ABSTRACT

The internet has become the most effective daily necessity as a medium for interacting and communicating by exchanging data and information around us. One application of the internet that already exists is the Internet of Things (IoT). Thanks to the Internet of Things, certain objects around us can be connected independently to the real world and without direct human intervention. In this research, the authors used IoT to be deployed in the environment to increase the energy efficiency in the classroom. This is an implementation of a smart building system using the Internet of Things.

In this research, a smart building based system has a function as a system that can regulate temperature and light in the classroom by controlling fan, curtains and lights based on sensor data and occupancy in the classroom. The controller used in this research is Arduino Uno Microcontroller. The sensors used are the DHT11 module as a temperature sensor in the room and the BH1750 module as a sensor for the level of light intensity in the classroom. From the results of tests conducted, the average error result of BH1750 is 14% and the average DHT11 error result is 4%. The control system can run according to decision making with an average execution delay of 5.6 seconds and 100% accuracy.

Keywords: Arduino Uno , BH1750, DHT11, Internet of Things, smart building