**Project Proposal for programming project (Ubiquitous Computing – Course ID: 2012)**

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**Proposed Title: Virtual Smart Home**

The goal of this project is to create a virtual smart home automation system simulating a complete MQTT network, which is an OASIS standard messaging protocol for the Internet of Things (IoT). The MQTT (Message Queue Telemetry Transport) data will be cached by an HTTP server and made available via HTTP as well as via WebSockets to allow for real time updates in the dashboard. I will build separate program for different components which will communicate using MQTT network and can be deployed to IOT devices using azure-iot-device functions.

Technology

I have planned to implement the system using JavaScript and node JS framework.

Components

Weather station

The weather station will display the current temperature and a description of the weather on initial load (data will be fetched via HTTP GET from openweathermap API).

Heating System

The temperature will drop, if we turn off the heater and if it’s colder outside. If it’s hotter outside, the temperature will slowly rise.

Blinds

There will be configuration option to set the mode of the blinds to manual and change the value of how open we want the blinds to be. If set to automatic, blinds will remain shut between sunset and sunrise and open between sunrise and sunset.

Dashboard

The UI will be implemented in HTML/CSS with frameworks such as Font Awesome, jQuery and more.