

RESEARCH ARTICLE



## SECURITY SYSTEM ANDROID APP USING INTERNET

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### ABSTRACT

This paper presents a system to the people who work in offices. They are having concerns about security of their the house .The system can be formed by designing an android application which will follow SERVER/CLIENT model that can access security parameters of a the house like door lock, gas leakage, smoke detection and keep the the user aware of their home security conditions on his/her mobile android application .We will be using various sensors according to require parameters for security of home. We are using a microcontroller for data processing. With the help of two android devices we implement client and a server model which make this application to be used in wide range wherever internet is available by mobile network companies. Another major concern is senior citizens at home, found themselves helpless in troubles. There for all of these concerns have to be solved by designing one system which can make the user aware of safety parameters of the house even if the user is away from it.

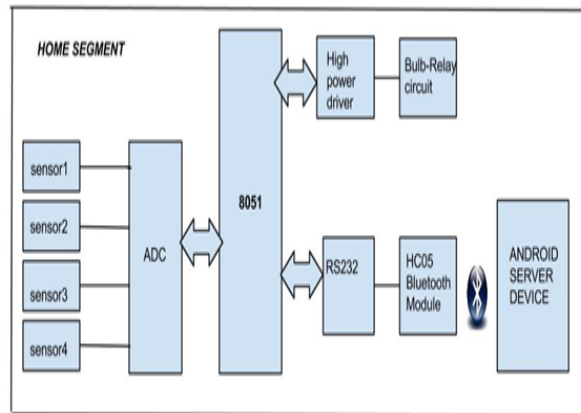
**Index Terms:** Client/Server Android Device; Bluetooth module

### INTRODUCTION

#### 1.1 Problem Statement

There are various security systems available which provides an alarm based security indication within a site .But generally the user wants to access that information remotely wherever he/she travels. The main focus is on availability of the security information on a mobile phone i.e. within the user.

2. METHOD



2.1 The main: It is used to sense various the security parameters at home ,we can use various The main.

- (i) LDR for detecting all light parameters.
- (ii) infrared The main to sense door lock, window or cupboard lock.
- (iii) Smoke sensor for fire alert, lpg gas The main for cocking gas leakage
- (iv) Water tap sensors to sense water leakage.
- (v) We can use the user specific sensors, for example: a simple remote control for senior citizen at home.  
 We can combine its receiver to our system

2.2 Data Processing

- (i) Amplifier: To amplify weak analog signal to work with the appropriate level of analog to digital converter .
- (ii) Analog to digital converter
- (iii) Microcontroller: For data processing, data conditioning programming and serial communication. In this case we used simple 8051 microcontroller. We can use a microcontroller having inbuilt adc if few sensors have been used.

2.3 Sereal communication

We are indicating ON/OFF condition ,so we have to transmit limited 1 bit data which would be either 1 or 0 per sensor as given in fig 2. Therefor we can use serial communication of a microcontroller. Utilisation of 8 bits have given in fig2 in which 1 indicates sensor on and 0 indicates off. We will use this logic to program this for the android application

Table1. Structure of 8 bits of Serial Communication: sensor 1 is on

sensor	1	2	3	4	5	6	7	8
Bit on/off	1	0	0	0	0	0	0	0

2.3 Bluetooth Module:

It Works as Communicator between a microcontroller and Android server device. There are many Bluetooth modules available which communicate serially with a microcontroller, here it has used HC05 module.

#### 2.4 Client/Server Android Device:



**2.4.1 Android server device:** It will be a mobile phone or tablet or application oriented android device Present at home with hardware, communicating with HC05 module via Bluetooth .It will continuously access status of all the sensors, if found any change, it will send notification or text message to client android device. There will be some delay provided before every loop. This server device has installed with an application which will indicate their status. There will be enable/disable feature will be provided for each sensor. the system may use various server application like servers ultimate. Instead of making it as a server one can create website where a server device can post data, it can make the user to access that data with his computer

**2.4.2 Android client device:** It will be android mobile phone present with the user and access data from android server device whenever it will start an android application. The application will request server to give the current status of sensor from a server device

### 3. FUTURE SCOPE

**3.1 Automation:** Similar method can be used in reverse order It can implement home automation controlling remotely using internet. But it has got lots of the security issues .for the above methods, we can depend upon Linux the security feature which is the foundation of android operating system, but for automation extra the security feature may require.

**3.2 Embedded System:** instead of using Bluetooth module application oriented embedded system can be used with the help of direct connection between a microcontroller and processor of android device.

### 4. CONCLUSION

There are many security based systems are available.The main purpose of this application is to get alerted when you are away from the site. We can implement this system for Home security/Office security where one can ensure safety remotely by one touch. We have gone through various Home security and home automation system .we have studied technology and hardware used in it and finally decided to use a mobile phone as receiver end with most popular operating system Android. and Bluetooth+mobile internet will use for data transmission. There is huge scope for such implementation with social networking site where we can security features to profile making it available for relatives and friends.

### 5. ACKNOWLEDGEMENT

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**REFERANCE**

- [1] Piyare, R., Tazil, M., "Bluetooth based home automation system using cell phone," IEEE ISCE, pp. 192-195, (2011).
  - [2] Wong, E.M.C., "A phone-based remote controller for home and office automation," IEEE Transactions on Consumer Electronics, vol. 40, issue 1, pp. 28-34, (1994).
  - [3] Kaur, I., "Microcontroller based home automation system with the security," International Journal of Advanced Computer Science and Applications, vol. 1, no. 6, pp. 60-65, (2010.)
  - [4] <http://developer.android.com/tools/help/index.html>
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