



USER GUIDE

For the smart vest system for blind people

Turning on the vest

1. **Remove the microSD card, put into computer, locate this file**

`/etc/wpa_supplicant/wpa_supplicant.conf.`

2. **Change the wifi address and password to your own wifi address and password**

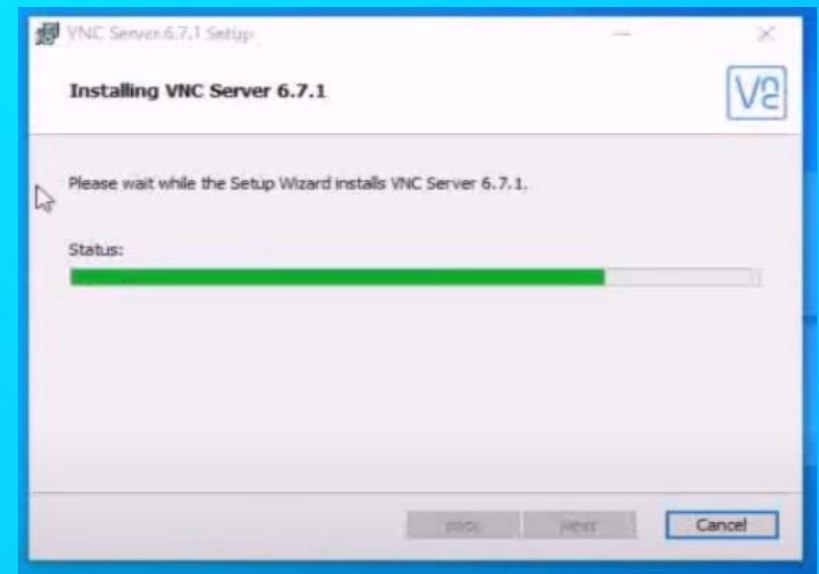
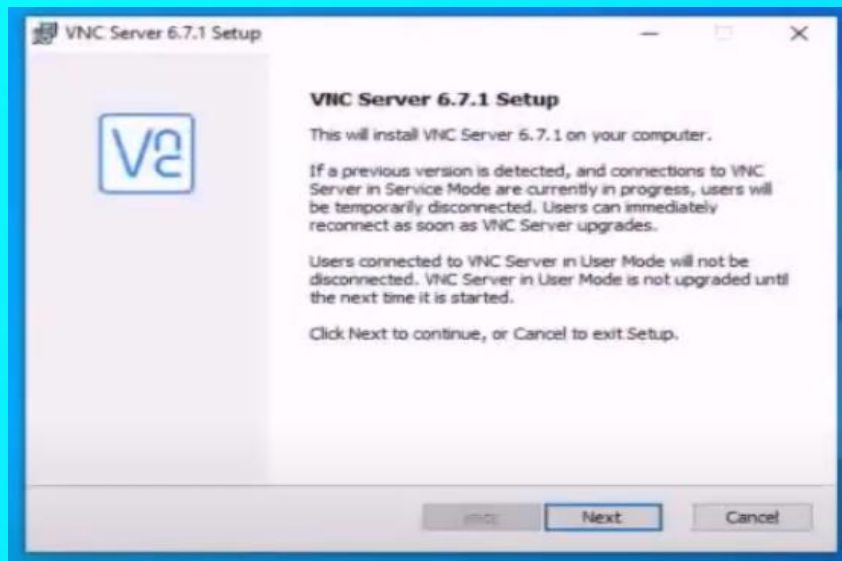
3. **Turn on the powerbank attached to the vest, it will connect to the wifi automatically.**

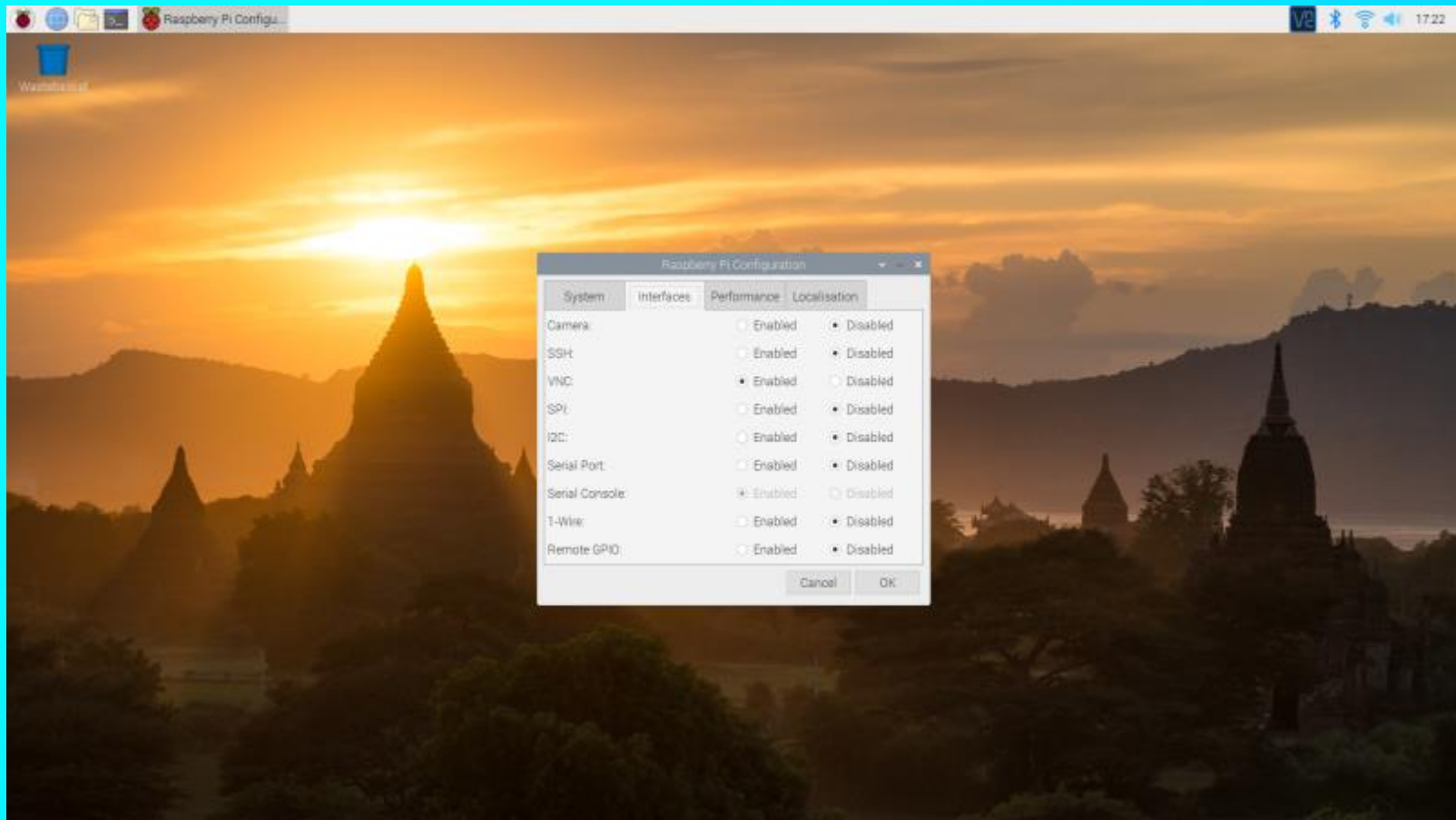
1. Installing REAL VNC viewer in the computer

. A free version of the app is available on the official website

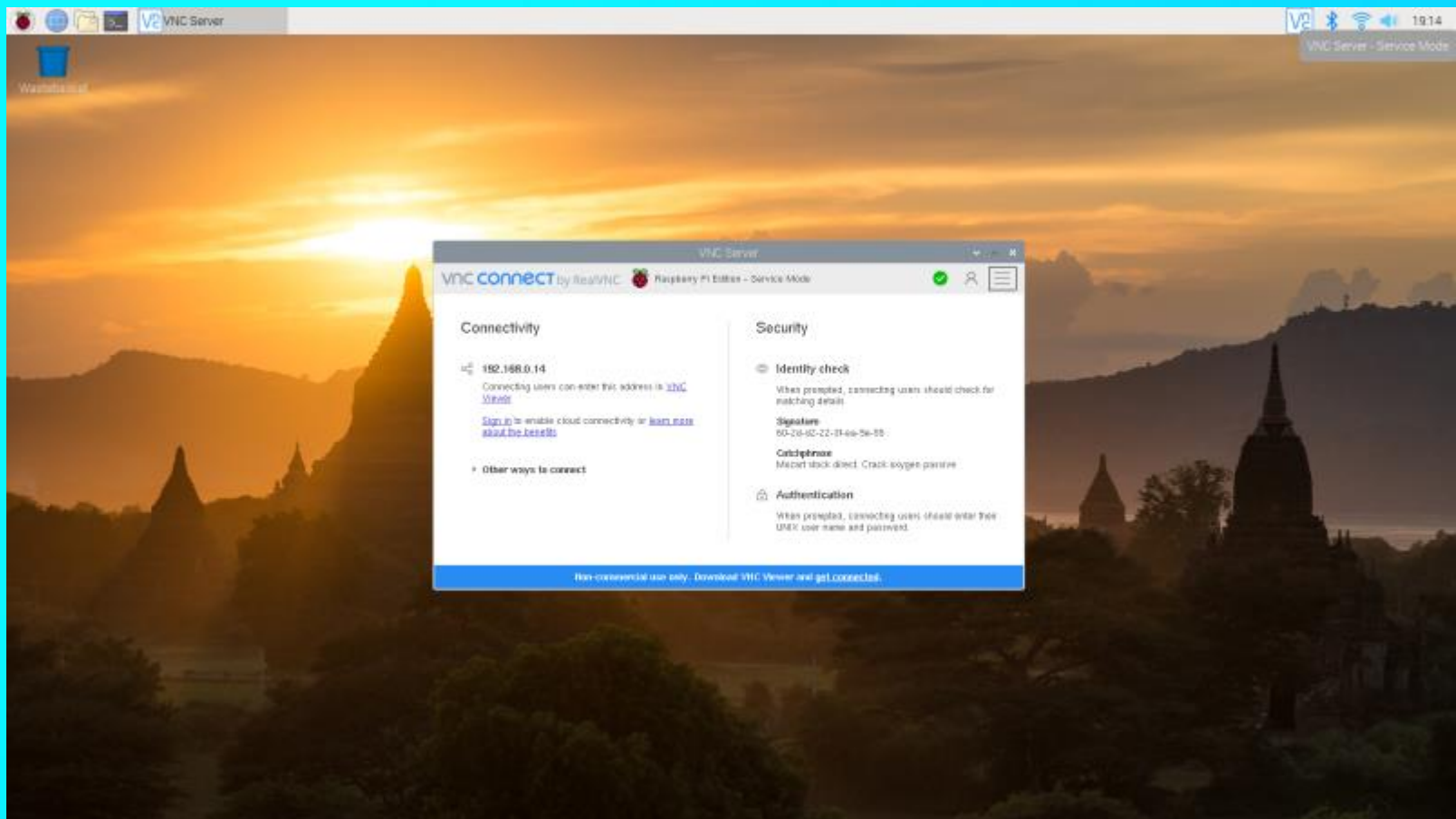
<https://www.realvnc.com/en/connect/download/viewer/>.

After the extension is downloaded, the installation setup is guided by a wizard as shown

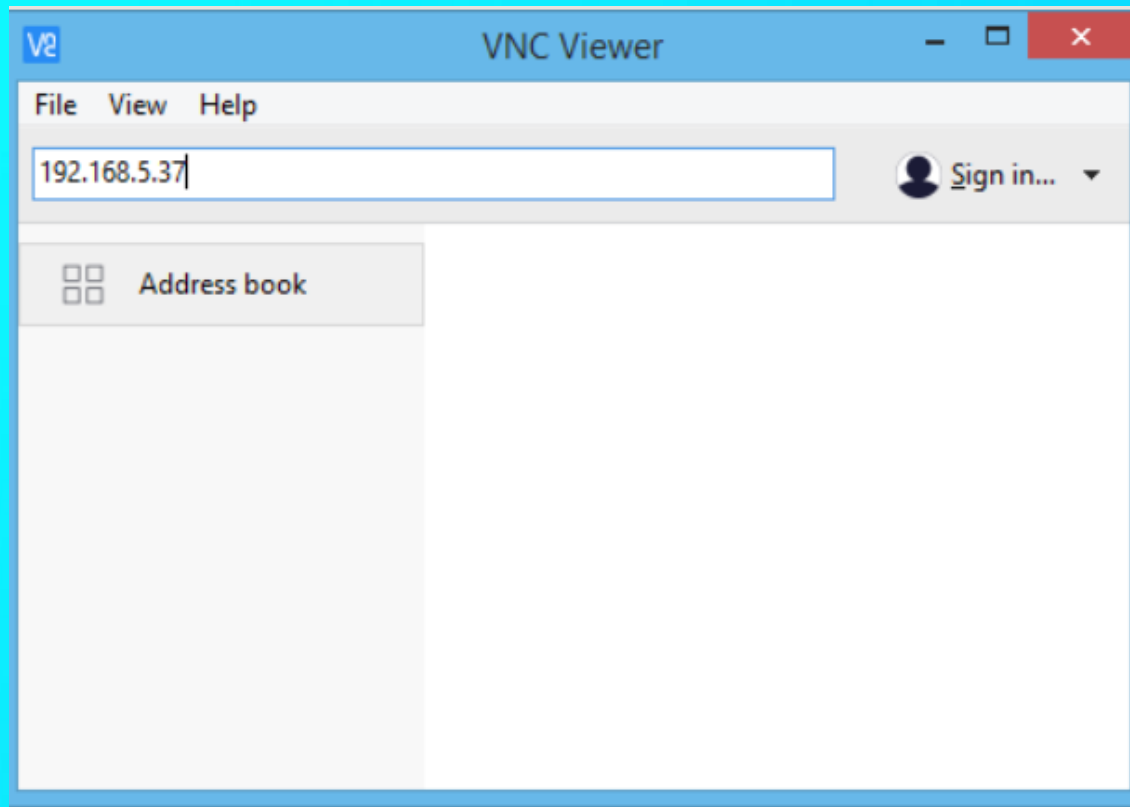




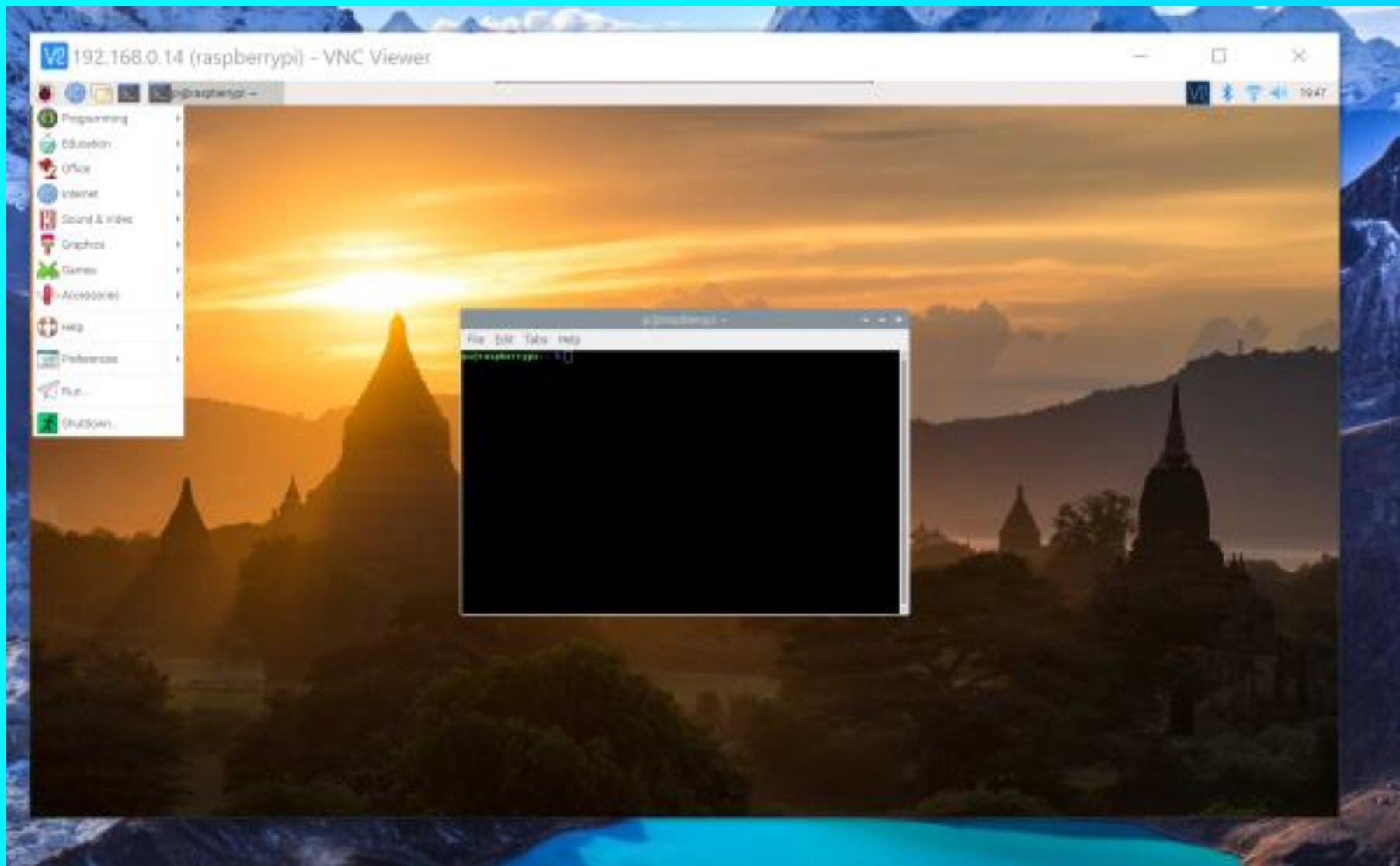
**click the applications menu icon (raspberry) at the top-left of the screen and select Preferences > Raspberry Pi Configuration.
Then enable VNC**



VNC connectivity window will show up

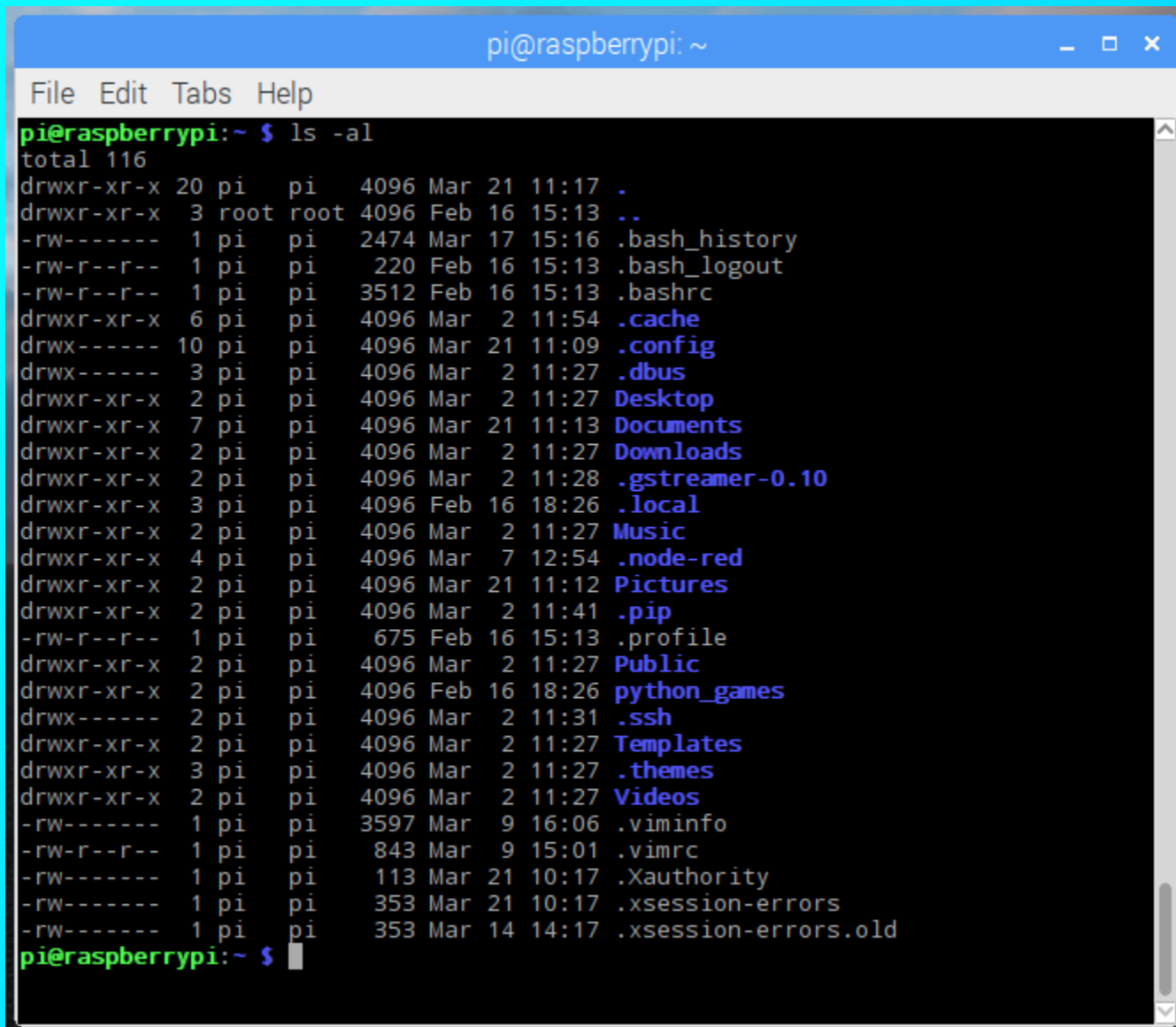


PUT the IP of the raspberry pi, you find in in the router admin app provided by your ISP.



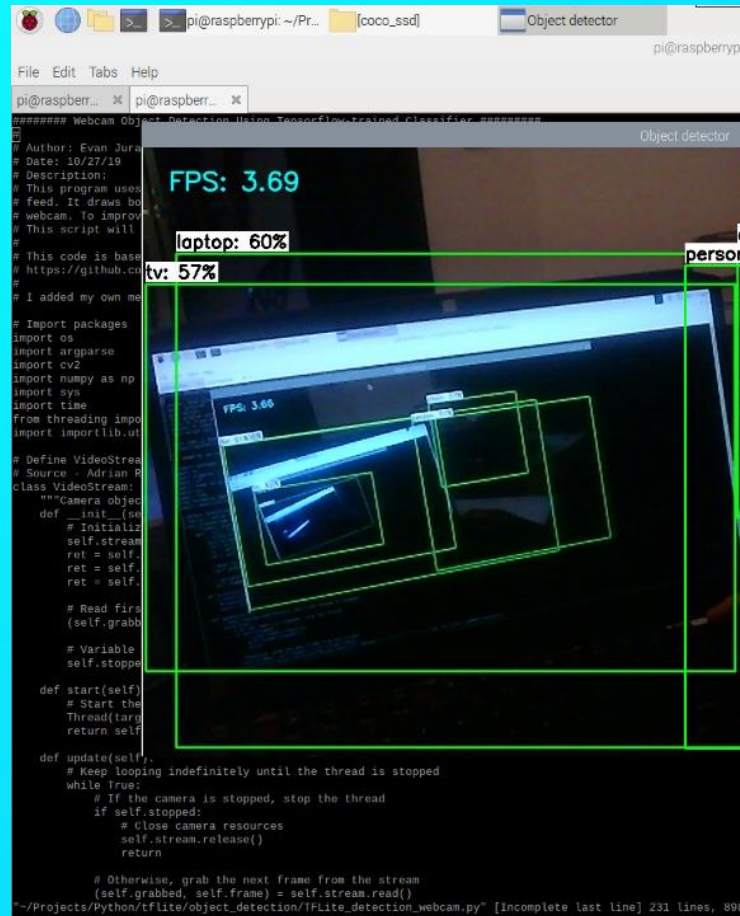
The terminal of the raspberry pi will show up

Now u need to list all the directories, by the following command: `ls -al` and run the code file



```
pi@raspberrypi: ~  
File Edit Tabs Help  
pi@raspberrypi:~ $ ls -al  
total 116  
drwxr-xr-x 20 pi pi 4096 Mar 21 11:17 .  
drwxr-xr-x 3 root root 4096 Feb 16 15:13 ..  
-rw----- 1 pi pi 2474 Mar 17 15:16 .bash_history  
-rw-r--r-- 1 pi pi 220 Feb 16 15:13 .bash_logout  
-rw-r--r-- 1 pi pi 3512 Feb 16 15:13 .bashrc  
drwxr-xr-x 6 pi pi 4096 Mar 2 11:54 .cache  
drwx----- 10 pi pi 4096 Mar 21 11:09 .config  
drwx----- 3 pi pi 4096 Mar 2 11:27 .dbus  
drwxr-xr-x 2 pi pi 4096 Mar 2 11:27 Desktop  
drwxr-xr-x 7 pi pi 4096 Mar 21 11:13 Documents  
drwxr-xr-x 2 pi pi 4096 Mar 2 11:27 Downloads  
drwxr-xr-x 2 pi pi 4096 Mar 2 11:28 .gstreamer-0.10  
drwxr-xr-x 3 pi pi 4096 Feb 16 18:26 .local  
drwxr-xr-x 2 pi pi 4096 Mar 2 11:27 Music  
drwxr-xr-x 4 pi pi 4096 Mar 7 12:54 .node-red  
drwxr-xr-x 2 pi pi 4096 Mar 21 11:12 Pictures  
drwxr-xr-x 2 pi pi 4096 Mar 2 11:41 .pip  
-rw-r--r-- 1 pi pi 675 Feb 16 15:13 .profile  
drwxr-xr-x 2 pi pi 4096 Mar 2 11:27 Public  
drwxr-xr-x 2 pi pi 4096 Feb 16 18:26 python_games  
drwx----- 2 pi pi 4096 Mar 2 11:31 .ssh  
drwxr-xr-x 2 pi pi 4096 Mar 2 11:27 Templates  
drwxr-xr-x 3 pi pi 4096 Mar 2 11:27 .themes  
drwxr-xr-x 2 pi pi 4096 Mar 2 11:27 Videos  
-rw----- 1 pi pi 3597 Mar 9 16:06 .viminfo  
-rw-r--r-- 1 pi pi 843 Mar 9 15:01 .vimrc  
-rw----- 1 pi pi 113 Mar 21 10:17 .Xauthority  
-rw----- 1 pi pi 353 Mar 21 10:17 .xsession-errors  
-rw----- 1 pi pi 353 Mar 14 14:17 .xsession-errors.old  
pi@raspberrypi:~ $
```


Once you run the code, the vest will start measuring distance, at one meter close object is detected, image processing will start and object names will be given to the vest wearer as audio output in headphones.



```
pi@raspberrypi: ~/Pr... [coco_ssd] Object detector
File Edit Tabs Help
pi@raspberrypi: ~/Pr... [coco_ssd] Object detector
##### Webcam Object Detection using TensorFlow trained Classifier #####
# Author: Evan Jura
# Date: 10/27/19
# Description:
# This program uses
# feed. It draws bo
# webcam. To improv
# This script will
#
# This code is base
# https://github.co
#
# I added my own me
#
# Import packages
import os
import argparse
import cv2
import numpy as np
import sys
import time
from threading import
import importlib.ut

# Define VideoStream
# Source: Adrian P
class VideoStream:
    """Camera object
    def __init__(se
        # Initializ
        self.stream
        ret = self.
        ret = self.
        ret = self.

        # Read first
        (self.grabb

        # Variable
        self.stopp

    def start(self)
        # Start the
        Thread(targ
        return self

    def update(self)
        # Keep looping indefinitely until the thread is stopped
        while True:
            # If the camera is stopped, stop the thread
            if self.stopped:
                # Close camera resources
                self.stream.release()
                return

            # Otherwise, grab the next frame from the stream
            (self.grabbed, self.frame) = self.stream.read()

~/Projects/Python/tfLite/object_detection/tfLite_detection_webcam.py" [Incomplete last line] 231 lines, 898
```