PROJECT REPORT
HOME AUTOMATION SYSTEM DESIGN
USING NODE RED

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Faculty of Computer Science
Soegijapranata Catholic University
2018
APPROVAL AND RATIFICATION PAGE

HOME AUTOMATION SYSTEM DESIGN USING NODE RED

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ABSTRACT

Seeing human activity if traveling away becomes a problem if we want to see the condition of the house. Automatic home appliance control or home monitoring is a highly desirable thing for people who are fond of this rapidly evolving technological advancement. One tool that can be used is to use Arduino as a microcontroller to control and monitor the condition of the house.

In this project using the concept of MQTT as a means for communication between clients with the server. Where MQTT is an open source based Internet Of Things protocol designed for limited devices and low bandwidth. In this project it uses mosquitto as the server of MQTT, and using Arduino UNO as a microcontroller or client. The workings of this MQTT are publish and subscribe, where in this project the microcontroller used is made to publish and subscribe on the MQTT server.

To be able to control or monitoring the sensor, required a system that can be used to control and monitoring. One of them is using Node Red. Where in this Node Red which will be made to monitor and control the sensors used in this project.

Keyword: Internet Of Things, MQTT, Node Red, Arduino UNO
PREFACE

In this project there are in VI chapters. Where in the VI chapters are described one by one from the background to the conclusions and suggestions. In chapter I explain the background, scope and objective. In chapter II contains the literature study, where in this chapter II, contains about the researchers who have made the project home automation which is used as a guide in completing this project. While in chapter III, explains the research methodology, where in chapter III is explained how the work of the concept used in completing the project. In chapter IV it is about analysis and design. Where in this chapter, explained about the architecture of the project, from home design to the sensors used and the flowchart of the project described in chapter IV. While in chapter V, explain about implementation and testing. The implementation of this chapter describes the application of the sensors used in this project to the home prototype, while in testing, contains about the experiments performed on this project that is publish or subscribe from Node Red, and Publish on the MQTT server as much 1000, 10000, 50000, and 100000 to find out how much memory is used by the MQTT server. While in the last chapter berisis about the conclusions of this project and suggestions for further researchers.
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