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From: IIEEE

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Summary

We learned about Docker and Kubernetes from Youtube and Udemy Lectures. And we figured out the topic of a service that is related to Kubernetes. We had a lot of concerns about what was the fittest utilization of Kubernetes and what was the best subject among the three: Smart farm, Location tracking, and UAVs. Finally, we decided specifically on our topic, an optimizing system for the management of farm data based on Kubernetes, which had the advantage of getting data from WHIN(Wabash Heartland Innovation Network).

What IIEEE completed this week:

- Taking Docker & Kubernetes lectures
    - Comparing Virtual machine and Container systems
    - Setting basic concepts and practicing what Images and Containers are
    - Understanding Nodes, Pods, and Containers in Kubernetes
- Discussing what service we will design using Kubernetes
    - Deciding our topic as Smart farms among the three: Smart farms, Location tracking, and UAVs
    - Meeting with Prof. Smith and getting information about WHIN where can get weather station data of farms in Indiana
- Setting a detailed topic within Smart farms
    - Topic: An optimizing system for management of farm data based on Kubernetes
- Choosing team name: IIEEE (Double I Triple E)
    - Based on our team member's MBTI(Myers-Briggs Type Indicator). The reason why there are two introverted people and three extroverted people.

Things to do by next week

- Researching and Purchasing what we need (such as equipment etc.)
- Designing system architecture
- Reading papers related to our subject and preparing to write a paper
- Writing a draft of the Abstract

Problems or challenges:

- Team Building
    - Coordinating team members due to new people who want to join us still in Korea
        - Contacting new people
        - Maintaining original team members as new people's opinion
- Difficulty in selecting a subject of the project

    - Struggling to fix our topic, as we don't have enough knowledge about Docker and Kubernetes
        - Learning the concept of Docker and Kubernetes through lectures individually
        - Sharing what we learned and what we understood a basic concept clearly
        - Being selected the subject as Smart farms through brainstorming and advice from Prof. Smith.

References

- Muralidharan, Shapna, Gyuwon Song, and Heedong Ko, "Monitoring and managing iot applications in smart cities using kubernetes," in *CLOUD COMPUTING 2019*, May 5-9, pp. 1-6.
- Medel, Víctor, et al., "Modelling performance & resource management in kubernetes," in *2016 IEEE/ACM 9th Int. Conf. on Utility and Cloud Computing*, pp. 257-262.