IoThoughts for Home Automation

Insights for building custom IoT automatizations

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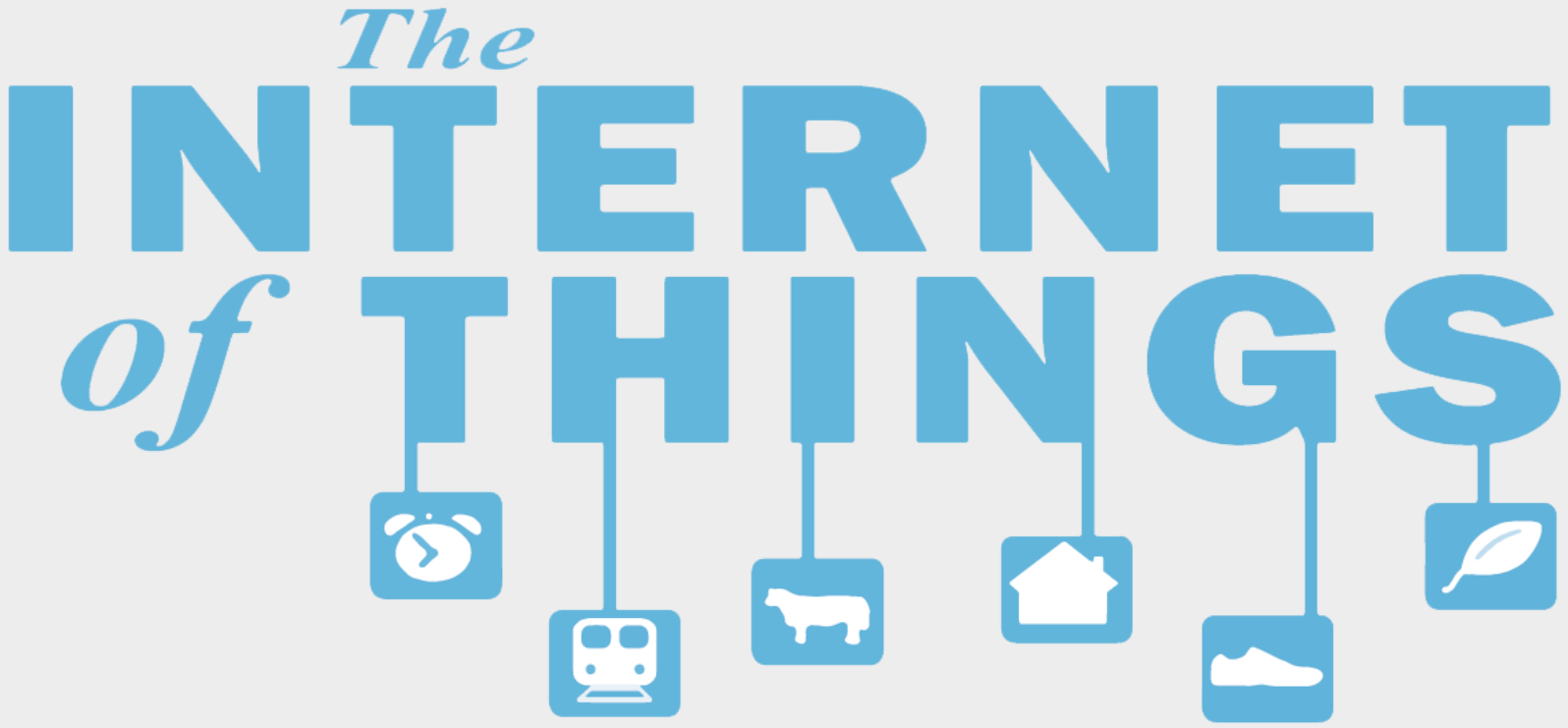
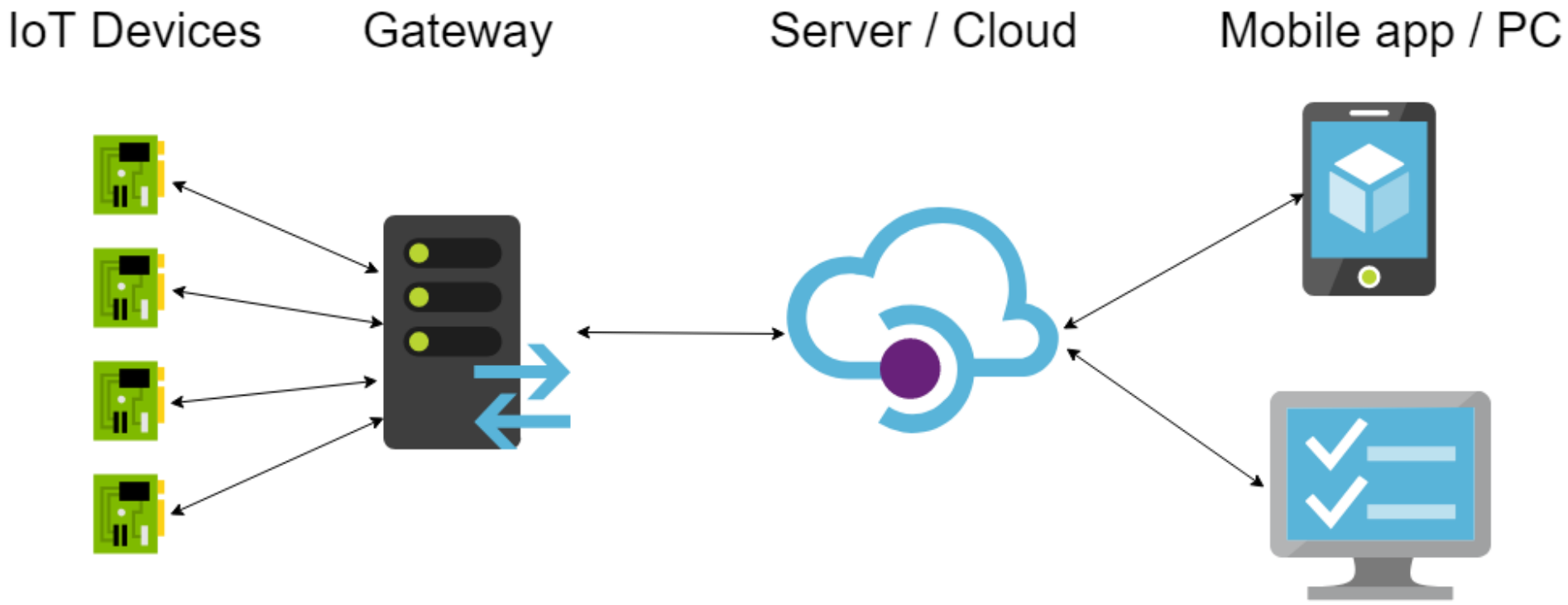
OVERVIEW

- What is IoT?
- Why IoT?
- Applications
- Skynet

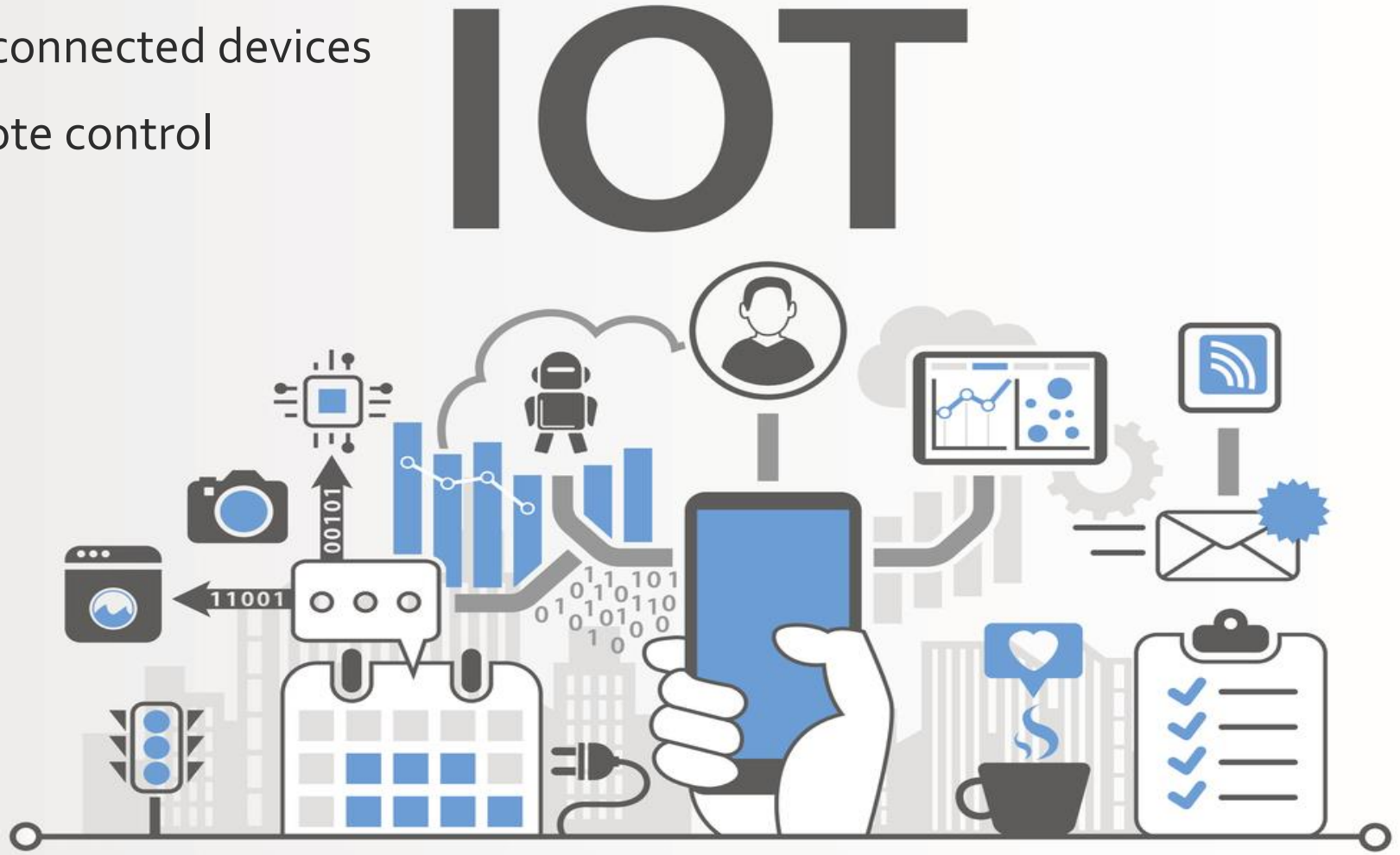


WHAT IS IoT?

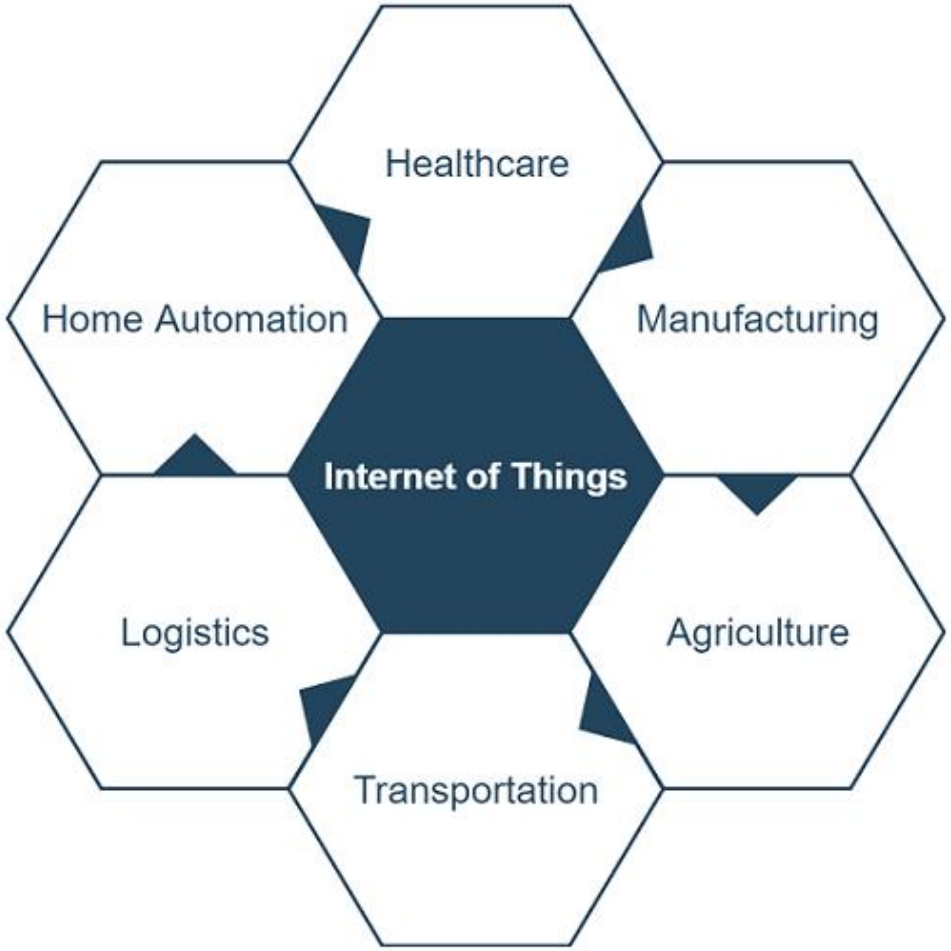


WHY IoT?

- Interconnected devices
- Remote control

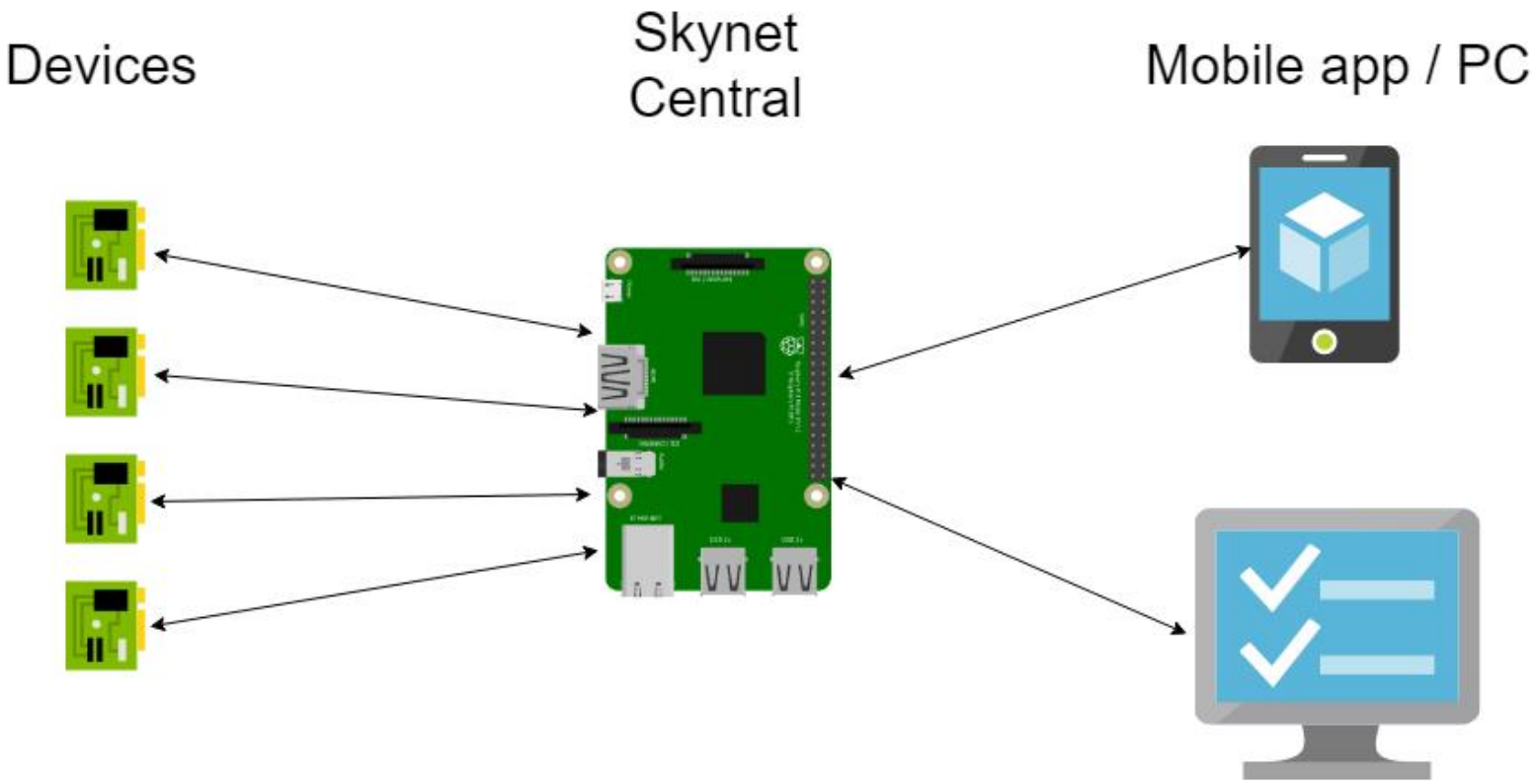


APPLICATIONS

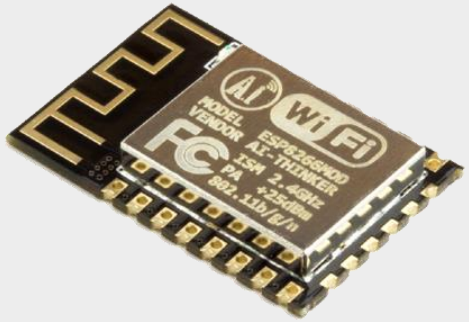



SKYNET

SKYNET



ESP8266-12, RASPBERRY PI, WINDOWS IoT



- **ESP8266-12**

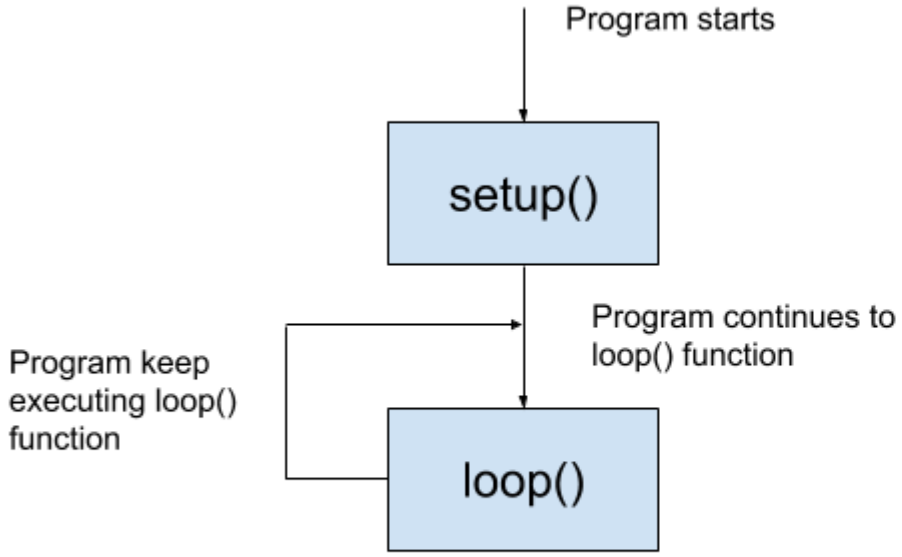
  Cheap, fast, small microchip with full TCP/IP stack

- **Raspberry Pi3 Model B**

  Small single-board computer. Cheap and energy efficient.

  Runs Windows 10 IoT.

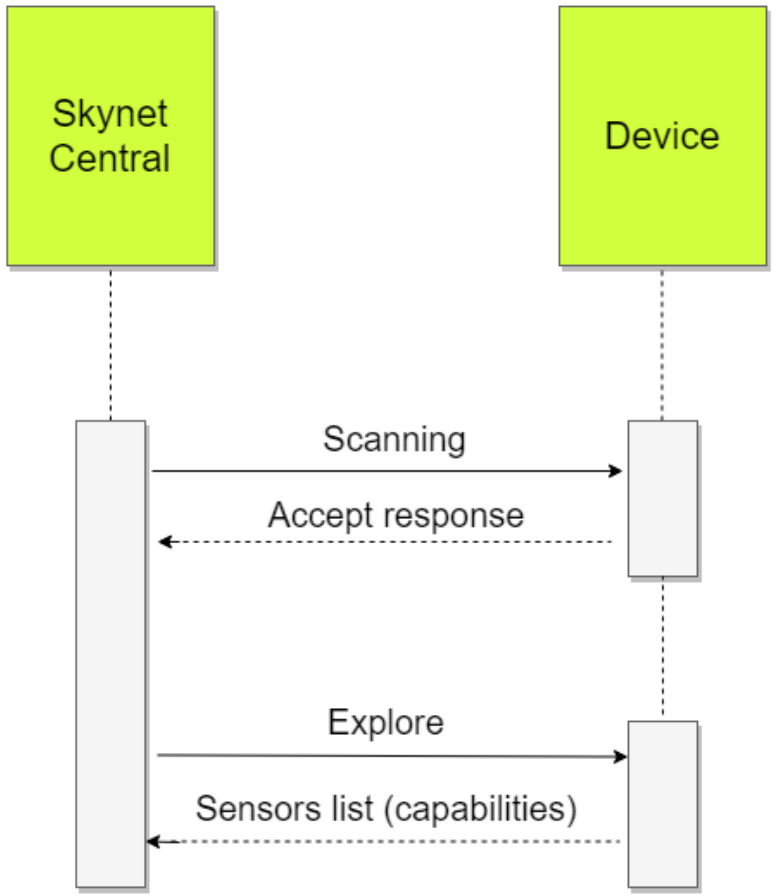
MICROCONTROLLER CODE EXAMPLE




```
1   int relayPin = 14;
2
3   void setup() {
4       pinMode(relayPin, OUTPUT);
5   }
6
7   void loop() {
8       digitalWrite(relayPin, HIGH); //Set the pin to HIGH (3.3V)
9       delay(5000);                  //Delay 5 seconds
10      digitalWrite(relayPin, LOW);  //Set the pin to LOW (0V)
11      delay(5000);                  //Delay 5 seconds
12  }
```

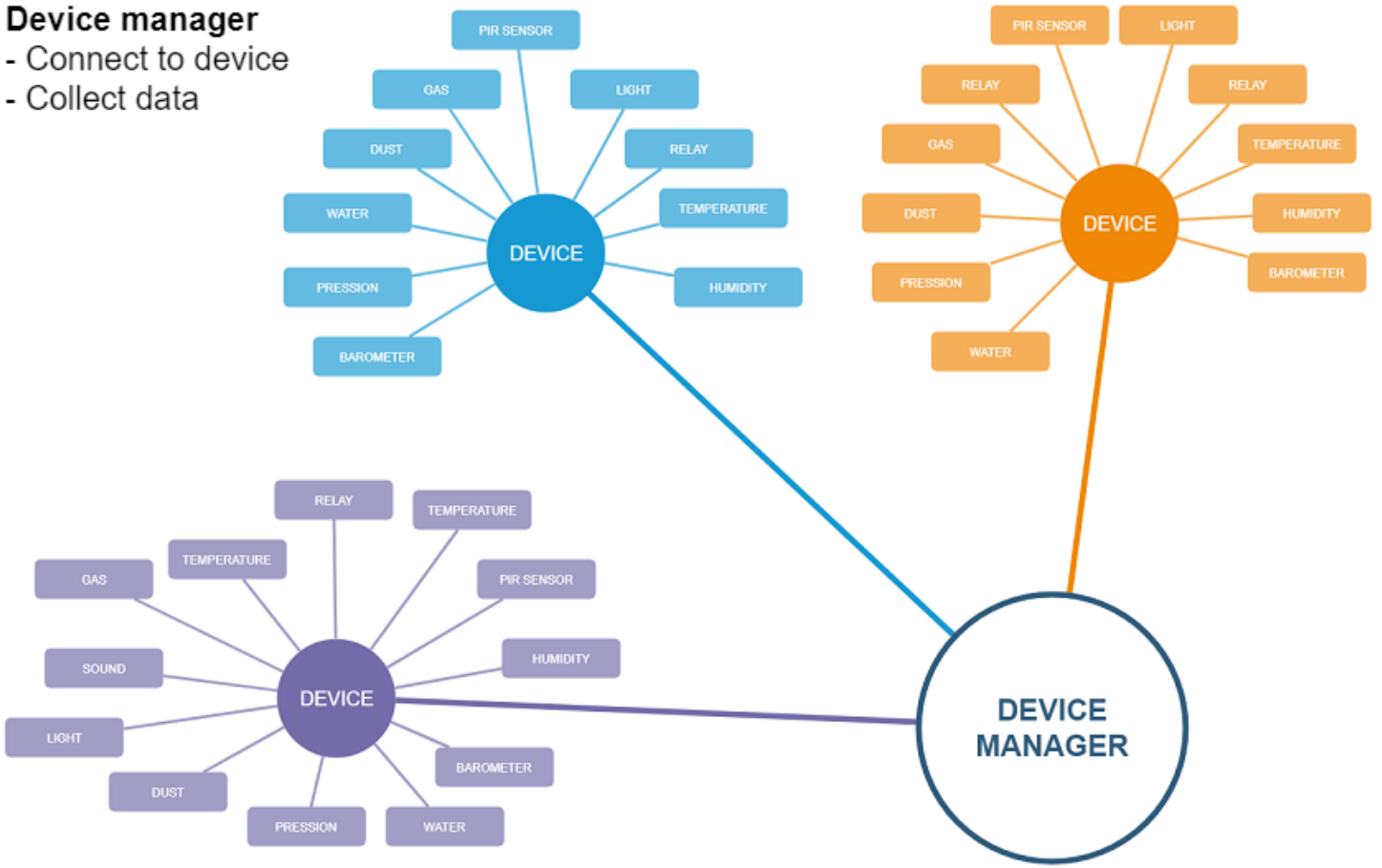
DISCOVERY AND COMMUNICATION

INITIALIZATION

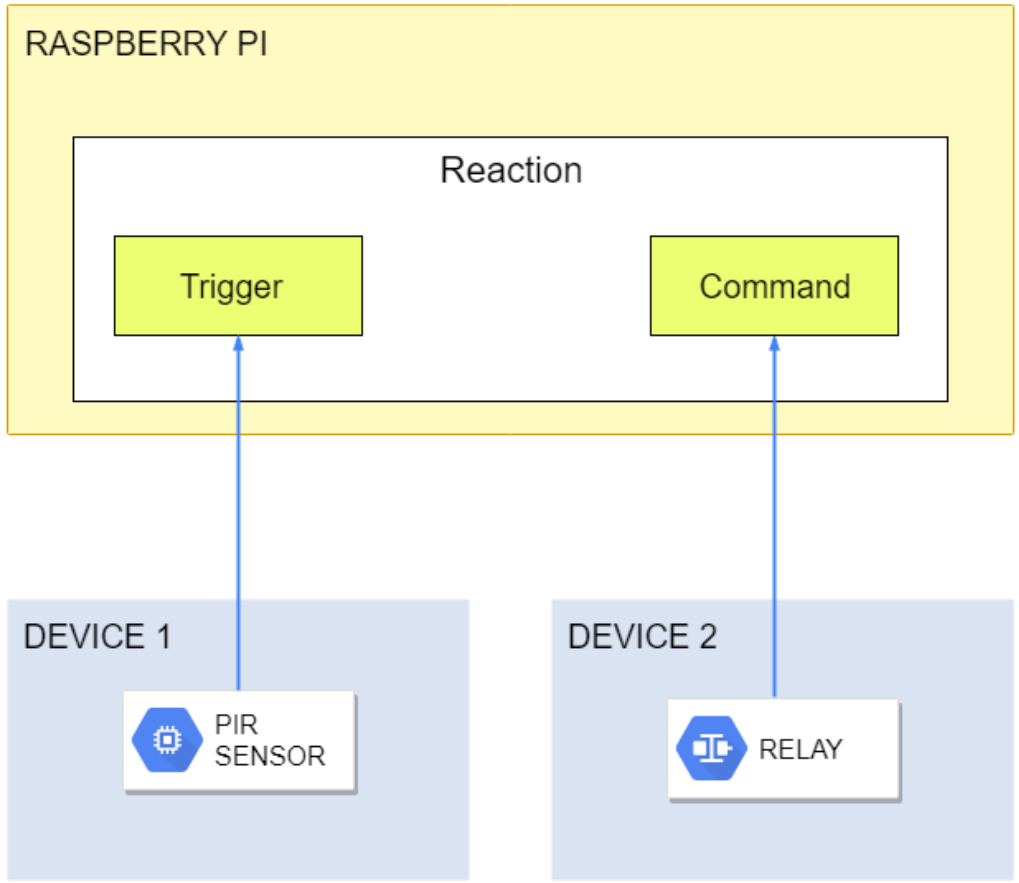


SENSOR DATA GATHERING

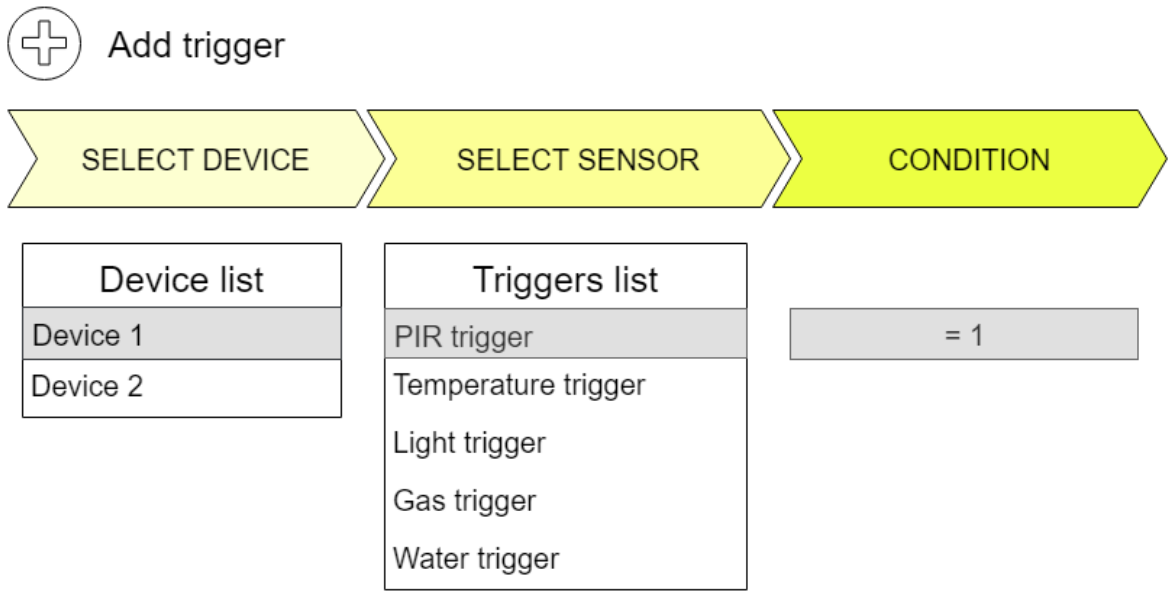
Device manager
- Connect to device
- Collect data



SENSORS, ACTUATORS AND AUTOMATION



CREATING NEW REACTION



WHAT'S NEXT

- Voice commands improvements
- Machine learning – identify patterns
- Face recognition

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Questions and Answers