IOT Project

TEAM : NONSENSORS

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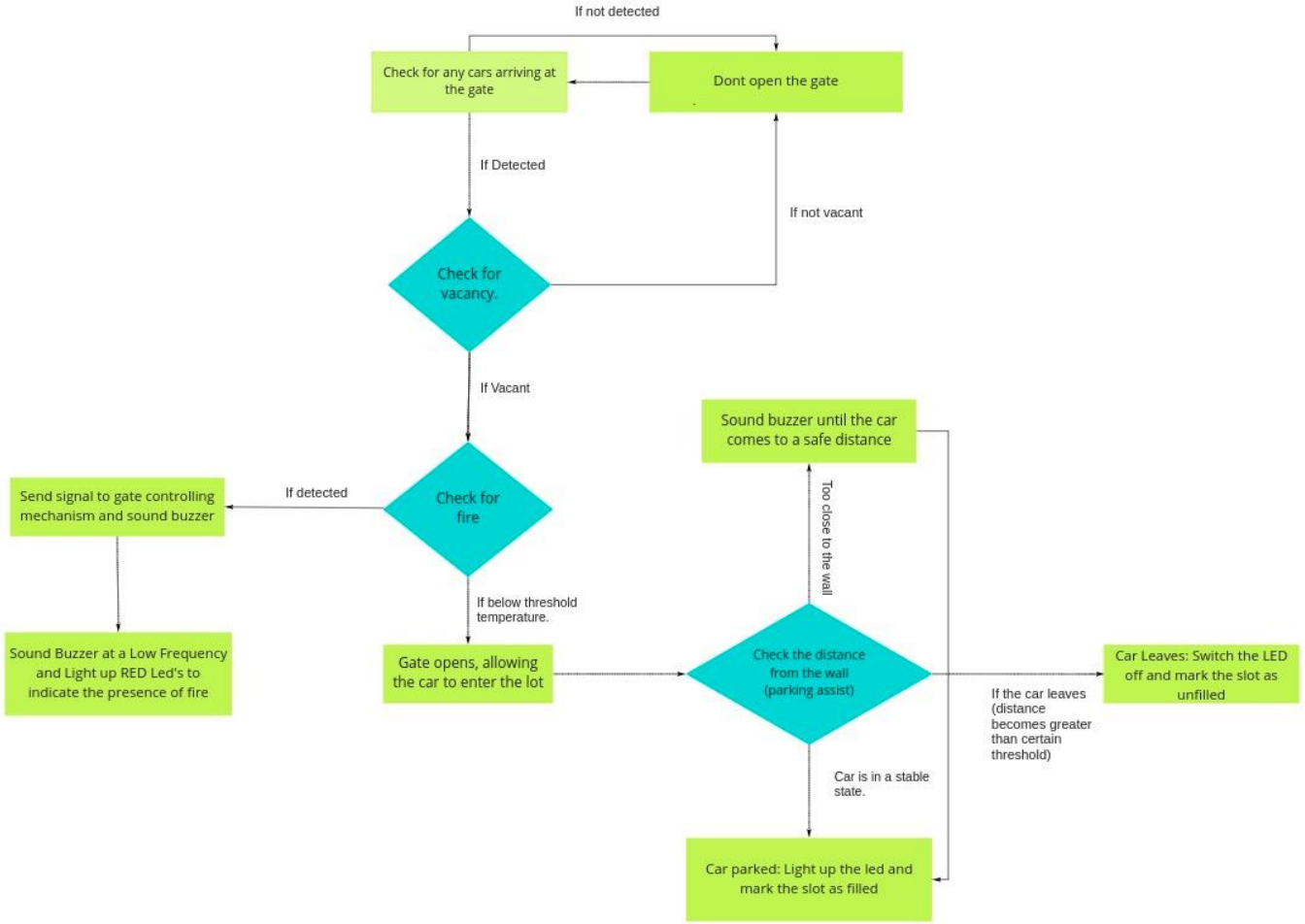
Idea

- Our project is a parking lot system with various components in it.
- We have few subparts in this project, There is a gate system at the beginning of the parking lot that regulates the flow of vehicles in and out of the parking lot depending on the occupancy and the temperature reading in the parking lot, ensuring integration.
- There is also parking assistance where the driver can safely park inside the parking lot by listening to the buzzer.
- We also plan to have a common website for the same where we dynamically update the parking lot status and collect the status when required.

Motivation

Car Parking has become one of the major underrated issues in our vision for a “Smart City”. Need for efficient parking management system has skyrocketed ever since there has been a rise in the number of vehicles and not enough parking spaces for the same.

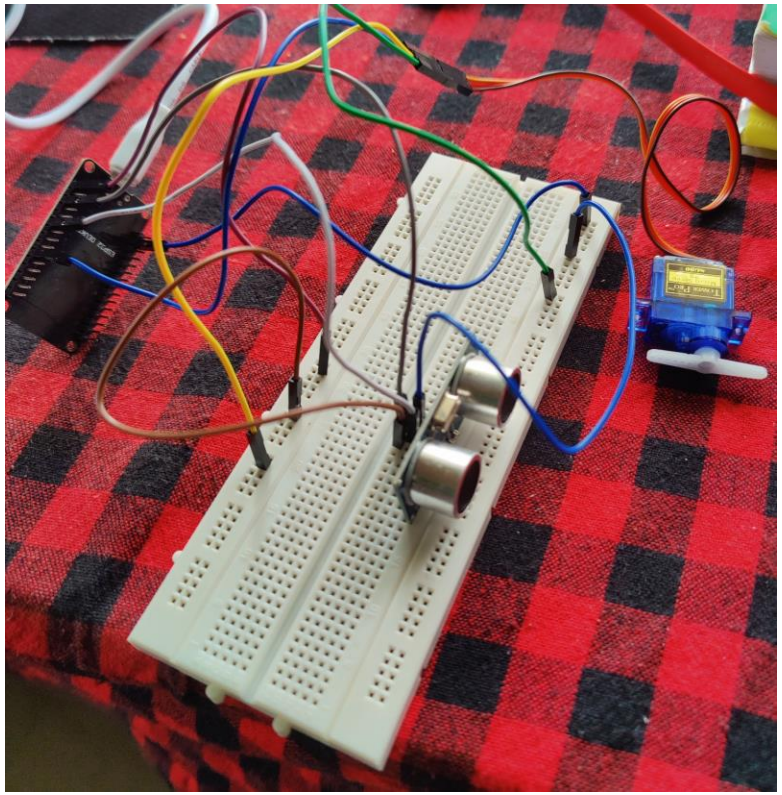
We aim to look over this issue, and implement a system where parking is completely automated and is relatively easier than what it is today.

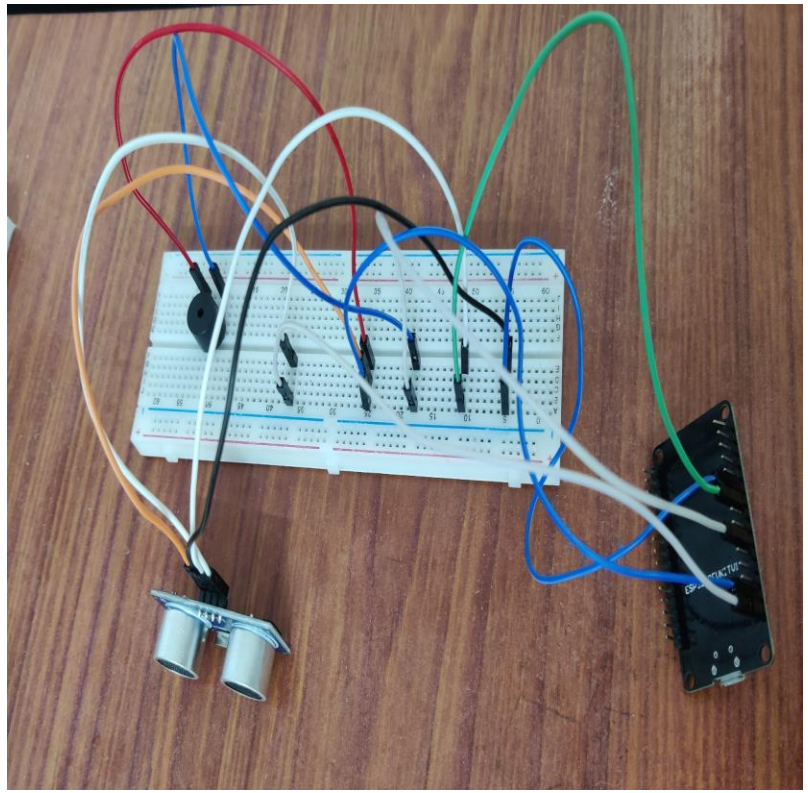


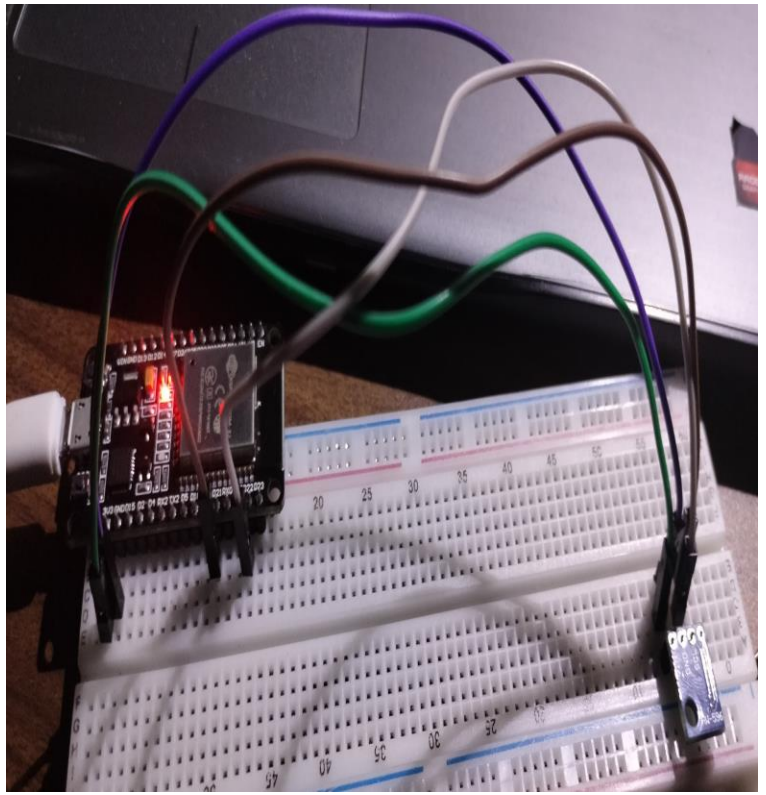
Code Flow

Link to Diagram: [Here]

Circuit Diagrams



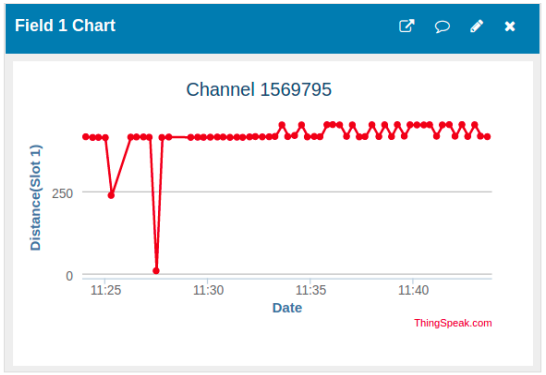


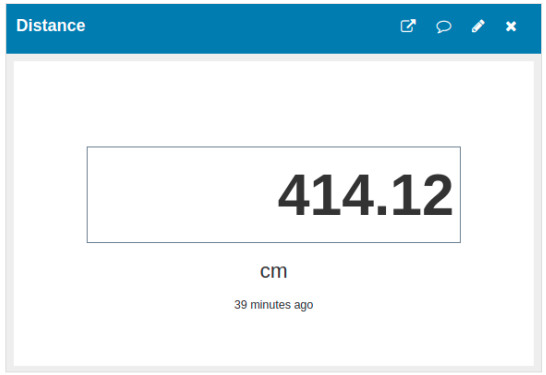


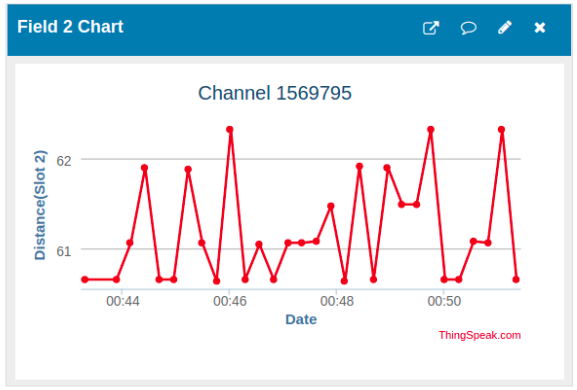
What have we achieved?

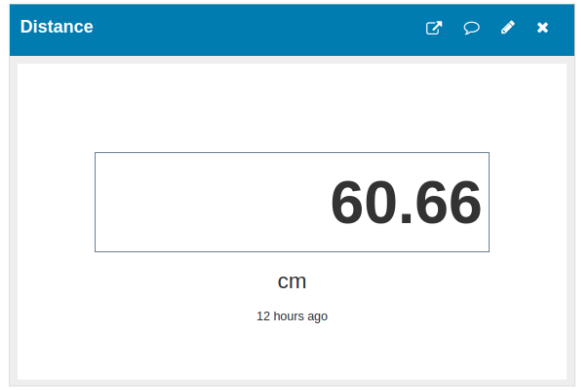
- We have successfully implemented the parking assistance feature, both code and hardware for three parking lots.
- We are done with the Fire alarm system.
- We are done with the gate system and it connects to all the remaining hardware components.
- Using thing speak, all of us are able to upload the data for all the parking lots into the common channel.
- Data has also been uploaded onto oneM2M.
- Data is also uploaded to the main website dynamically.

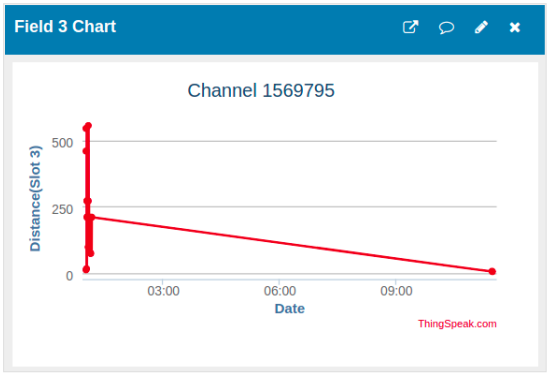
Thingspeak Screenshots

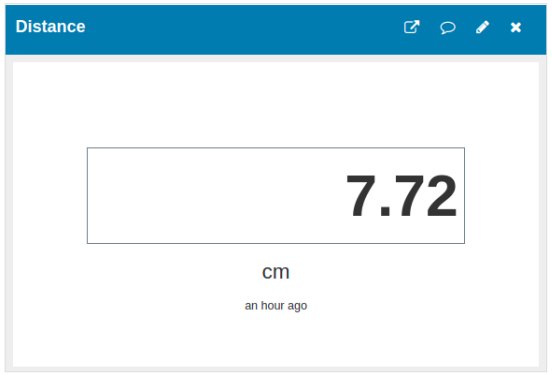


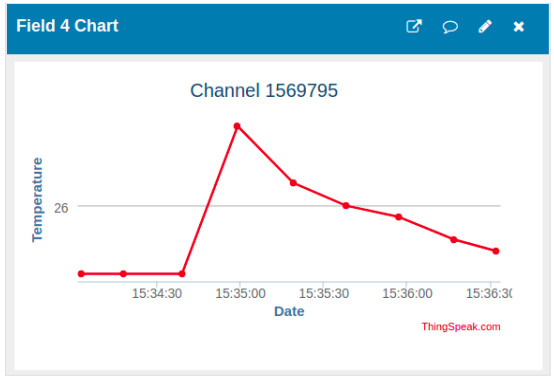


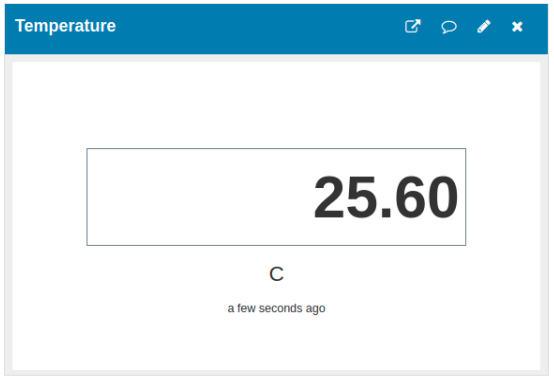












Conclusion

- We have successfully implemented an IoT-based Parking Lot system using sensors and IoT based cloud platform Thingspeak.
- We also sent data to oM2M local host for data storage and analysis.
- We synced all 4 parts of the project and made the project interoperable signifying one of the major pillars of IOT.

Thank You :)