick guide for Cubieboard2 SDK :

- How to download SDK
- How to set up PC compilation environment
- How to build and pack a image

3. Software requirements

- Developing host PC with Linux os , Ubuntu12.04 AMD64 is suggested
- USB upgrading tools : Livesuit or PhoenixSuit
- Cross-compilation environment

4. Install JDK

$wget dl.cubieboard.org/software/tools/android/jdk1.6.0_45.tar.gz

$sudo tar -xvf jdk1.6.0_45.tar.gz

$ sudo vim ~/.bashrc

add:

JAVA_HOME=/jdk_path

export JRE_HOME=/jdk_path/jre

export PATH=$JAVA_HOME/bin:$JRE_HOME/bin:$PATH

jdk_path: jdk1.6.0_45 path

save and verify:

$source ~/.bashrc&&java -version

```
le@le:~$ source ~/.bashrc&&java -version
java version "1.6.0_45"
Java(TM) SE Runtime Environment (build 1.6.0_45-b06)
Java HotSpot(TM) 64-Bit Server VM (build 20.45-b01, mixed mode)
```

It is successful.

5. Cross-compilation environment set up

On your Ubuntu12.04 the below tools need to be installed :

$sudo apt-get update

$sudo apt-get upgrade

$sudo apt-get install build-essential u-boot-tools uboot-mkimage binutils-arm-linux-gnueabihf

$sudo apt-get install gcc g++ gcc-arm-linux-gnueabi gcc-arm-linux-gnueabihf g++-multilib

$sudo apt-get install cpp-arm-linux-gnueabihf libusb-1.0-0 libusb-1.0-0-dev wget fakeroot

$sudo apt-get install kernel-package zlib1g-dev libncurses5-dev build-essential

$sudo apt-get install texinfo texlive ccache zlib1g-dev gawk bison flex gettext uuid-dev

$sudo apt-get install ia32-libs git gnupg flex bison gperf build-essential zip

$sudo apt-get install curl libc6-dev x11proto-core-dev libx11-dev:i386 lib32ncurses5-dev

$sudo apt-get install libreadline6-dev:i386 mingw32 tofrodos python-markdown

$sudo apt-get install libxml2-utils xsltproc zlib1g-dev:i386 libgl1-mesa-dev

6. Download SDK

You can download the Cubieboard2 sdk from here:

Android-Cubieboard2

This is a git repo from https://bitbucket.org/ , don't git clone form https://bitbucket.org/ directly, due to the file transfer limit, you can not get the whole repo . Checking your Bitbucket account and Git tool is available, start to get the whole android sdk following the steps:

$ sudo apt-get install git

```
$ mkdir -p  a20/lichee
$ mkdir -p a20/android

$ cd a20/lichee
$ tar -zxpf a20_homelet_v2.0_lichee.git.tar.gz
$ git reset --hard

$ cd ../../a20/android
$ tar -zxpf a20_homelet_v2.0_android4.2.git.tar.gz
$ git reset --hard
```

Download Cubieboard2-EMMC patch:

android-sdk-patch

```
== Aplly B2-20151211-eMMC-v1.0 patch ==

$ cd android
$ git checkout Cubieboards
$ git apply CB2-20151211-eMMC-v1.0-android.patch

$ cd lichee
$ git checkout Cubieboards
$ git apply CB2-20151211-eMMC-v1.0-lichee.patch
```

Now you get the whole android sdk for Cubieboard2-EMMC , you can update source code as same as patch.

7. Building

7.1. Building Lichee

This step is to build linux kernel .

$ cd lichee/linux-3.4

$ cp arch/arm/configs/cubieboard2_config .config

$ cd ..

$ ./build.sh -p sun7i_android

When Lichee compilatons is finished , you can get below log :

INFO: build u-boot OK.

INFO: build rootfs ...

INFO: skip make rootfs for android

INFO: build rootfs OK.

INFO: build lichee OK.

7.2. Building Android

$cd android
$source ./build/envsetup.sh
$lunch sugar_cubieboard2-eng   // Chosing product
$extract-bsp   // Packing Lichee driver modules
$make –j8   // Start compilation
$pack   // Packing image

OK , your image is packed here :
lichee/tools/pack/sun7i_android_sugar-cubieboard2.img