Implementation of a Home Automation Service

Benedikt Görgei, Lukas D'Angelo, Patrick Eder

Technische Universität Graz

benedikt.goergei@student.tugraz.at, lukas.dangelo@student.tugraz.at, patrick.eder@student.tugraz.at

June 9, 2022



Overview

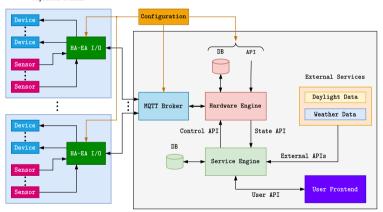
- Introduction
 - Aim and Motivation
- 2 Concept
 - Components
 - Services
- Implementation
 - Software Implementation
- 4 User Story and Demo
 - User Story
 - Demo

Aim and Motivation

- Pre-existing network-enabled hardware I/O modules
- General purpose inputs and outputs
- Sensor BUS
- Building a smart service to control the hardware modules

Components

Physical Domian



Logical Domain

Components and Services

- Physical domain
 - Devices to control
 - Hardware I/O modules
- Logical domain
 - MQTT Broker
 - Hardware Engine
 - Service Engine
 - External Services
 - User Frontend

Software Implementation

- Communication Protocols
 - MQTT for communicating with hardware
 - HTTP REST
- Programming Language and Frameworks
 - Python 3
 - Flask
- Deployment Docker:
 - MQTT Broker
 - Hardware Engine
 - Service Engine and User Frontend

6/9

User Story

• USER STORY BLA BLA BLA

Demo

☑ DEMO BLA BLA BLA

Thank you!

 \exists Questions?