Presentation A

- IoT platform landscape
  - Use your judgement, prepare a figure of the landscape
    - Use different dimensions of considerations
  
- Commercial IoT middleware
  - Investigate some more IoT middleware, especially the commercial ones
    - Present their characteristics
      - For similar features, point out what it is similar to (only brief discussion)
      - For quite different features, point out where it would be in the landscape and discuss the benefits/pitfalls of these features
      - Point out missing features and discuss the consequence of missing them
      - Please read the ones we cover in class, do not duplicate, use a similar way to make the presentation
    
  - Include various products of some larger commercial suite
    - Cover edge elements if available
    - Consider functionality, data channeling, security, etc.

Presentation B

- Microservice architecture
  - For implementing IoT platforms, like KAA and SiteWhere
    - KAA uses Kubernetes, SiteWhere uses Istio
  
  - For edge computing
    - Suitability of different platforms for edge computing (how about Cloudlet)
  
  - Specifically focus on microservice platforms
    - Compare Kubernetes and Istio
      - Istio is now the de facto service mesh framework (https://istio.io/)
      - What are the addon properties and how they are designed
        - E.g., for traffic management (TSL termination, circuit breaker, …), discovery, service identity and security, policy enforcement, …
    
  - Istio uses Envoy proxy, why?
    - Compare Envoy with NGINX, Haproxy (used in KAA), …
  
  - Istio offers gRPC and Restful
    - Why gRPC, is it better or worse?
Presentation C

Stream processing technologies

- Get a general landscape of streaming processing technologies
  - Pay attention to the categorizations
- We have discussed Kafka and Storm
- Study a few additional streaming processing systems
  - Such as Samza, Flint
  - And some commercial ones
- Discuss, if information available
  - Reference to what we have covered, do comparisons
  - How to use them?
  - Message structure, sharding mechanisms, consistency protocols for read and write, etc.
  - Security mechanisms and performance improvement tricks