

ABSTRACT

Technology without cable or wireless have started to experience a fairly rapid development at this time. One method of wireless data transmission is to use the ZigBee network protocol. In this final project the author make a design of building automation which connects every electronic device at home using the ZigBee communication method.

The way of this system works is manage the sheduling of electrical device at home using an algorithm and can be controlled manually using the web. In this system to connect each electric device use the ZigBee communication protocol with communication module Xbee S2C. Xbee S2C is used to connect and transmit data between Arduino Nano (slave) and Raspberry Pi Model 3 (master). The Raspberry Pi Model 3 is used as a master to receive data from Arduino which is then stored in the MySQL database. Algorithms play a role in the scheduling of electrical devices that is processed in the raspi and the value of the algorithm will be stored in the database. The results of this final project is sending data using Xbee S2C can transmit data with a distance of 90 meters meters (outdoor), 20 meters (indoor with the same level) and 4 meters (indoor with a different level).

Keywords: *ZigBee, Wireless Communication*