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# Remotely Counsel and Governing WLAN through Wi-Fi Enabled Android Device

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**Abstract**: ***This paper demonstrates how the WIRELESS LAN monitoring and controlling is done through the android phone when administrator is not present at a network place. It is integrated software that allows administrator to remotely control and monitor LAN network by Android phone through GUI. We are using Wi-Fi to connect android phone to LAN server. This application gives all the details about the network to the administrator through the android phone by using Wi-Fi. The problem of authorization and security is also covered in this paper. We are using password encryption for authentication in android phone.***

**Keywords:** Android, Wi-Fi, Server, LAN Monitor, LAN Control

## 1. Introduction

At workstation number of computers is connected together and forms a network. This network is monitored with the help of centralized server. Monitoring and controlling the network is easy task when administrator is present at network workstation. But administrator is not at workstation, then instead of depending on third person to monitor workstation we are developing the integrated software application for android phone. By this application administrator can easily monitor and control the network. In this software application the centralized server is further connected to android phone. The number of machines connected in the network is clients and android phone becomes the administrator as the controlling and monitoring the network is done through it. The whole system should be Wi-Fi based. Android phone should also be Wi-Fi and internet enabled. This application is loaded into the android phone and whenever administrator want to monitor and control the network he can do it by opening application and by selecting features as per his needs.

## 2. Related Work

Technical research about the monitoring the network is as follows:

### 2.1 Email based monitoring for LAN

It allows monitoring the network through the email account. Computers are grouped together to form a network. A managing the activities of network are easy task when administrator is present in the workstation. But when administrator is out of workstation what will he does for monitoring the network? Instead of depending on third part information he will always have cell phone with internet in it for email. Through this administrator can login anytime, anywhere in the application and can monitor the network activities.

### 2.2 Network monitoring in schools/ Colleges

The monitoring college and school laboratories is done through the centralized server. The machines should be either wireless or wired way with the server. The administrator monitors the network activities through the server room. The administrator can check the information about the specific machine. Whenever there is new machine or USB connected in the network the server get informed. A continuous monitoring is done for security point of view.

### 2.3 GSM based monitoring for LAN:

It demonstrates how administrator can monitor and control the network through the email from anywhere. Suppose you have LAN setup in your office and you want to monitor and control the network through your phone. You can do it by sending SMS through phone via GSM modem to server. Server then recognizes the client machine which administrator is supposed to monitor and extract data from locally cached data buffer where latest 15 sec data of every machine is updated or stored and sends this info to the administrator as response. Server sends command to the clients like start process, shutdown process, kill Process, create, delete, send task list, and compile code. Through the GSM service provider the communication is done with the GSM modem which communicates with the server and the server communicates with the client. All clients are controlled and monitored by administrator via a series of SMS.

## 3. Basic Architecture

The architecture includes the centralized server, android phone, client side. As we are using android phone the operating environment is android. The client based machine and server machine can have any windows based environment. The application is using JAVA as it provides simplified interface.

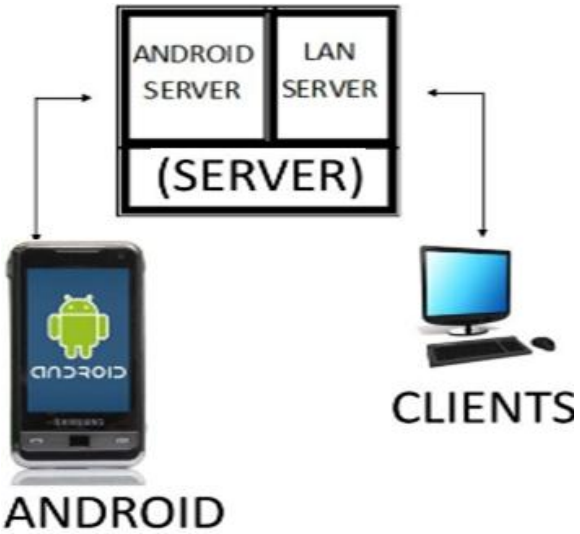


**Figure 1:** Android and clients Connectivity

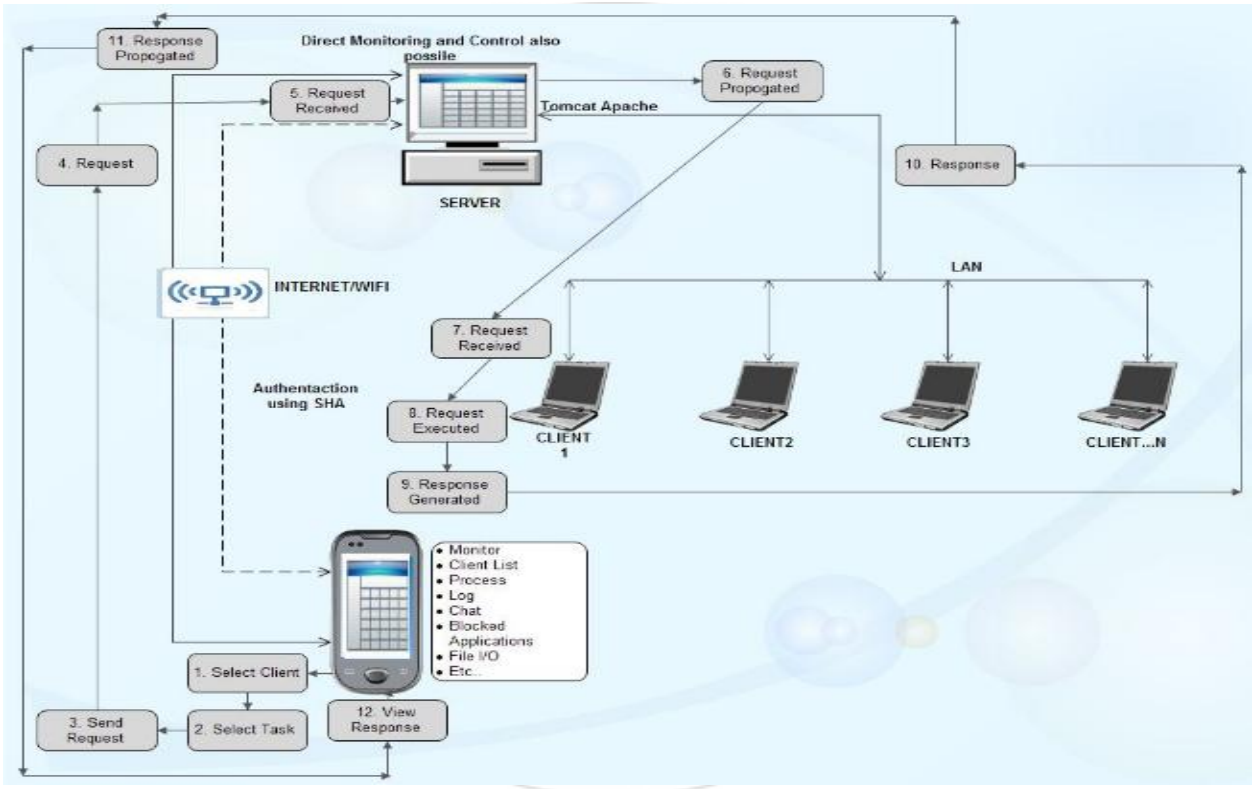


**Figure 2:** Proposed System Architecture

### 2.2 User Classes And Characteristics

1) Admin (user):
The Admin can carry out following functions:
- Login
- Select Server On/Off
- Select Operations (file operations: create, update, delete, transfer file to other client)

2) Server:
The Server can carry out following functions:
- Keep database of clients connected to network
- Sends/ Receives commands
- Authenticate the user (admin)
- Connect/disconnect clients

3) Client:
The client has following functions:
- Receives commands from server
- Take actions on server commands
- Responds on server commands
- Connect, disconnect to server

4) Modem:
The modem can carry out following functions:
- Sends/ Receives request
- Authenticate the user (admin)
- Connect/disconnect clients

### 2.3 Processing Of Request From Android Phone To Network

The HTTP request is sent by android phone in URL format and it is received by the server. After encoding this request is sent to the client. Then client accept this request, reads it and extract commands and all other parameters. Finally the command is executed on the particular machine to which the server sent the URL to. The URL from android phone contains the IP address of central server as well as its port number. In client server connection we use 9977 for server port and 9988 for client port. The URL from android phone is written in JAVA which is at server side. The client side should have client-server connection code.

### 2.4 Features Controlled from Android Phone:

1. Restriction of USB: Restricts the user from copying any confidential data to any removable device.
2. Lock resources: Lock remote system resources from any unauthorized clients.
3. Multiple desktop view: Shows you various views (thumbnail view, list view, etc.), & machine status like active user, shut down machines, log off users etc.
4. Begin/End process: It will work as a task manager .This will execute or kill processes which are running or which Admin wants to run on remote system.
5. Activate process: Activate different processes in server or in any client machine.
6. Read process: It can read drivers, folders, files from client side machine as well as from server machine.
7. New file: A new file can get created either in server side machine or in client side machines.
8. Delete file: It deletes file which is activated on the client side.
9. Shut down: Client machine can be get shut down
10. Keystroke: Sends keystroke to client machine to perform particular operation.

## 4. Security

The application in the android phone can protects and secures the network. For this identity of android device is provided to the server machine. So no other phone can control and monitor the network.

## 5. Conclusion

In proposed project we are using Android based mobile device which is open source & widely used mobile operating system. We are using Wi-Fi communication technique which is cost efficient as compared with other techniques. . The system will provide a low price, protected, manageable, remotely monitored and controlled result for LAN monitoring using Wi-Fi technology. Demon tool of our scheme will manage the joining between the clients and server of our system which will manage the services, monitor and control it. When any command comes at server, it will automatically read and consider the appropriate action by server module. The server module will remain active on a server and will offer the power to post and receive commands through Wi-Fi network and communicates through the standard protocol. The host module is responsible for all the services which offered to the guest.

## References

[1] “Secure wireless monitoring and control systems for smart grid and smart home” by Tongtong Li, JianRen, and Xiaochen Tang, Michigan State University.
[2] B. Woodward, R. S. H. Istepanian, and C. I. Richards, Design of a telemedicine system using a mobile telephone, IEEE Trans. on Information Technology in Biomedicine, vol.5, no. 1, pp. 13–15, March. 2001.
[3] Pooja Chaudhary1, Manasi Bhutada 2, Atul Bavoria, WLAN Monitoring Using Android Phone, IJEART, June-July, 2014
[4] Wireless Java RMI, Stefano Campadello, OskariKoskimies, KimmoRaatikainen
[5] Efficient Object Caching for Distributed Java RMI Applications, John Bernhard and Anand Tripathi
[6] Jaya Bharathi chintalapati, Srinivasa Rao T.Y.S Department of Computer Science Engineering," Remote computer access throughAndroid mobiles", IJCSI International Journal of Computer Science Issues, Vol. 9, Issue 5, No 3, September 2012.
[7] Nandhini. S, Archana. N, Bagavathi. S, Arunachalam. M 1,2,3,4 Department of Computer Science and Engineering, "Virtual Network Computing Viewer Using Remote Frame Buffer Protocol ", International Journal of Engineering and Innovative Technology (IJEIT) Volume 2, Issue 8, February 2013
[8] meghanasapkal, shekharpatil, leesensavispute, santoshjagtap*Department of Information Technology,PadmabhooshanVasantdadaPatil Institute of Technology,University ofPune, India* “GPRS Based LAN Monitoring and Controlling” IOSR Journal of Computer Engineering (IOSR-JCE)e-ISSN: 2278-0661, p- ISSN: 2278-8727Volume 16, Issue 3, Ver. I (May-Jun. 2014), PP 09-15
[9] Dhanke D.T., Bodkhe S.S., Hambarde S.M., Vaidya R.P. Computer Engineering Department, Dr. D Y Patil school of engineering, Pune University, Maharashtra, India “LAN Monitoring and Controlling using Android” International Journal of Advanced Research in Computer Engineering & Technology (IJARCET) Volume 3 Issue 3, March 2014
[10] Pooja Chaudhary, Manasi Bhutada, Atul Bavoria Department of Computer Engineering, Maharashtra Institute of Technology, Pune, India “WLAN Monitoring Using Android Phone” IJREAT International Journal of Research in Engineering & Advanced Technology, Volume 2, Issue 3, June-July, 2014
[11] HTTP://WWW.1000PROJECTS.ORG/MOBILE-BASED-LAN-MONITORING-PROJECT.HTML
[12] http://www.slac.stanford.edu/grp/scs/net/talk/ornl-96/ornl.htm