

Master Lab Course

IoT

Lecturers

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Chair for Computer Architecture and Parallel Systems

Goals

- Familiarization with IoT Cloud concepts
- Implement a concrete use case
- Deploy Machine Learning technologies

Internet of Things

Use sensors and actuators for decision management support and fully autonomous control tasks

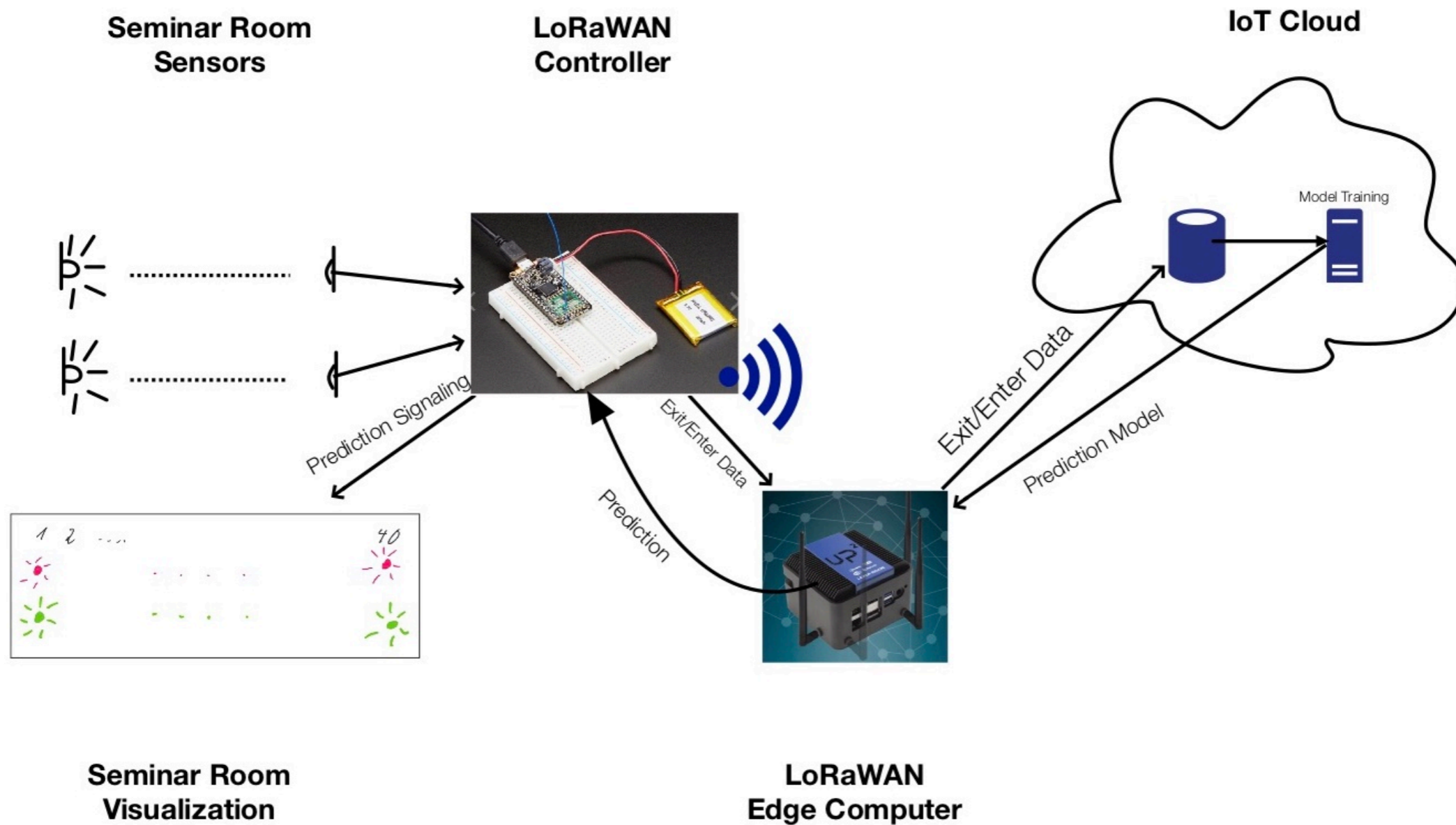
Use Case

Seminar Room Monitoring

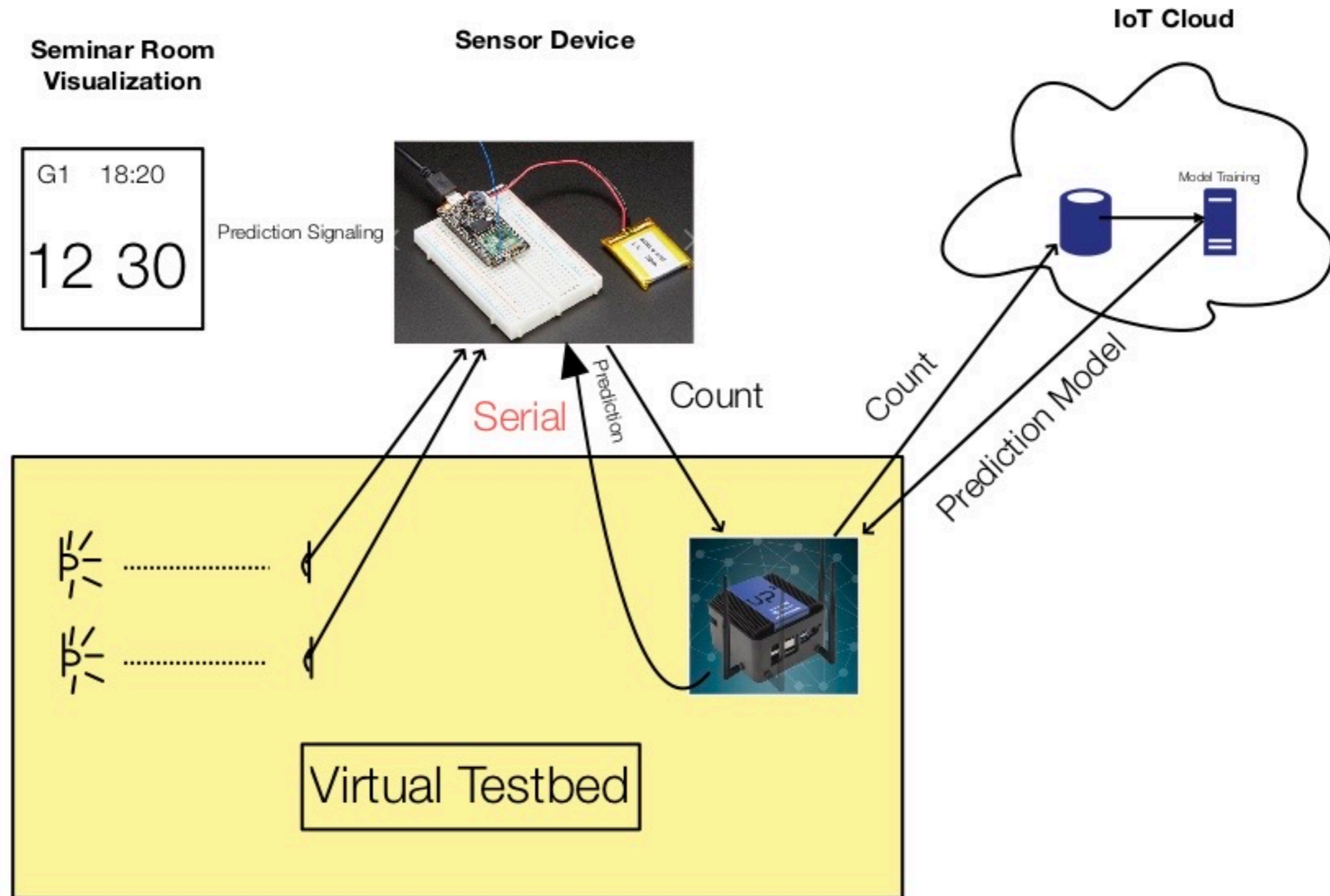
Features

1. Room Monitoring
2. Room Occupancy Prediction
3. Anomaly Detection

Final Architecture

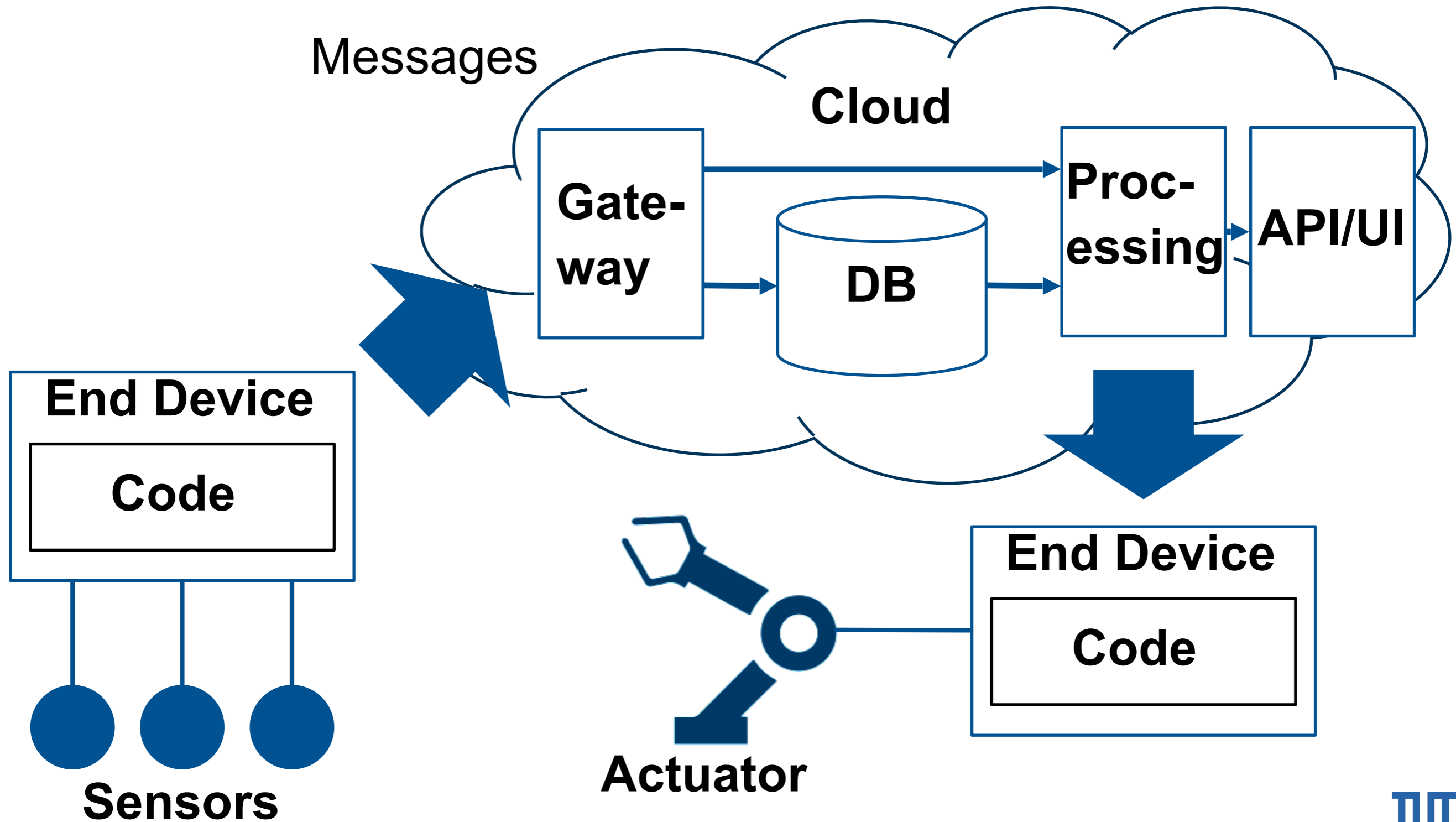


The Corona Architecture

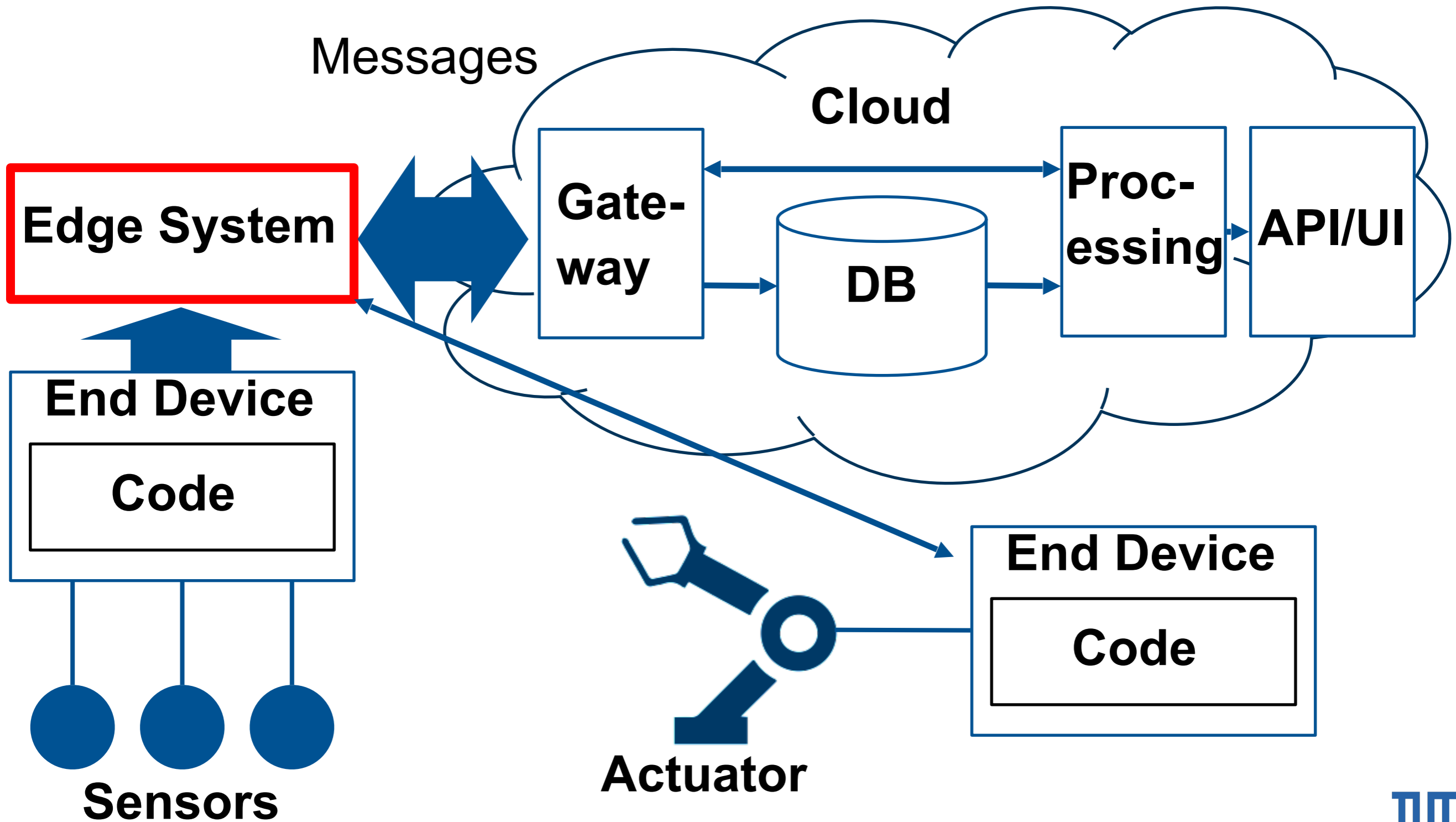


IoT Platform

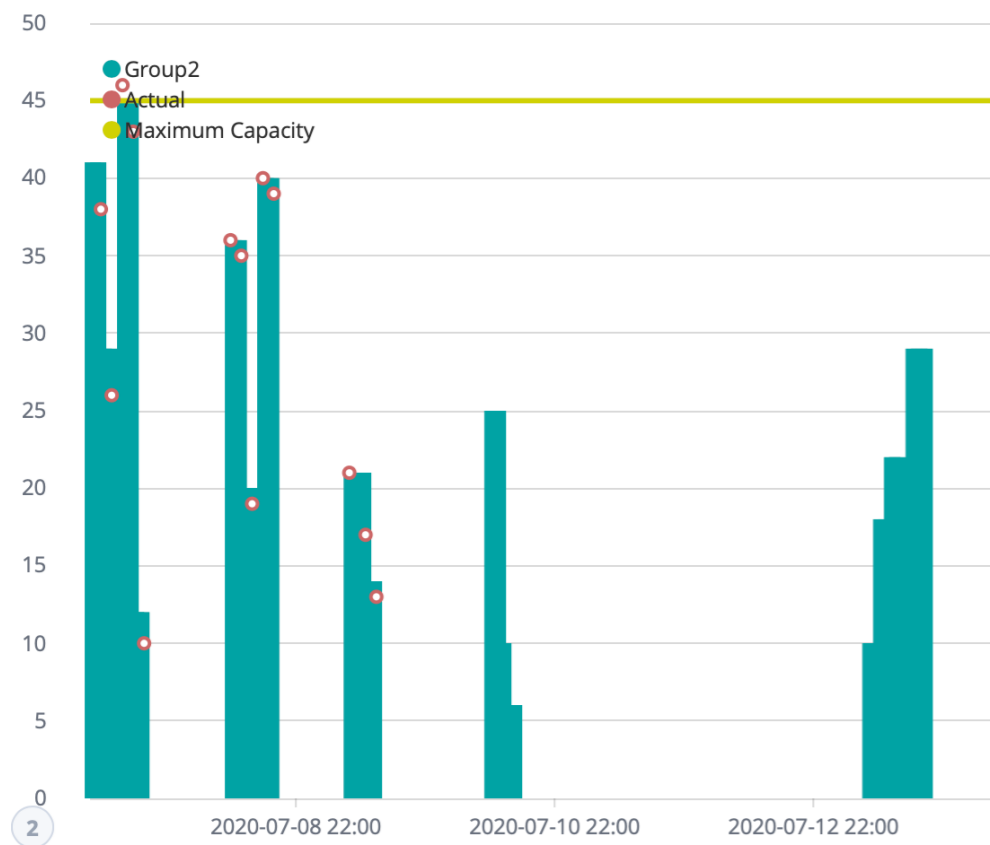
IoT Platform



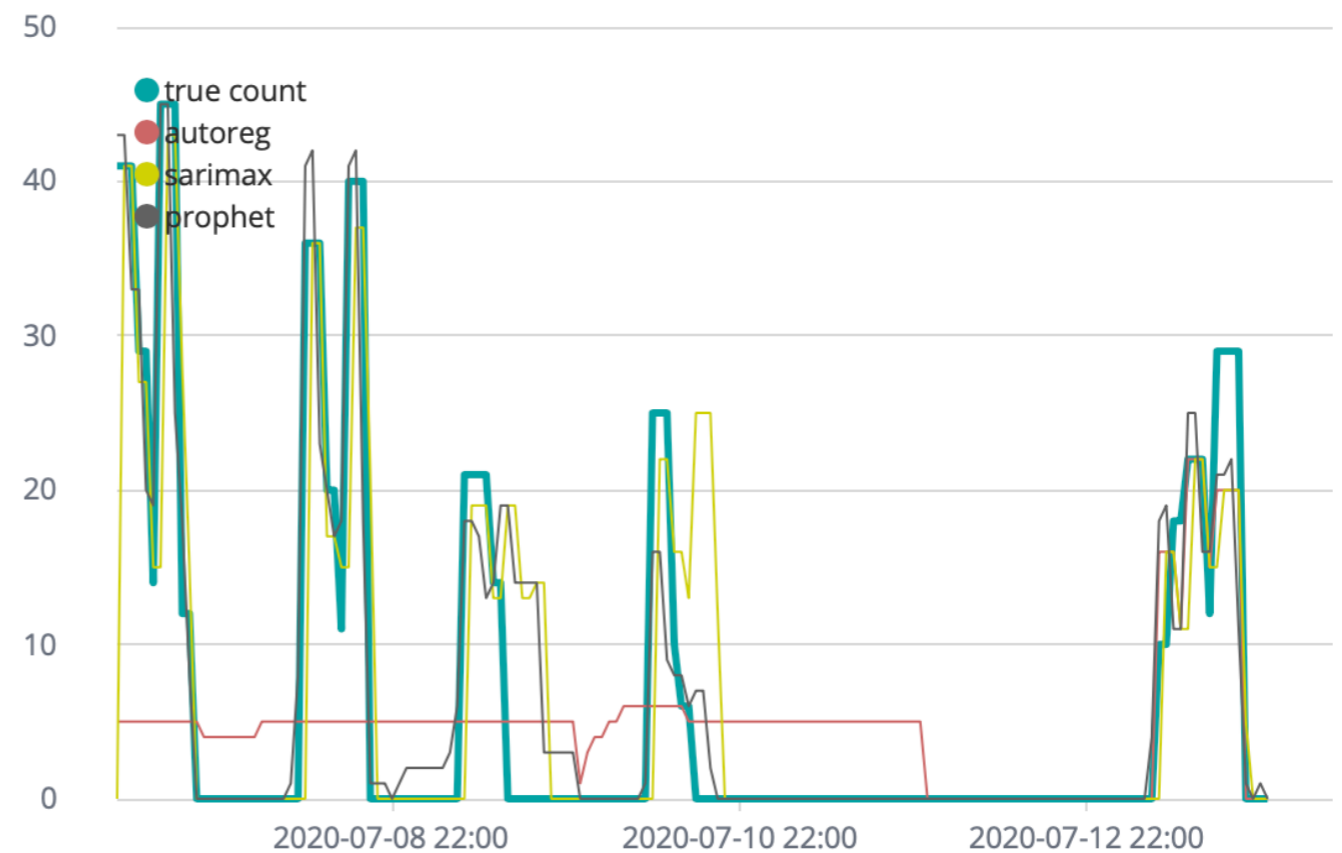
IoT Platform



Visualization



Group2_CurrentHistoricBar



Milestones

1. **Demonstrator** on breadboard via TTN (W3)
2. **Prototype** on room testbed via TTN/IoT Cloud (W6)
3. **Deployment** via edge computer (W12)

Grading

- Each milestone
 - Level of fulfillment of requirements based on a list of deliverables
 - Discussion of deliverables
- Equally weighted (33%)

Learning Outcomes

- You
 - ... will be familiar with micro controller programming
 - ... will be able to produce your own IoT controller
 - ... will know a typical IoT platform
 - ... will be able to master cloud deployments
 - ... will know about machine learning technologies
 - ... will be a rare specialist in these areas
- We
 - ... will learn about the challenges you faced
 - ... will be able to improve the course
 - ... will integrate the outcome into the I10 IoT Cloud

Questions