ABSTRACT

Development of microcontroller technology growing rapidly with many innovations to take advantage of these technologies. One innovation by utilizing the microcontroller is a security system. One of the telecommunication property that require high security system is BTS (Base Transceiver Station) shelter room. BTS Shelter room is a place of storage devices that support the work of telecommunications base stations, and connected to a central or hub device. To increase the security level of the BTS shelter door, so in this final project built an automation system security lock that door in the application using the Arduino UNO controlled by a password that has been assigned to applications of Android Smartphone utilizing radio frequency bluetooth. The method used in security systems door automatic BTS shelter using the experimental method, by direct application to design, hardware and software. Bluetooth Module HC-05 as a communication media between bluetooth and Android Smartphone as a remote control. Arduino UNO function for controlling the output of the automatic door security system, the output of the DC motor (driver door) as well as the appearance of the sound output with components of buzzer. Buzzer combined with LED (Light Emitting Diode) as a visual output used as a warning alert, if there is a mismatch between the combination of password set on smartphone applications, therefore the door can not be opened. Password to control (open/close) the door is "Open123" which is then processed by the Arduino UNO to control the door and activate the alarm function of the LED and Buzzer when the password is entered incorrectly. The results show that the security system is running properly and can be developed as expected.

Keywords: Arduino UNO, Bluetooth, Security system of shelter BTS room, Android Smartphone