Documentation

For using MTR

Requirements

#Hardware

* Raspberry pi 3 with latest version of [Raspbian OS](https://www.raspberrypi.org/downloads/raspbian/)
* Arduino Uno

Setup

#Setup (Raspberry Pi)

* [Enable SSH](https://hackernoon.com/raspberry-pi-headless-install-462ccabd75d0) on Pi by creating a file named ‘ssh’ without any extension on the SD card containing the Raspian OS.
* Download [Putty](http://www.putty.org/) and [Xming](https://sourceforge.net/projects/xming/)
* Open Xming, it will keep running in the background.
* In Command Prompt, use *ipconfig* to find the ip address assigned to Pi.
* In Putty, enter username: *pi@<ip-address>* and password: *raspberry*
* Also go to Connection->SSH->X11, tick Enable X11 forwarding and change X Display location to -> *localhost:0*
* Now type the command: *lxsession*. This should now open a GUI of Pi.
* Install Espeak (Voice Synthesizer). [Follow this guide to setup speakers and install espeak](https://www.pubnub.com/blog/2015-10-14-text-to-speech-audio-broadcast-with-raspberry-pi/).
* Download *mtr.sh* file to Pi using [WinSCP](https://winscp.net/eng/download.php).
* Open terminal on Pi.
* Change the working directory of terminal to the location of *mtr.sh* file using command: *cd <path/to/the/file>*
* Run this command: *sudo chmod +x mtr.sh*

#Setup (Arduino)

* Install the Arduino driver and IDE on your computer. [Here’s the guide.](https://www.arduino.cc/en/Guide/ArduinoUno)
* Upload *Blink.ino* file to Arduino Uno.
* Connect Arduino Uno to Raspberry Pi using the USB cable.
* Check the port assigned to the Arduino Uno by comparing the result of the command of the *ls /dev/tty\** before and after connecting the Uno to Pi. By default its set to */dev/ttyACM0.*  If it is different in your case then change it where it is IMPORTANT in *mtr.sh* file using *sudo nano mtr.sh*

Usage

* Now run *./mtr.sh <#number>*  to recite the multiplication table of the number.