Instalação do Servidor Embarcado:

1) Instalar as ferramentas pelo PIP do python:
    a. Twilio
    b. Flask
    c. smtplib
    d. obd
2) executar seguintes comandos:

```
sudo apt-get install python-rpi.gpio python3-rpi.gpio
sudo apt-get install bluetooth bluez-utils blueman
sudo apt-get install ppp usb-modeswitch wvdial
```

3) executar os comandos para instalação do no-ip:

```
mkdir /home/pi/noip
cd /home/pi/noip
wget http://www.no-ip.com/client/linux/noip-duc-linux.tar.gz
tar vzxf noip-duc-linux.tar.gz
cd noip-2.1.9-1
sudo make
sudo make install
sudo /usr/local/bin/noip2
sudo noip2 -S
```

4) Descompactar a pasta “webserver.zip” dentro do raspberry em outra pasta (descompactei em uma chamada “webserver”)
5) Descompactar a pasta “outros/video_streaming.zip” dentro da pasta “webserver”
6) Descompactar a pasta “outros/python_obd.zip” dentro da pasta “webserver/control/”
7) Antes de iniciar o servidor, parear com o Bluetooth de algum dispositivo rodando simuladores ou com o ELM327 conectado ao carro em meia chave.
8) Abrir a pasta “webserver” e executar o comando “sudo sh start.sh”
9) Se tudo ocorrer bem, o servidor será iniciado conforme a imagem abaixo:

```
[13/12/2017 10:20:34][MainThread][INFO] ==============>INICIANDO SERVIDOR<==============
[13/12/2017 10:20:34][MainThread][INFO] _simulador: 1
[13/12/2017 10:20:34][MainThread][INFO]     _debug: False
[13/12/2017 10:20:34][MainThread][INFO]   _monitor: True
[13/12/2017 10:20:34][MainThread][INFO]       _log: True
[13/12/2017 10:20:34][MainThread][INFO] _btMacAddr: None
[13/12/2017 10:20:34][MainThread][INFO]   _ignorar: False
[13/12/2017 10:20:34][MainThread][INFO] ====> iniciando conexoes [1o tentativa]
[13/12/2017 10:20:34][MainThread][INFO] => iniciando conexao bluetooth
[13/12/2017 10:20:34][MainThread][INFO]
[13/12/2017 10:20:55][MainThread][INFO] found 2 devices
[13/12/2017 10:20:55][MainThread][INFO] 50:85:69:EC:C7:EC - [TV]Samsung LED50
[13/12/2017 10:20:56][MainThread][INFO] 00:1B:10:00:14:D2 - MAICON-NTBK
[13/12/2017 10:21:06][MainThread][INFO]    PORT: 1
[13/12/2017 10:21:06][MainThread][INFO]    rfcomm0: 00:1B:10:00:14:D2 channel 1 clean

[13/12/2017 10:21:06][MainThread][INFO] => iniciando conexao obd2
[13/12/2017 10:21:06][MainThread][INFO] ======================== python-OBD (v0.6.1) ========================
[13/12/2017 10:21:06][MainThread][INFO] Explicit port defined
[13/12/2017 10:21:08][MainThread][INFO] querying for supported commands
[13/12/2017 10:21:08][MainThread][INFO] Sending command: 0100: Supported PIDs [01-20]
[13/12/2017 10:21:08][MainThread][DEBUG] 0101: Status since DTCs cleared
[13/12/2017 10:21:08][MainThread][DEBUG] 0105: Engine Coolant Temperature
[13/12/2017 10:21:08][MainThread][DEBUG] 010C: Engine RPM
[13/12/2017 10:21:08][MainThread][DEBUG] 010D: Vehicle Speed
[13/12/2017 10:21:08][MainThread][DEBUG] 0110: Air Flow Rate (MAF)
[13/12/2017 10:21:08][MainThread][DEBUG] 0111: Throttle Position
[13/12/2017 10:21:08][MainThread][INFO] Sending command: 0600: Supported MIDs [01-20]
[13/12/2017 10:21:09][MainThread][INFO] finished querying with 13 commands supported
[13/12/2017 10:21:09][MainThread][INFO] ================================================================
[13/12/2017 10:21:09][MainThread][INFO] protocolo: ISO 15765-4 (CAN 11/500)
[13/12/2017 10:21:09][MainThread][INFO] => iniciando monitor obd
[13/12/2017 10:21:09][MainThread][INFO] => iniciando camera
[13/12/2017 10:21:12][MainThread][INFO]  * Running on http://0.0.0.0:5000/
```

Instalação do Aplicativo Mobile:

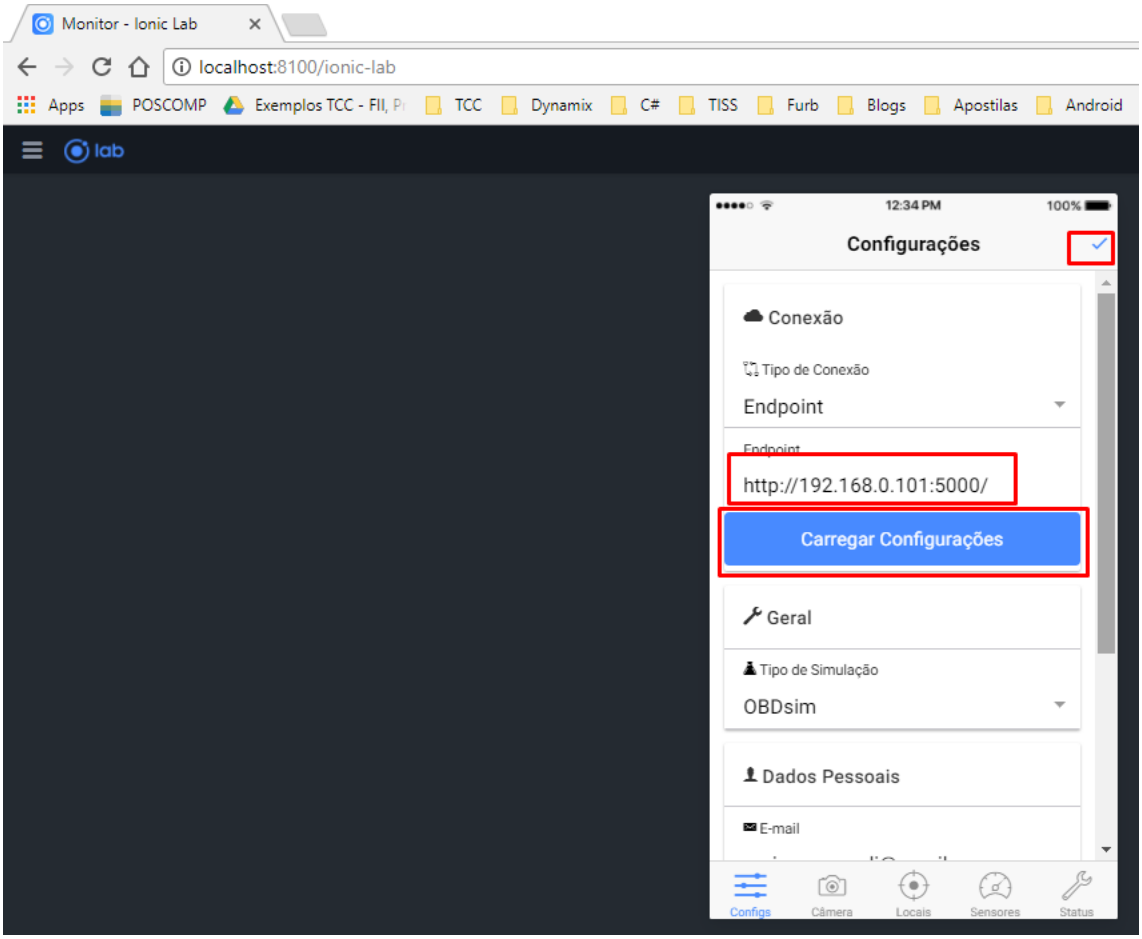
1) Instalar as ferramentas:
    a. NPM
    b. IONIC FRAMEWORK
2) Descompactar a pasta “aplicativo.zip”
3) Abrir o prompt de comando, navegar até dentro da pasta descompactada e executar o comando “ionic serve -l”
4) Se tudo ocorrer bem, o navegador irá abrir e o log final será:

```
C:\Users\MaiconM\Documents\FURB\TCC\frontend\monitor>ionic serve -l
Starting app-scripts server: --address 0.0.0.0 --port 8100 --livereload-port 35729 --dev-logger-port 53703 --nobrowser
--lab - Ctrl+C to cancel
[22:25:41]  watch started ...
[22:25:41]  build dev started ...
[22:25:41]  clean started ...
[22:25:41]  clean finished in 99 ms
[22:25:41]  copy started ...
[22:25:41]  transpile started ...
[22:25:56]  transpile finished in 14.68 s
[22:25:56]  preprocess started ...
[22:25:56]  deeplinks started ...
[22:25:56]  deeplinks finished in 51 ms
[22:25:56]  preprocess finished in 164 ms
[22:25:56]  webpack started ...
[22:26:00]  copy finished in 18.64 s
[22:26:12]  webpack finished in 15.79 s
[22:26:12]  sass started ...
[22:26:22]  sass finished in 9.61 s
[22:26:22]  postprocess started ...
[22:26:22]  postprocess finished in 68 ms
[22:26:22]  lint started ...
[22:26:22]  build dev finished in 40.63 s
[22:26:23]  watch ready in 42.16 s
[22:26:23]  dev server running: http://localhost:8100/

[OK] Development server running!
     Local: http://localhost:8100
     External: http://192.168.0.100:8100
     DevApp: monitor@8100 on Maicon-Ntbk

[22:26:29]  lint finished in 7.02 s
```

5) Configurar na aba “Configs” o Endpoint do Servidor embarcado e clicar em “OK”



Todos os fontes, monografia, apresentação, pré-projeto e projeto estão em:
https://github.com/maiconn/tcc

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Se ya,
Boa sorte.