PROJECT REPORT
INTERNET OF THINGS SERVER BASED ON
JAVA SOCKET PROGRAMMING

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PROGRAMMING

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ABSTRACT

Internet of Things (IoT) is a concept for transmitted data using devices over a network without human interference. Internet of Things (IoT) requires a platform and server as a provider of data reception. Message Queuing Telemetry Transport (MQTT) is a well known Internet of Things (IoT) protocol in data transmission efficiency because it can transmit very small data, making it suitable for use on devices with restricted resource. Due to the very complex MQTT features, protocols are required by simply utilizing the publish features of MQTT. This protocol is expected to be better than MQTT.

The custom protocols used on this Internet of Things (IoT) platform only use the publication feature. The protocol only handles data reception from the device and is forwarded to the database server. The protocol receives data sent by the device in a predefined format. Then the data is separated by a space and forwarded to the database server. Access key is required for data transmitted from the device not to exchanged with other channels. One account can have multiple channels and one channel can have multiple sensors. The data transmission format the server receives is [ACCESS_KEY] [SPACE] [SENSOR_ID] [SPACE] [VALUE].

This project builds an Internet of Things (IoT) platform called My IoT Platform is using a custom protocol. Provided front-end applications to facilitate users to access it. The tests performed on this project are the server endurance test and the size of the data packets sent.

Keywords: iot, internet of things, server iot, mqtt, arduino
PREFACE

The project report has six chapters. The first chapter is the introduction project to be used. Chapter 1 contains background, scope, and purpose. The discussion in this chapter on why this project was made, what its purpose is and how the end result looks.

Chapter 2 contains the literature used as a study in building this project. It is also described in this chapter about the differences between literature studies and projects to be created.

Chapter 3 explains each step in making this project outline.

Chapter 4 is the section that explains the analysis in designing this project. The analysis section discusses the issues that need to be solved to design this project. The results of the analysis are use case diagrams, flow charts, class diagrams and testing methods.

Chapter 5 discusses the implementation of this project, and then will be discussed the test results.

Chapter 6 contains the conclusions of making this project. This chapter also contains suggestions that can be developed in further research.
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