ABSTRACT

Along with the growth of people's concern on security, various security systems have been used to satisfy the needs. The existence of IP (Internet Protocol) has made it possible to capture videos recorded from security cameras anywhere and anytime through your PC, laptop, or even your cell phone.

Android is a Linux-based operating system for cell phones. This particular operating system is gaining its popularity more and more each day since it provides open platforms for developers to create their own applications.

On this final project, I will try to invent a security system using Webcam and IC as the main controls. The addition of other components like PIR sensor and Motor Servo are also required. When the sensors detect any particular movements, the microcontroller will send and save some codes on the database through Visual Basic serial communications which is accessible through particular applications on user's Android cell phone. As soon as the user logged in, the user will be able to see the real-time captured videos and will be able to set the angles of the camera. Server streaming is designed using computer that is Webcam7-installed and connected to LA N or internet.

This project's main objective is to invent using Webcam, so that users can create and have their own CCTV network with affordable cost of implementation. The outcome of this final project is a prototype of security system with affordable cost of implementation with Wi-Fi as the network. So, the user can control the system using the application on his Android mobile phone. The videos of the environment condition can be transferred real-time with the captured images and status when the condition was change. The maximum range of PIR detection is 8 m. The average speed of the request data transfer is 3.39 second at 09.00 and 3.99 second at 16.00 in local time

Keywords: *Android application, webcam, microcontroller, Wi-Fi*