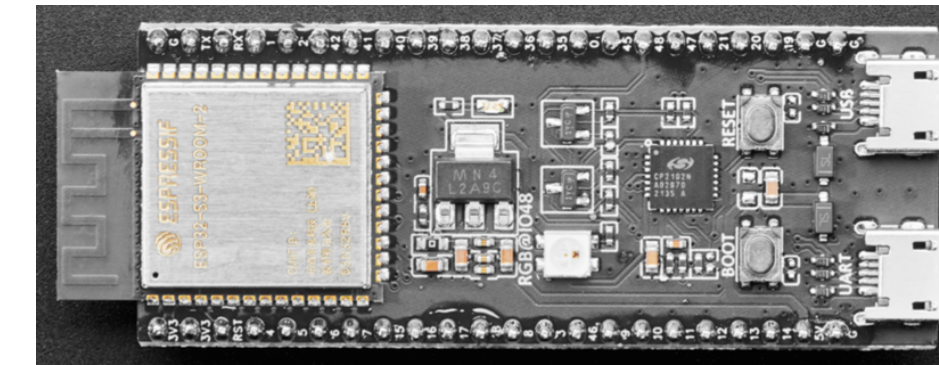
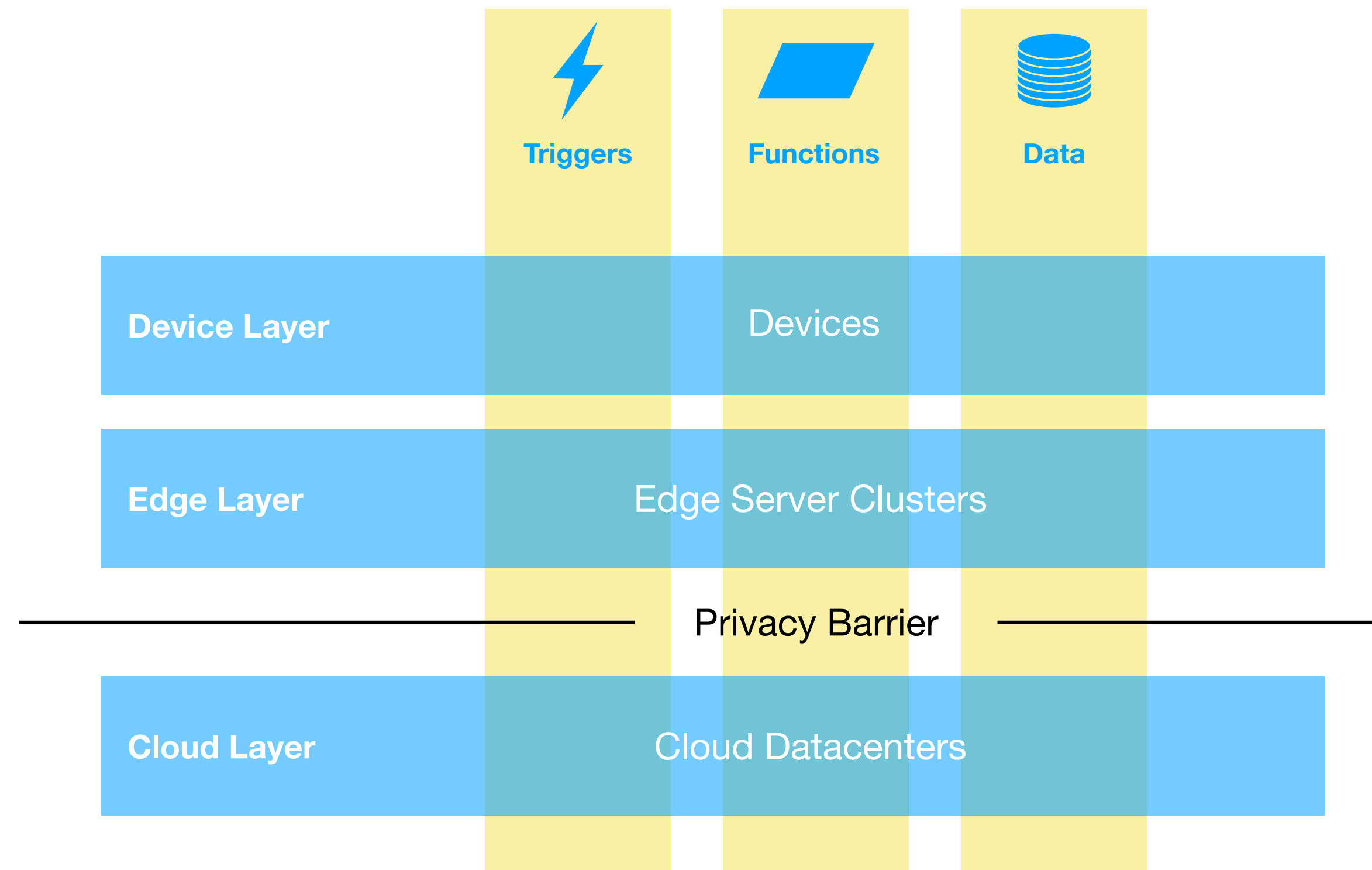


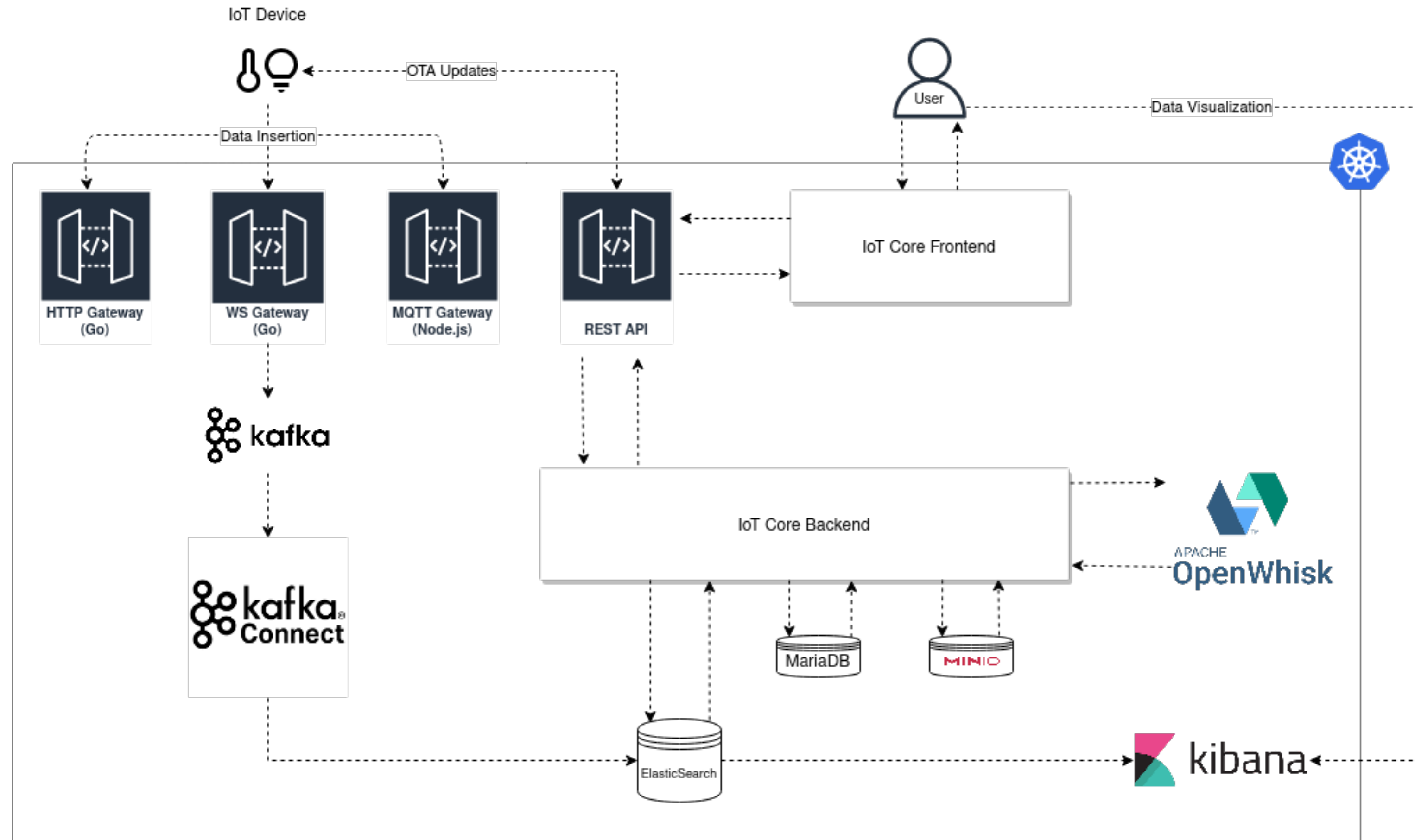
# Master Practical Course on IoT

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Technische Universität München

# IoT - Serverless Edge Computing



# IoT Platform - Architecture



# Skills to bring in

- Software Development
- C++, Python, javascript, go, ...
- Embedded systems programming
- Microservice programming and deployment
- Machine learning
- Data management
- Hardware knowledge
- Power&Energy tuning
- ...

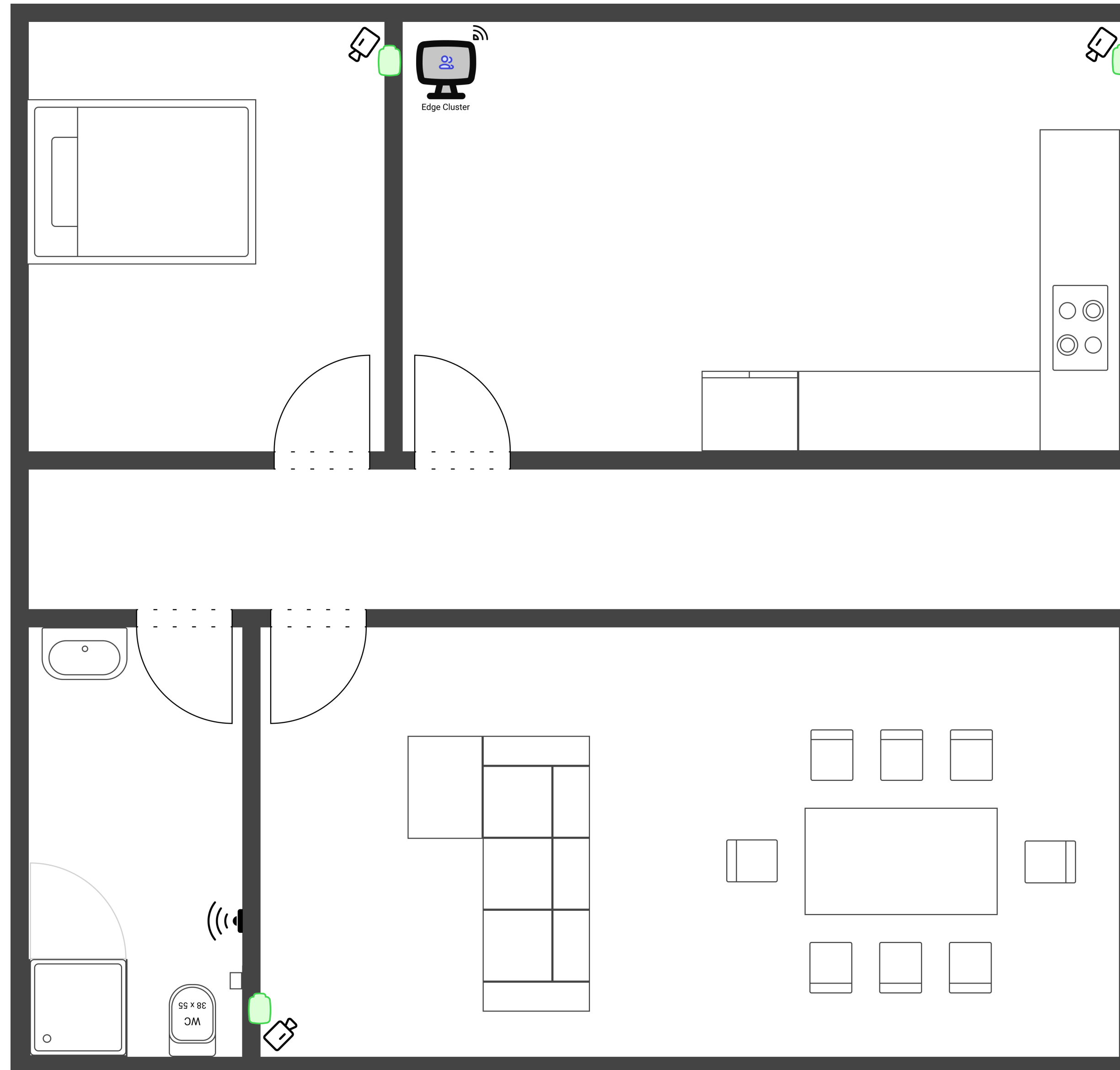
# Our Use Case!

- The senior population will continue to grow
- Care facilities have limited resources
- Many seniors already rely on nurses or family members for care at home
- At-home care is often very expensive
- Preventive and remote attention could improve their quality of life

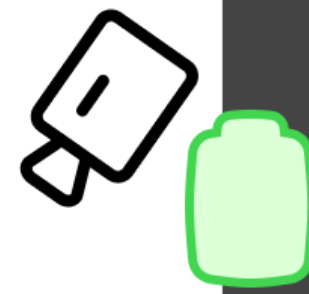
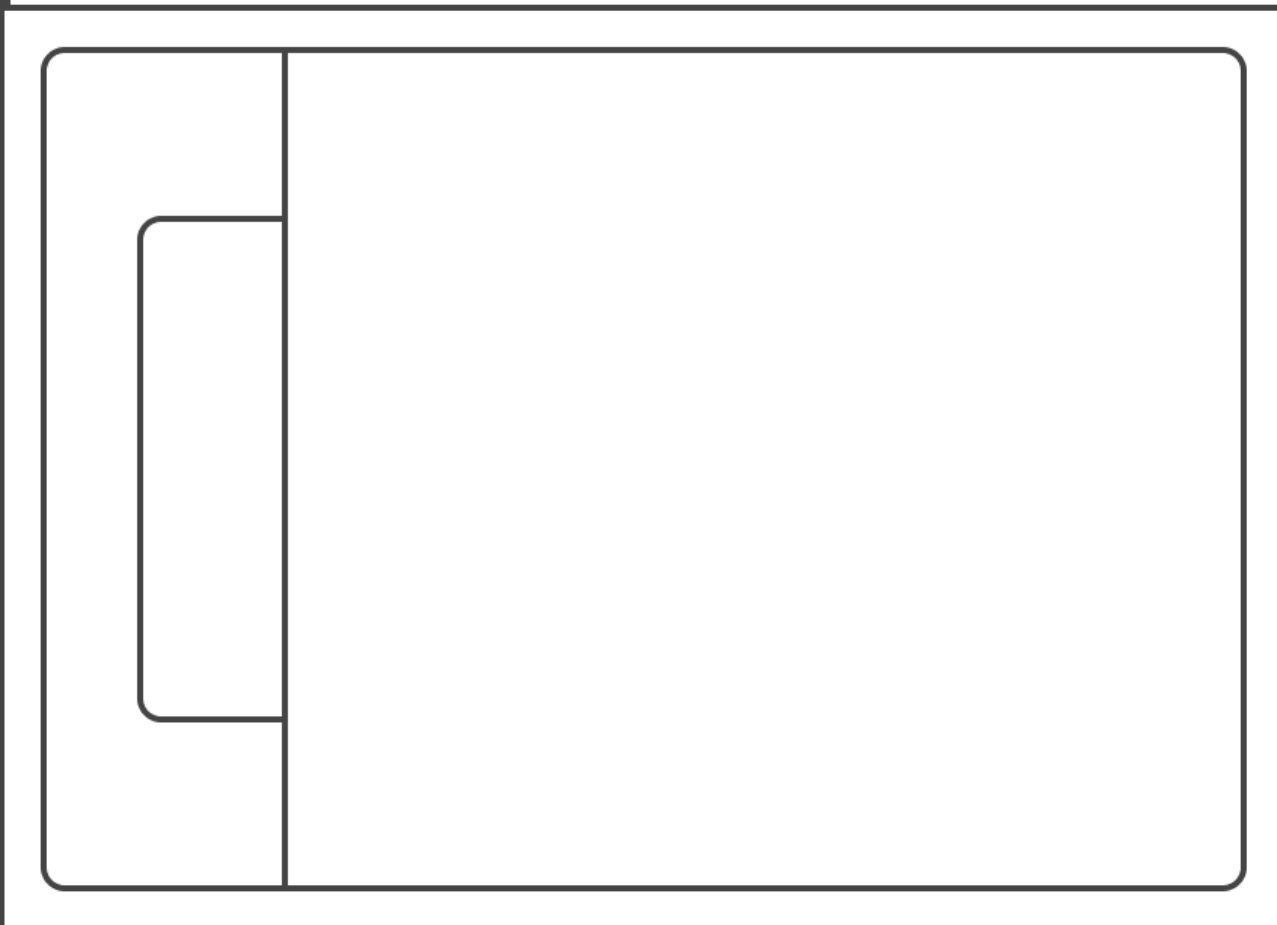
# The task this semester?

- Build the first iteration of a monitoring system for Senior Homecare.
- Model the behaviour of a senior via a Digital Twin
- Provide a simulation environment to test your infrastructure

# Our idea!



# Our idea!

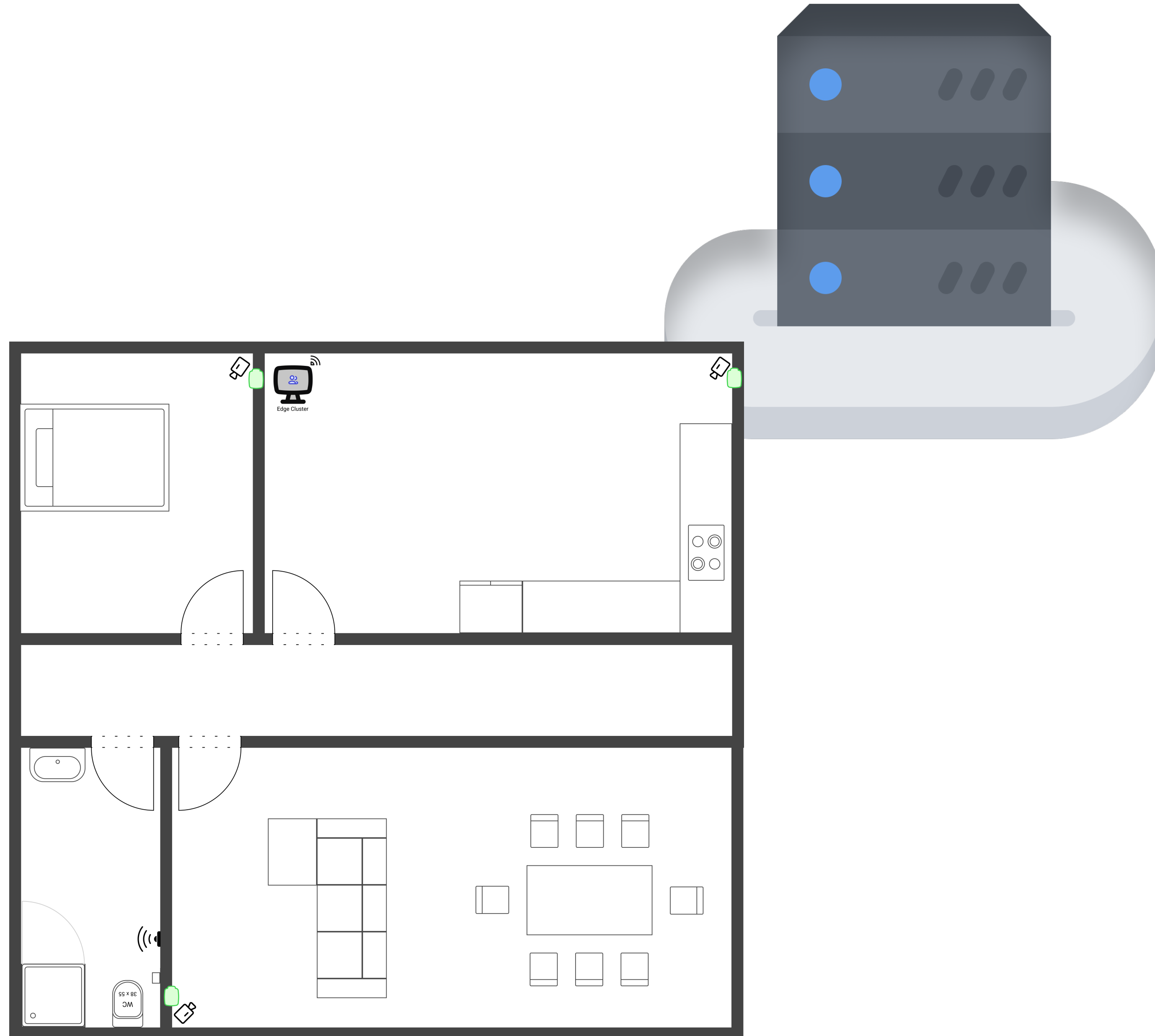


Edge Cluster

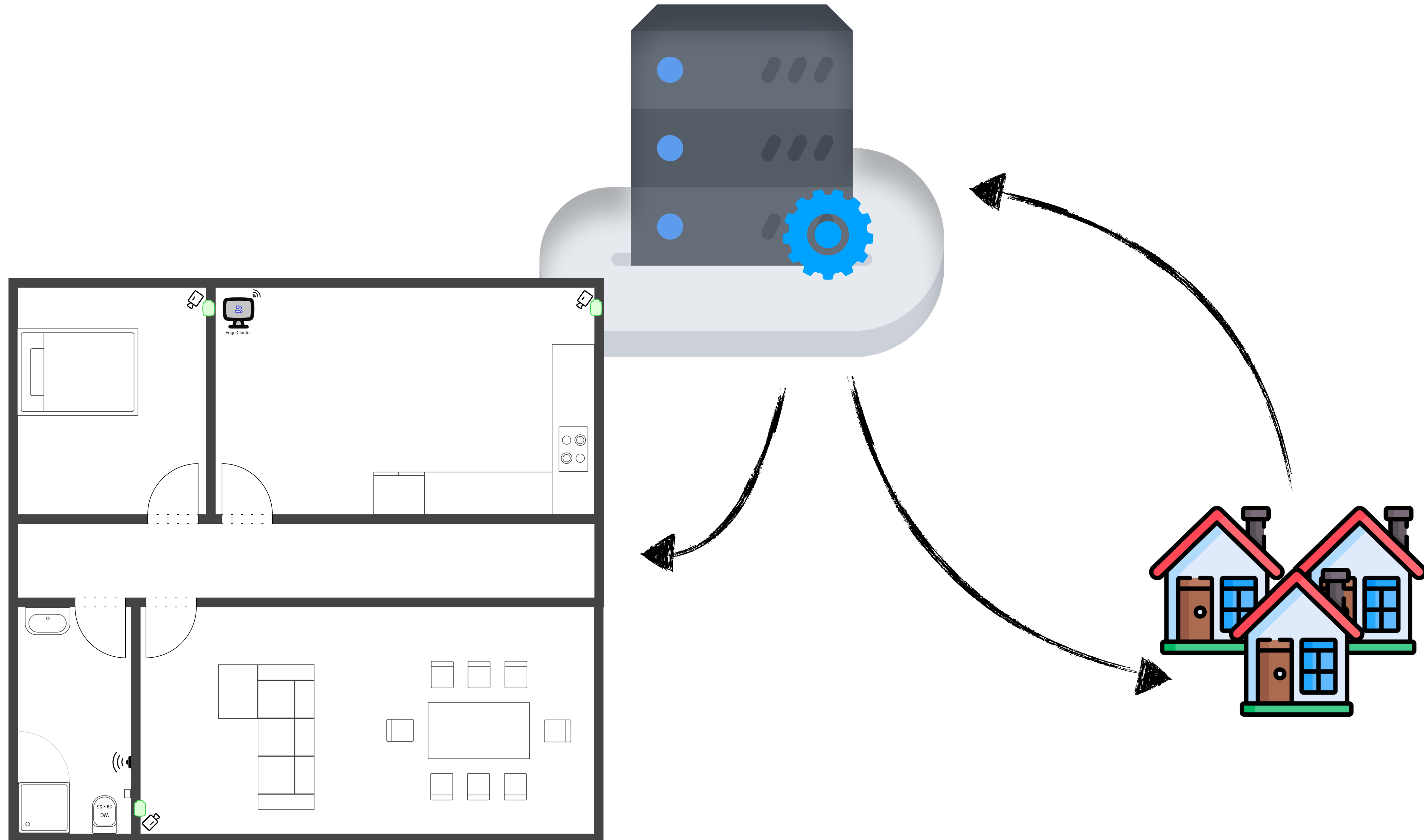
**The IoT Platform**  
**The Digital Twin**



# Our idea!



# Our idea!



# Organizational Stuff

- Structure
  - Block course at Fraueninsel from 04.10.2023 to 06.10.2023
    - The cost is ca. 120€ for those three days. This amount covers only the food.
    - Lodging and transport by boat is covered by us.
    - We assume you have a valid Deutschland Ticket
    - **Participating in this trip is mandatory for taking part in the course.**
  - Weekly or bi-weekly meeting during the lecture period on Thursdays between 16:15 to 17:45
- Course and Project Tasks?
  - A mix of individual and group tasks.
- Groups?
  - Yes!
  - You will work in pairs to develop different parts of the monitoring system
  - You will have to collaborate with other groups to build the final system
  - Despite group work, **the final grade is individually calculated**



# Organizational Stuff

- We offer 16 slots
  - If you wish to pre-apply, please send an email to [isaac.nunez@tum.de](mailto:isaac.nunez@tum.de) before 19.07.2023 at 11:59
  - Write a short description of your background and/or a motivation to participate in this course.
- Lecture period meetings
  - They are meant to follow your progress and provide support
  - There will four meetings throughout the semester where you present your work. These are called [Milestones](#).

# Contact

- Isaac Nunez Araya
  - Office: 01.04.055
  - Email: [isaac.nunez@tum.de](mailto:isaac.nunez@tum.de)
  - Office hours: Mon, Wed, Fri between 13:00 and 15:00 or by email.
- More information is available in our [Webpage](#)