**Guide to interface with/use our Raspberry Pi 3**

***Interfacing with/updating the Raspberry Pi 3:***

The Raspberry Pi 3 we are using this year is running the Raspbian OS, a form of linux recommended for newer Raspberry Pi users. Maintenance is fairly easy, even without hooking up to a monitor. To connect to a raspberry pi on your network, you have 2 options. The first option is to utilize a protocol called SSH. The other way, which allows the use of the Pi’s graphical display, is the VNC protocol. The default login information of a Raspberry Pi is as follows:

Username: *pi*

Password: *raspberry*

If setup by Zack, the password is 99/100 times going to be changed to *team144*

**To use SSH to connect to a Raspberry Pi 3**

1. Download PuTTY. A link to download it can be found here: <https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html>

-You will also need the IP address for the Raspberry Pi.

-Make sure that SSH is enabled on the Pi. If it has already been setup by Zack, chances are it is enabled. If not, check the Raspberry Pi Foundation’s instructions to do so.

2. Once you have both the Raspberry Pi’s IP address and an SSH client, PuTTY or otherwise, open up the program and follow it’s instructions to connect to the Pi.

-For PuTTY, this is fairly straightforward. Type the IP into the box and make sure it is connecting through SSH.

**To use VNC to connect to a Raspberry Pi 3**

1. Download a VNC viewer. One such one can be found here: <https://www.realvnc.com/en/connect/download/viewer/windows/>

-You will also need the IP address for the Raspberry Pi and the VNC server setup on the Pi. To do this, connect via SSH and input the following command:

sudo raspi-config

This should bring up a configuration screen, at which point you have to navigate to interfacing options, then VNC, and then enable it. After that, reboot and then put in the command

vncserver

Once this is done, check the output. At the bottom of its output, you should see its IP with a new number at the end, in the format: *RaspberryPiIp:NewNumber*. Copy this whole list of numbers (*RaspberryPiIp:NewNumber*)

2. Once you have both a VNCViewer and the number, access the Pi using said number.

**Updating the Raspberry Pi**

**Make sure you have an internet connection first.**

To update the Raspberry Pi, input the following commands:

1. sudo apt-get update

2. sudo apt-get dist-upgrade

3.sudo apt-get upgrade

To get new programs on the Raspberry Pi, I would wholeheartedly recommend that one searches google, as the community build around Raspberry Pi has the answers you are looking for 99% of the time.

*Using the Raspberry Pi 3*

Congrats! At this point, you should be hooked up to the Raspberry Pi and have the ability to access its command line and, by extension, programs! This can vary from Pi to Pi, but these are just the basics of interfacing with a Raspberry Pi!