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From: IIEEE

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Summary

This week is travel week, so we only had time on Thursday and Friday. It was time to build up to execute the actual project. It is decided what kind of sensor to install. The team was subdivided and a detailed plan was made on how to proceed with the development.

What IIEEE completed this week:

- Making a gantt chart in detail
    - Dividing what to do for each team

- Meeting with Prof. Smith about this project
    - Originally, we were going to get the farm data from the professor's farm, but then we realized that we had to use Senet.
    - Thus, we decided to build our own farm and get the sensing data by installing the sensors ourselves.

- Deciding the list required equipment
    - MakerFocus ESP32 LoRa
    - Soil Temperature Sensor
    - Solar Radiation Sensor
    - UV Radiation Sensor
    - Rainfall Sensor
    - Wind Speed Sensor
    - Wind Direction Sensor
    - DS18B20 temperature Sensor 1m
    - BME280 pressure humidity Sensor
    - RTC module

Things to do by next week

- Detailed plan for each team until next week
    - Network Team
        - Researching ESP32 with LoRaWAN
        - Researching how to make LoRaWAN network with Chirpstack
    - Front-end Team
        - Making a wireframe for website
        - Responsive web publishing
    - Kubernetes and Back-end Team
        - Studying Kubernetes overall

Problems or challenges:

- Struggling with this project topic
    - Traditional load balancer has a very comprehensive meaning, so it is questionable which load balancer we can call a traditional load balancer.
    - While we have not used Kubernetes, it is suggested that creating a model to compare with Kubernetes may be short of time.
        - We decided to apply Kubernetes to one model first.
        - If time permits, we will leave the possibility open to building another model.
            - The first option is to add a model that applies Docker swarm, an orchestration tool similar to Kubernetes.
            - The second option is to create and compare various structures with Kubernetes.
            - The third option is to compare the models of load balancer before and after using Kubernetes.
                - The load balancer here will use the same thing that applies to Kubernetes.

References

[1] “ESP32 Weathercloud Weather Station.” Instructable circuits. https://www.instructables.com/ESP32-Weathercloud-Weather-Station/ (accessed June. 3, 2022).