

## **ANDROID BASED HOME AUTOMATION AND VISION SURVEILLANCE USING RASPBERRY PI**

**R. SENTHIL KUMAR, VIGNESH RAM, SUDHARSAN BABU & PRIYADHARSHAN**

Department of Information Technology, Panimalar Institute of Technology, Chennai, Tamil Nadu, India

### **ABSTRACT**

In recent years, the home environment has seen a rapid development of home automation and various security measures. This technology offers new and exciting opportunities to increase the connectivity of devices within the home for the purpose of home automation and also it provides security through visual surveillance. Mobile devices are ideal in providing a user interface in a home automation system and also a monitor for surveillance, due to their portability and their wide range of capabilities. They can communicate with a home automation network through an Internet gateway, but cannot directly communicate with devices in the network, as these devices usually implement low power communication protocols, such as ZigBee, WiFi etc. In this project we aim at controlling Home appliances and visually monitor the home, via Android device using Internet as communication protocol (provides worldwide accessibility), Raspberry Pi as server system and Infra-red camera for surveillance. In our system user will be notified through android device when motion is detected in surveillance area. We create a user friendly interface for the android device that allows the user to communicate with the Raspberry Pi server. The server will be interfaced with a relay circuit board that controls the appliances running in Home and it is also connected to an Infra-red Camera to provide surveillance. By this we offer a scalable and cost effective Home automation and surveillance system.

**KEYWORDS:** House Automation, Surveillance, Worldwide Accessibility, Raspberry Pi, Android, etc