Auto Reminder Device

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The Problem

Story Time

- Head to the cinema.
- Buy popcorn and snacks.
- Sit down in the comfortable seat.
- Realize that I forgot my reading glasses.
- **Wonder what is going on in the movie?!**

Can you relate to that ?

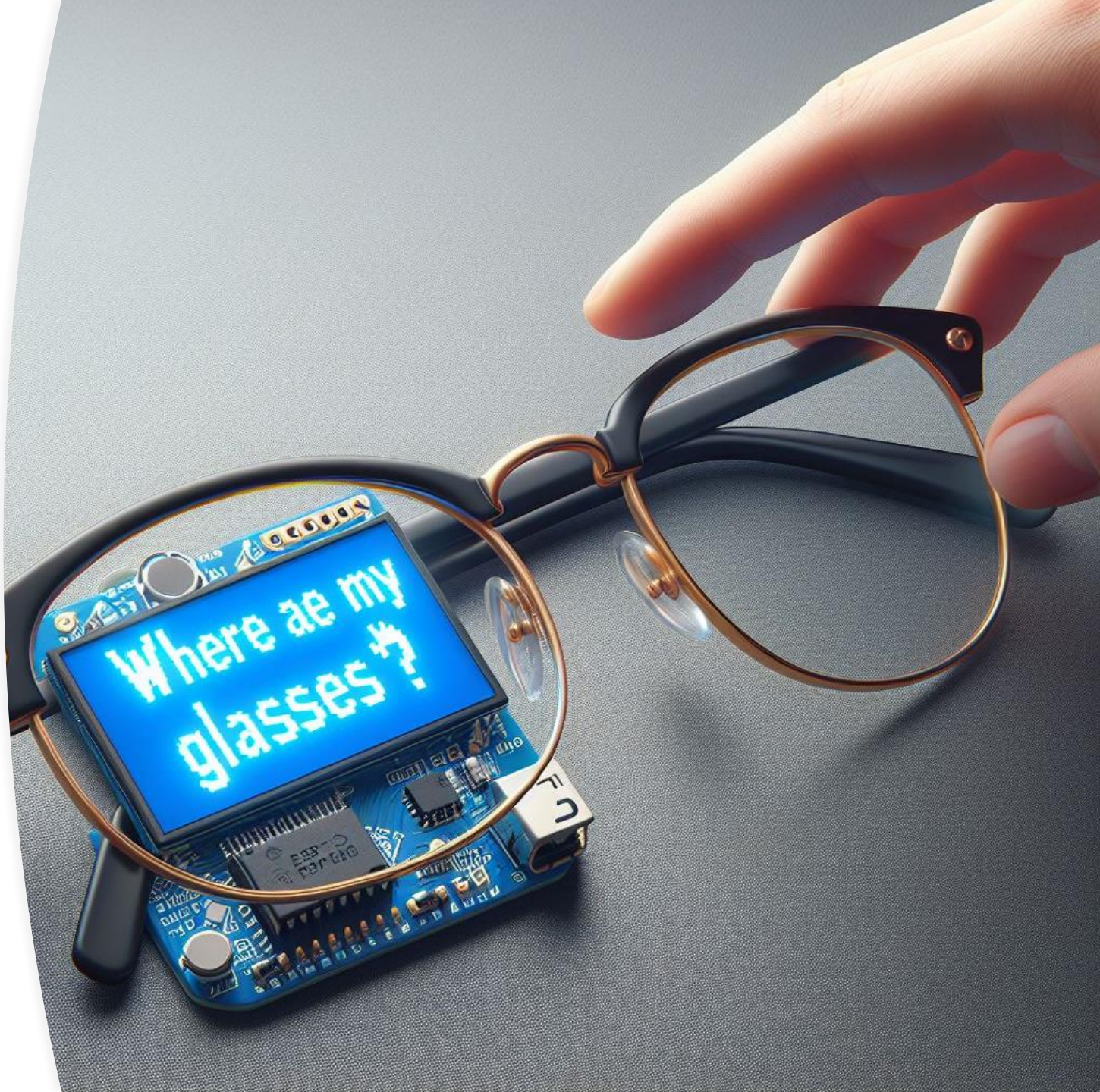
Introduction

Our idea,

- Create a smart device that will notice when you leave home
- If you left without your glasses, it would remind you to go back and get them.
- Use IOT to solve it

The Big Idea

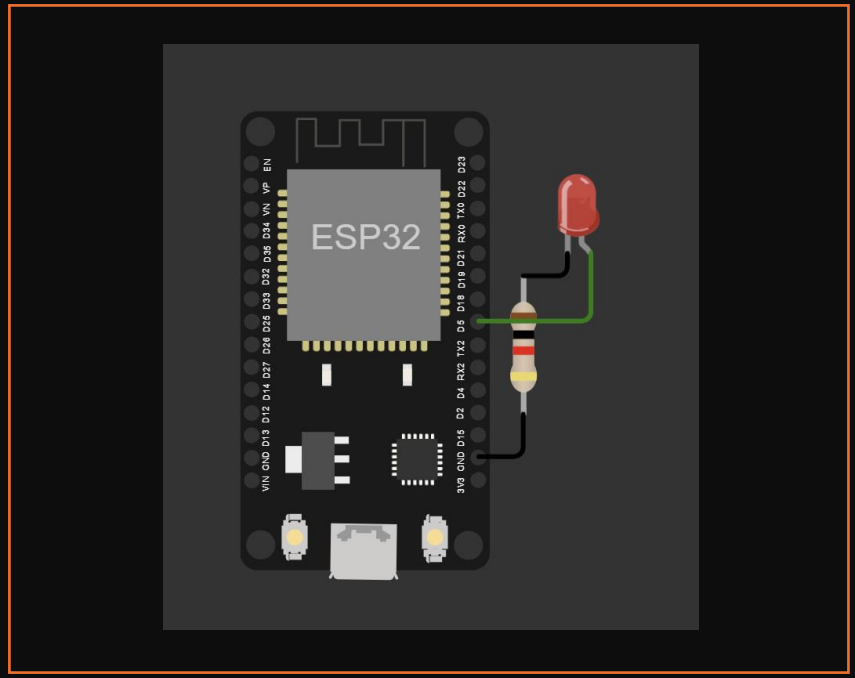
- Tracker and transmitter **with only Wi-Fi.**
- Receiving a massive amount of data.
- Process the data.
- Update software.

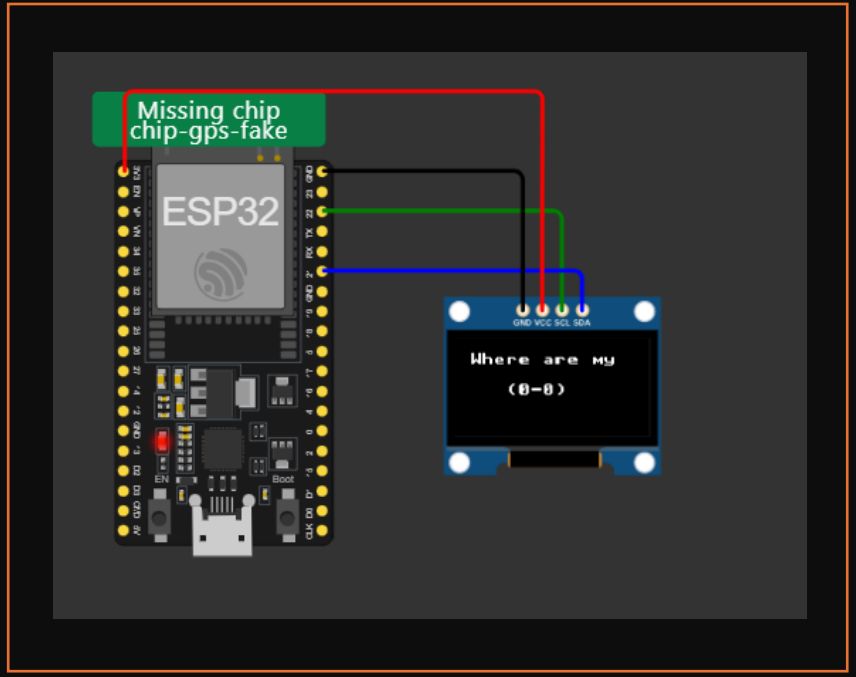



If it Ain't Broke,
Don't Fix It

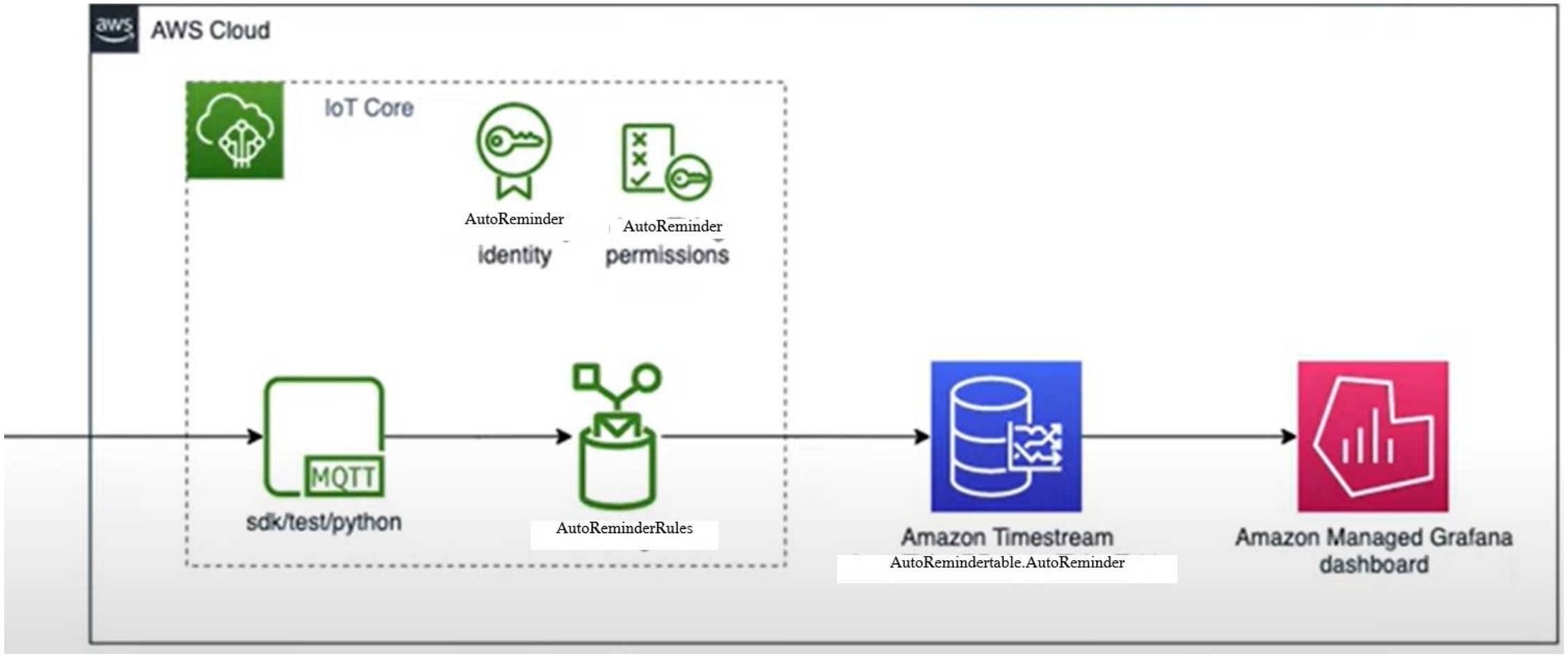
Hardware

- Two ESP32
- Led
- LCD Screen
- Battery





Auto Reminder Device Flow



AWS cload and MQTT

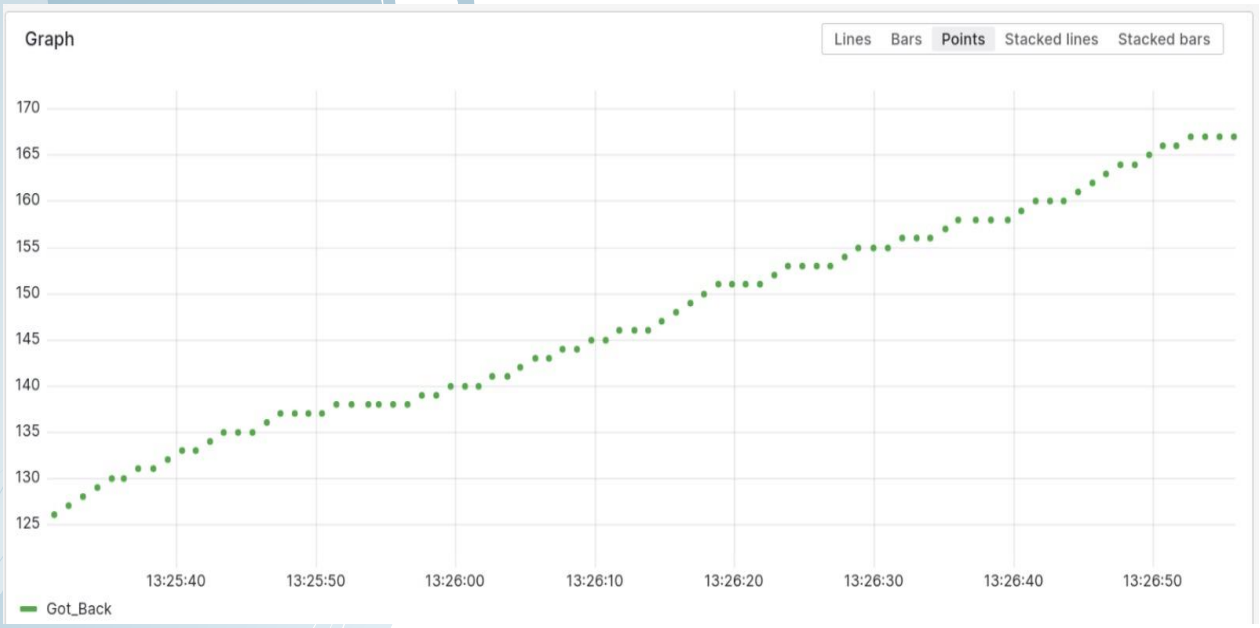
- Example in python of MQTT protocol based.

```
 message_json = json.dumps(
        {
            "time":int(random_time.timestamp()),

            "user_name": user_list[index],

            "location": gps_list[index],

             "Got_back“ :count_yes,

            "forgot“ :count_general,
},
```

MQTT messages and Grafana

1 2 3 4 5 6 7 ..

measure_name	time	measure_value::varchar	measure_value::bigint
Got_back	2024-03-12 10:55:30.437000000	-	1
Got_back	2024-03-12 10:55:31.477000000	-	1
Got_back	2024-03-12 10:55:32.455000000	-	2
Got_back	2024-03-12 10:55:33.518000000	-	2
Got_back	2024-03-12 10:55:34.494000000	-	3
Got_back	2024-03-12 10:55:35.592000000	-	3
Got_back	2024-03-12 10:55:36.471000000	-	3
Got_back	2024-03-12 10:55:37.483000000	-	4



Grafana

Position Tracking Using WiFi by Dr. John Kapenga

Problem:

•GPS lacks accuracy inside buildings, making it unreliable for intra-building tracking.

•There's a need for a more precise location tracking system within structures.

Solution:

•WiFi-based location tracking is used as an alternative to GPS for more accurate indoor positioning.

•The system involves devices that can send emergency messages and location information to a central 4559server.

•Devices use Arduino Uno and WiFi Shield to transmit data through WiFi.

•A Central Server receives transmissions and displays device locations on a building map.

security

Future Work

- Add more smart devices that can connect to our transmitter.
- Add an application that can manage the devices smartly to avoid false alarms.

THANK YOU FOR LISTENING

Tal & Oren

QUESTIONS?

THANK YOU!