Weekly Summary

This week we focused on extensive research. We ran into multiple issues in software that slowed down our progression.

Past week accomplishments

Benjamin Muslic
This week Ben focused on pivoting towards the software side and understanding more how things should look better from a consumer perspective

- Started familiarizing with react native to get caught up to speed with software
- Setup a demo application and was able to run on iOS device
- Looked into MQTT protocol and conversed with Will about differences between other protocols and whether if it's a right idea to pursue in the popular IoT protocol
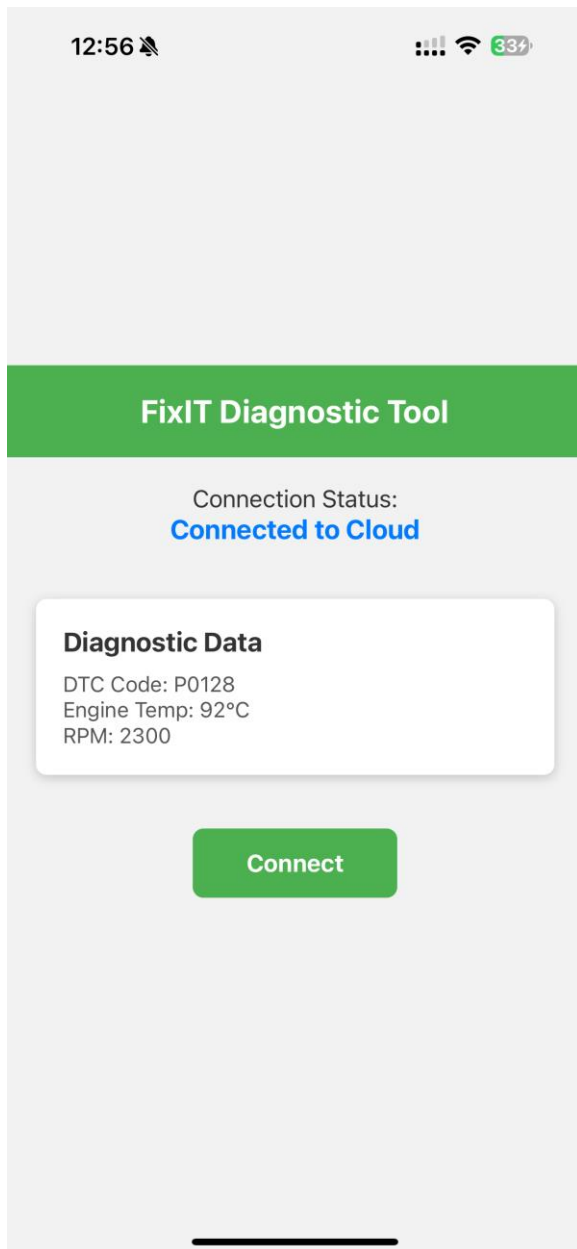- Started research AWS IoT

- Investigating hardware setup issue

FixIT Cloud Server Communication

FixIT Diagnostic Tool

Connection Status:
Connected to Cloud

Diagnostic Data

DTC Code: P0128
Engine Temp: 92°C
RPM: 2300

Connect

**Note above image is how it will look like it is not currently in function

Jonathan Duron

This week I ran into a lot of git and react native problems. I had a lot of researching to do to see what was wrong with the app. Also made sure there were no merge conflicts when merging the frontend to our main branch

- Ran into trouble in trying to debug what the issue below was. This error below prevented me from continuing to develop from my personal mobile device which did not allow me to include Bluetooth features.
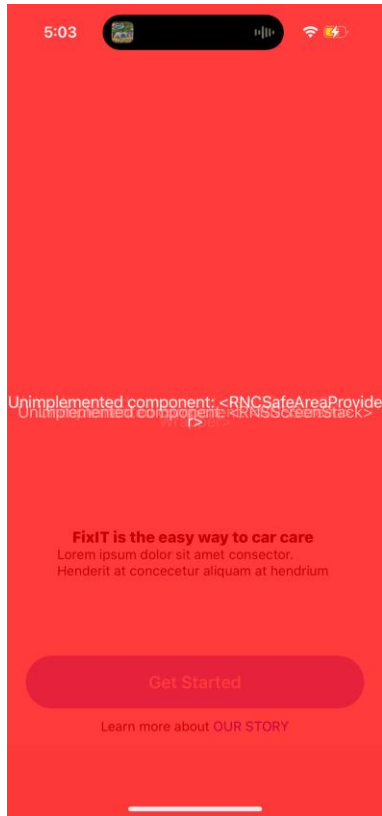
- Successfully merged a branch into our teams main branch

Mohamed Elaagip

Working on setting up and getting our feature branch started. I'm looking into CI/CD pipelines via Github actions possibly.

- Feature branch up and running
- Working on implementing main user page

- Settings feature branch to follow
- Worked with Jon on outlining NFRs
- Dabbled with security

William Griner

utilized a system with AWS S3, AWS dyanmoDB, and terraform to prevent developers from concurrently editing the tfstate file of our cloud infrastructure, which could result in corruption of our cloud resources.

In simple terms it's like this:

Scenario 1: Someone Else is Running Terraform

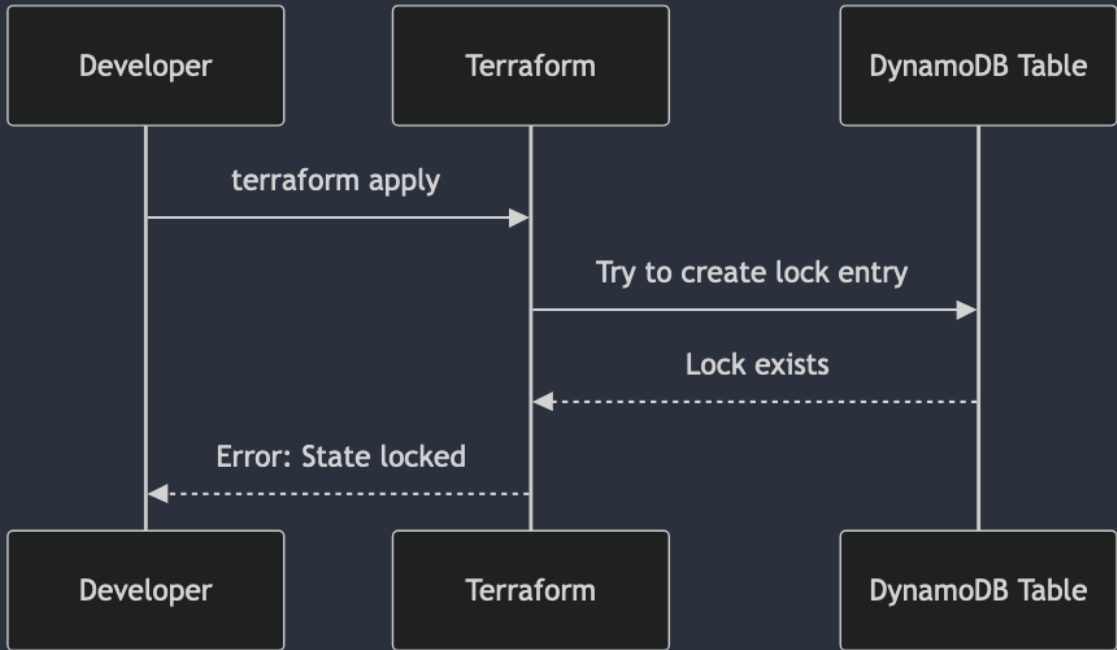Imagine trying to use a bathroom:

- You try to open the door (Developer runs terraform apply)
- You see it's locked (DynamoDB shows lock exists)
- You get told "Occupied!" (Terraform returns error: State locked)
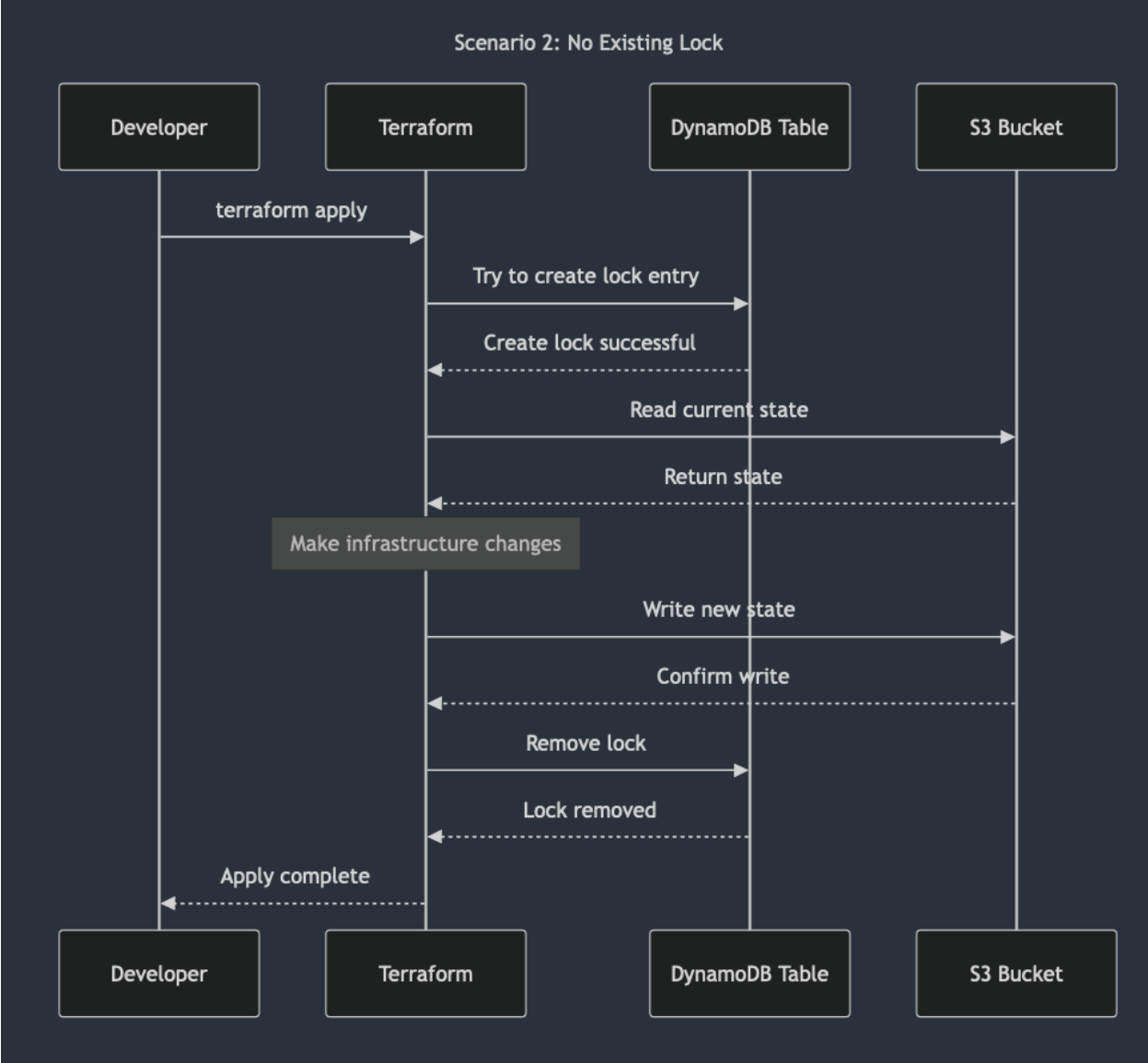- You have to wait until the person is done

Scenario 2: No Existing Lock

Like successfully using a bathroom:

- You check if it's occupied (Terraform checks DynamoDB)
- It's free, so you lock the door (Terraform creates lock)
- You look in the mirror to see what needs fixing (Terraform reads current state from S3)
- You make your changes (Terraform makes infrastructure changes)
- You check the mirror again to confirm changes (Terraform writes new state to S3)
- You unlock the door when done (Terraform removes lock)
- You leave, letting others know it's free (Terraform completes)

Scenario 1: Someone Else is Running Terraform

Developer → Terraform: terraform apply

Terraform → DynamoDB Table: Try to create lock entry

DynamoDB Table ⇠ Terraform: Lock exists

Terraform ⇠ Developer: Error: State locked

Scenario 2: No Existing Lock

Detailed discussion with Ben on our flow of data, and why we might want to refactor our overall data flow. Also discussed various networking protocols.
Researched AWS IoT to see if it'd be a good fit for our cloud setup

Pending issues

We are trying to figure out how to streamline things best in terms of a consumer perspective. Still investigating into how we will get everything talking with each other.

There is a still a problem with git, whenever navigating within directories it completley changes its repo.

o **Individual contributions**

NAME	Individual Contributions *(Quick list of contributions. This should be short.)*	Hours this week	HOURS cumulative
Benjamin Muslic	• Research • Cloud planning • Streamlining alternatives	8	49
Jonathan Duron	• React native software update • Research react native issues • Merged to main	7	46
Mohamed Elaagip	• Work on feature branch • Continue developing frontend	6	50
William Griner	• created a system to prevent developers from concurrently editing the tfstate file of our cloud infrastructure	12	54

Plans for the upcoming week

Benjamin Muslic

Continue research and experimenting hardware/software integration

- Experiment hardware setup on different vehicles
- Continue trying to figure out sending DTC to the cloud

Mohamed Elaagip:

Continue working alongside Jon on our feature branches

- Continue working on home page
- Research CI/CD
- Research cybersecurity of phone apps

Jonathan Duron

- Help setup authentication

William

Continue collaborating with Ben as needed

Further research web scraping and / using our own custom LLM