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## ANDROID BASED NETWORK MONITORING AND ADMINISTRATION USING WI-FI, GPRS

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**Abstract:** Various applications uses the android phone. Also we can use the mobile phone for network monitoring and administration. We can control the network easily when administrator is in office but it is very difficult to control when admin is outside or away from office. Admin can monitor the network by using his android phone with GUI from remote location. The main aim of this android application is to provide the network activities to the administrator on their android phone with the help of Wi-Fi or GPRS.

**Keywords:** Android, GPRS, Wi-Fi, Network Monitoring



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## INTRODUCTION

Mobile devices are becoming essential for today's life. Mobile devices such as smart phones, tablets are the recent trend in the society and almost everyone carry smart phones with them. Generally network is formed by connecting a multiple computers. It is easy to control the network when admin is present in the office but when admin is away from office then it is difficult to get the detail of network activities. It is not necessary that depends on any other third party for getting the details of the network activity. So developing a mobile application through which admin can easily monitor and control the network activity. In network monitoring system there is at least one monitoring centre that can control and manage all the network activities. Also communication between particular client and admin is happens with the help of central monitoring centre. The main aim of this project is to develop an software application that will help network admin to monitor the network activities from the remote location by using android phone. For the network monitoring and controlling system generally uses PC as the monitoring and control devices in system, but it is not more applied to fields that need mobile communication, such logistics management, maintenance of machines and monitoring and control. Along with the development and popularization of wireless communication technology and mobile devices. Using mobile devices to realize wireless monitoring and control becomes possible and has vast development space.

### II. Existing System:

In GSM based network monitoring system, it monitor and control the network by sending message. In this system, the technique used is that the Administrator sends his request via SMS using his cell phone through GSM modem to the control monitoring server. The particular client machine is identified by the server and do the definite task for respective request and sends response back to the administrator. Server sends command to the client machine. In this technique the communication between server and administrator is done via the GSM service provider .Activities of Clients are controlled and monitored by administrator through the SMS.

But there are many drawbacks in GSM based system like as SMS cost is high and also in some of the situation there is failure of the GSM modem in the GSM based system. This system is not convenient and useful for user.

Another is email based network monitoring system. In this system more necessary details of network activities are send to the admin on their email account, when admin is away from

office or out-off station. This email service is mostly used by the internet users and also have drawbacks.

### III. Problem Definition:

In previous system admin sends his request through SMS by using mobile phone with the GSM modem to the server. The client machine is find by the server and which is monitor by the admin. In this system communication is done by using the GSM modem which communicates with the server and then server communicates with client via GSM service provider. But such system fails when SMS service is not available or low balance. Nowadays administrator performs more than one task at a time so the administrator should control the server from remote place. Therefore the main aim of the proposed system is that monitor and control server using android phone because admin can perform more than one task at a time. So there is an implementation of application in android mobile system to monitor and control the network provided that Wi-Fi is enabled.

### IV. Proposed System:

**Objective:** I am proposing a system in which the idea of user is to monitor and control the network activities through android phone. The most widely used market for all types of applications is a Android market and focused to develop an android based application.

Complete Architecture of network monitoring depends on three main module

#### Module 1: Client

A client is the primary unit of any network. A number of clients (controlled by the main Server) work in co-ordination to complete the task as assigned to it by the server. Every client is installed with a client Demon tool which continuously keeps track of all the processes running on the client and performs the activities as instructed by the server.

#### Module 2: Server

It receives the requests or control commands from the user (administrator). These commands are then processed by the server for performing the desired functions on the network. It also communicates with all the other client destinations on the network and monitors the activities carried out by them.

### Module 3: Mobile Application (Based on Android)

It is an application which is installed on the administrator's Android based mobile phone. The basic use of this application is to allow the user to control the activities of the network from any remote location. The user enters the commands through an Android based graphical user interface which are received by the server for further processing. This application can also be used to monitor the status of any client machine on the network.

#### Mathematical module:

- 1) Description.....
- 2) Let  $S$  be the System Set such that  $S = \{\text{LanUser, Client, Server, Administrator}\}$
- 3)  $\text{Client} = \{\text{Clist, loginId, connection\_req, selectpc, a\_command}\}$
- 4)  $\text{Server} = \{\text{Database, updatedb, connect, register, command, fetch}\}$
- 5)  $\text{LanUser} = \{\text{Ulist, ChatList}\}$
- 6)  $\text{Clist} = \{\text{client1, client2, ..... clientn}\}$
- 7) Server is used for sending commands
- 8)  $\text{Ulist} = \{\text{user1, user2, ..... usern}\}$
- 9) loginId is used by users to login and use the product
- 10) updateddb is used to keep the records of the users.
- 11) Invite\_connection is used to invite a client for chatting.
- 12) Chatlist is used to get list of online users.
- 13) Register:=(loginId, password).
- 14) Execute:=used to execute the command.
- 15) Result:=gives the result of the command.
- 16) Remove\_req:=request by user to remove himself from the n/w.
- 17) Remove:=use to remove a user.

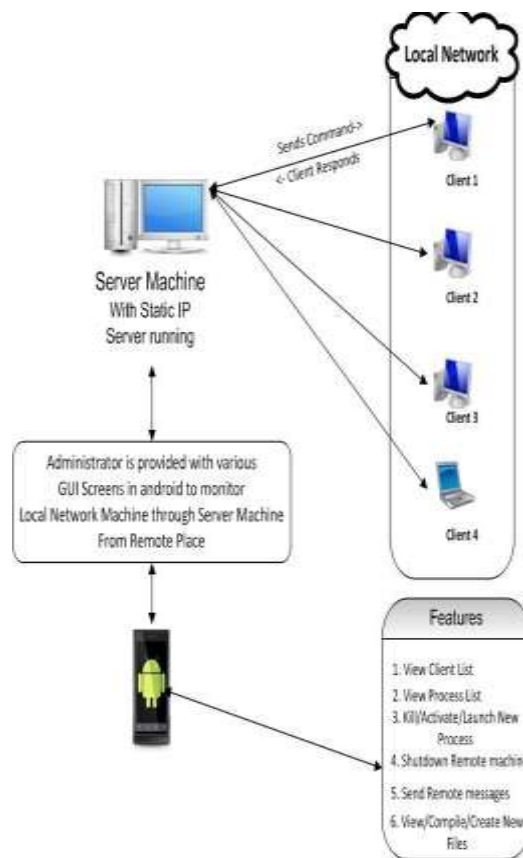


Figure :- System Architecture

## V. Technology to be Used

### i) Wi-Fi or GPRS Technology Used

These are the most effective communication system for pushing the contents on to the mobile devices. Use of the Wi-Fi and GPRS have grown tremendously over the past few years and various GPRS based applications are the most prevalent services in the wireless world today. GPRS is being used to control remote devices such as precision air-conditioning system, building automation systems, monitoring the temperature and switching on/off electronic devices.

## ii) Android Technology

These days one of the most widely used mobile operating system is Android. Android is a powerful operating system supporting a large number of application in smart phones. Applications with android OS makes life more comfortable and advanced for the users. Some of the current features and specification of android are :

1. Application Framework:- It enables reuse and replacement of components.
2. Integrated browser:- It is based on the open source web kit engine.
3. Optimized graphics:- It is peered by a custom 2D, 3D, graphics library.
4. SQLite
6. Media Support
7. GSM Technology
8. Bluetooth, 3G, Wi-Fi, Camera, etc.

## VI. Features and Advantages of Android based system

We can use this system to monitor and control large networks like university, colleges, offices etc. Also we can develop same application for I phone and blackberry.

Features:

1. Net view/Overview:- Get list of all clients in the network on cell phone.
2. Process list- Get list of processes running on machine.
3. Activate process- Start different processes on server or client machine.
4. Kill processes- Kill the unwanted processes.
5. Shutdown client - Shutdown the client machine
6. Restart client - Restart the client machine
7. Lock Keyboard - Lock keyboard of remote client.

8. Pen drive Check Service: It is service using which one can check whether a Removable disk is attached to a PC
9. Lock mouse - Lock keyboard of remote client.
10. Data Transfer - User able to transfer data to server and clients' machine

#### **ADVANTAGES**

- 1) *High Throughput*: It aims to develop an integrated software solution that allows a network administrator to remotely monitor his LAN network by his email account. As speed of internet is high, performance of project increases.
- 2) *Scalability*: We can connect any number of clients to the server as per our requirement.
- 3) *Availability*: It is available any time anywhere even administrator is remotely moving.
- 4) *Reliability*: We can perform all functions required to administrate the network remotely. It fails only when internet connection fails.
- 5) *Transparency*: Meet the Administrator's requirements and satisfaction, since perform all functions required to administrate the network remotely. Our System is easily understandable to user.

#### **Application:**

1. LAN monitoring at the university/college level can be used for monitoring, logging, user activity as well as any problems issues.
2. LAN monitoring at the office level can be used to monitor the office LAN by the administrator at any time if at a particular point he/she cannot be present there. He/she does not have to depend on any third party information regarding the LAN and can instead check the LAN status himself using his mobile.
3. LAN monitoring at the malls is used to monitor all information of malls by administrator at any time if at particular time he/she cannot be present there.

## VII. CONCLUSION

This application will provide support to the system administrator in network monitoring and also provide data transfer. This android based network monitoring system is very secure and convenient also it reduces the cost of communication. Whenever the admin is away from server the android system gives detail information of network using WI-Fi or GPRS.

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