Design and Implementation of monitoring LAN user wirelessly by Android mobile based on client/server mode
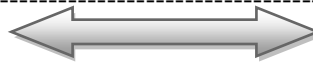
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--**ABSTRACT**---
Now days various applications uses the Android phones. We can use android phone for monitor the network. .We can control very easily network when it is present inside the office and it is very difficult to control when present outside the office. Admin can r monitor his WLAN network through his android phone with GUI from remote location, it is an alternative solution for monitor network. The main aim of   this android application is to provide all the essential information   of the wireless network to the admin on their android phone with the help of Wi-Fi. We are using data connectivity or Wi-Fi to connect the mobile phone to WLAN server. And we can also use password encryption for authentication in phone.

*Keywords----*Android, Control WLAN, GPRS, WLAN Monitoring, Server, Wi-Fi.

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I.   INTRODUCTION

In general, networks are form by connecting multiple computers through the WLAN. It is to control the network when admin is in admin office but it is difficult to control the network from outside the office. It is not necessary to depend on third person for the information about the network. we have developing the new android application by which we can easily monitor and control the network. There is central device server. and communication between particular client and the admin is happens with the help of a central monitoring server. Our goal is to develop an software application that will help network admin to monitor network from remote location using android phone. For monitoring and controlling system generally uses PC as the monitoring and control devices in system, but it not more applied to fields that need mobile communication, such logistics management, maintenance of machines and   monitoring and control. Along with the developing 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

2.1 GSM Based Monitoring For LAN:

In GSM Based Monitoring for LAN[1], it control and monitor network by sending messages from anywhere from outside the server room. Technique used in this system is that Administrator sends his request via SMS using his cell phone through GSM modem to the control monitoring server. The Server identifies the particular client machine and do the specific 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 in GSM based system are many drawbacks .Such as Cost of SMS is high, and in some situation failure of the GSM modem may happen in GSM based System. This system is not convenient and useful for user. Another we can monitor the network via email. It provides more essential information about the user activities to the admin on their email account, when admin is out of office. In the internet, email services are mostly used by internet users but remote monitoring of networks through email is also not useful. This system are many drawbacks.

2.2 . Email Based LAN Monitoring :

The purpose of email based LAN monitoring project[2] is to develop various network utilities which are required to effectively monitor a LAN network users activity. The goal is to develop an integrated software solution that allows a network administrator to remotely monitor his LAN network via his email account. In a concern, computers are grouped together to form a network. To manage and control the activities of the network while in office is an easy task. But, while you are outstation/away from office, how do you go about with monitoring and controlling of network? Instead of depending on third party , you have always your cell phones with internet i.e. email serve the purpose. Login anytime to the application and see who is busy with what in the office.

III. PROBLEM DEFINITION

In previous system Admin sends his request through SMS with the help of phone with GSM modem to the LAN server. Then server find the client machine which admin is to be monitor. The communication is done with the GSM modem which communicates with the server and the server communicates with the client via GSM service provider. But such system fails when there is no any SMS service available or low balance. Main function of the proposed system is that monitor and control server using android phone because of admin can perform more task at a time Nowadays the administrator is performing more than one task at a time, so he should control the server from his remote place . So we can implement an application in Android mobile system to monitor the network provided that Wi-Fi is enabled.

IV. PROPOSED SYSTEM

4.1 Mathematical module:
1) Description……..
2) Let S be the System Set such that S ={LanUser, Client, Server, Administrator}
3) Client={Clist ,loginId, connection_req, selectpc, a_command}
4) Server{Database,updatedb,connect,register,comman d,fetch}
5) LanUser={Ulist,ChatList}
6) Clist={client1,client2,……clientn}
7) Server is used for sending commands
8) Ulist={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.

4 .2 Android mobile based System:
4.2.1 Objectives: -

We are proposing a system in which the idea of user monitoring through the Android mobile is presented. Android market being the most widely used market for all types of applications, we have focused to develop an application using android.
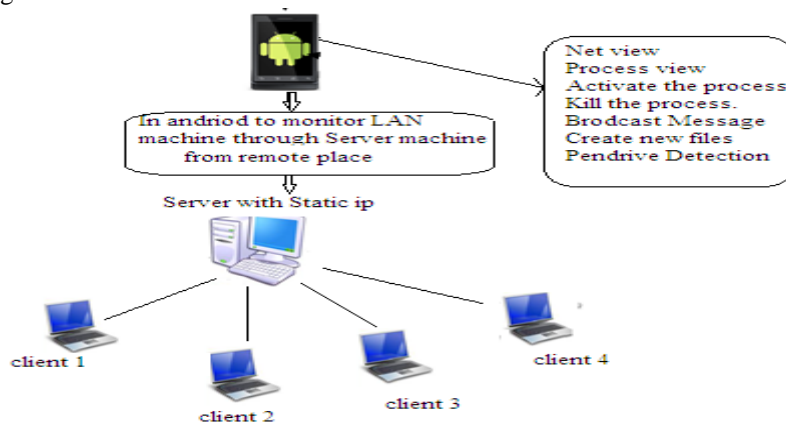

Fig.1. Proposed System Architecture.

4.2.2 Features of Android Based System and Advantages of system:
We can use system to monitor large networks like university, colleges, offices etc. we can develop same application for I phone and blackberry also.

Features:
1. Client list- we can get list of client logged in at any time. Can keep track of status of every client at anytime.
2. Process list- we can obtain the list of processes running in machine.
3. Activate process- we can start different processes on server or client machine.
4. Kill processes- we can kill the unwanted processes.
5. Scheduling-by using scheduling we can stop the processes according to the priorities.
6. Data recovery- we can recover the lost data during the processes.
7. Pen drive Check Service: It is service using which one can check whether a Removable disk is attached to a PC.

V. PROJECT WORK

5.1 Modules:
1. Users: These types of users can be client. They can communicate with each other. They can send the request to the server.
2. Admin: Admin is the server who can monitor complete LAN system using cell phone. They can communicate with the client.

5.2 System Connectivity:
The feature which is selected by the admin on phone, a HTTP request is sent from the phone in URL form and received by the server. This client is accept the HTTP request and send back to the response to the server. The client reads this URL message and extracts the command name and other required parameters. The command is executed on the particular machine to which the server sent the URL. The URL from phone have the IP address of central server and its port number. In client-server connection we normally use 4455 for server port and 7788 as client port. URL from phone to server is written in the java code which is at the server side. The client side will only have the client-server connection code. Then admin can monitor the client when connection is established with main server. Then admin can perform all feature.
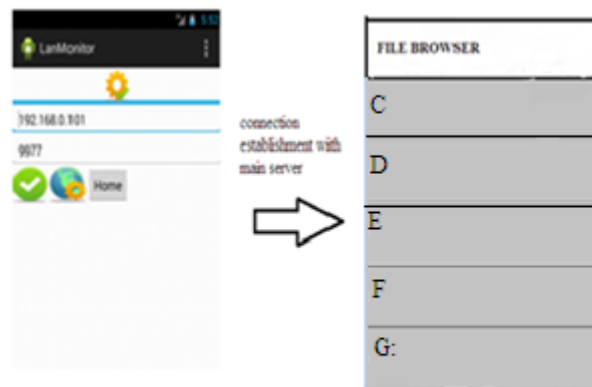

Fig. 2. Results

5.3 Advantages:

1. Scalability: We can connect any number of clients to the server as per our requirement.
2. Availability: It is available any time anywhere even administrator is remotely moving.
3. Security and convenience: The Android based LAN monitoring system is very convenient and secure.
4. Reliability: We can perform all functions required to administrate the LAN remotely.
5. Transparency: Meet the Administrators requirements and satisfaction, since perform all functions required to administrate the LAN remotely. Our System is easily understandable to user.

5.4 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.

VI. CONCLUSION

From this paper we have concluded that the GSM based system is not convenient for user. We have done the studied about the SMS based system and from that information we developing Android based system for WLAN monitoring. The android system can monitor the system whenever he is not present in the server room by using WI-FI.

VII. ACKNOWLEDGEMENTS

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