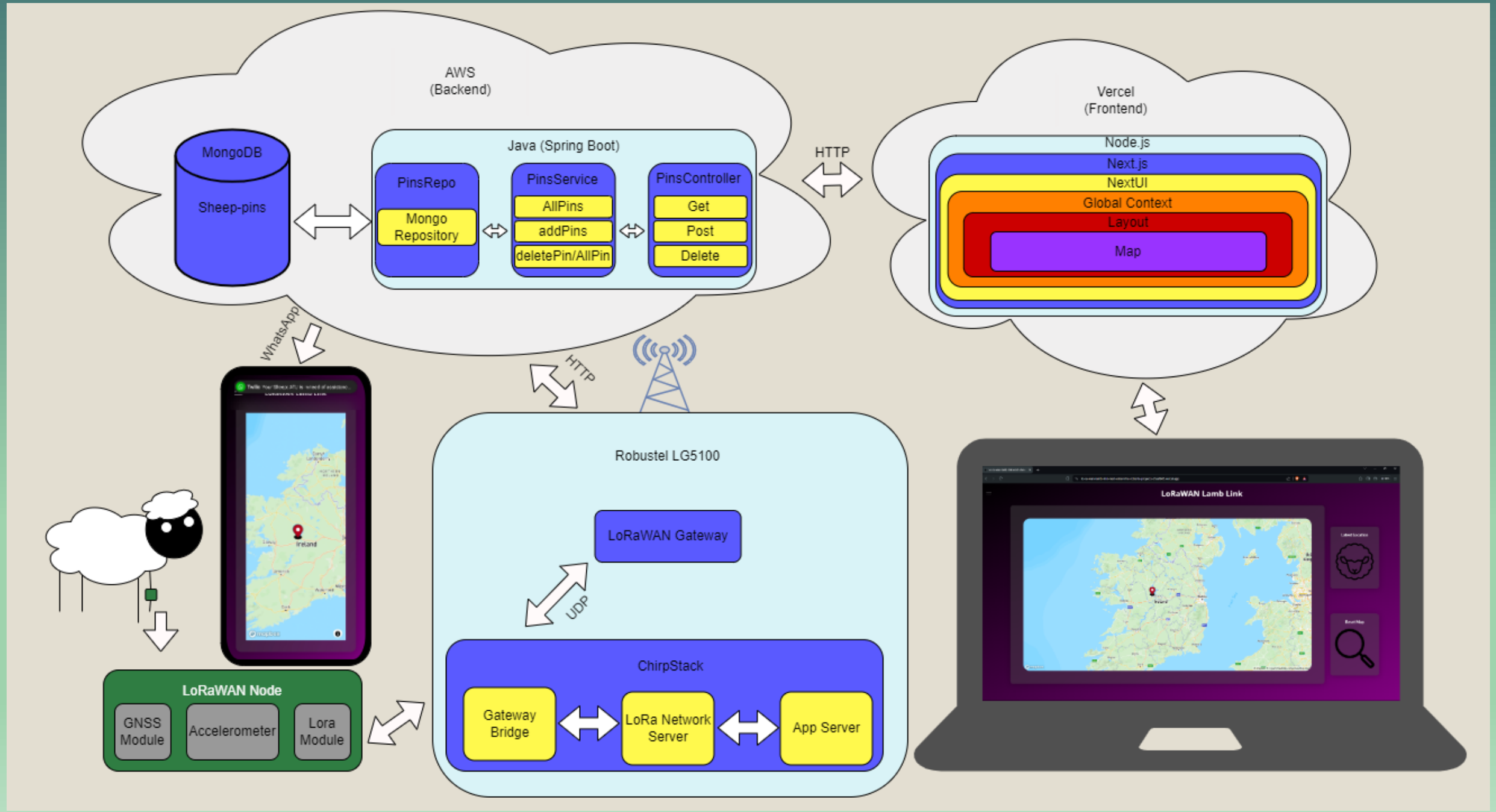
LORAWAN LAMB LINK

Robert Muldoon


AWS
(Backend)
MongoDB
Sheep-pins
Java (Spring Boot)
PinsRepo
Mongo Repository
PinsService
AllPins
addPins
deletePin/AllPin
PinsController
Get
Post
Delete
HTTP
Vercel
(Frontend)
Node.js
Next.js
NextUI
Global Context
Layout
Map
WhatsApp
HTTP
Robustel LG5100
LoRaWAN Gateway
UDP
ChirpStack
Gateway Bridge
LoRa Network Server
App Server
LoRaWAN Node
GNSS Module
Accelerometer
Lora Module
LoRaWAN Lamb Link

Research

- Why LoRaWAN?
- ChirpStack
- Robustel LG5100
- STEVAL-ASTRA1B

Technical Content

Software

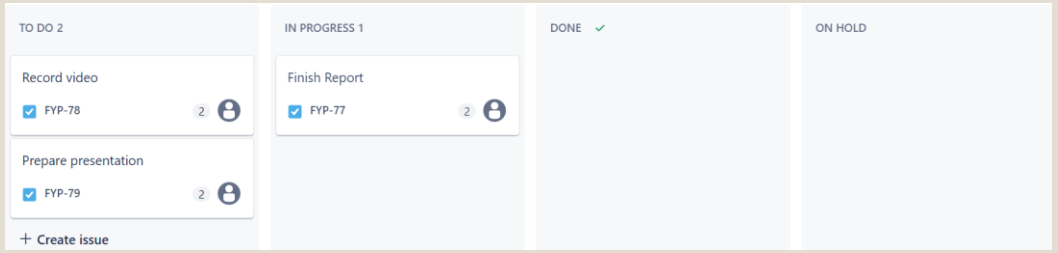
- Embedded C
- Next.js frontend hosted on Vercel
- Spring Boot backend hosted on AWS
- MongoDB
- ChirpStack

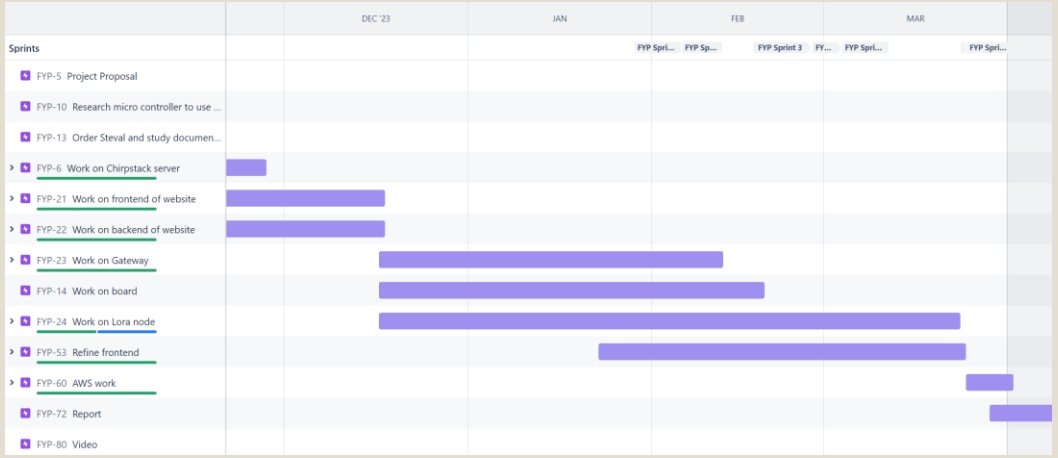
Hardware

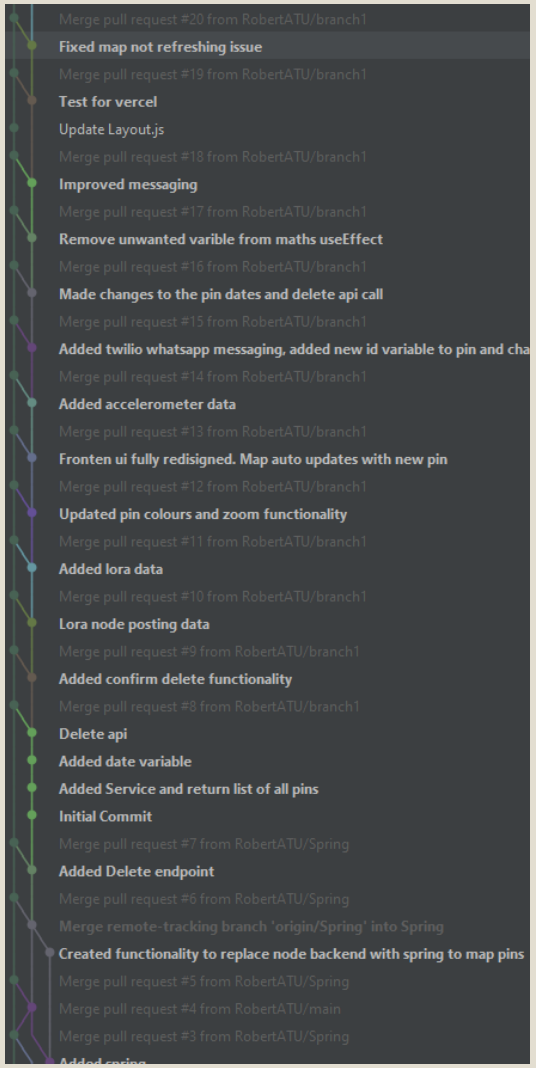
- Robustel LG5100 LoRaWAN Gateway
- STEVAL-ASTRA1B LoRaWAN Node
  - STM32 Microcontroller, LoRa transceiver, GNSS, Accelerometer

Organisation

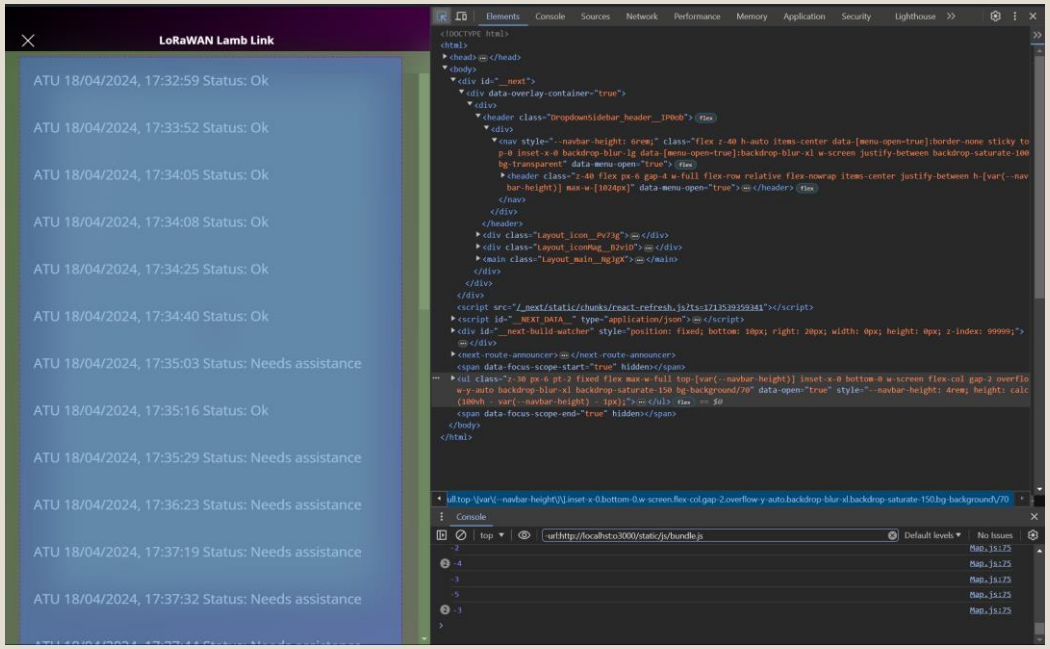
- Weekly logs
- Weekly team logs
- Kanban/Scrum
- Regular GitHub commits
- Timeline adaptation to accommodate long delivery times







Problems Encountered

- Used Forums (https://community.st.com/)
- STEVAL-ASTRA1B firmware/Dev Eui
- Writing device specific decoder
- NextUI component manipulation

Apr 29 11:39:41 AM	JoinAccept	868.5 MHz	SF12	BW125	GW: 1234567890abcdef
Apr 29 11:39:38 AM	JoinRequest	868.5 MHz	SF12	BW125	DevEUI: 0080e115000a92f3