

ABSTRACT

A blind people have difficulty in saving electric energy, especially in the control of electrical appliance. The conditions at their sight had to let electronic devices turned on, so it wasful. Previous research have been conducted by caisar Oentoro to make controlling an electronic device by using the xbee and android with wifi as a media communication between android and arduino. In his research is used as a icon for interface of the application is used, it difficult for blind people to control applications, it make errors in the selection of the desired icon. Moreover, It is more dangerous in terms of security, because the wifi maximum distance farther than the bluetooth which the maximum distance WPAN.

In this research made electronic appliance control system for blind people using arduino with xbee communication and bluetooth as hardware, as well as sound sensor that is connected to the mobile phone with android-based that has applications "BT Voice Control for Arduino" software as a task .On this final will be tested the performance of sensors, systems and performance of xbee and bluetooth as a media of communication used.

In testing, the functionality of the system hardware to software has integrated well. From the test results obtained maximum distances up to 60 m outdoor xbee, and bluetooth is 10 m. Sound sensor has a 80.7% success for 76.32% shipping indoor and outdoor delivery. Delay bluetooth meets the standards ITU-T, Delay xbee Indoor optimal at a distance of 25 meters in a single node, and 10 meters for the second node, and the outdo of xbee optimal delay at a distance of 30 meters for a single node, and 25 meters in 2 nodes. Delay process has meets the standard 3GPP for Non real time delay.

key words : Wireless Sensor Network, Bluetooth, Zigbee. Arduino.