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Summary

For this week, the paper team focused on the paper and all team members did their own work. Considering several variables, the original demonstration environment changed into the indoor environment.

What C.C completed this week:

- Revised the abstract of the paper and added references of the literatures which were referred
- Connected RPLiDAR onto Raspberry Pi Ubuntu [1]
- Studied MQTT [2] and CoAP [3]
- Studied UART and tried to connect GPS module with Raspberry Pi [4]
- Designed the part of the broom

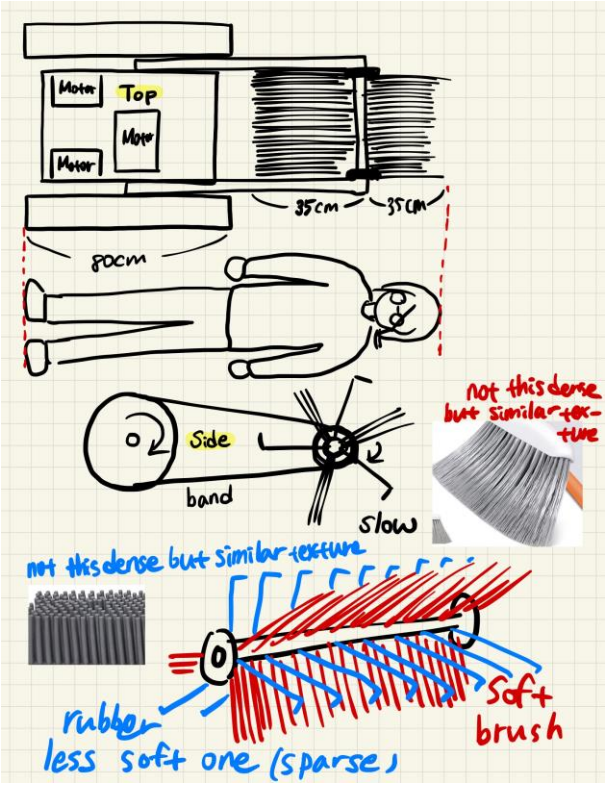

Fig. 1. An overview of the broom design

Things to do by next week

- Will keep studying MQTT, COAP and will compare both
- Will start to make a robot platform and the part of the broom with Professor Eric's help
- Will start to write down the methodology part during making the robot platform

Problems or challenges:

- Another one raspberry pi 4B board was broken and GPS module did not work well.
- Deciding the details of the robot such as velocity and size was difficult.

References

[1] Shenzhen Yahboom Technology Co., Ltd. *How to use lidar*. Accessed: Sep. 29, 2022. [Online]. Available: http://www.yahboom.net/study/RPLIDAR-A-Series

[2] G. C. Hillar, "Hands-On MQTT Programming with Python: Work with the lightweight IoT protocol in Python," UK: Packt, 2018, pp. 1-228.

[3] ARM, *Constrained Application Protocol (CoAP) Tutorial.* (May. 9, 2014). Accessed: Oct. 4, 2022. [Online Video]. Available: https://www.youtube.com/watchv=4bSr5x5gKvA&ab_channel=Arm%C2%AE

[4] P. Krivic. "GPS Module, Python & Google maps all in one." HELENTRONICA. https://helentronica.com/2014/05/20/gps-module-python-google-maps-all-in-one/ (accessed Oct. 4, 2022).