



checkBin - Technical details

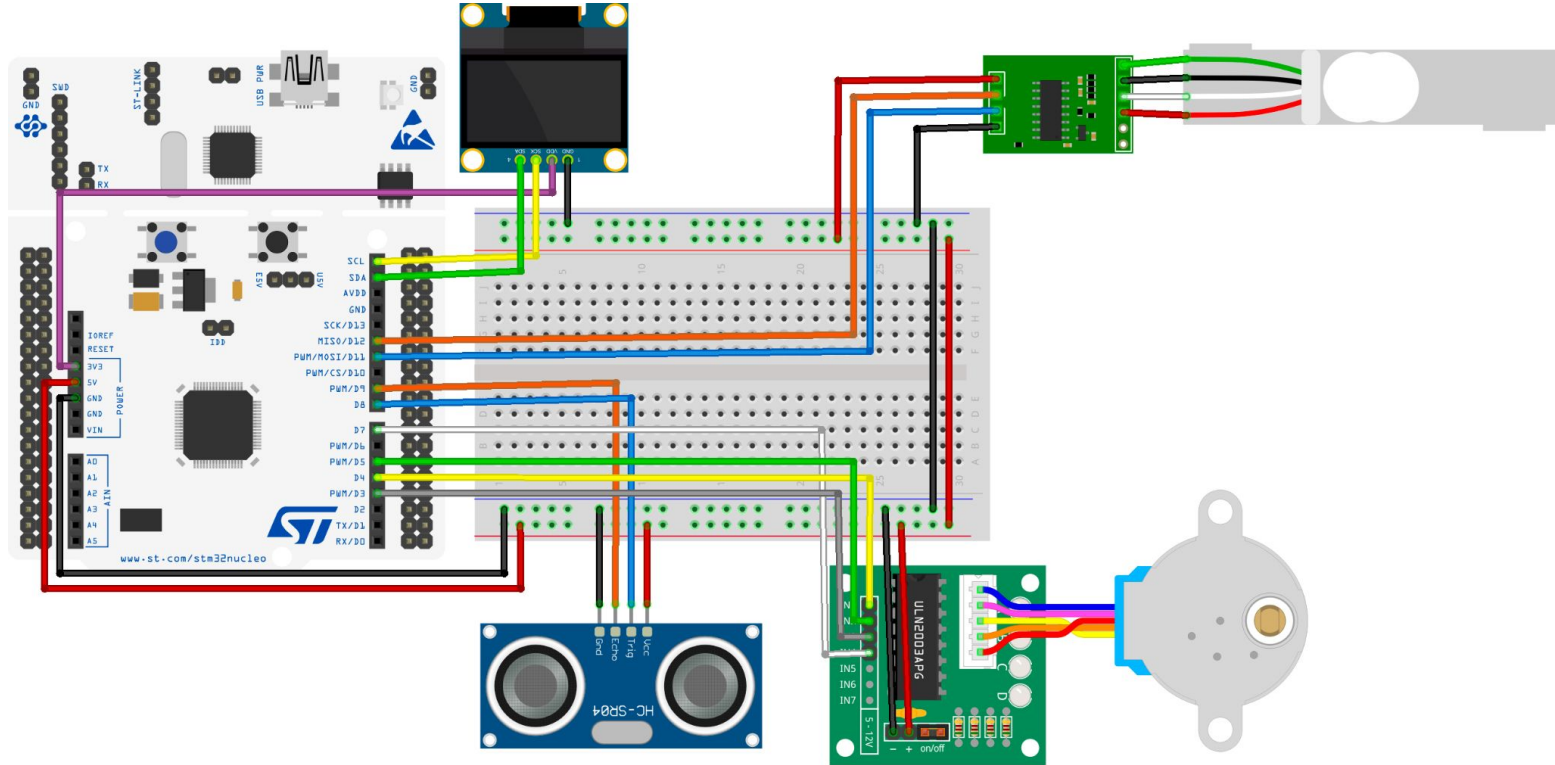
Prototype build



Prototype build



Wiring

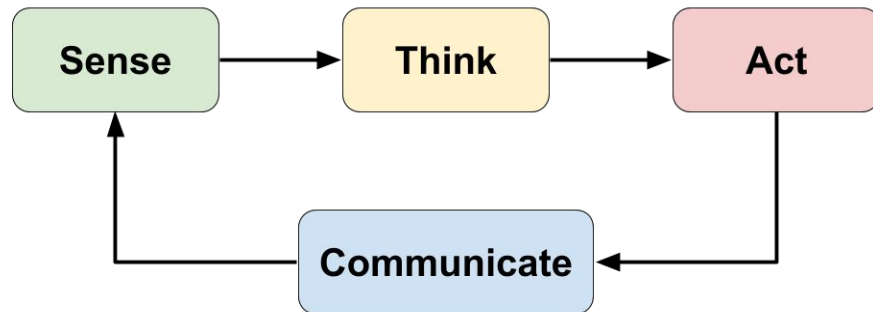


Code on the Board

Functions necessary to:

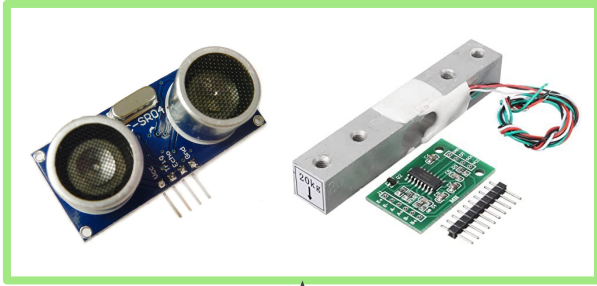
- read values from the sensors
- act using the actuators
- send data using LoRa

Moreover we wrote all the logic that governs the system using the above functions.



Logic

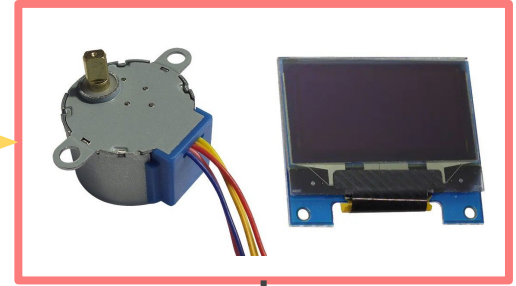
SENSE



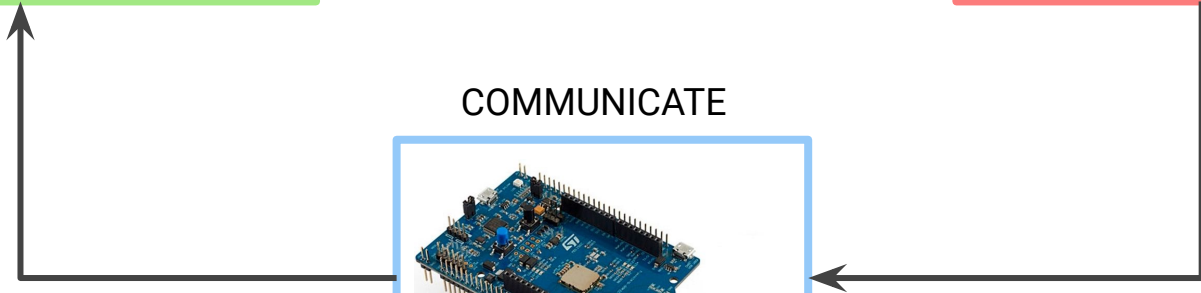
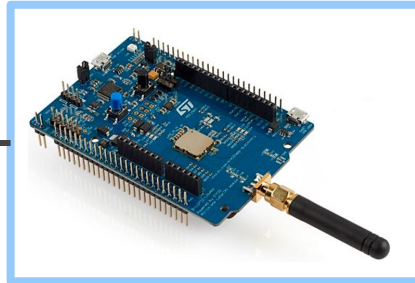
THINK



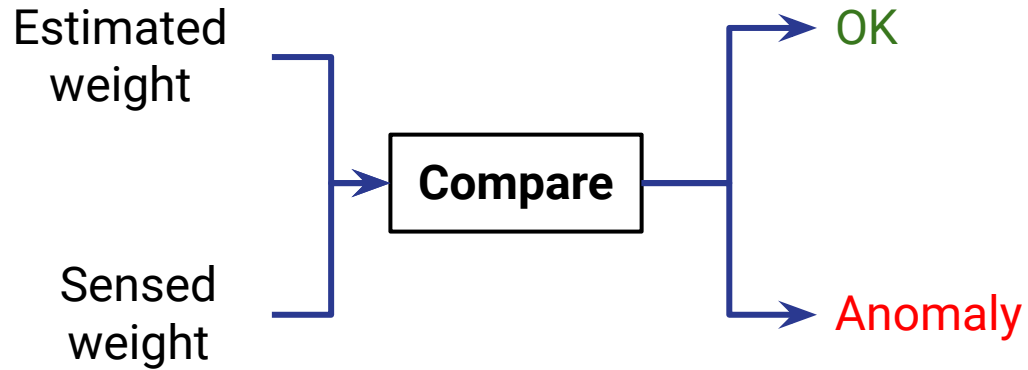
ACT



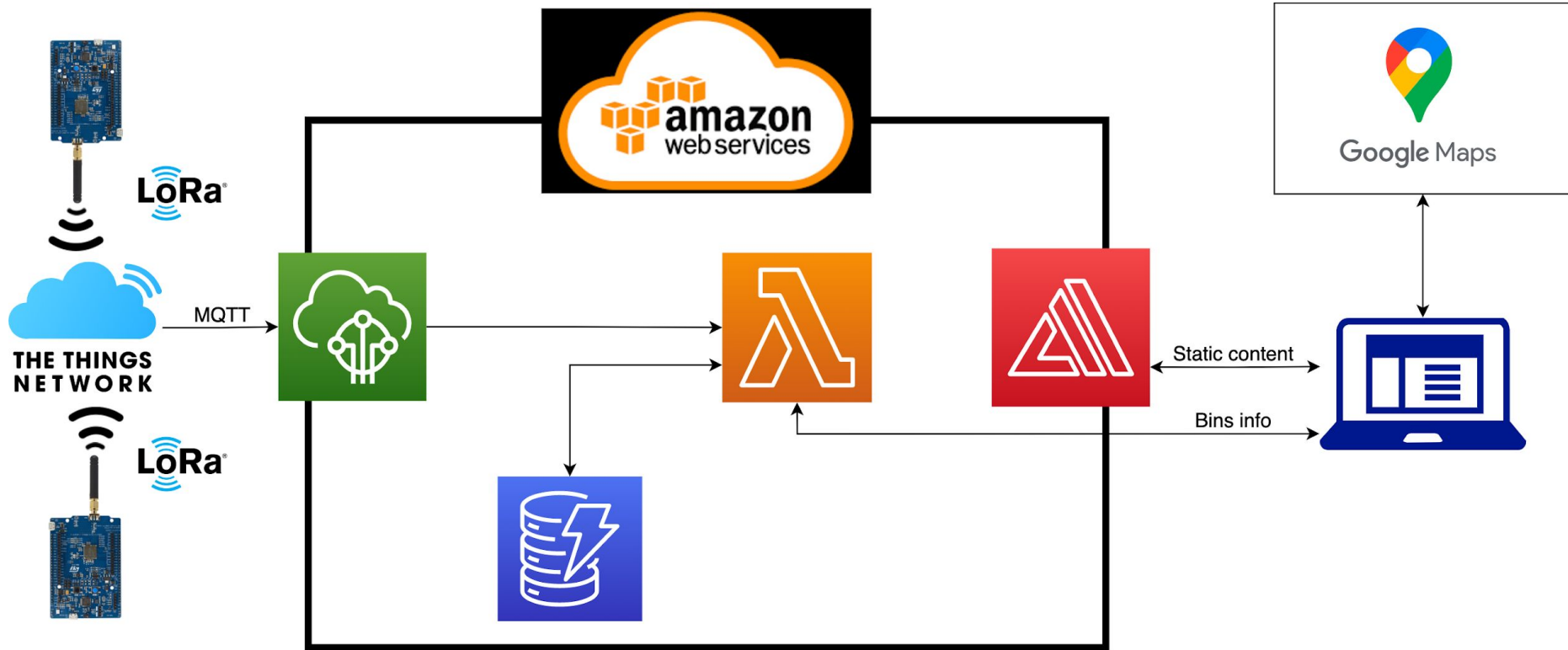
COMMUNICATE



Anomalies



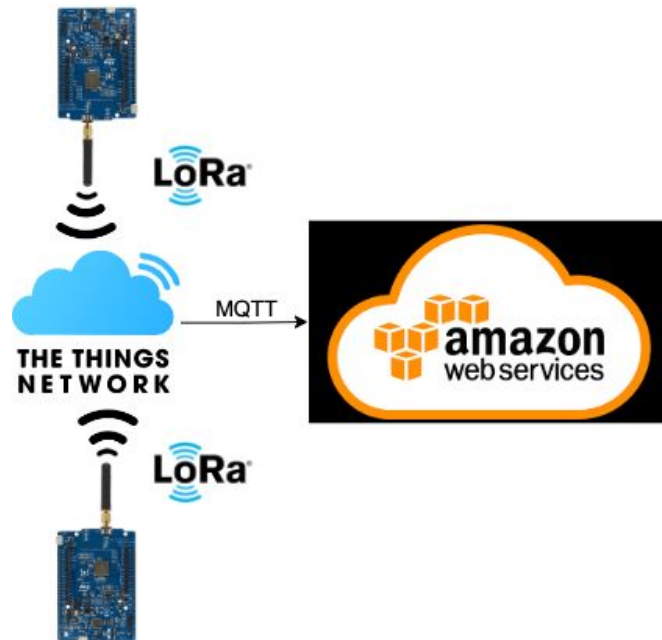
Cloud: Overview



The Things Network

We used Lora Gateways provided by The Things Network.

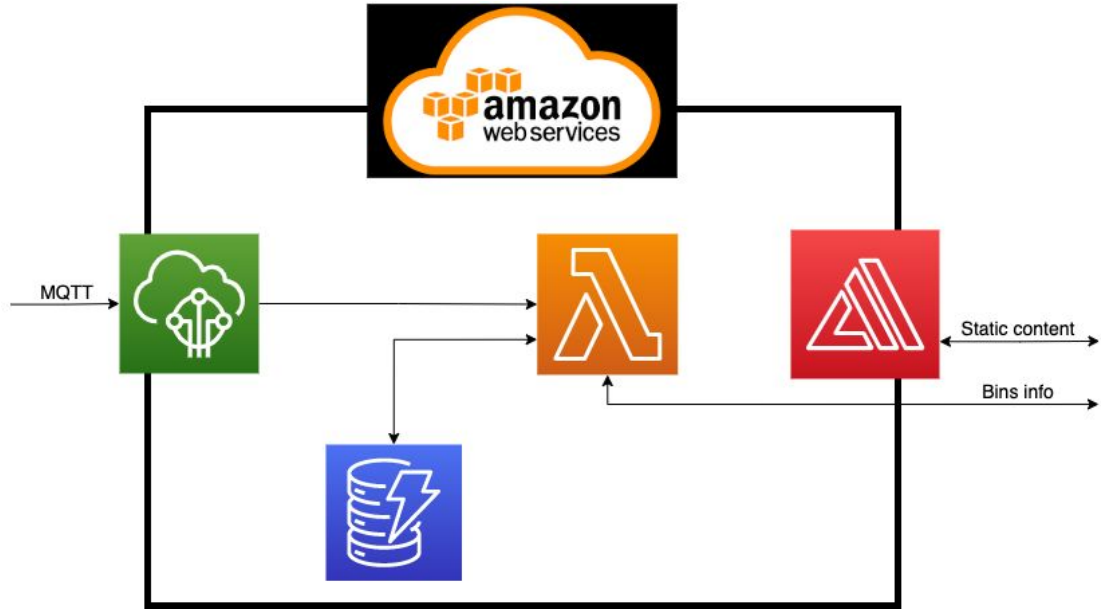
These gateways allow us to easily receive packets from the boards and immediately relay them to AWS IoTCore.



Amazon Web Services

The used AWS services are:

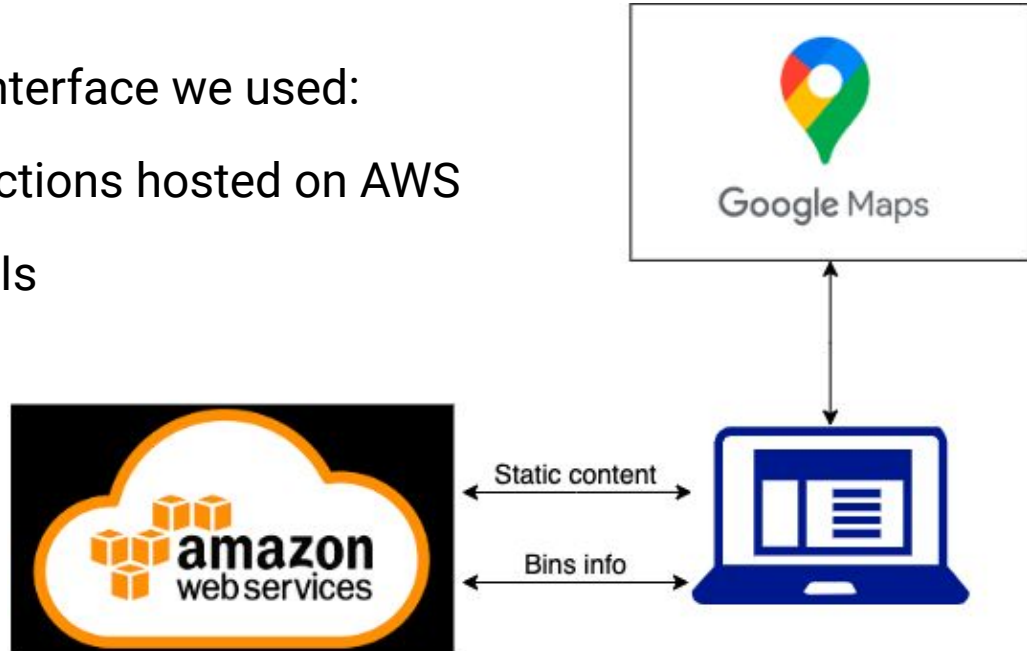
- IoT Core
- Lambda
- DynamoDB
- AWS Amplify



Web Interface

To develop the web interface we used:

- services and functions hosted on AWS
- Google Maps APIs



Web interface

checkBin

dev7723.d2wnn0x1kb5op.amplifyapp.com

← → ↺

🔍 ☰ 👤 Ospite

Mappa Satellite

1: 90° at 23/4/2022, 17:24:27

checkBin

Legend

Fill level between 8 and 10

Fill level between 5 and 7

Fill level between 0 and 4

To add a new bin, fill the form with the coordinates and click on "Add Bin".

Latitude

Longitude

Add Bin

GitHub Repository: [checkBin](#)

