▸ NextRoom

temporary name

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Repository
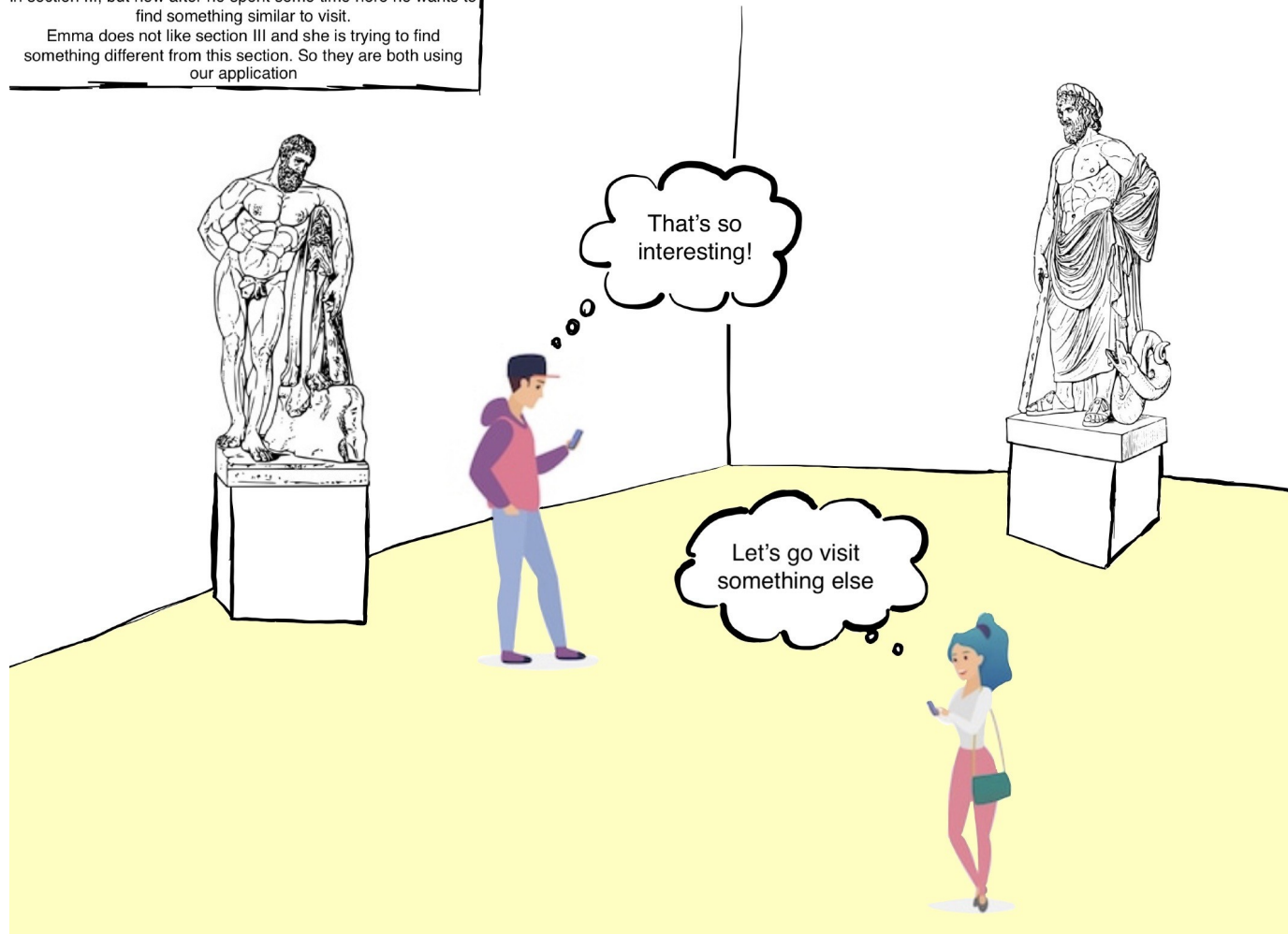https://github.com/LuigiSigillo/IotBigProject

The Idea

- Our idea is to build a web application that runs on your smartphone
- During a tour in the Sapienza "Museo dell'Arte Classica", it can suggest the next section you could visit based on the time you have spent in the previous sections
- A user can run the web application for all the duration of the museum tour
- The smartphone starts collecting data, in an anonymous way, to make the best suggestion for every user
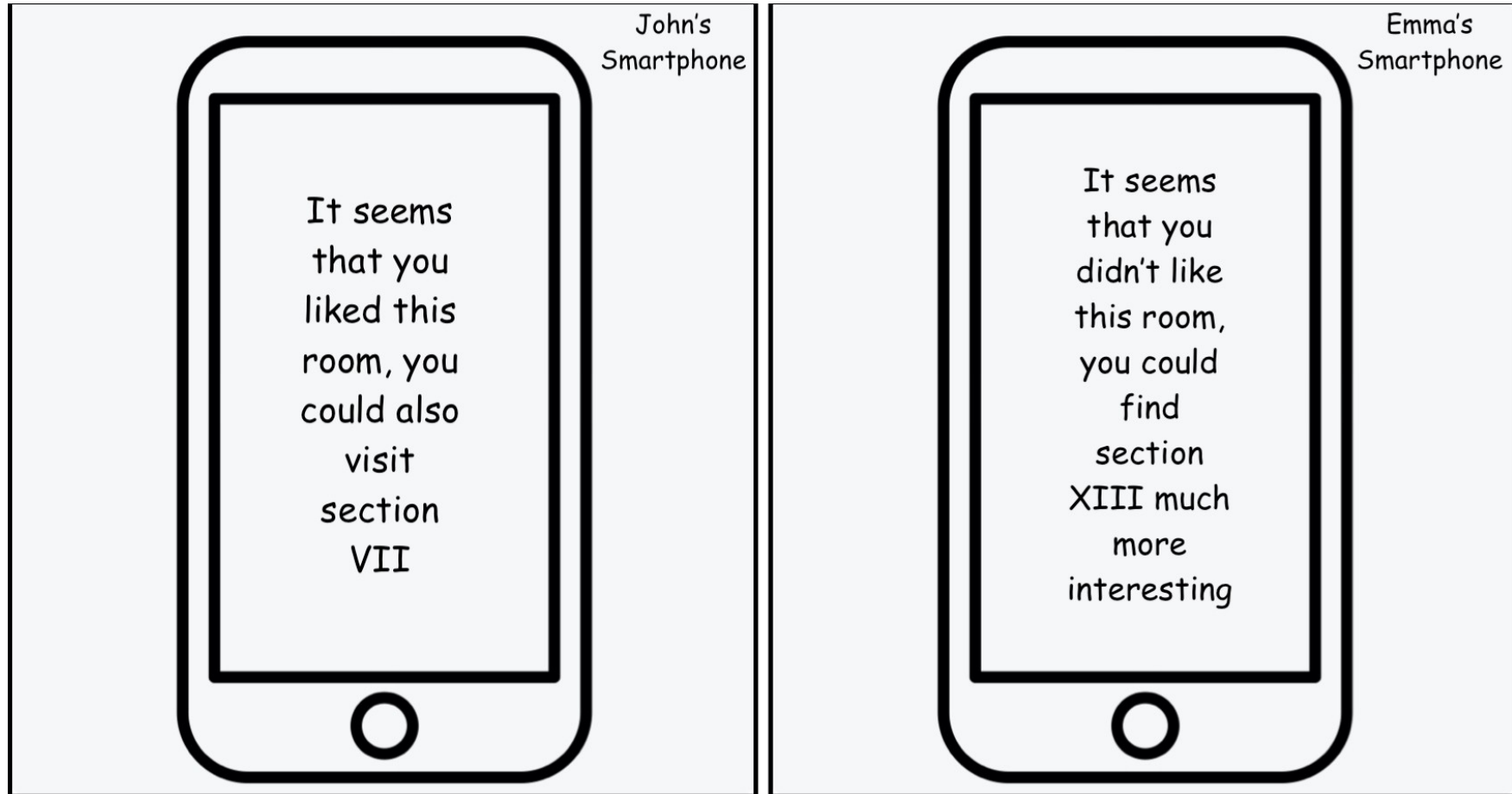- The suggestion is sent every time a user is leaving a section

A Possible Scenario

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John's Smartphone

It seems that you liked this room, you could also visit section VII

Emma's Smartphone

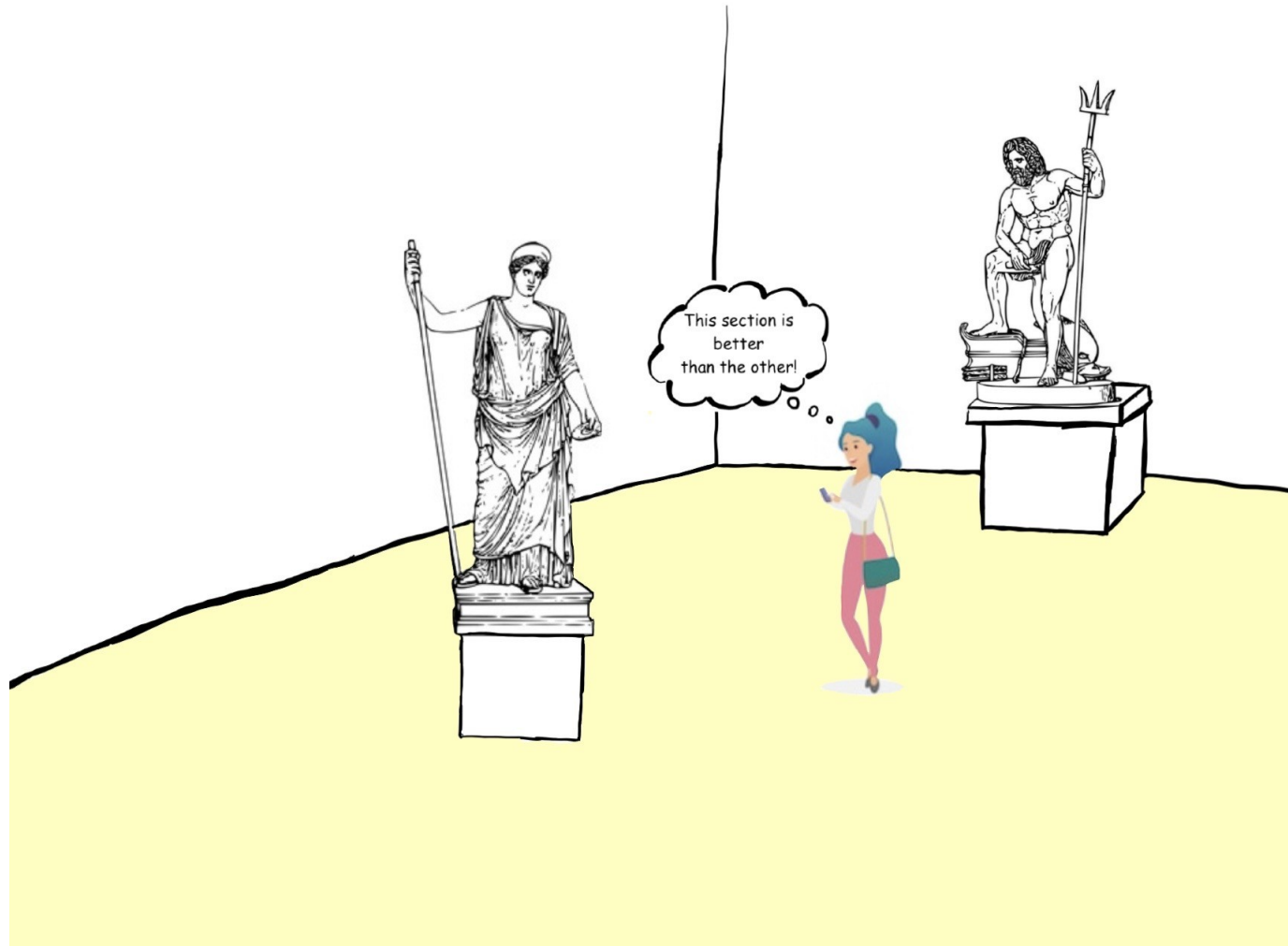It seems that you didn't like this room, you could find section XIII much more interesting

A Possible Scenario
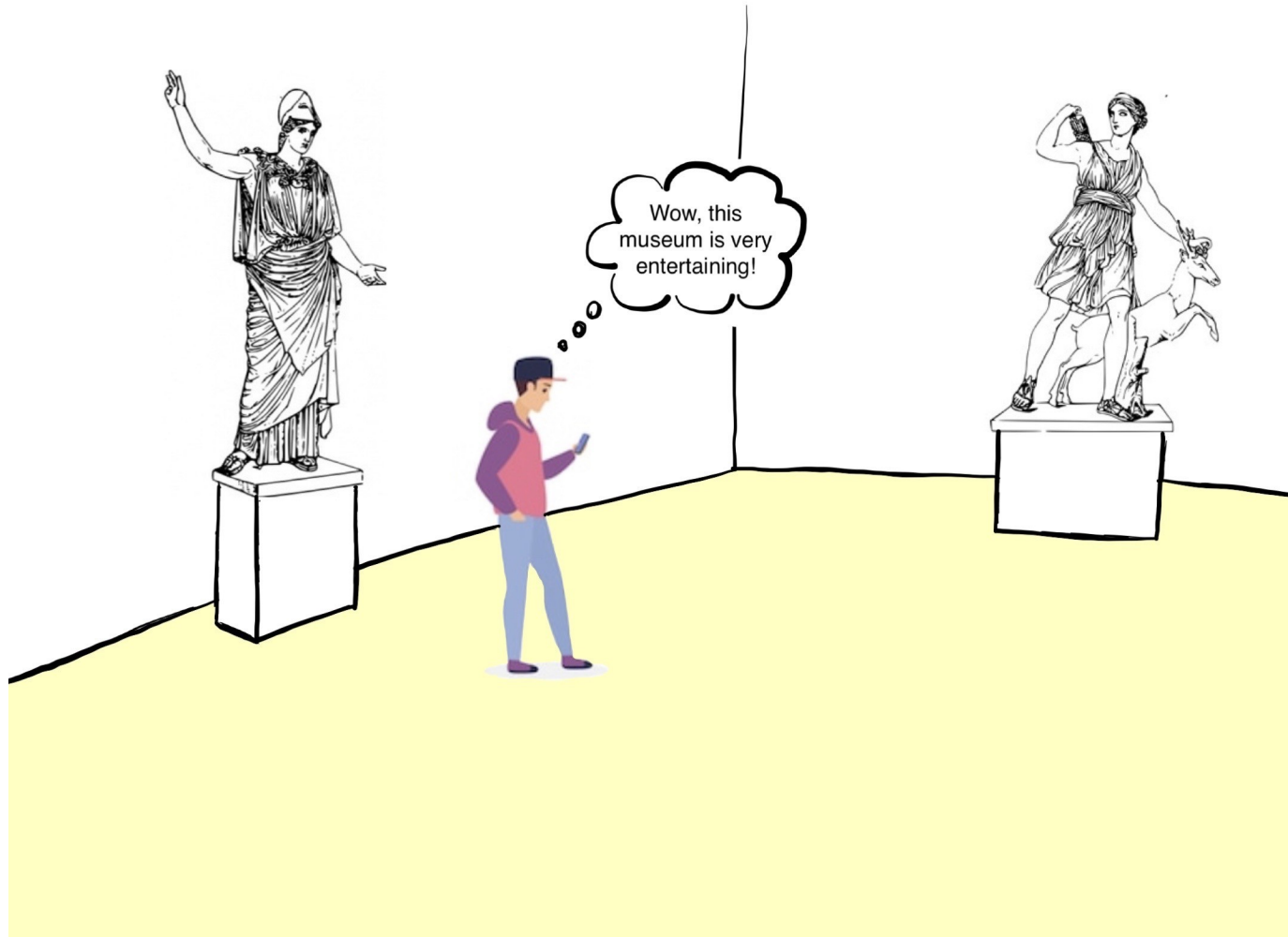
A Possible Scenario

User Experience Evaluation

▶ We are planning evaluate the user experience using mockups, and after every demo of these prototypes we will collect people's opinions asking for feedbacks.

▶ The questions will be mainly on:

- User interface

- Application services

Technical Evaluation

▶ We will do a technical evaluation performing load tests on all parts of our system:

- **BLE** IoT device-Smartphone interation: how many smartphones a single device can handle?

- **Cloud** IoT device-Cloud interation: what is the message rate with which the device can send messages to Azure IoT hub?

- **Responsiveness** Cloud-Smartphone interation: how fast the smatphone receives the advice on where to go, does it depend from the number of connected devices?

Architecture

IoT board
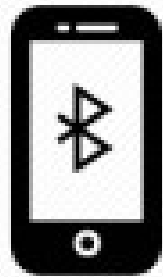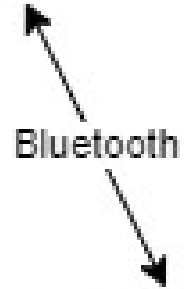
Bluetooth

SmartPhone

Typical scenario

- BLE technology
- Bluetooth beacon functionality

The Things Network

IoT board — LoRa → TTN Gateway — Internet → THE THINGS NETWORK
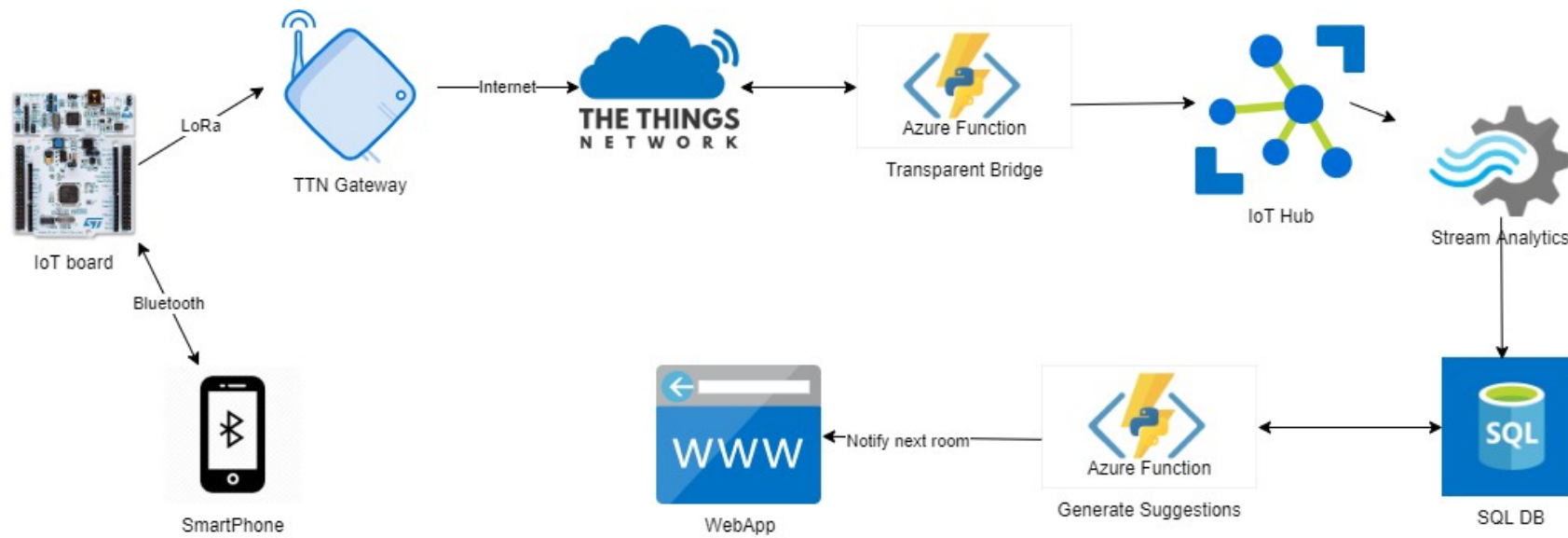
Bluetooth ↕ SmartPhone
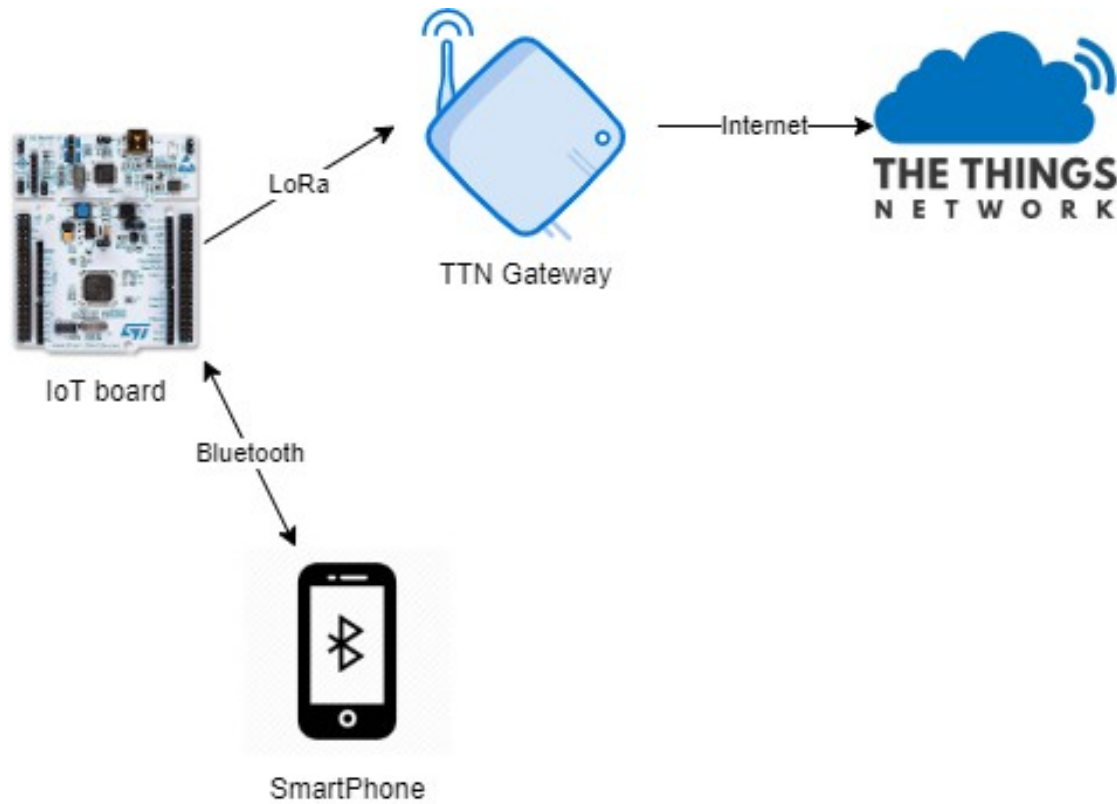
- LoRaWAN technology
- The Things Network services

Cloud Services
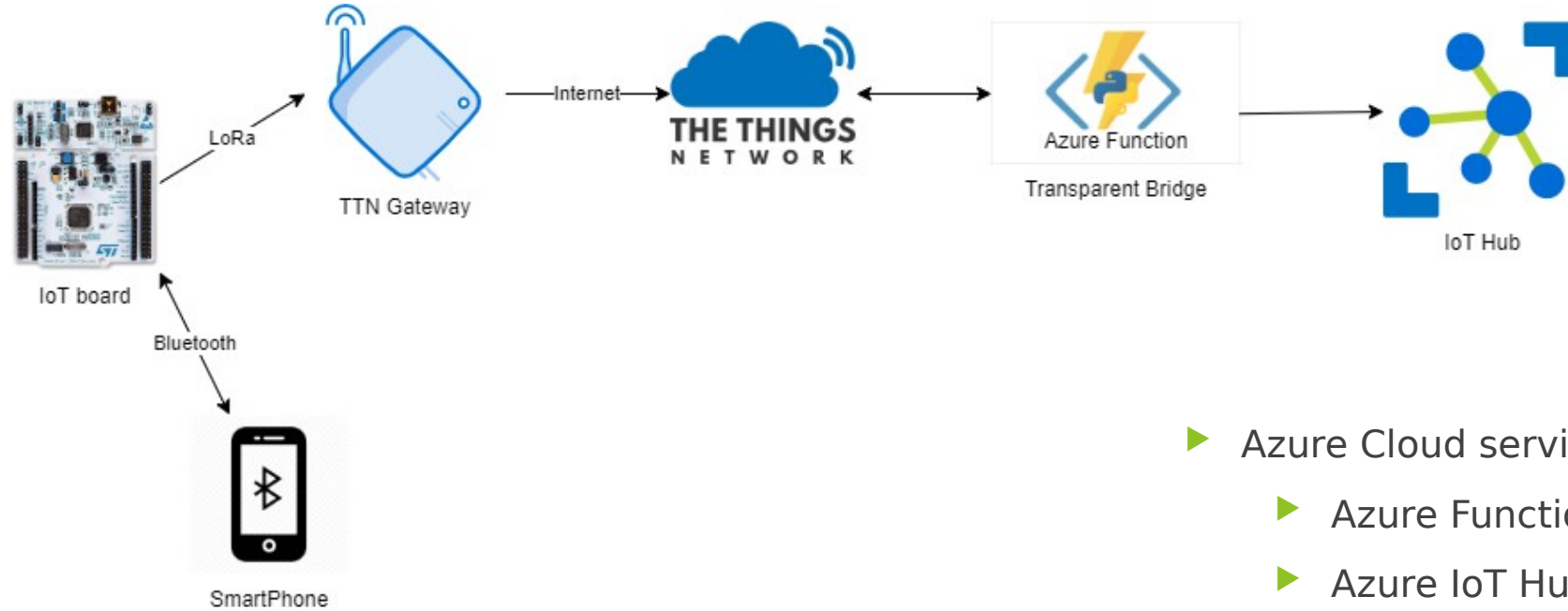
- ▶ Azure Cloud services
  - ▶ Azure Function
  - ▶ Azure IoT Hub
  - ▶ Azure SQL DB

The complete flow

▶ Web Application

Thank you for listening