Module 1 - Arduino/Raspberry Pi Setup

Raspberry Pi Set Up

Arduino Setup

Blink tutorial

Push Button

Multiblink Tutorial

RaspPi Setup

1. Physical Setup
2. Follow Quick Start Guide
3. Connect to Wifi
4. In the configuration menu, ensure that “Camera” is enabled
5. Open BASH terminal
6. Run command “sudo apt-get update”
7. Run command “sudo apt-get upgrade”
8. Run command “sudo rpi-update”
   1. If update occurs at this step, resart Raspberry Pi after the download and installation of the update
9. Install packages for environment using command “sudo apt-get install <package\_name> (note: can all be done in one call; simply separate each package with a space)
   1. python2.7-dev
   2. python3.0-dev
   3. ipython
   4. python-opencv
   5. python-scipy
   6. python-numpy
   7. python-setuptools
   8. python-pip
   9. libjasper-dev
   10. libavformat-dev
   11. libformat-dev
   12. libxvidcore-dev
   13. libatlas-base-dev
   14. gfortran
   15. g++
   16. liblapack-dev
   17. libsdl1.2-dev
   18. libsmpeg-dev
   19. mercurial
   20. libpng12-dev
   21. libswscalw-dev
   22. libx264-dev
   23. build-essential
   24. git
   25. cmake
   26. pkg-config
   27. libjpeg-dev
   28. libtiff5-dev
   29. libavcodec-dev
   30. lib41-dev
   31. libgtk2.0-dev
10. Install python packages utilizing pip: “sudo pip install <module\_name>
    1. svgwrite
    2. picamera[array]

Arduino Setup

1. [Install Processing on RasPi](http://hackaday.com/2015/11/15/processing-for-raspberry-pi/)
   1. If installation fails, rerun install command

Extra insight:

Etc:

<http://www.pyimagesearch.com/2015/10/26/how-to-install-opencv-3-on-raspbian-jessie/>

Why apt-get over building from source with open cv?

<http://stackoverflow.com/questions/26957894/install-opencv-for-python-building-the-source-or-with-apt-get>

PIP or apt-get?

<http://askubuntu.com/questions/431780/apt-get-install-vs-pip-install>

Virtual Environments:

<http://raspberrypi-aa.github.io/session4/venv.html>