

Environment Settings

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Date: 15th Mar 2017

Overview

- This file defines the environment we will use to dev The system
- i.e.
 1. Raspberry Pi
 2. Operating System
 3. Source management tool
 4. Toolchain
 5. Languages

Raspberry Pi 3 Model B (Related info)

- A 1.2GHz 64-bit quad-core ARMv8 CPU
- 802.11n Wireless LAN
- Bluetooth 4.1
- Bluetooth Low Energy (BLE)
- 1GB RAM
- 4 USB ports
- 40 GPIO pins
- Full HDMI port
- Ethernet port
- Combined 3.5mm audio jack and composite video
- Camera interface (CSI)
- Display interface (DSI)
- Micro SD card slot (now push-pull rather than push-push)
- VideoCore IV 3D graphics core
- We use 8GB micro SD card class 4 (sponsored by Quang & shipped by Chung)

Raspberry Pi 3 Model B (Related info)

- Official documentation site: [Link](#)

- Q: WHAT HARDWARE INTERFACES DOES IT HAVE?

A: Depending on the model, the Raspberry Pi has either 40 or 26 dedicated GPIO pins. In all cases, these include a UART, an I2C bus, a SPI bus with two chip selects, I2S audio, 3V3, 5V, and ground. The maximum number of GPIOs can theoretically be indefinitely expanded by making use of the I2C or SPI bus.

Operating System

- RASPBIAN
 - <https://www.raspberrypi.org/documentation/raspbian/>
- Edition: RASPBIAN JESSIE WITH PIXEL
 - Version: March 2017
 - Release date: 2017-03-02
 - Kernel version: 4.4
 - Release notes: [Link](#)
- FAQ: <https://www.raspbian.org/RaspbianFAQ>

Source management

- Revision control system: Git
 - Git repository hosting service: Github <https://github.com/>
 - Our project repository: <https://github.com/Huyvu7495/MyThesis>
 - This repo was forked from Phú's repo
 - Commit everything to this repo

Dev for Pi from another computer (cross compile) Windows

- Toolchain: [this](#) (GNU toolchains) – For non-VisualStudio user
 - Ver: 4.9.2 (738MB)
 - Using Text Editor for coding, command line for building
 - GDB for debugging
 - SmarTTY for remoting (uploading file, debugging)
 - Tutorial: [Link](#)
- For VisualStudio user:
 - Tutorial: <https://visualgdb.com/tutorials/raspberry/>

Dev for Pi from another computer (cross compile) MacOS

- [This](#)

Dev from Pi 3

- Any compiler the Raspbian supported (e.g. gcc)
- Text Editor:
 - GUI: Leafpad
 - Non-GUI: vim, vi, nano, ...

Languages in this project

- C/C++
- Python for audio
- JS for server
- Java for android
- ...
- Note: please remember to comment in source code 😊

End

Feel free to suggest any edit