Porting mjpg-streamer

Copyright

Overview

mjpg-streamer is an open source software that allows you to browse webcams via video stream server built on embedded system.

1. Porting Jpeg Library

1.1 Get the Source Code

Copy thejpegsrc.v8b.tar.gz to your Ubuntusystem on PC, say, copy to
/home/waveshare/bb_black/mjpg-streamer
The file can be found on Source-code\mjpg-streamer, or can be obtained from the internet: http://www.ijg.org/files/.
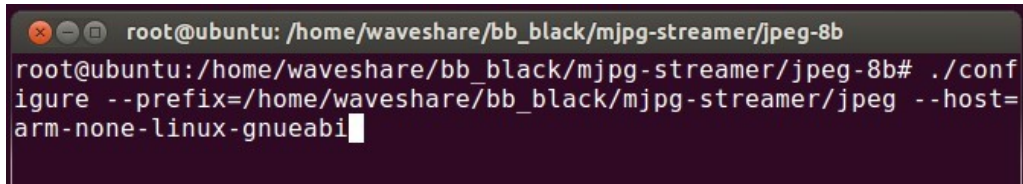
1.2 Extract the Source Code

Extract:
```
#cd /home/waveshare/bb_black/mjpg-streamer
#tar -xzvf jpegsrc.v8b.tar.gz
```
And get the jpeg-8b file.

1.3 Config the Source Code

Create a folder to store file of jpeg dependent Libraries

#cd /home/waveshare/bb_black/mjpg-streamer

mkdir jpeg

#./configure

--prefix=/home/waveshare/bb_black/mjpg-streamer/jpeg

--host=arm-none-linux-gnueabi

Description

./configure: configure the source tree

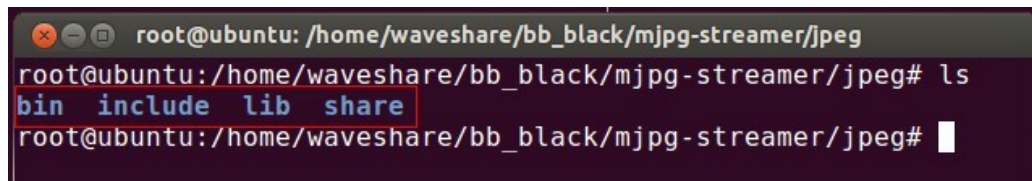--prefix=XX: installation path

--host: specify compiler

1.4 Compile and install

make

make install

Various files will be generated under

/home/waveshare/bb_black/mjpg-streamer/jpeg

likes: bin, include, lib, share, which are going to be used in the next section.

2. Porting mjpg-streamer

2.1 Get the Source Code

Copy the mjpg-streamer.tar.gz to your ubuntu 14.04 system on PC, say, copy to

/home/waveshare/bb_black/mjpg-streamer

The file can be found on Source-code\mjpg-streamer, or can be obtained from the internet: http://sourceforge.net/projects/mjpg-streamer/.

2.2 Extract the Source Code

Extract:

#cd /home/waveshare/bb_black/mjpg-streamer

#tar -xzvf mjpg-streamer.tar.gz

And get the mjpg-streamer file.

2.3 Config the Source Code

1) Open the folder mjpg-streamer

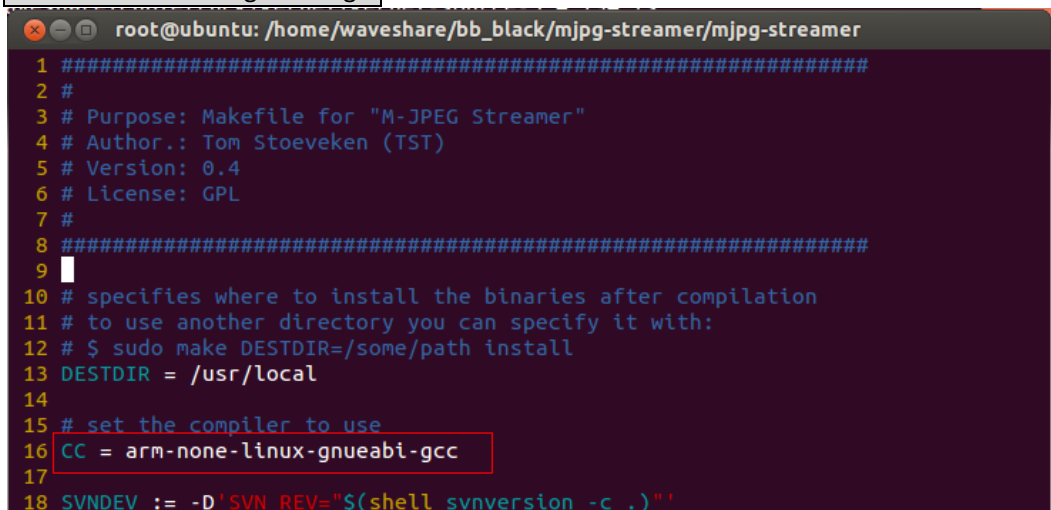   #cd /home/waveshare/bb_black/mjpg-streamer/mjpg-streamer

2) Modify the Makefile:

   vi Makefile

3) Edit:

   CC=gcc

   As:

   CC = arm-none-linux-gnueabi-gcc

4) Modify the Makefile under plugins/input_uvc/

   vi plugins/input_uvc/Makefile

5) Edit

   CFLAGS += -O1 -DLINUX -D_GNU_SOURCE -Wall -shared –fPIC

   As:

   CFLAGS += -O1 -DLINUX -D_GNU_SOURCE -Wall -shared -fPIC -I/ho
   me/waveshare/bb_black/mjpg-streamer/jpeg/include

6) Edit

   $(CC) $(CFLAGS) $(LFLAGS) -ljpeg -o $@ input_uvc.c v4l2uvc.lo jpeg_utils.lo
   dynctrl.lo

   As:

   $(CC) $(CFLAGS) $(LFLAGS)   -ljpeg

-L/home/waveshare/bb_black/mjpg-streamer/jpeg/lib   -o $@   input_uvc.c
v4l2uvc.lo jpeg_utils.lo dynctrl.lo

```
  😣 ● 🔲   root@ubuntu: /home/waveshare/bb_black/mjpg-streamer/mjpg-streamer
10 CC = arm-none-linux-gnueabi-gcc
11
12 OTHER_HEADERS = ../../mjpg_streamer.h ../../utils.h ../output.h ../input.h
13
14 CFLAGS += -O1 -DLINUX -D_GNU_SOURCE -Wall -shared -fPIC -I/home/waveshare/bb_
   black/mjpg-streamer/jpeg/include
15
16 #CFLAGS += -g
17 #CFLAGS += -DDEBUG
18
19 ifeq ($(USE_LIBV4L2),true)
20 LFLAGS += -lv4l2
21 CFLAGS += -DUSE_LIBV4L2
22 endif
23
24
25 LFLAGS += -ljpeg
26
27 all: input_uvc.so
28
29 clean:
30     rm -f *.a *.o core *~ *.so *.lo
31
32 input_uvc.so: $(OTHER_HEADERS) input_uvc.c v4l2uvc.lo jpeg_utils.lo dynctrl.l
   o
33     $(CC) $(CFLAGS) $(LFLAGS) -ljpeg -L/home/waveshare/bb_black/mjpg-streamer
   /jpeg/lib -o $@ input_uvc.c v4l2uvc.lo jpeg_utils.lo dynctrl.lo
34
35 v4l2uvc.lo: huffman.h uvc_compat.h v4l2uvc.c v4l2uvc.h
36     $(CC) -c $(CFLAGS) -o $@ v4l2uvc.c
```

7) Modify line 90 in the file plugins/input_uvc/input_uvc.c

#vi plugins/input_uvc/input_uvc.c +90

Edit

int width = 640, height = 480, fps = 5, format = V4L2_PIX_FMT_MJPEG, i;

As:

int width = 320, height = 240, fps = 5, format = V4L2_PIX_FMT_YUYV, I;

2.4 Compile

make

Dynamic library and related scripts will be generated under current directory, which are required by the video stream server.

2.5 Install

Copy the folder mjpg-streamer to the development board, please read the chapter about copy document from: Porting Driver.pdf. You can run the start.sh script.