Lab Report 1

Team members and email
Yihang Qiao - 649112361@qq.com
Achyut Jagini - achyut.jagini@gmail.com
Tianzhi Wang - tanzhunter97@gmail.com

1. What kind of data did you get from ListSensors? Were there any values you were surprised to see? Was there any information or value you expected to see but did not?

I got JSON output data like this

> "battery": 254,
> "client": "451035",
> "clientName": "iotworkshop1 - tellstick znet",
> "editable": 1,
> "humidity": "40",
> "id": "1547943565",
> "ignored": 0,
> "keepHistory": 0,
> "lastUpdated": 1699453167,
> "miscValues": "{\"chId\": 167}",
> "model": "temperaturehumidity",
> "name": "tempsensor14-ch3",
> "online": "1",
> "protocol": "fineoffset",
> "sensorId": "41",
> "temp": "22.7"

temp,humidity,Name and the ID is the value we want to see.
It doesn't show the battery level we expected to see.It would be better if battery level is on the scale of 0-100.

2. What data did you get from ListDevices? Did it differ from ListSensors?

From ListDevices I got JSON data about the values of all actuator devices.

"client": "451035",
"clientDeviceId": "47",
"clientName": "iotworkshop1 - tellstick znet",
"editable": 1,
"id": "9884320",
"ignored": 0,
"metadataHash": "bf21a9e8fbc5a3846fb05b4fa0859e0917b2202f",
"methods": 0,
"name": "Actuator 6",
"online": "1",
"parametersHash": "294c9e5bd48c072bbd69b00db33da4050515a02c",

"state": 0,
"stateValues": [],
"statevalue": null,
"type": "device"
The data format is similar to ListSensors but the values are different.

3. Can you think of any reason and/or scenario when one would prefer to have the data from sensors and devices go through a Raspberry Pi (or other gateways) rather than directly to the end-users device? Motivate your answer in a few sentences.

I think one of the main reasons why people prefer to have data go through gateways is to try to protect their privacy.As gateways can process data,it can preprocess some sensitive data and act as a firewall. Also a gateway can help to reduce the requirement for the network, helping users to improve their efficiency.

4. Briefly describe five different IoT applications that you think can be used by the same approach (sensor/actuators – gateway - application) as in this lab. Feel free to include additional sensors that were not used in this lab.

1) Light sensor on curtain - If light falls on curtain ,the curtain will open and will close if there is no light

2)Rain sensor on windows - if rain falls on house windows it will close automatically

3)Temperature and Air conditioner - Air conditioner can adjust the temperature of room using temperature sensors

4)Fog sensor on car - The sensor on the car can detect fog on car windows and remove it automatically

5)Fitness watch - The watch can detect heart rate ,steps using different sensors and send it to app