This manual is based on the Arduino UNO suite system and a tutorial to operate each module, the aim is to make user can quickly the grasp Arduino and familiar with the principle of each module and how to use it. This document does not give a specific application sample, we hope the guest to learn and be familiar with each module in the tutorial, and flexibly apply to your creative products. Of course, Keywish also use arduino modules to design particularly creative products, these will target different products and provide corresponding suite, detailed tutorials.

Introduction of Arduino UNO

What is arduino ?

Arudino is originally created by Italian teacher Massimo Banzi for the convenience of the electronic major students presenting their ideas through hardware. About in the winter of 2005, he united Spain chip engineer David Cuartielles, discussed the idea, so they two decided to design their own circuit boards, and recruited Banzi student David Mellis to write programming language for circuit board. It was named after the name of the Italian king Arduin. He named the Arduino and start to create Arduino. Subsequently, Banzi, Cuartielles and Mellis put the design online. Due to everyone only knew the open-source software, there was no heard of source hardware, and then they thought of the well-known Linux open-source software, so they hope the Arduino to open source like Linux.

The emergence of the Arduino required original microcontroller programmer to possess relevant electronic or software background, become normal amateurs and soon learned how to use the Arduino. His design concept attracted many professional or non-professional people right after being introduced worldwide.

What is arduino uno Kit ?

Arduino uno is arduino USB series reference standard template. UNO processor core is Atmel company produces Atmega328, at the same time, with 14 digital input/output port (of which six can be used as a pwm output), 6 analog input, a 16 MHz crystal oscillator, a USB port, and a power socket, a ICSP header and a reset button. UNO has been released to the third edition.

◆ The processor ATmega328
◆ Working voltage 5v
◆ Input voltage (recommended) 7-12v

◆ Input voltage (range)   6-20v

◆ Digital IO pin 14 (of which six as a PWM output)

◆ Analog input pin 6

◆ IO pin DC 40 mA

◆ 3.3V pin DC 50 mA

◆ Flash Memory 32 KB (ATmega328, in which 0.5 KB for bootloader)

◆ SRAM 2 KB (ATmega328)

◆ EEPROM 1 KB (ATmega328)

◆ Clock 16 MHz

Picture of real products are as follows:
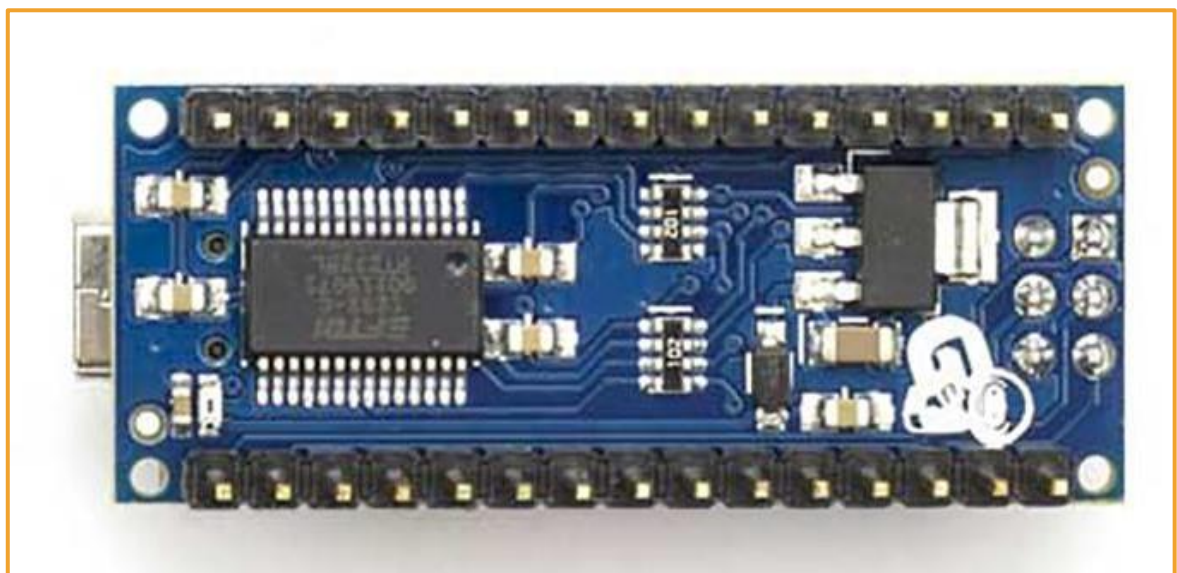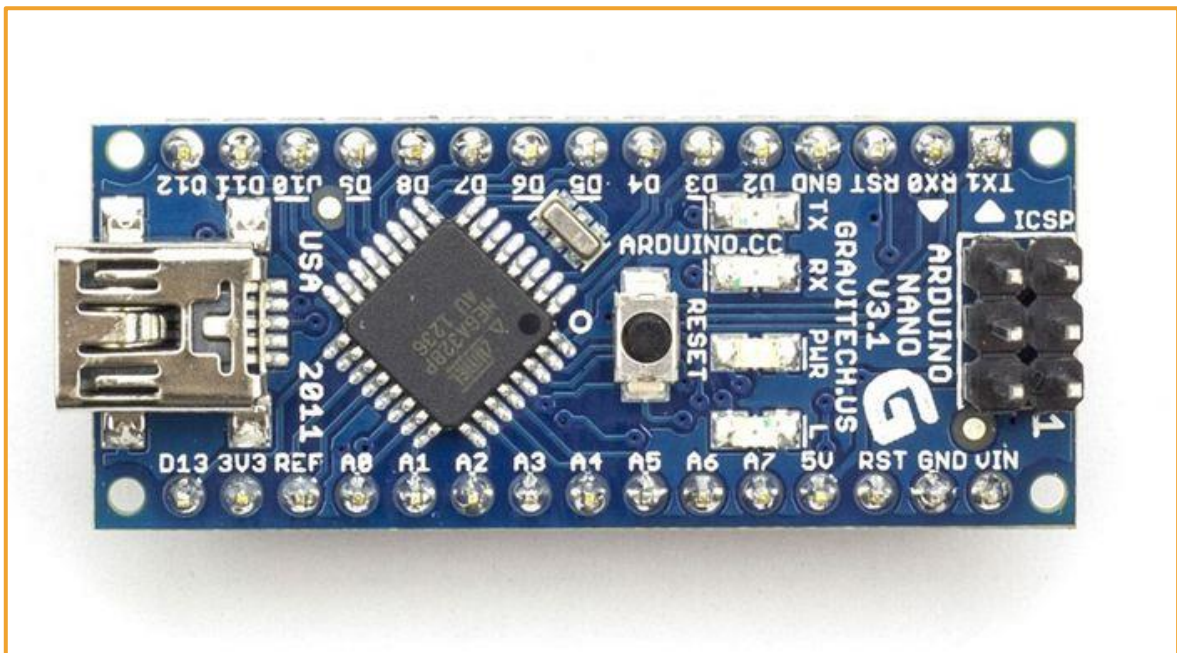
Development Environment Building

Development Software

Download link: https://www.arduino.cc/en/Main/Software

Windows, Linux, Mac are all available for downloading.

The interface of Arduino IDE is simple and the operation is rather convenient.

If you want get more please click https://www.arduino.cc/en/Guide/Environment

Install usb to serial port driver

Inserting USB cable will prompt as follows, choosing the specified location to install.
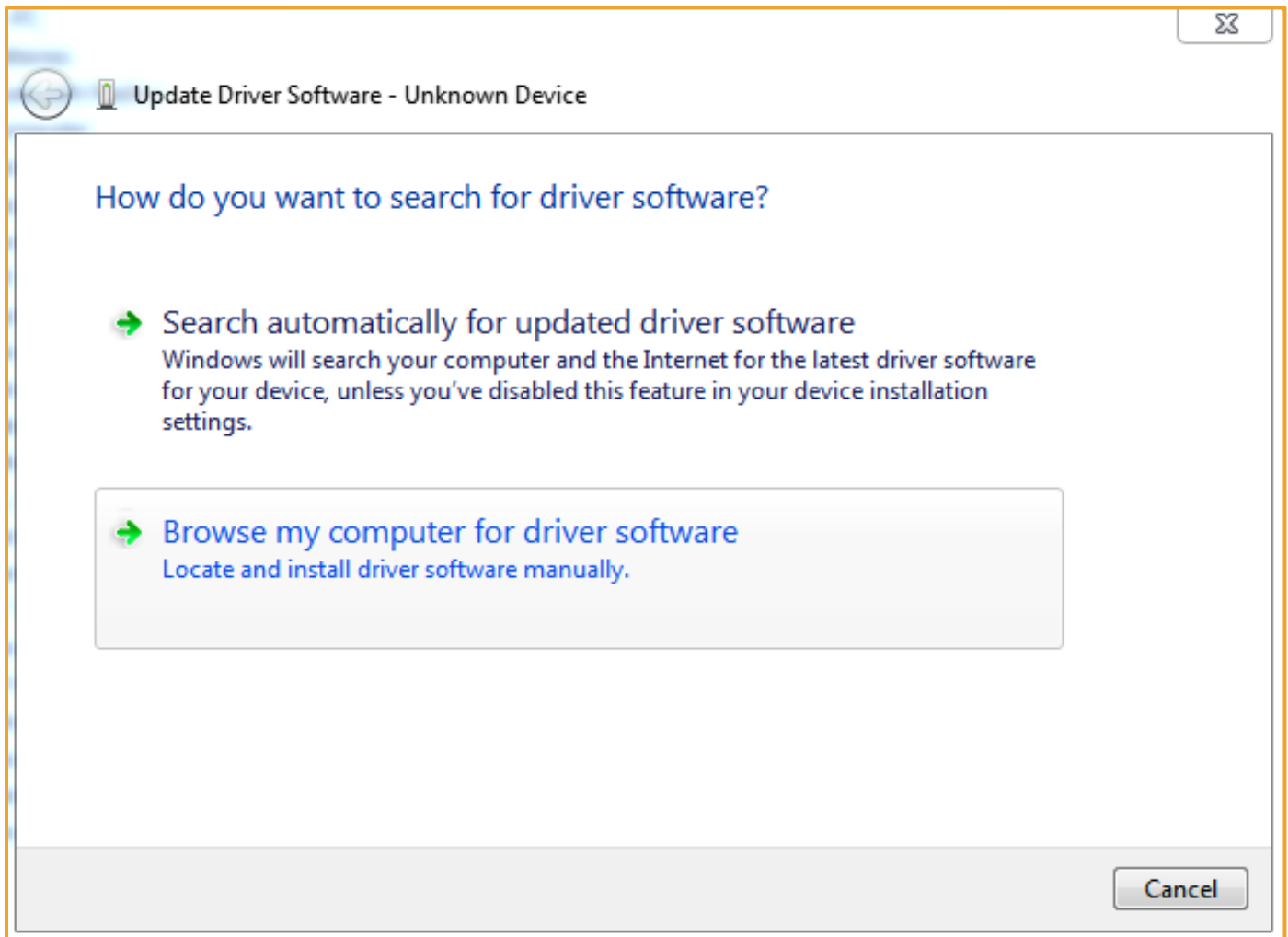
Selecting download Arduino ide file "E:\arduino-1.6.5-r5\drivers\Old_Arduino_Drivers\" Checking the type of USB serial chip on the board, if it is Atmel, then choose the following path; if it is FTDI, you should choose the arduino\drivers\FTDI USB Drivers path.

This kit use CH340 driver so install《CH341SER_for_64bit_win7.zip》

Clicking on the next step, you will be prompted with a successful installation message. Now you can change to equipment management to see Arduino UNO R3
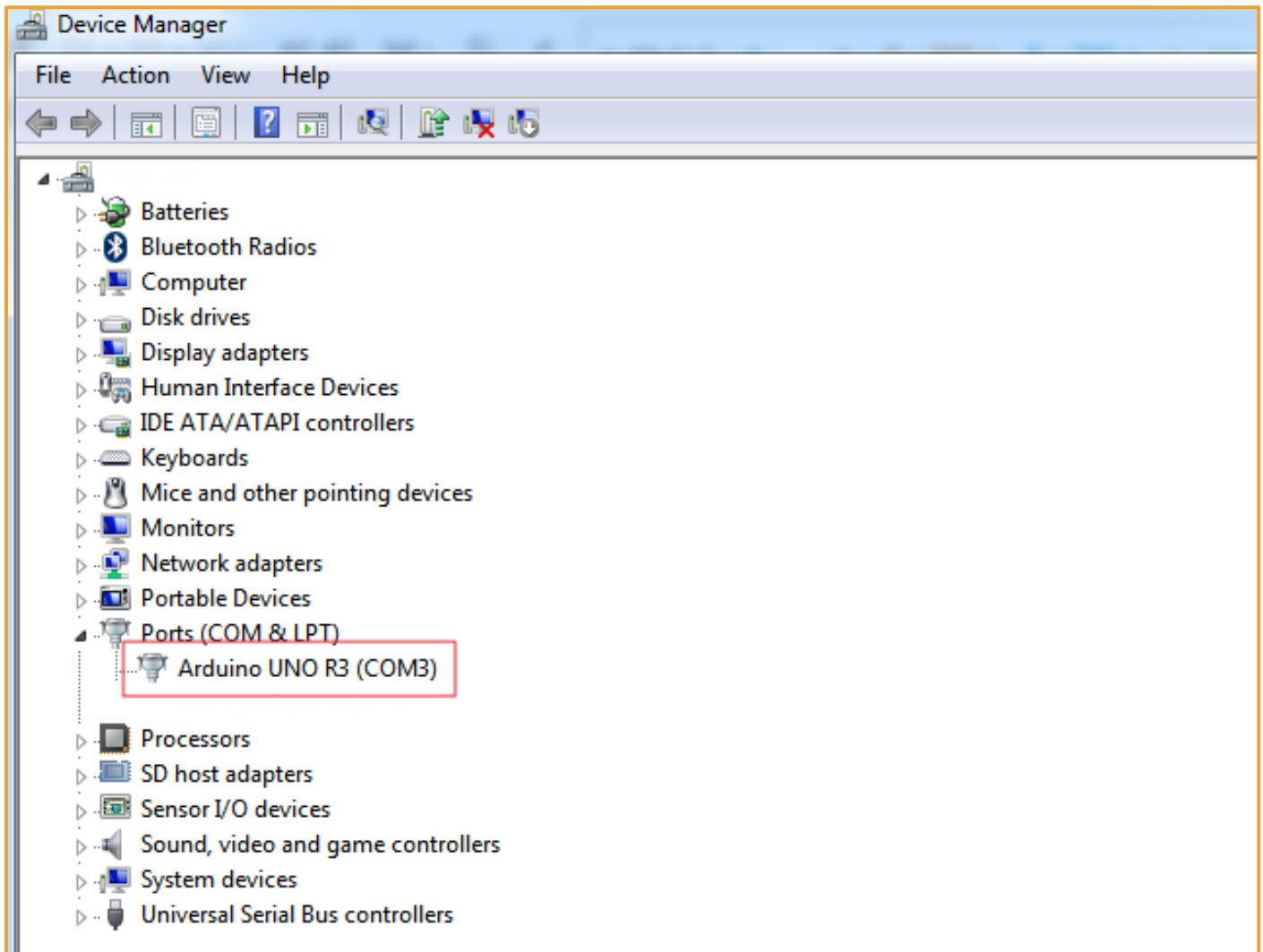
Linux Installation Environment Building

Download the Arduino Software select Linux 64bit and save.

Shell:# tar –vxf arduino-1.6.7-linux64.tar.xz

Shell:# cd arduino-1.67

Shell:# ./arduino

Mac Arduino Development Environment Building

Download the Arduino Software for Mac OS.

You can get all source codes from https://github.com/keywish/arduino-uno-kit

Install CH340 driver

SupportSystem:

OSX10.9andabove

InstallationProcess:

Extract the contents of the zip file to a local installation directory

Double-clickCH34x_Install.pkg

Install according to the installation on procedure

Restart after finishing installing

After the installation is completed, you will find serial device in the device list(/dev/tty.wchusbserial*) ,and you can access it by serial tools.

If you can't find the serial port then you can follow the steps below:

Step1: Open terminal and type 'ls/dev/tty*' and see is there device like tty.wchusbserial;

Step2: Open 'System Report'->Hardware->USB, on the right side "USB Device Tree" there will

Be device named "Vendor-Specific Device" and check if the Current is normal.

If the step supper don't work at all, please try to install the package again.

Note:

Please enter "System Preferences"->"Security & Privacy"->"General", below the

title" Allow apps downloaded from: "you should choose the choice2->" Mac App Store and

identified developers " so that our driver will work normally.