

► NextRoom

temporary name

- Alireza Iran Pour
- Nicolò Palmiero
- Luigi Sigillo

Supervisor: Joy Abi Rizk

Repository
<https://github.com/LuigiSigillo/lotBigProject>

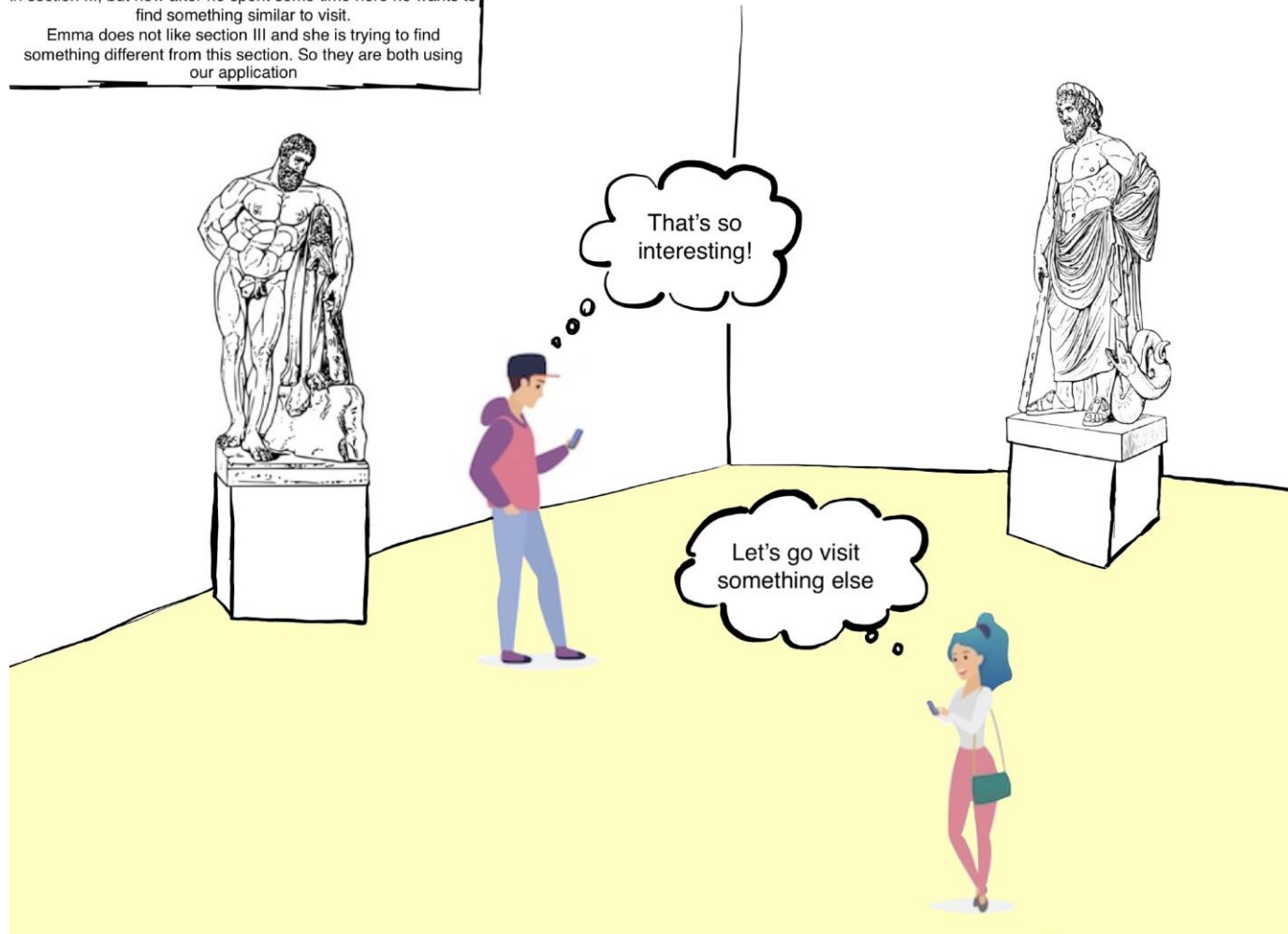
The Idea

- ▶ 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

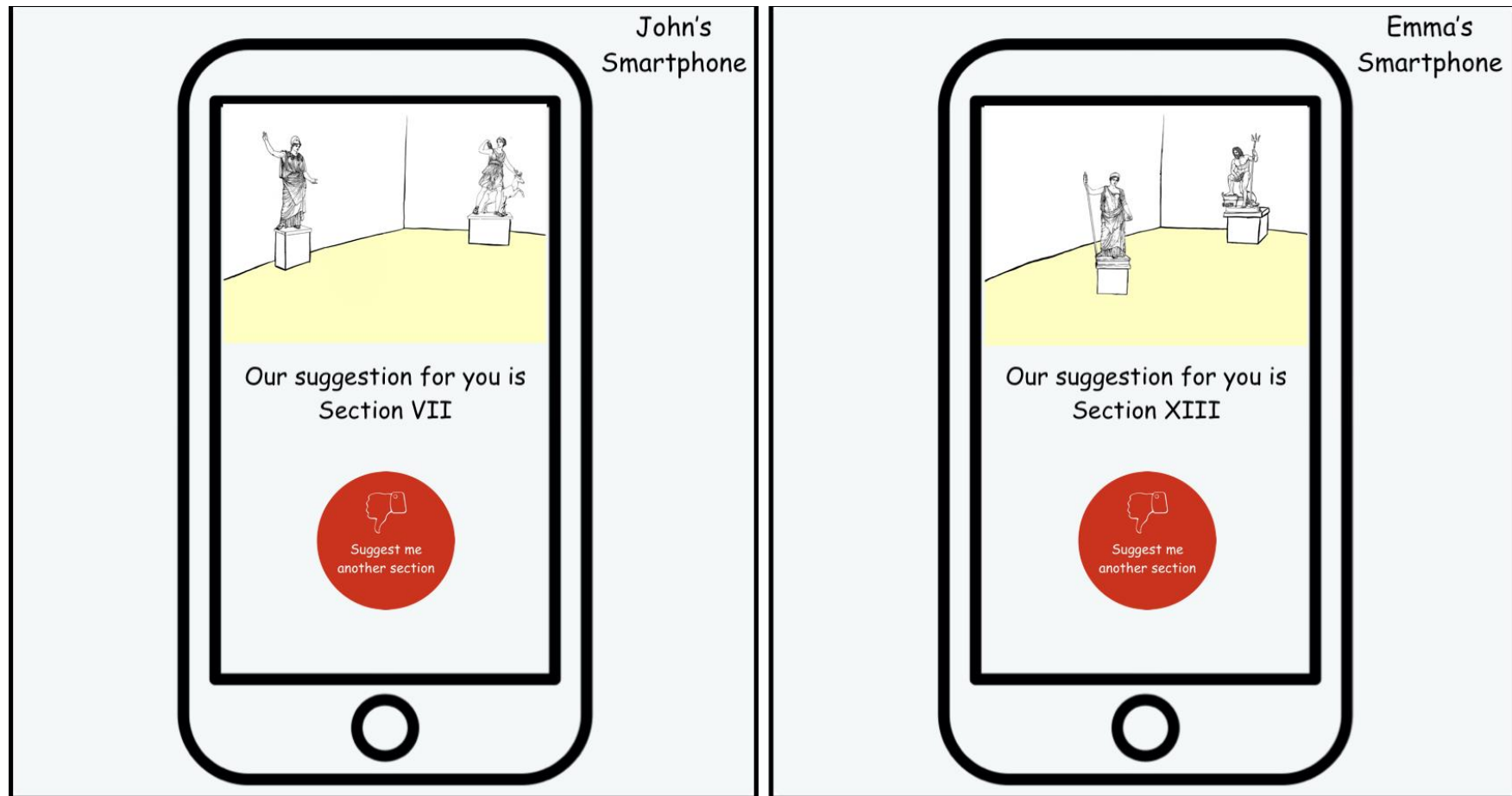
A Possible Scenario

John is very interested in museums, and he is enjoying his tour in section III, but now after he spent some time here he wants to find something similar to visit.

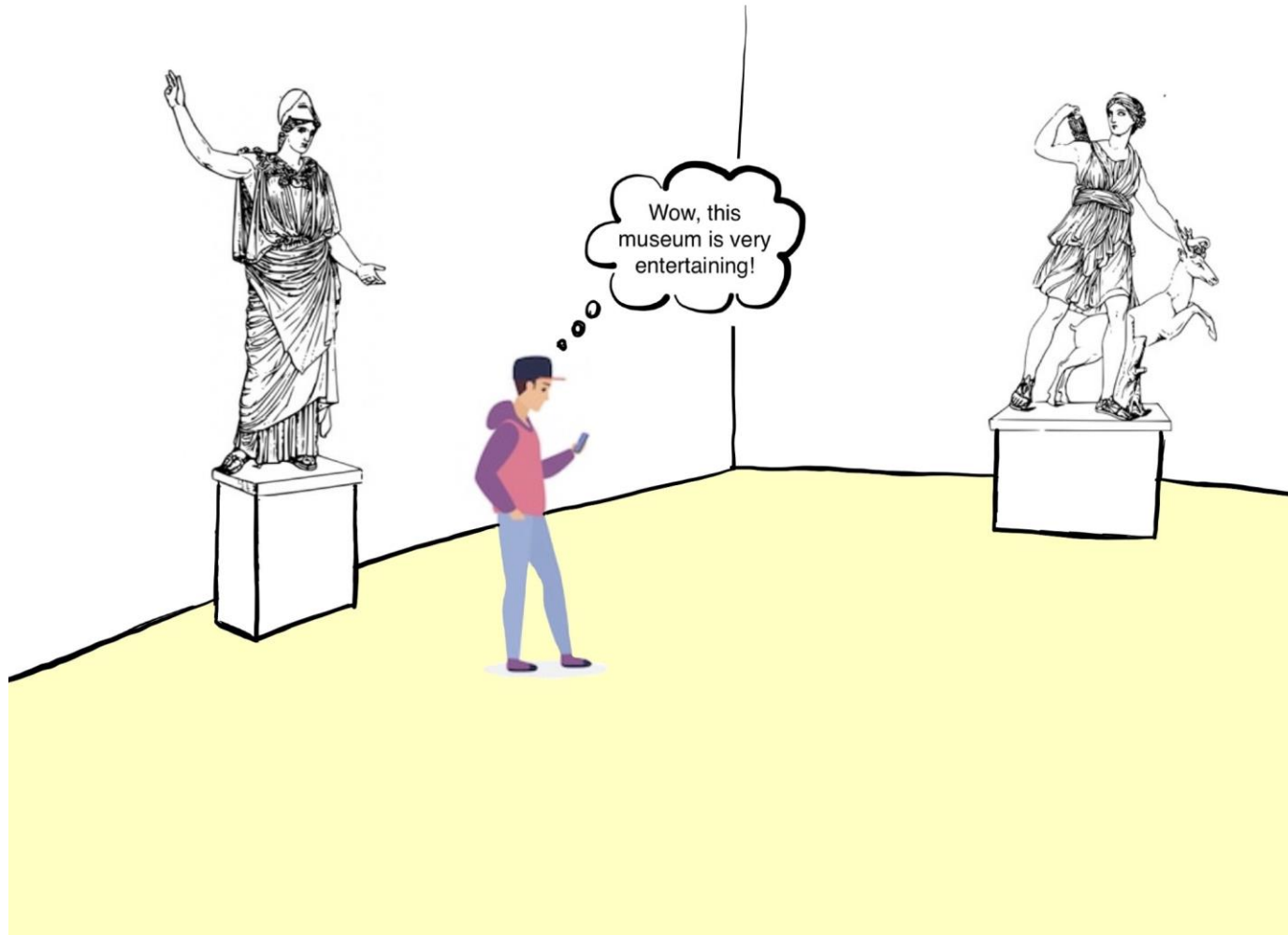
Emma does not like section III and she is trying to find something different from this section. So they are both using our application



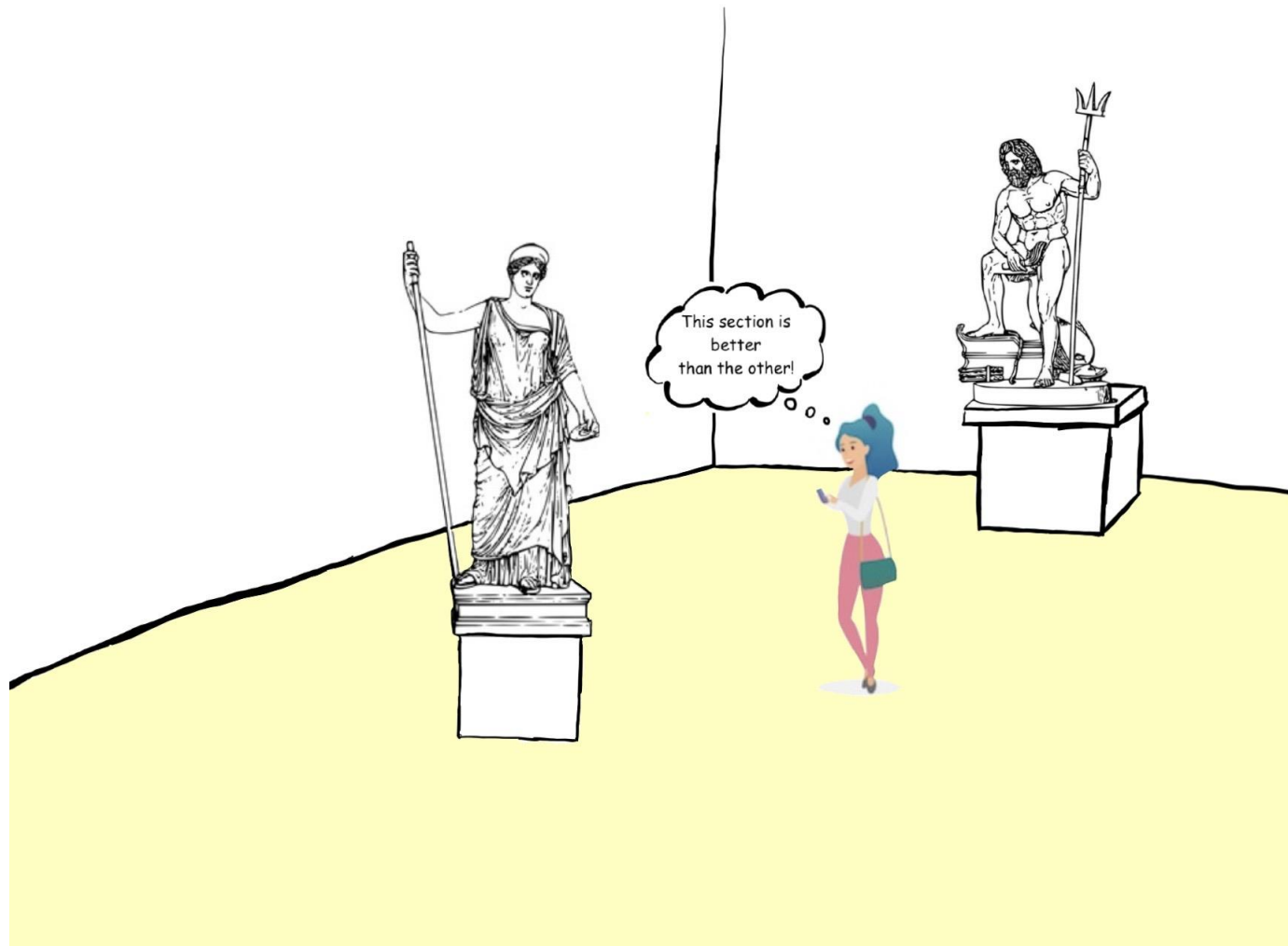
A Possible Scenario



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

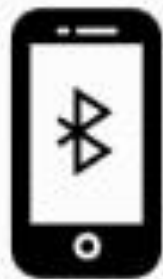
Technical Evaluation

- ▶ We will do a technical evaluation performing load tests on all parts of our system:
 - **BLE** IoT device-Smartphone interaction: how many smartphones a single device can handle?
 - **Cloud** IoT device-Cloud interaction: what is the message rate with which the device can send messages to Azure IoT hub?
 - **Responsiveness** Cloud-Smartphone interaction: how fast the smartphone receives the advice on where to go, does it depend from the number of connected devices?

Architecture



IoT board

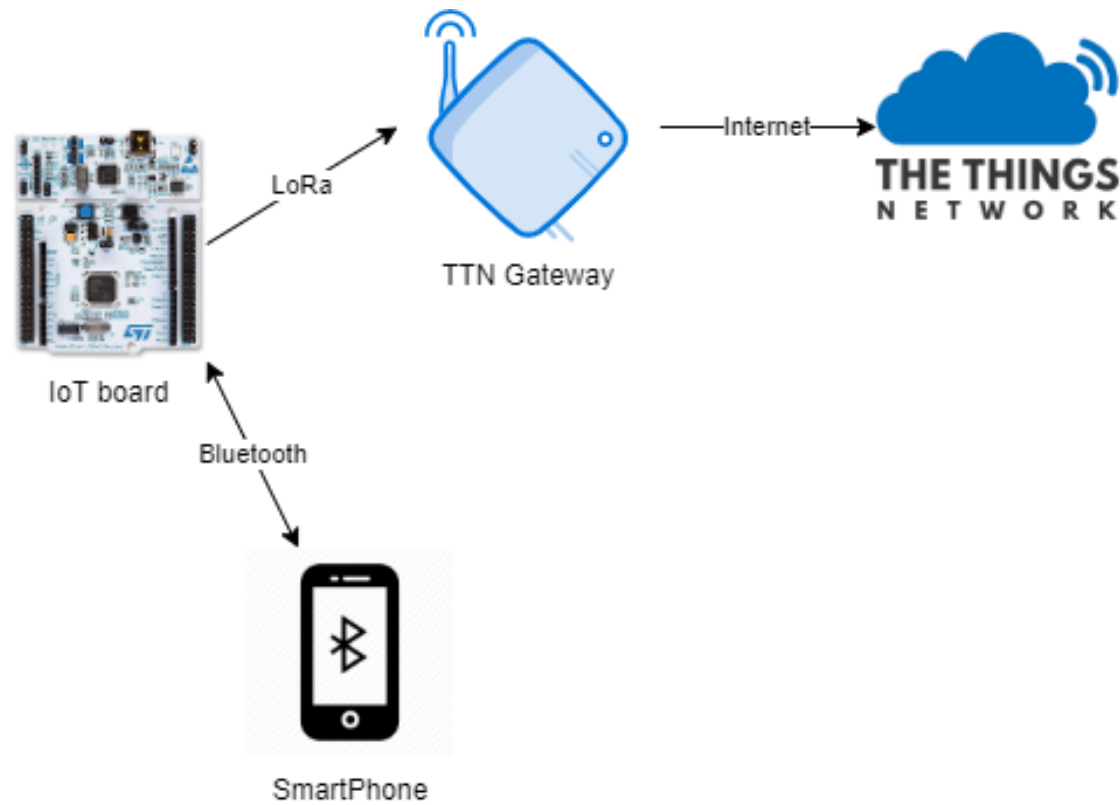


SmartPhone

Typical scenario

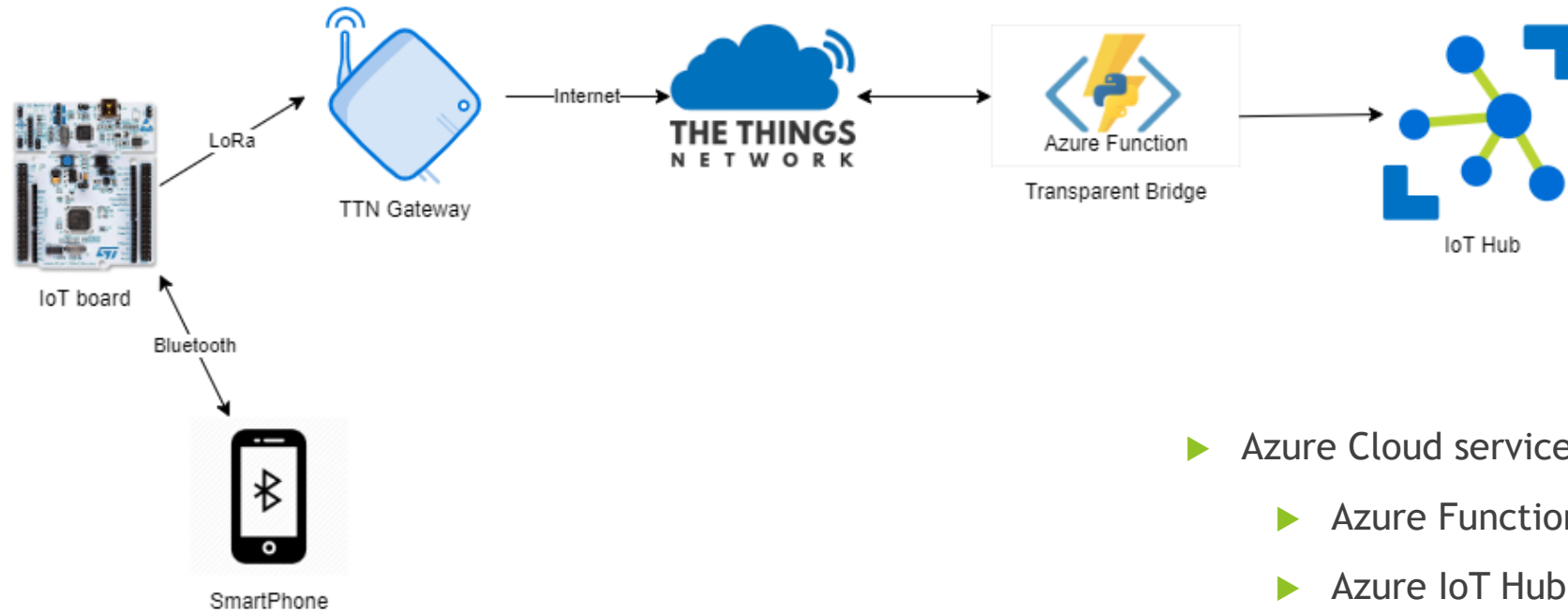
- ▶ BLE technology
- ▶ Bluetooth beacon functionality

The Things Network



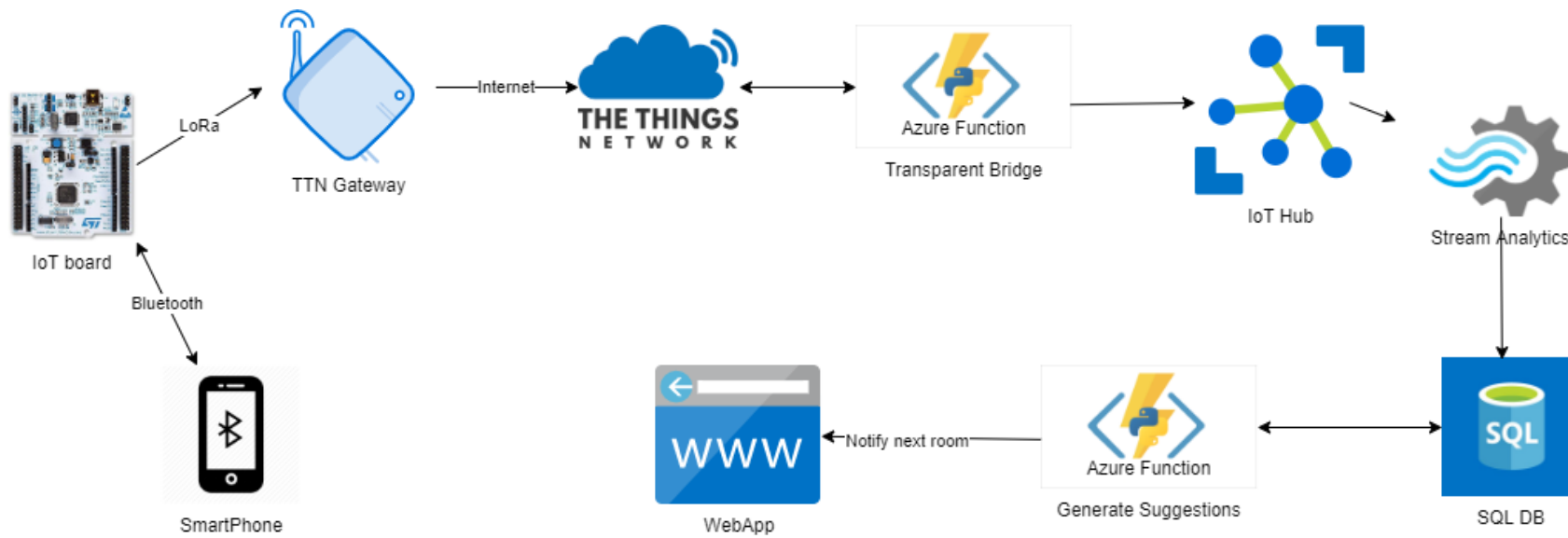
- ▶ LoRaWAN technology
- ▶ The Things Network services

Cloud Services



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

The complete flow



► Web Application

The background features a series of overlapping, semi-transparent green triangles and polygons that create a dynamic, abstract pattern. The colors range from a light, pale green to a deep, forest green. The shapes are oriented diagonally, with some pointing towards the top right and others towards the bottom left, creating a sense of movement and depth. The overall effect is modern and minimalist.

Thank you for
listening