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Smart Helmet Attachment User Manual

July, 2021

Product Overview

VIIT - Atlas Copco's Smart Helmet attachment is a product which is made to solve miscommunication problems between on-site and off-site engineers by integrating Microsoft Teams® in an ergonomic, modular and portable helmet attachment.

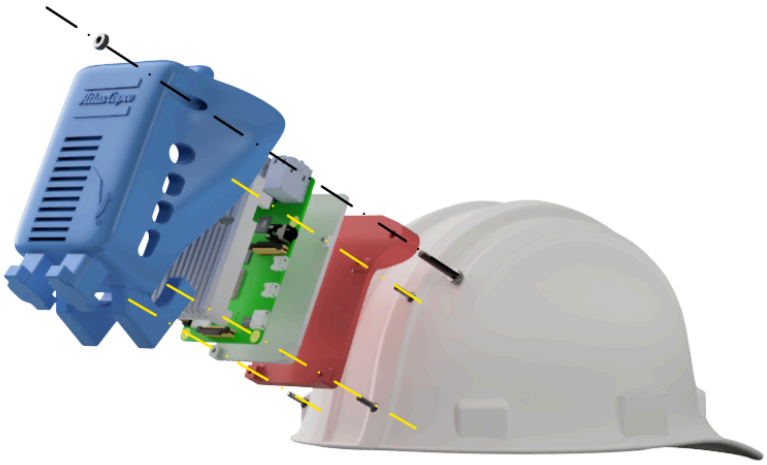
Key Features

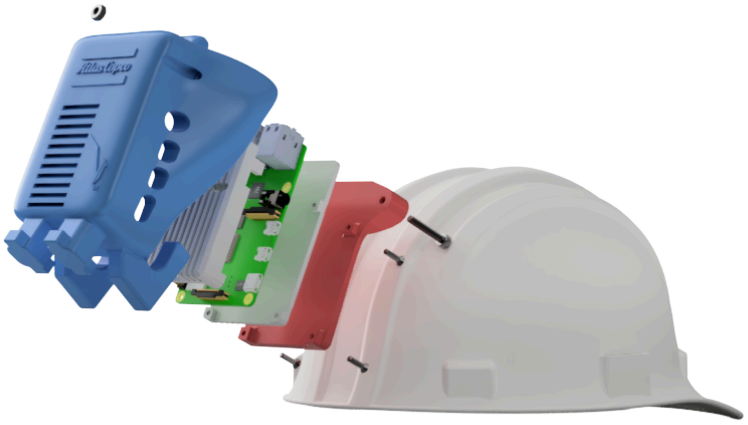
The Smart Helmet attachment is designed to fit on any generic hard-top helmet which is used by construction workers and engineers on-site. The attachment comprises a webcam holder, a CPU case and a strapping belt. The product supports Wi-Fi and ethernet connectivity, four USB ports for connecting accessories as well as two micro-HDMI ports and a dedicated USB-C power port.

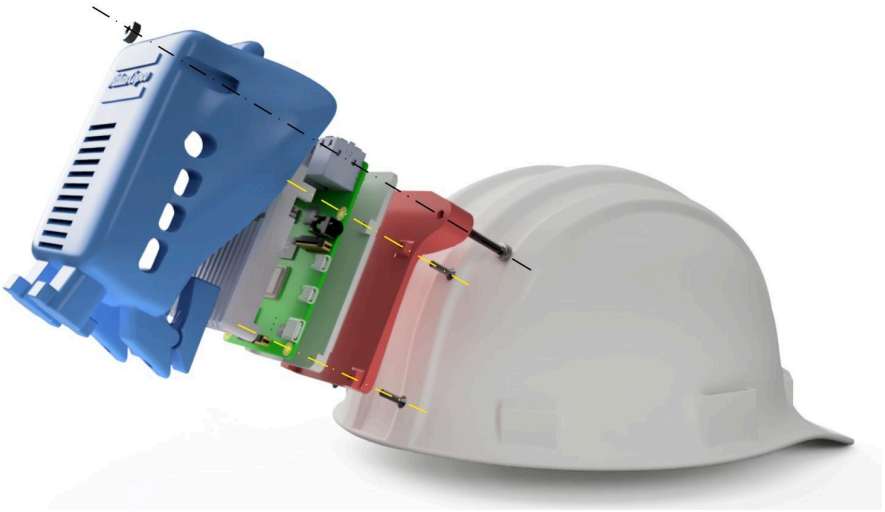
Details

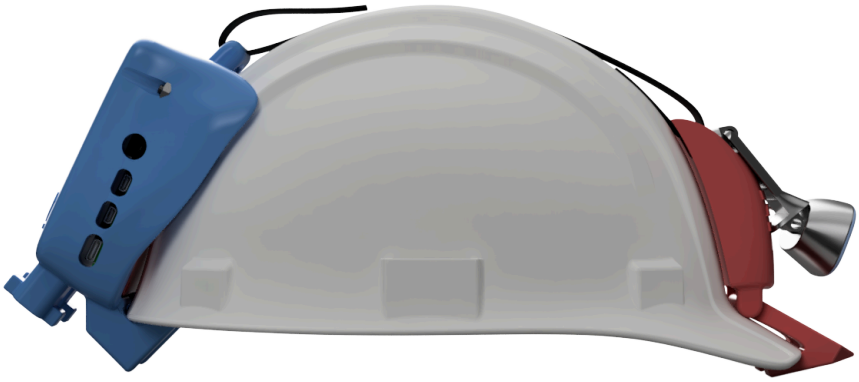
- Powered by a Raspberry Pi 4, the Smart Helmet attachment is a modular equipment designed specifically for on-site engineers to communicate with the off-site team.
- The product can be powered up using a 5V-3A power supply (power banks with the rated output are supported) through a dedicated USB-C socket located on the CPU case.
- The device can connect to Wi-Fi networks (initial setup and configuring Wi-Fi networks should be done by connecting a monitor to the CPU).
- The device streams its user interface on the local network using VNC Server. This stream can be accessed using a VNC Viewer app on mobile phones or laptops.
- Once the UI is accessed by the user, the device uses the internet to connect to Microsoft Teams and the user can login with their Microsoft account credentials through the interface.
- The user can plug any headphones or headsets using the USB-A slots on top of the CPU along with a Logitech HD C270 webcam.
- Using the remote interface, the user can easily join a Microsoft Teams call just like on a laptop. All participants in the meeting will be able to see the webcam feed and voice from the user.

Quick Startup

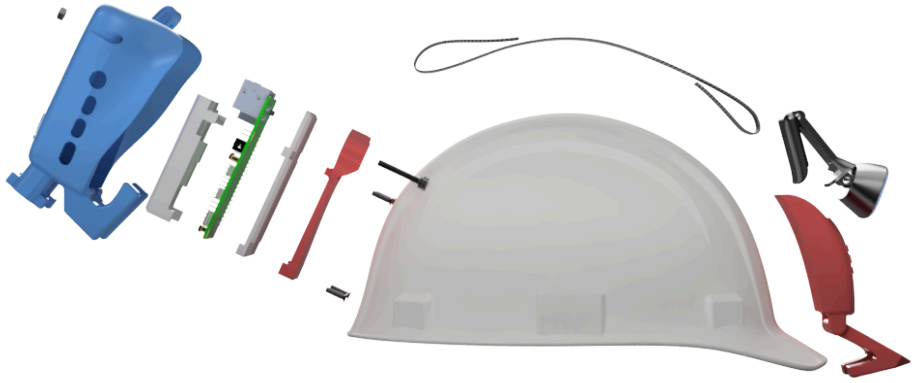


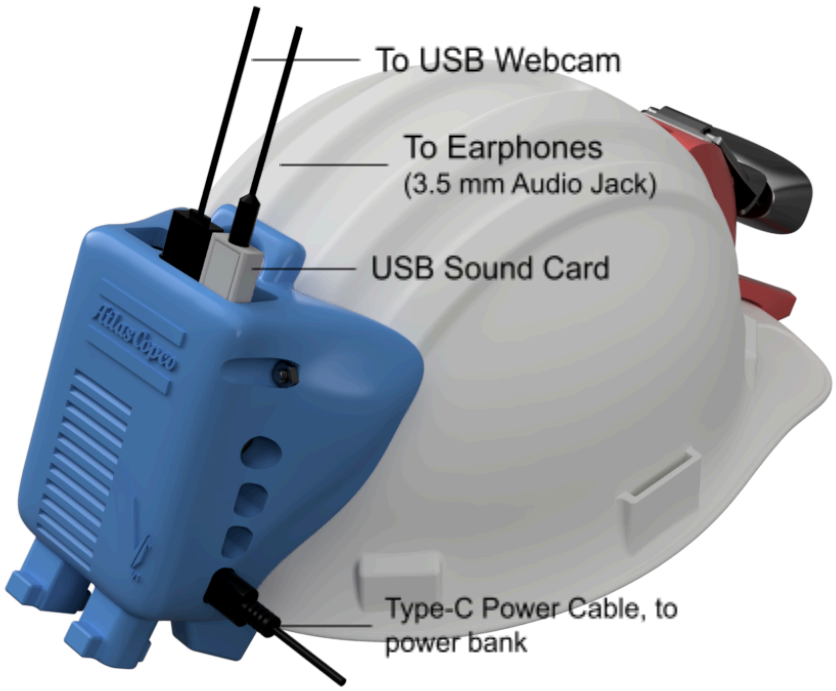






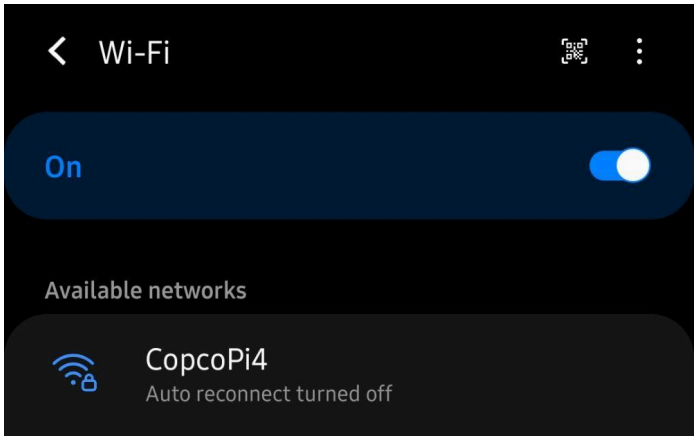
Atlas Copco




To USB Webcam
To Earphones
(3.5 mm Audio Jack)
USB Sound Card
Type-C Power Cable, to
power bank

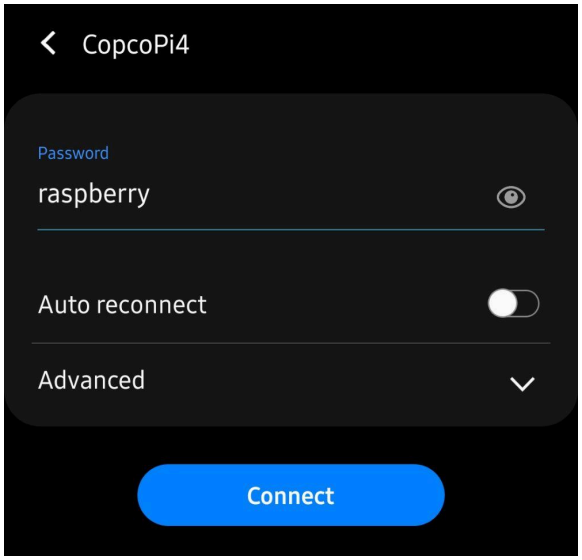
Connecting With The Helmet

Step 1: Power on the helmet and wait for the WiFi-hotspot on the Raspberry Pi to start

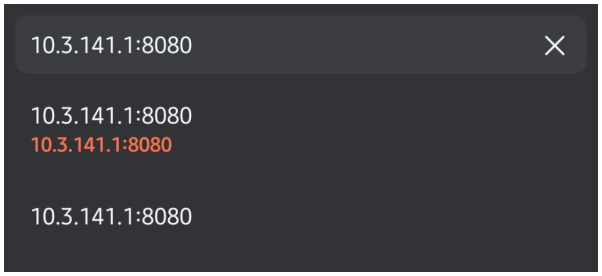


Note: Raspberry Pi takes about 5-7 minutes to start

Step 2: Password is `raspberry`

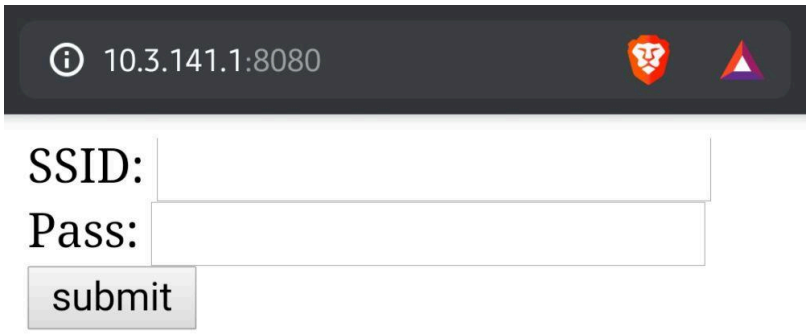


Step 3: Open web browser and type in the following ip address and port - 10.3.141.1:8080



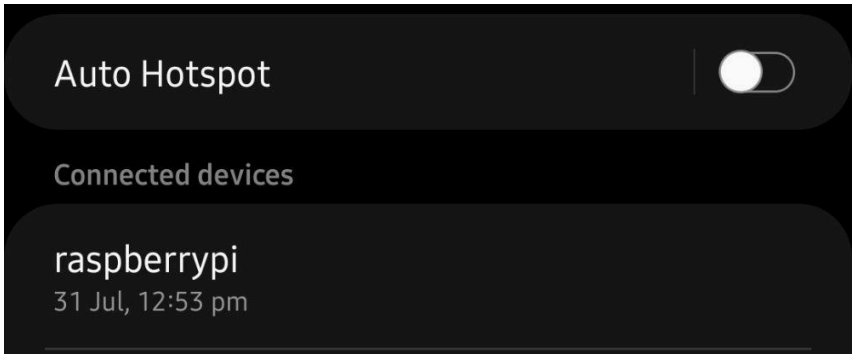
A web page should open

Step 4: Enter SSID and password of the Wi-Fi network which has an internet connection.



Step 5: Click on submit button and restart the Raspberry Pi by detaching and reattaching the power cable.

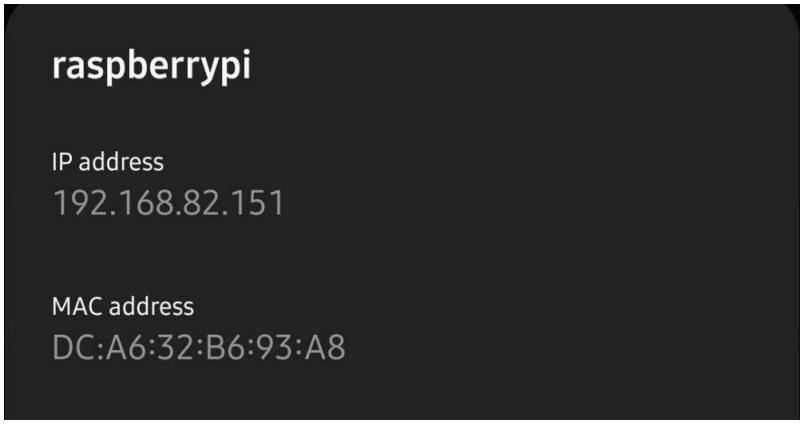
Step 6: Wait for Raspberry Pi to start, if the ssid and password are correct, it will automatically get connected to the WiFi.



If your wifi has a feature to list the connected devices, you will see 'raspberrypi' as the name of the connected device.

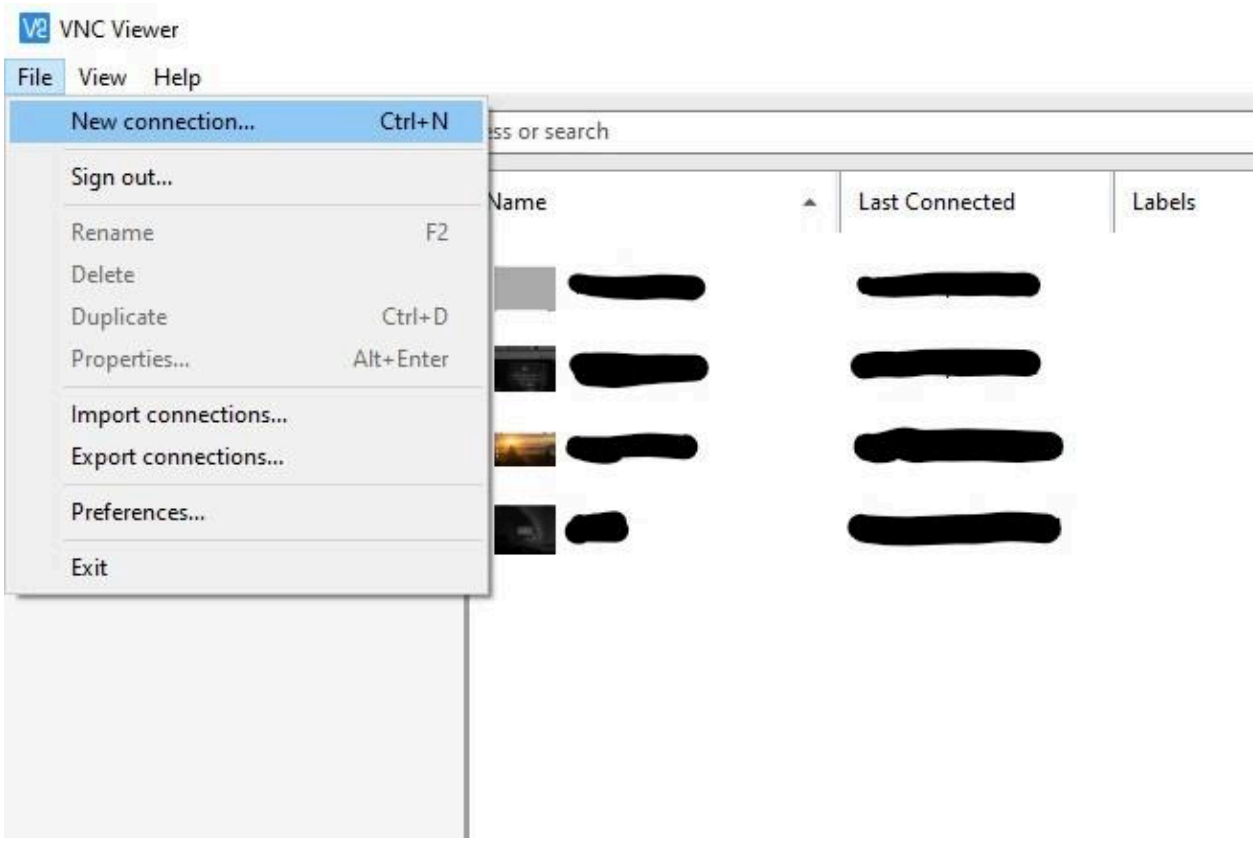
Note: Raspberry Pi takes about 5-7 minutes to start

Step 7: Get the ip address of Raspberry Pi connected to your router or hotspot

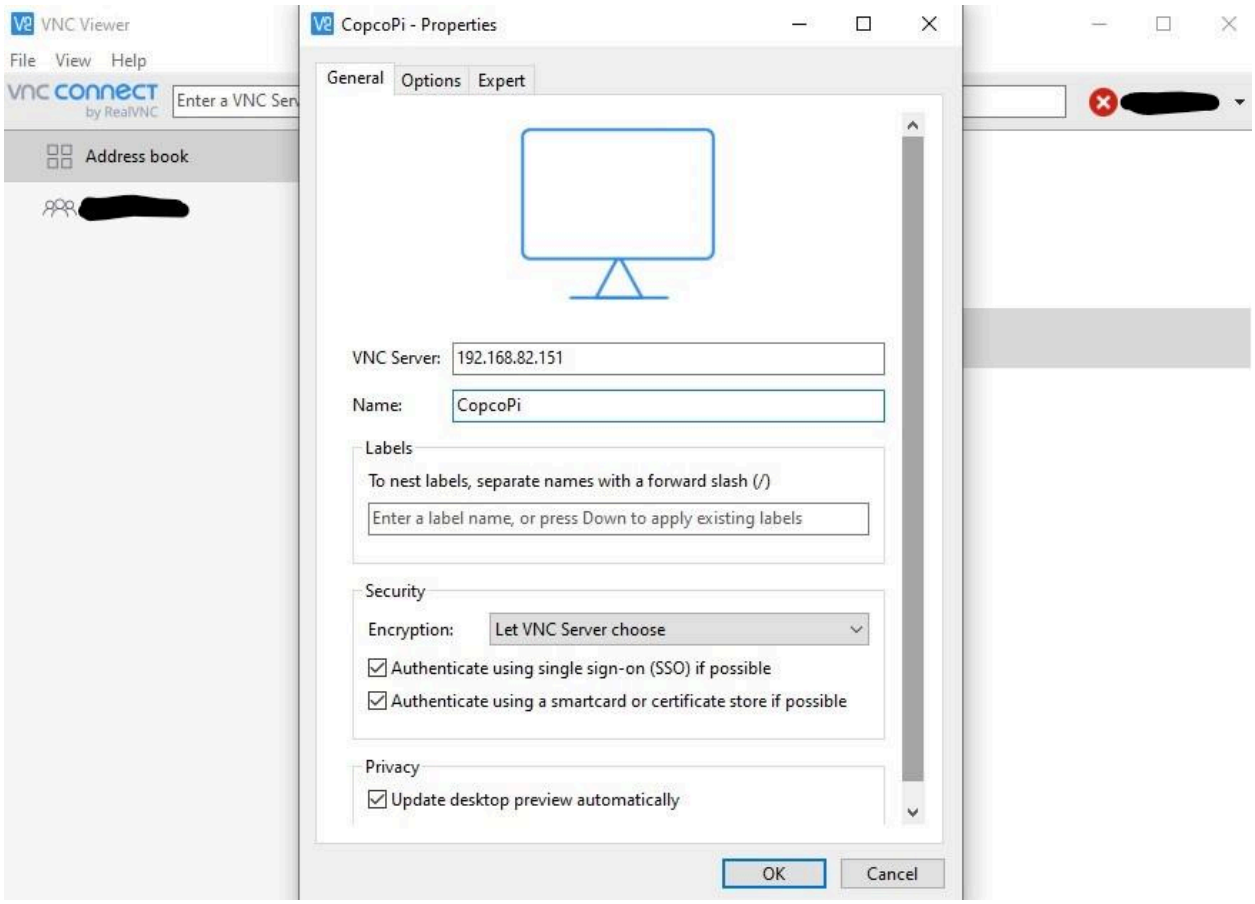


We will need this ip address for the vnc setup

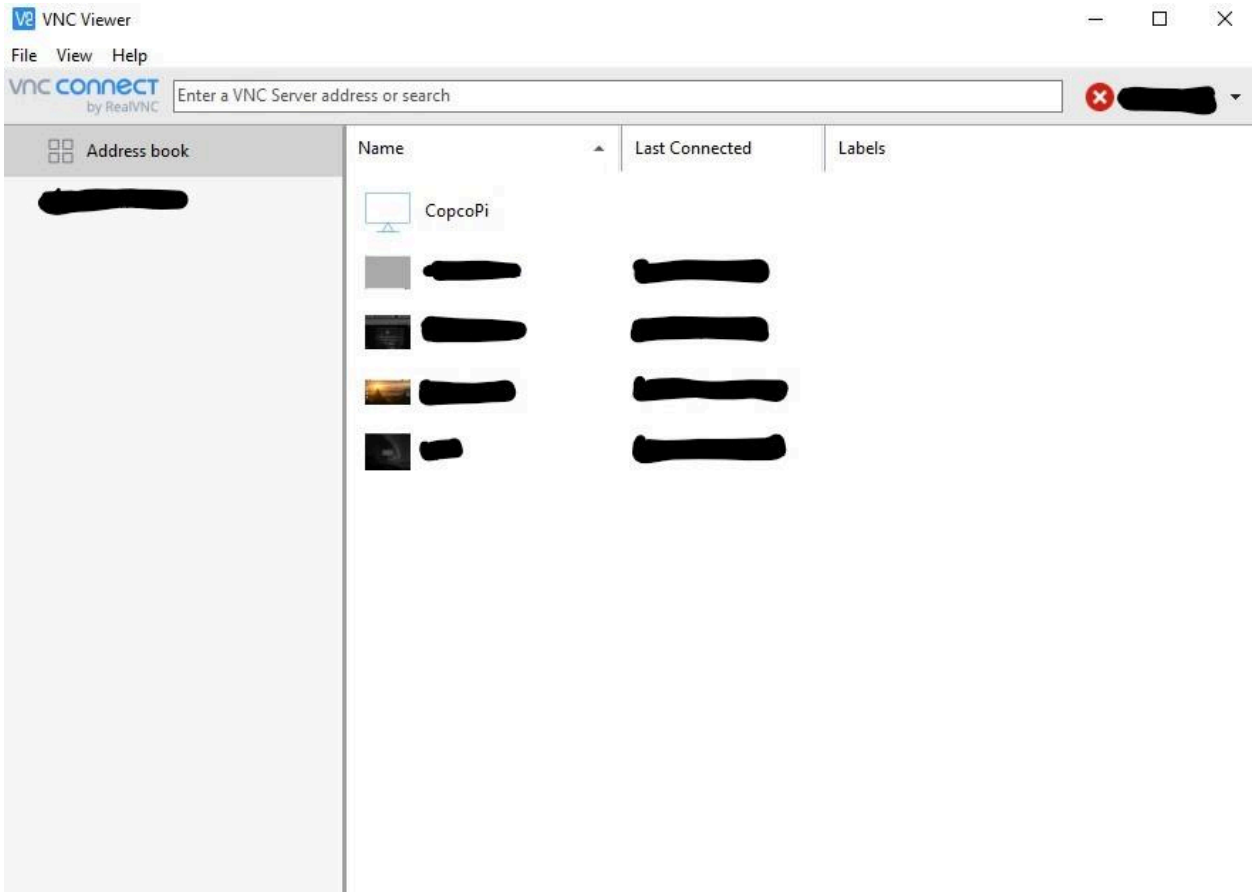
Step 8: Open VNC viewer, click on file → New Connection



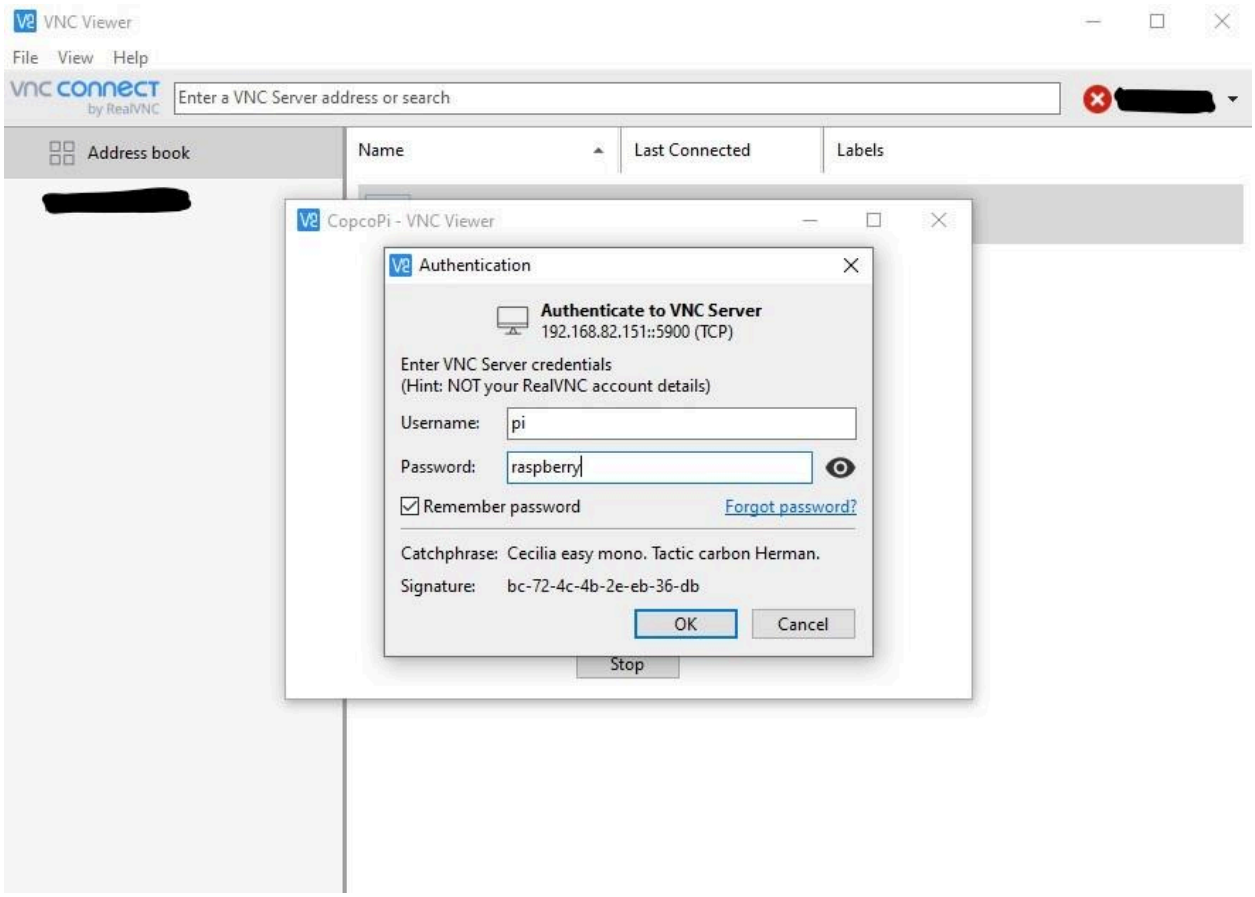
Step 9: Type in the ip address we noted down and a name for the device and click on OK.



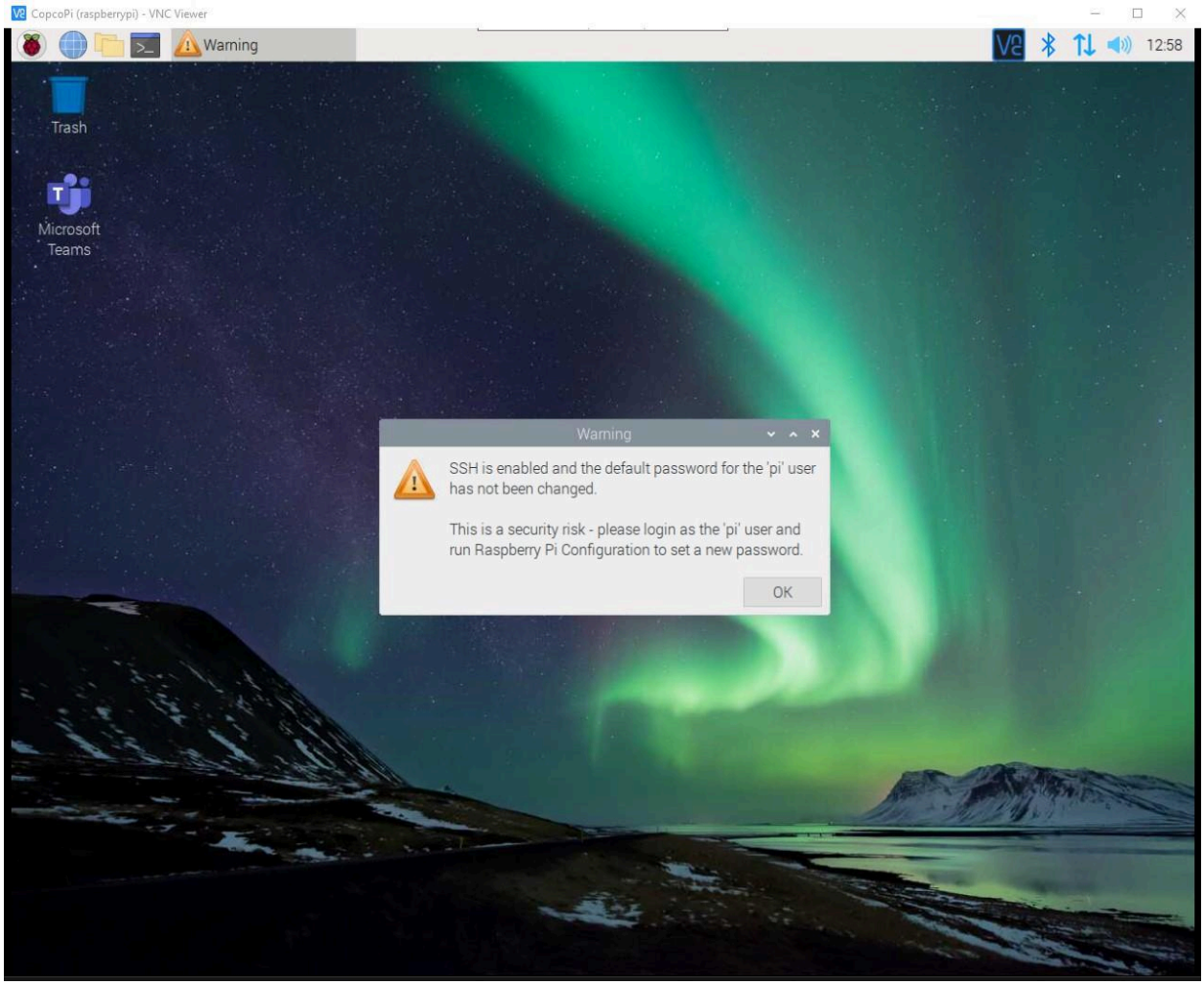
Step 10: You will see the device listed in the ‘Address Book’.



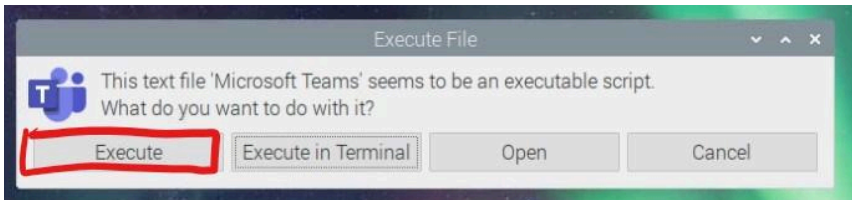
Step 11: Double click on the device and enter the username and password as follows. If there is any prompt click on ‘Continue’



Step 12: You'll see the Raspberry Pi desktop, click on 'Ok'. You can change the ssh password later if you want.

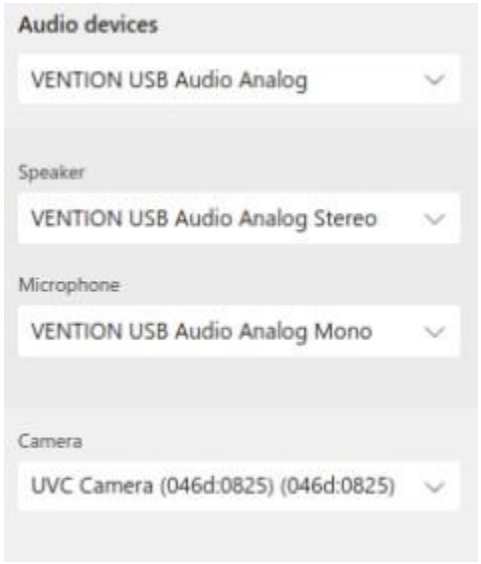
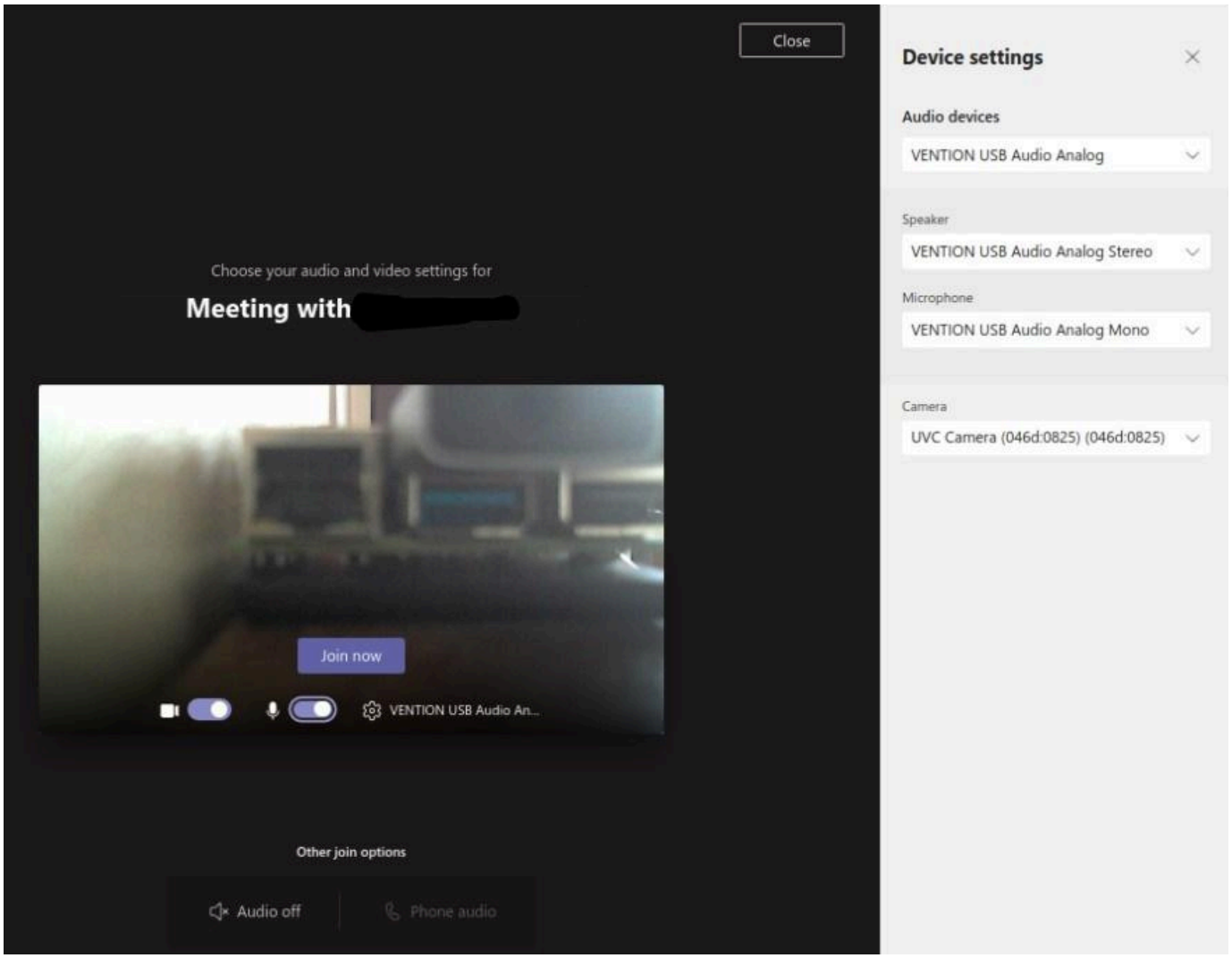


Step 13: Double click on the Microsoft Teams app on your desktop, and click on Execute.



Step 14: Join or Create a meeting.

Step 15: Make sure the device settings are as follows.



Step 16: Join the meet