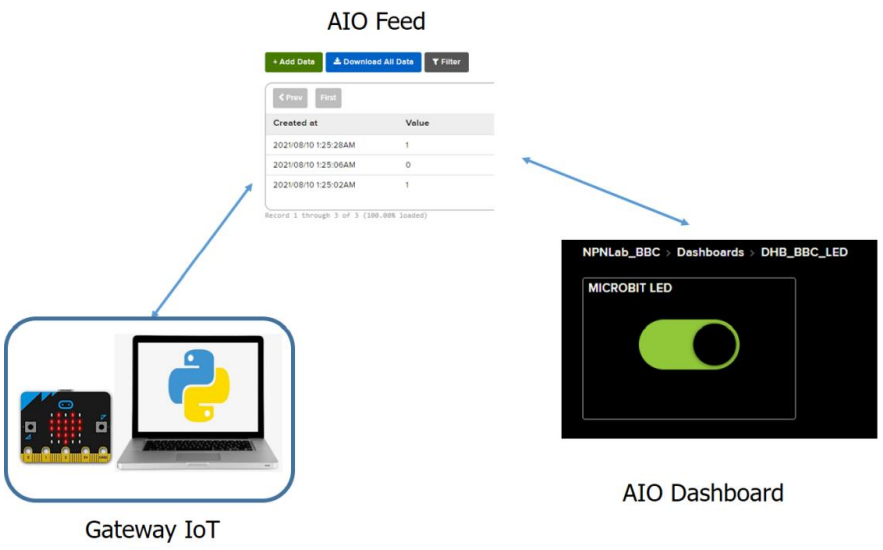
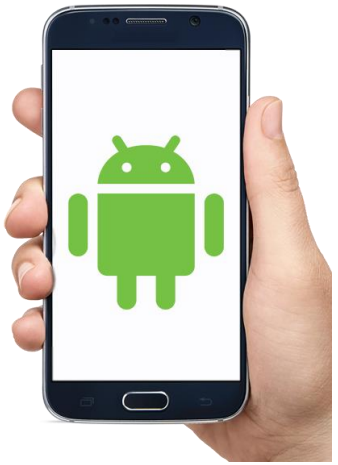
Assignment Project
Internet of Things Applications





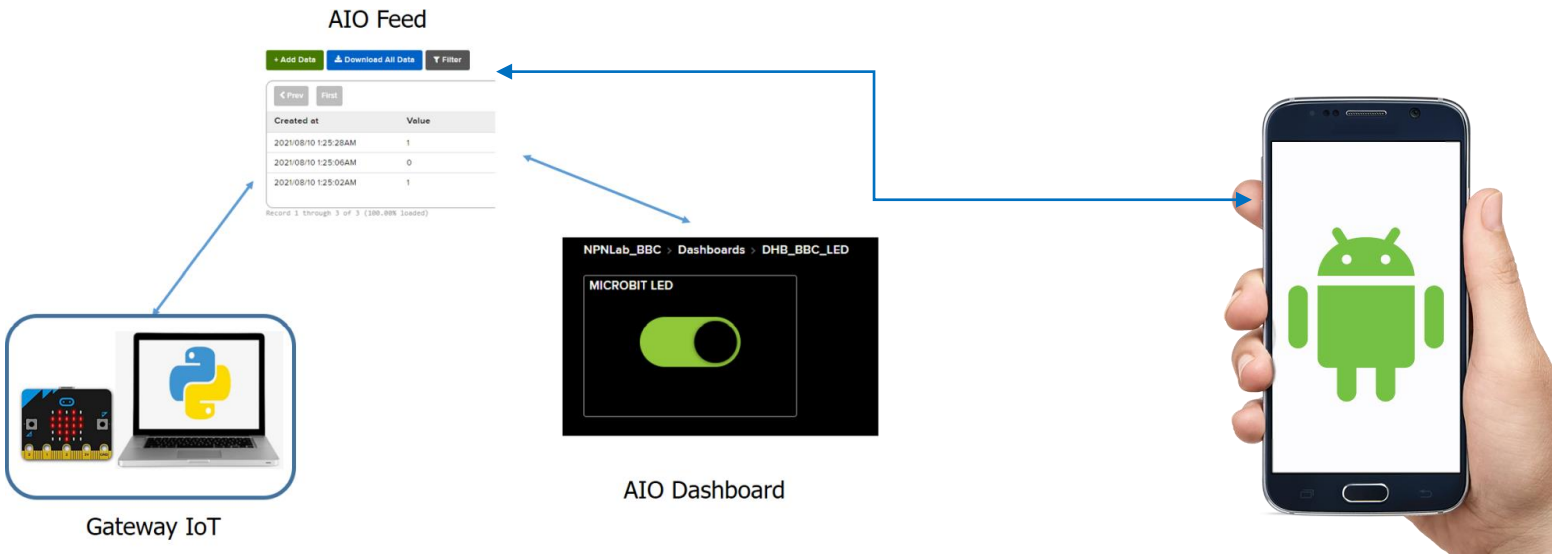
Basic Requirements (8 points)

- Integrate all the LABs: MQTT with Adafruit IO, AI inference using Google Teachable Machine and Mobile App

- Interface with hardware platforms:
  - CS: Any microcontroller platform (Arduino, Yolobit, v.v…)
  - CE: Must use the STM32F103RB, 2 ADC channels are required for the sensors (e.g. soil humidity and light intensity)

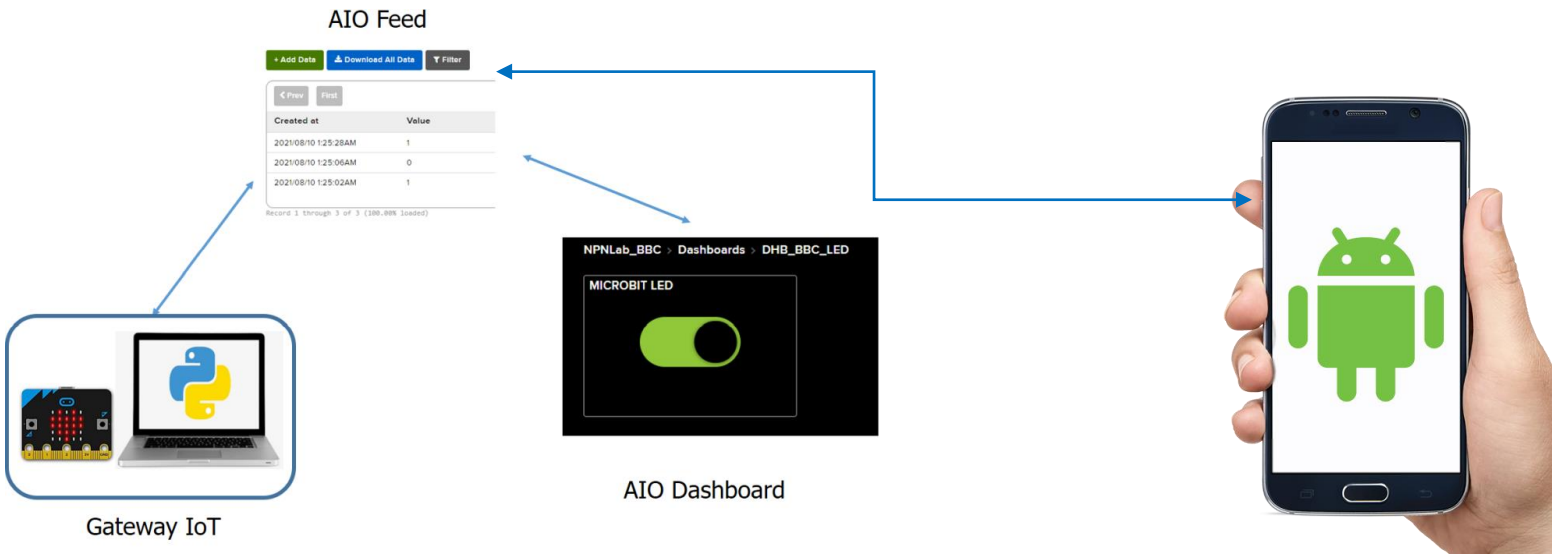
1 – Hop Error Controller (1 point)

- Implement the Stop and Wait protocol for one hop communication:
  - MCU and the Python gateway
  - Python gateway and AIO server
  - Mobile app and AIO server



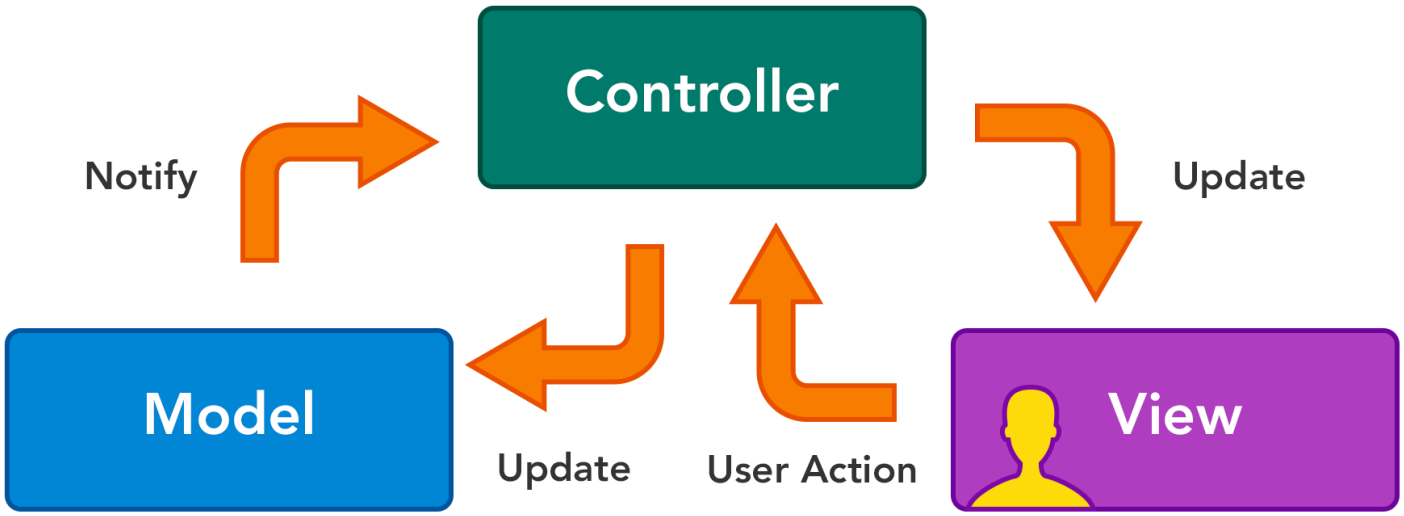
2 – Hops Error Controller (2 points)

- The message from the mobile app is confirm by the Python gateway



MVC Template (1 point)

- Python source code
- Android source code



Extra feature (1 point)

- Activity using Fragment in Android + Graph UI
- Voice activation for controlling device (Speech to Text)
- YoloV3 or YoloV5 for the AI Inference
- Proposed by students