ABSTRACT

Home monitoring is technology which is implemented in a house able to help monitoring activities in a room. Many technologies have been using static camera that is expensive price. In fact of implementation, it has been found monitoring system using more than one camera as a tool of monitoring to reach whole angle of room.

Therefore, design of home monitoring system is made using ATMega8535 microcontroller and based-web. The system is completed with a motor to move a camera, so it is enough using one camera (webcam) at a room to monitor. Camera and servo motor are located in server side where server is communicated with microcontroller over serial communication to move motor. Servo moves in range 0-180 degrees when it is given pulse signal between 600 to 2400 us. The technology can be also implemented over wired and wireless LAN for user to expand of accessing of system.

The system works over LAN (wired and wireless) where server and microcontroller are communicated each other on serial communication in movement of camera. With setting pulse signal of servo, user can move motor to angle 0, 45, 90, 135, and 180 degrees with pushing button on web page. Testing of data packet on TCP through web as many as 30 times of captures that each capturing is done for 30 seconds, so it is got results of highest data of average output for throughput 0.0253 Mbit/sec, retransmission 28.267 times, and round trip time 66494.139 us, and result of lowest data for throughput 0.0112 Mbit/sec, retransmission 0 times and round trip time 15770.93 us.

Keywords : ATMega8535, LAN, Serial Communication, and Servo.