# ▸ NextRoom

temporary name

- Alireza Iran Pour
- Nicolò Palmiero
- Luigi Sigillo

Supervisor: Joy Abi Rizk

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

▶ The application will display a preview of the suggested section, so that the user could choose to follow it or to jump to another suggestion.

▶ 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 suggestions for every user

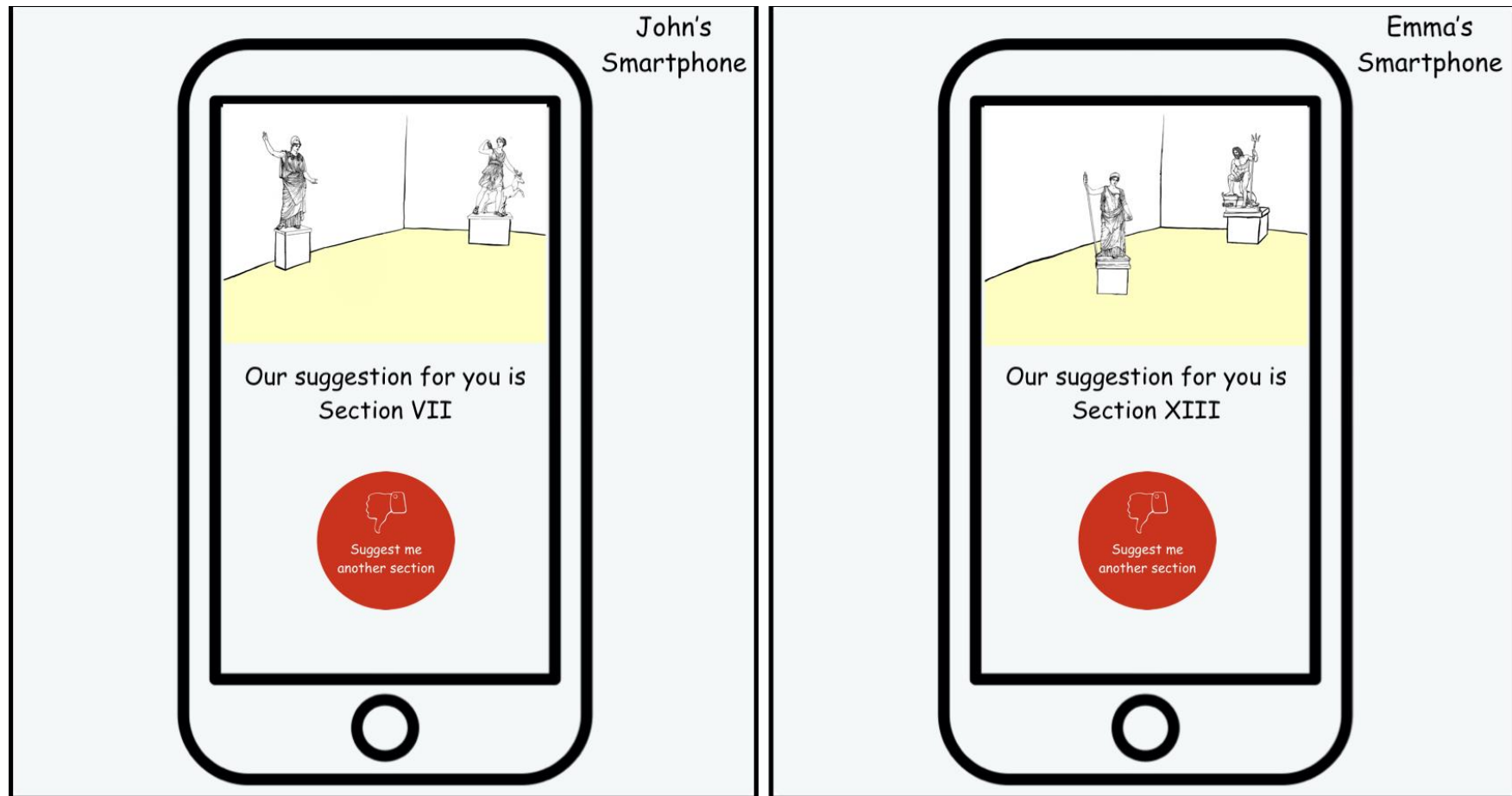▶ The suggestions are sent every time a user is leaving a section
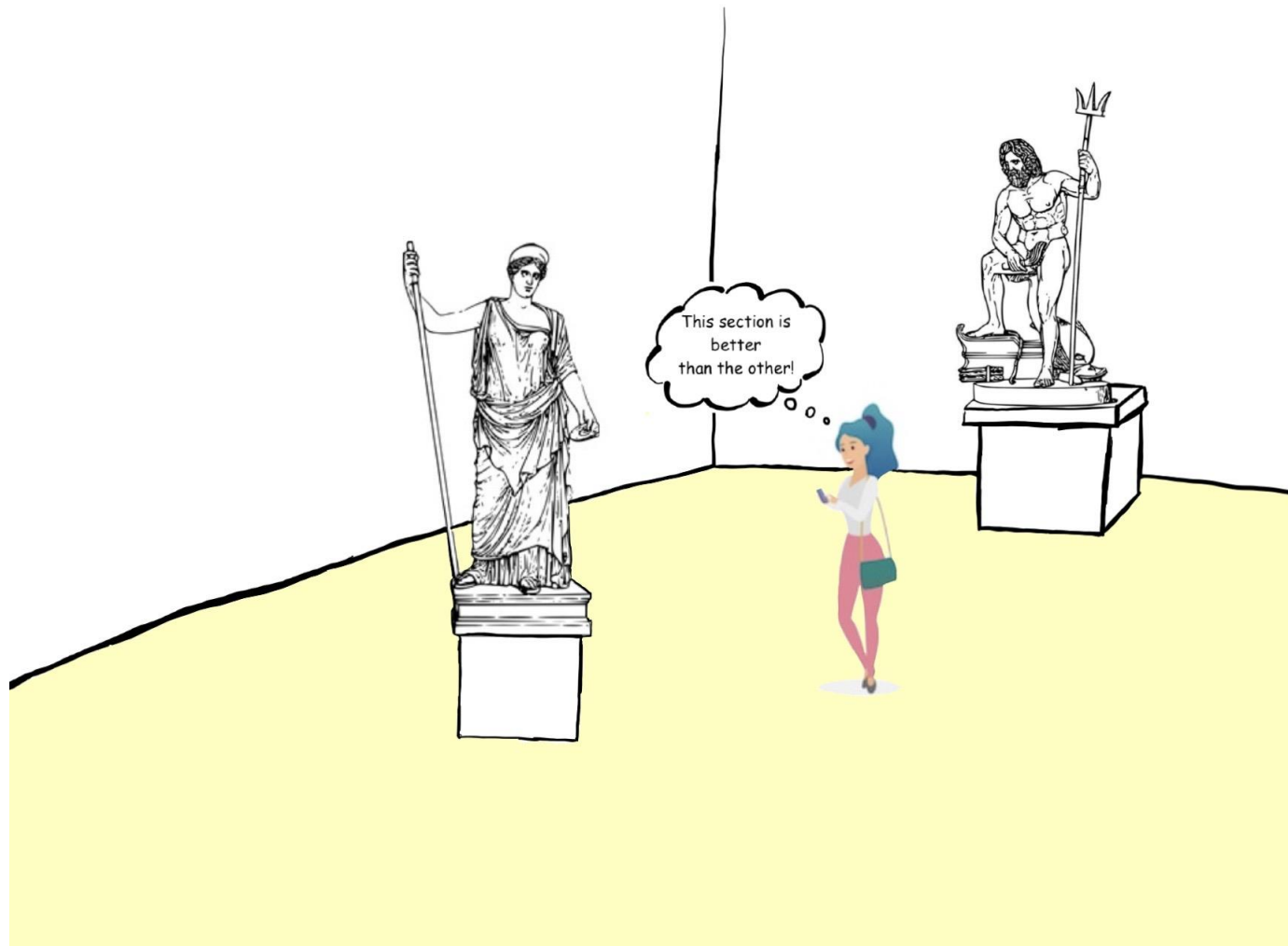
# A Possible Scenario
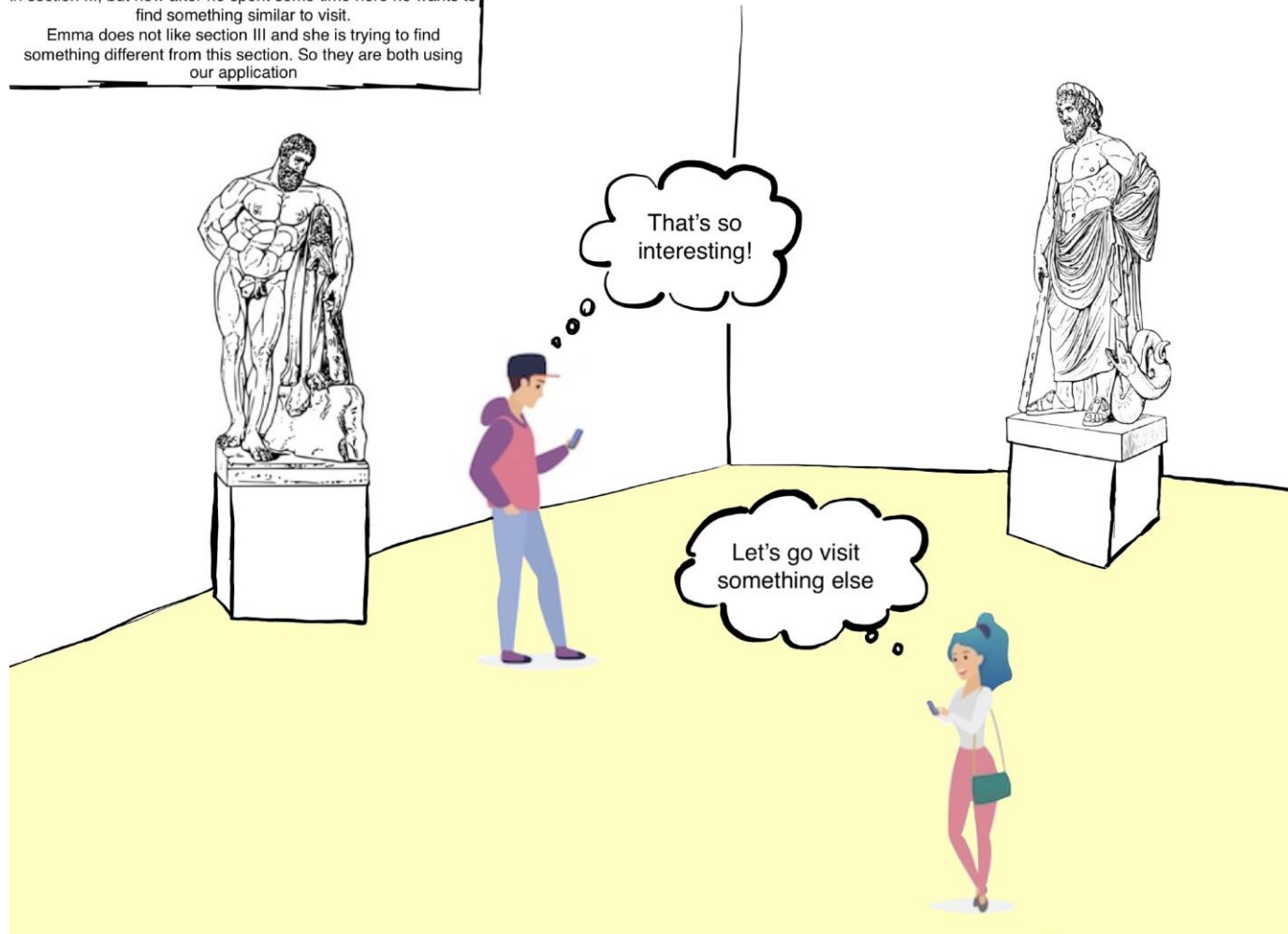
# A Possible Scenario

# A Possible Scenario
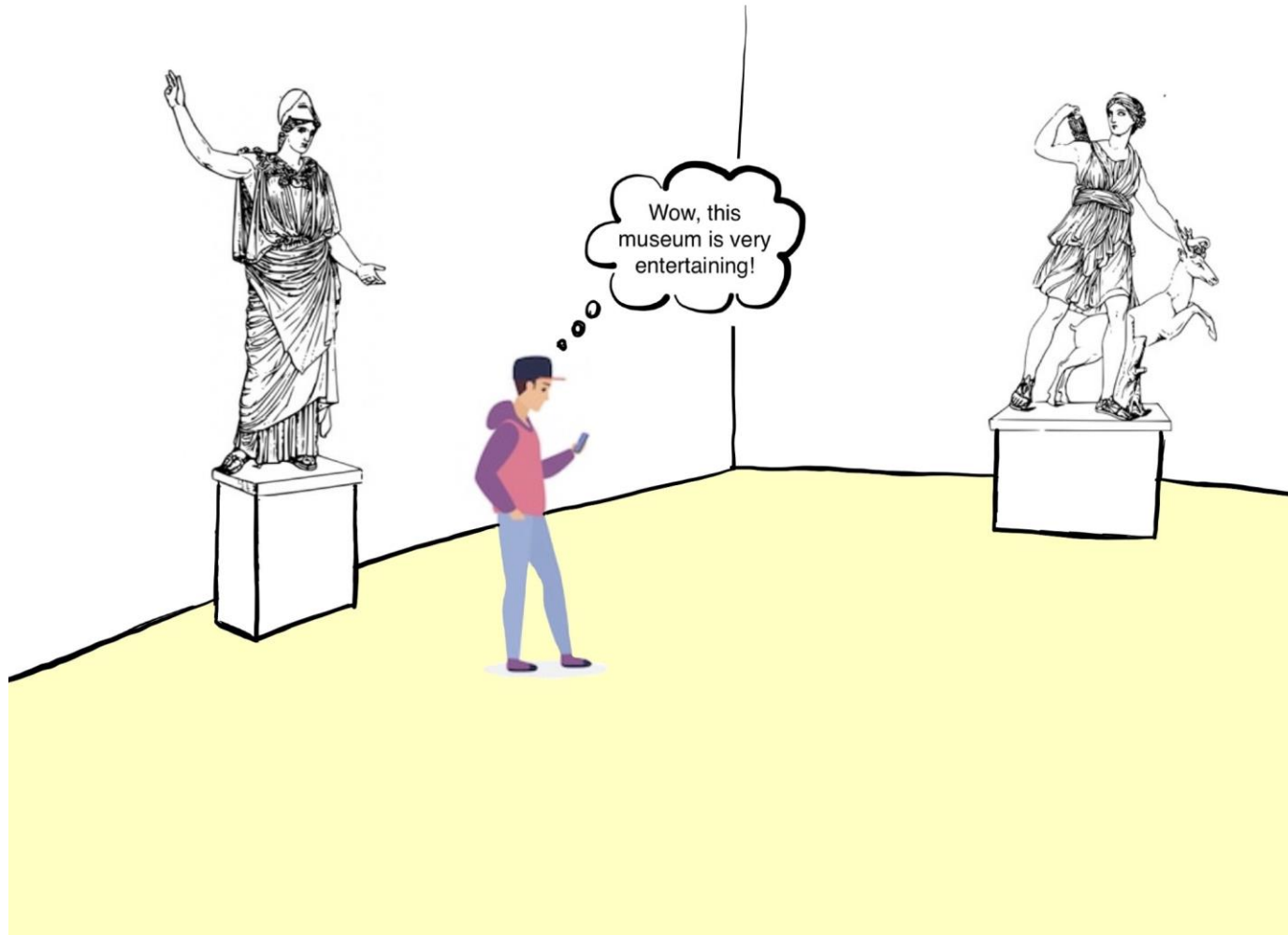
# A Possible Scenario

# 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 and publishing some google forms.

▶ 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?
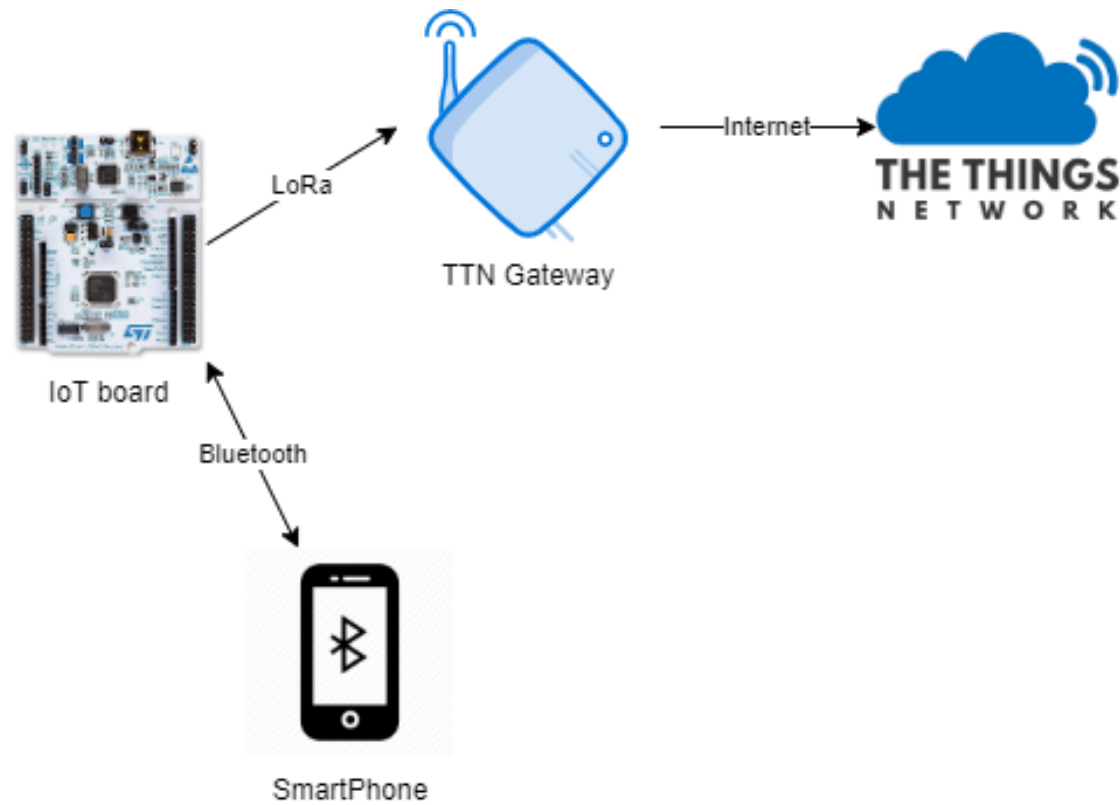
# Architecture

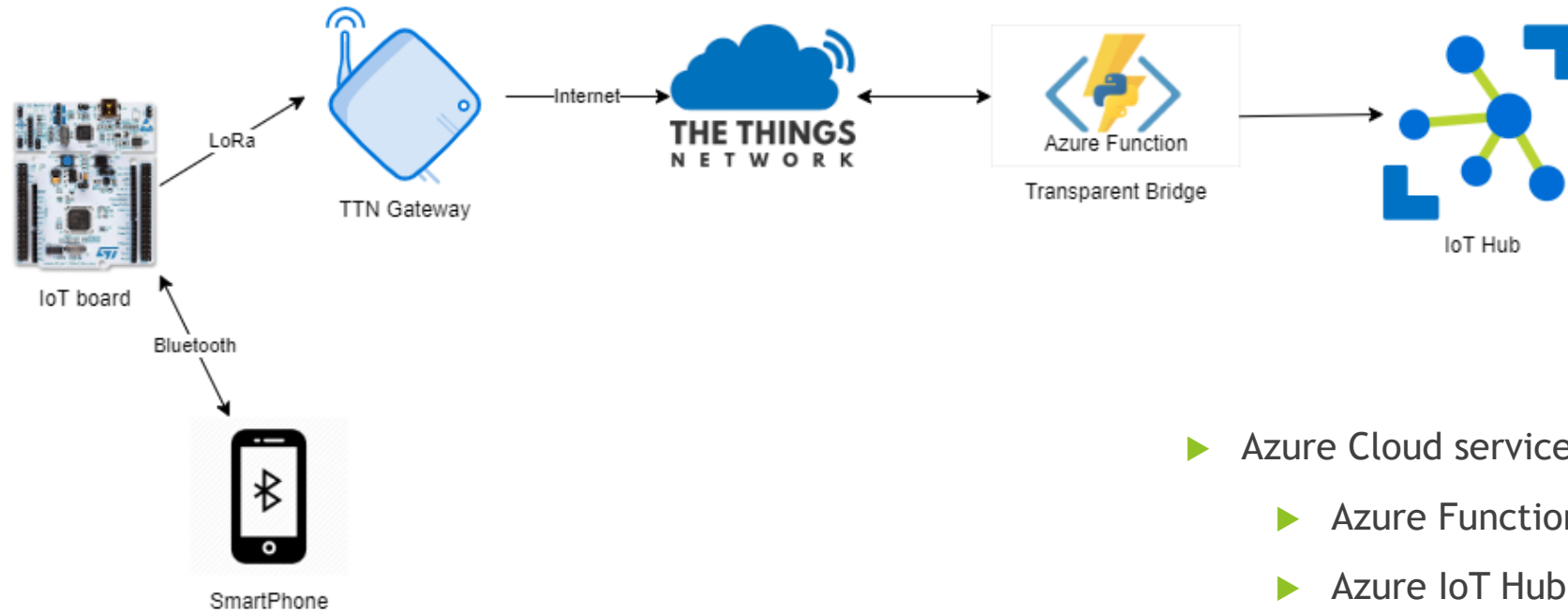# Typical scenario



IoT board
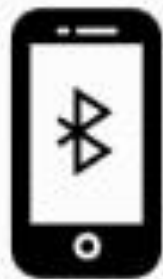
Bluetooth

SmartPhone

- ▶ BLE technology
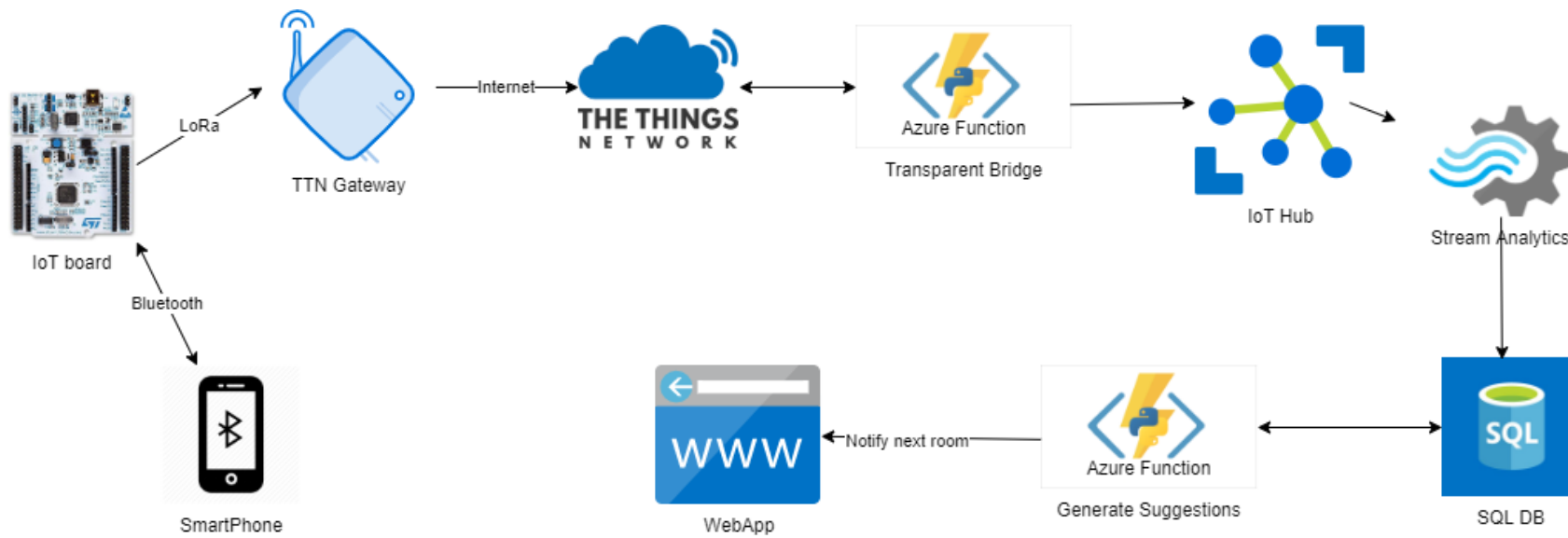- ▶ Bluetooth beacon functionality

# The Things Network



- 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