DAT110 Oblig 4 Del A-C

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Abstract

Et arduinobasert cloud IoT adgangskontroll system. Skrevet ved hjelp av TinkerCad, Spark rammeverket og Gson. Fungerer med et REST API mot cloud servicen fra IoT devicet.

1 Introduction

Approximately 1 page on:

(1/4 page) given an overall description of the system that has been developed. The introduction should also give a reference to where your TinkerCAD design (Part A) and device and service implementation (Part B) can be found.

2 Access Control Design Model

(1 page) presenting your finite state machine for the access control device that you developed in Part A. This section should contain a figure showing the finite state machine, and contain a short description of it and the main design choices you have made.

3 Access Control Hardware/Software Implementation

(1.5 pages) explaining how you have implemented the hardware and the software of the access control device. The section should contain a figure presenting your TinkerCAD circuit design

4 REST API cloud service

(1.5 page) explaining how you have implemented the cloud service using the Spark/Java framework. It should briefly explain how you have setup the routes in the service, how you have implemented the storage of access codes and the access log, and how you have used Gson.

5 Device Communication

Device Communication (1 page) explaining how you have implemented the network communication in the access control device, i.e., the HTTP GET and POST operations on the virtual IoT device.

6 System Testing

System Testing (1/2 page) explaining how you have tested the operation of the completed IoT-cloud system.

7 Conclusions

(1/4 page) briefly summing of the status of the project, including things that was not completed or which the group did not manage to get to work properly.