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Summary

The information to purchase NodeMCU and microphone sensor was prepared this week. And how to find the location by the time difference between arrival time (TOA) and arrival techniques was studied. In addition, new member Victor joined the team and worked together on LoRaWAN settings. Larry gave a laptop to use as a LoRaWAN Server. The Server was built using this laptop, but the gateway connection is still in progress. The whole Coyote team met Mia and had time to ask various questions and get advice. The decision to write a schedule for each week and summarize the paper was made. The coyote team will gather and have a meeting with Mia every week.

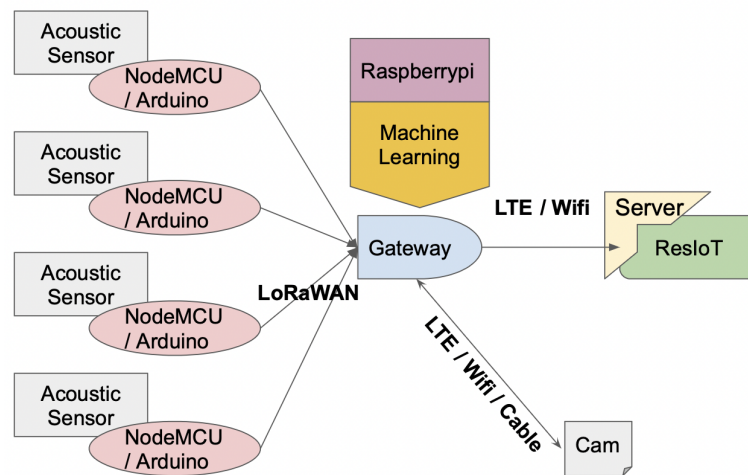


Fig. 1. Architecture of IoT and Network

What Coyote Team completed this week:

- Decided which equipment to buy
- Built a LoRaWAN Server
- Tried to Install and set up ResIoT
- Tried to Install Chirpstack
- Discussed plans and layed out architecture
- Studied about coyote's feature and found out the way to filtering the sound
- Studied about how to find the location by the time difference between arrival time

Things to do by next week

- Read paper and summarize it
- Have a meeting with Mia
- Add gateway in ResIoT
- Try to connect Node MCU with Lora
- Research Sound filtering code
- Put in the code in Node MCU and test it.

Problems or challenges:

- Add the gateway on ResIoT (Most problem)
- efficient staffing

References

[1] L. Fredrik. "Study of LoRaWAN Device and Gateway Setups: with ChirpStack implementation" Digitala Vetenskapliga Arkivet. Jun, 22, 2022. [Online]. Available: <http://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1679773&dswid=6042>

[2] ResIOT. "ResIOT LoRaWAN Network Server and IoT Platform Online Manuals, Documentation" docs.resiot.io. 2014. [Online]. Available: <https://docs.resiot.io/MultitechGatewayGuideSpi/>

[3] ResIOT. "ResIOT Intro 2018 Wap" youtube. Oct, 2, 2018. [Online]. Available: <http://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1679773&dswid=6042>

[4] L. Pounder. "How to Use SSH to Connect to Remote Computers Using Windows, Linux or macOS" Tom's Hardware. Jul, 4, 2022. [Online]. Available: <https://www.tomshardware.com/how-to/use-ssh-connect-to-remote-computer>

[5] B. Mitchell, M. Makagon, M. Jaeger and R. Barrett. (2006). "Information Content of Coyote barks and howls" 2006. [Online] Available: https://www.uvm.edu/~bmitchel/Publications/Mitchell_Information_content.pdf