**Enterprise Wireless Connectivity**

Connecting our SMART Parking lot prototype wirelessly to the database is done through the Raspberry Pi 4 Model B. The connection between the Raspberry Pi and the WiFi is done through a configuration file on the Pi. The configuration file is found in the /etc/ directory. The /etc/ directory holds all the system-wide configuration files and holds the /etc/wpa\_supplicant/wpa\_supplicant.conf. WPA is an acronym for WiFi Protected Access this is essentially a security certification program to secure wireless host networks. This file holds all the information about networks configured on your device. We configured the Raspberry Pi for our prototype by connecting it to Humber’s network named “eduroam”. To configure the device to connect to eduroam we had to edit the wpa\_supplicant.conf and add a network line like this:

network={

ssid="eduroam"

key\_mgmt=WPA-EAP

auth\_alg=OPEN

eap=PEAP

identity=”[n########@humber.ca](mailto:n########@humber.ca)” #humber account number

password="*HumberAccPassword*" #humber account password

phase2="auth=MSCHAPV2"

priority=999

proactive\_key\_caching=1

}

We then restarted the RPi and were able to connect remotely to the device from VNC Viewer. The Raspberry Pi is now allowed to be remotely accessed and we worked on the Raspberry Pi wirelessly instead of connecting all the peripherals physically.