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ANDROID BASED LAN MONITORING AND CONTROLLING

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Abstract-Android is one of the most widely used open source operating system. The proposed system works on android OS which will easily control and regulate the LAN network. This system will work on Wi-Fi network which will serve as a platform to send and receive commands between the server and the client. The android phone acts as a server and the computer as a client. The client program will be sending some data in the form of command to computer's communication port. There exists the server program in computer which reads the data from the communication port and is responsible to execute the commands present in the data.

Keywords: LAN supervision, Wi-Fi, client, Server.

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I INTRODUCTION

The paper is based on the revised version of GSM based LAN monitoring system .The existing system used SMS services for communication between client and the admin. The issue with this system was that the cost of the SMS service was high and was also quite vulnerable to attacks at various levels. As we see advancements in Science & Technology and their applications, we need to take efforts and use these new technologies for further advancements in pre-existing systems. We use the concept of LAN monitoring in our proposed system. One can control the LAN when admin is present in a room but what if when admin is not present. The admin can control the LAN network by using his/her android phone by using various commands.

II LITERATURE REVIEW

LAN is a logical explanation of how big a network can be called as local. When two or more computers or communicating devices which when are connected in the campus, floor, in the same building or in the same room are said to be connected on the LAN.

Characteristics of a LAN

LAN should be capable of providing high speed and high bandwidth communication. Also the cost of deploying LAN should be cheap. The equipment's which we use in a LAN have to be compact and powerful enough. Owner of the premises is the owner of the LAN and to connect two devices on LAN we do not have to lease links from service provider.

Technologies in a LAN

Wi-Fi networks do not have any physical wired connection between sender and receiver by using radio frequency technology. Devices that can use Wi-Fi technology include personal computers, videogame consoles, phones and tablets, digital cameras, smart TV, digital audio players and modern printers. Wi-Fi compatible devices can connect to the Internet via a WLAN and a wireless access point. Also the proposed system operates on Wi-Fi technology

Ethernet is another widely deployed LAN technology.100% LAN uses Ethernet technology. The reason being that it satisfies all the characteristics of a LAN as mentioned above. Ethernet technology types are-

- Ethernet-100 mbps.
- Fast Ethernet -100 mbps.
- Gigabit Ethernet-1000 mbps.
- 10 Gigabit Ethernet-10000 mbps.
- 100 Gigabit Ethernet-100 gbps.

Positioning in Wireless Body Area Network using GSM(2009), Wireless Body Area Network (WBAN) is an emerging trend in ubiquitous society and very prolific for Human being. WBAN is a wearable technology by human being with the intention of treating them as patient, providing them personnel network around human body, which consists of miniaturized, low power and non-invasive or invasive wireless biosensors, seamlessly placed on or implanted in human body in order to provide an adaptable and smart healthcare system. Each tiny biosensor is capable of processing its own task and communicates with a network

coordinator or PDA (Personal Digital Assistant). The network coordinator sends patient's information to a remote server for diagnosis and prescription. In other words, we can say a combination of various sensor nodes to suffice a human body as its shield Implementation of a Wireless Communication Technologies based Home Security System (2011), This system describes a light weighted home security system that exploits commonly used wireless communication technologies like mobile cell phone, Bluetooth communication, wireless sensors, etc. The home security system (HSS) often utilizes many sensing equipment in the house, such as microphones, cameras, mobile robots or other sensor nodes with different functions. The system is composed of a home computer, a number of Web Cameras, sensors, and cell phones for each of the users who check the home security situation. Each window or door is secured with a sensor; the sensor's value is either 1 or 0, indicating the window or door is in locked or unlocked state. Together with the window or door ID, the value from a sensor is sent to the home computer. There is also a camera equipped by each window or door for monitoring its situation. The image data is sent to the home computer for checking, if it is open or close, and analyzing, if there is any abnormal occurrences such as an unknown person lurking around or broken window glass, etc.

III COMPARITIVE STUDY

Existing System

GSM Based LAN Monitoring and Controlling The system focuses on various network utilities which are required to effectively monitor a LAN network.. It aims to develop an integrated software solution that allows a network administrator to remotely monitor his LAN by his cell. In a concern, computers are grouped together to form a network to manage and control activities of network while in office is an easy task, but while you are outstation/away from office to monitor and controlling of network instead of depending on third party information you can always have your cell phone serve the purpose login anytime to application and see who is busy with what in the office. This system provides us the maximum details about the network to the administrator on their mobile phone, when administrator when administrator is away from office/goes out station [2].

Proposed System (Block Diagram)

There are two ways to control the network. One is to enter commands through the mobile device and another way is to control the network directly through the server which is a part of the network. Server receives the administrators request via Internet Service Provider. Server recognizes the client machine which the administrator is supposed to monitor and accordingly extracts data from locally cached data buffer where latest 15 sec data of every machine is updated or stored and sends this information to the administrator as response. GUI based application is provided to administrator in order to send commands instantly. The commands like start process, shutdown process, kill process are sent by server to clients through the Wi-Fi in which the server communicates with all the clients. All clients are controlled by a set of commands.

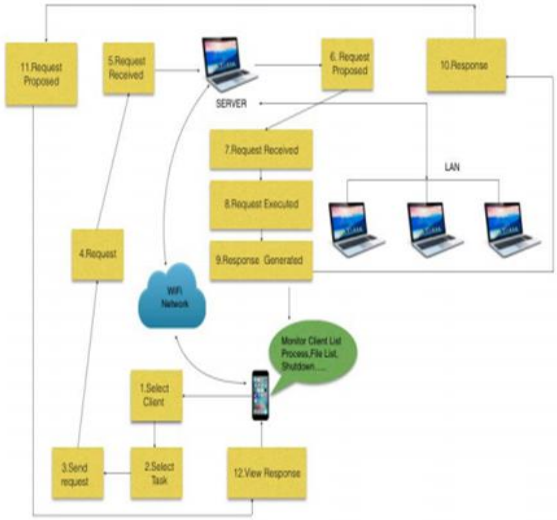

Figure 1. Block Diagram

- Comparison

Table 1

Existing System	Proposed System
Unicasting is possible.	Multicasting is possible
Live Streaming cannot be done	Live Streaming is possible
Due to SMS based system cost is high	As the proposed system uses Wi-Fi, the cost is less.
The existing system is based on GSM.	The proposed system uses Wi-Fi network.

IV METHODOLOGY

- **Modules**

Figure 2. Server GUI

- Server GUI: Server side GUI is designed in NetBeans using JAVA. It contains GUI for communication with clients.
- Client GUI: Client side GUI is designed in netbeans using Java.

Figure 3. Client GUI

•Login UI: Admin can login through this UI which is designed using Eclipse and android sdk.

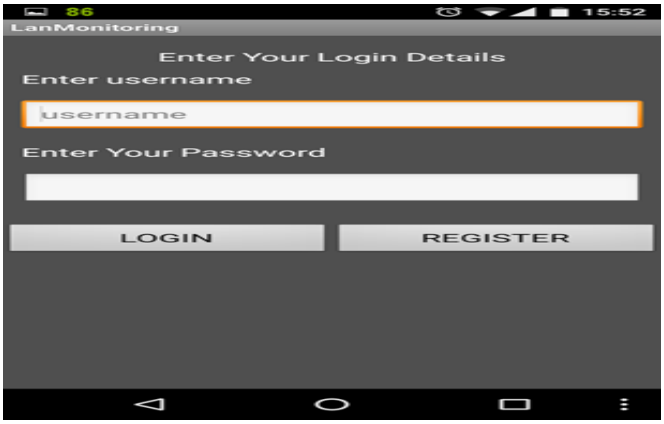

Figure 4. Login UI

•PC List: When the admin logs in the list of the connected PC's in the LAN appears.

Figure 5. PC List

V CHARACTERISTICS

•Get the client list-The admin can get a list of all the systems which are currently logged in.

•Process list-The admin can view all the ongoing processes which are running on the client machine and also control them.

•Activate the process -The client can activate any process through his machine which would run on client's machine. It could be notepad, MS Paint or Control Panel

•Kill the process- The admin can kill any unwanted processes running on the client system. This feature is very helpful in corporate offices if the admin needs to keep a check on the employee's activities.

•Open and delete the file-The admin can open and delete any file without having to move from one place to another. A small text file residing in any of the client or the server machine can be opened in your cell phone[2].

•Read file-You can read the drives folders, files from any clients' machine/server machine from the cell.

•Lock PC-User can lock the selected client computer by sending the lock command through android device

•Fetch the live streaming of the desktop-Live streaming of the client is visible on the admin's mobile device.

•Broadcast the message on the Android device-The admin can even broadcast messages to the client machine.

VI RESULTS & OUTPUT

The following are the screenshots from the admin's Android app:-

- LAN Monitoring- After selecting the PC from the above list, the following functions appear on the admin's android device.

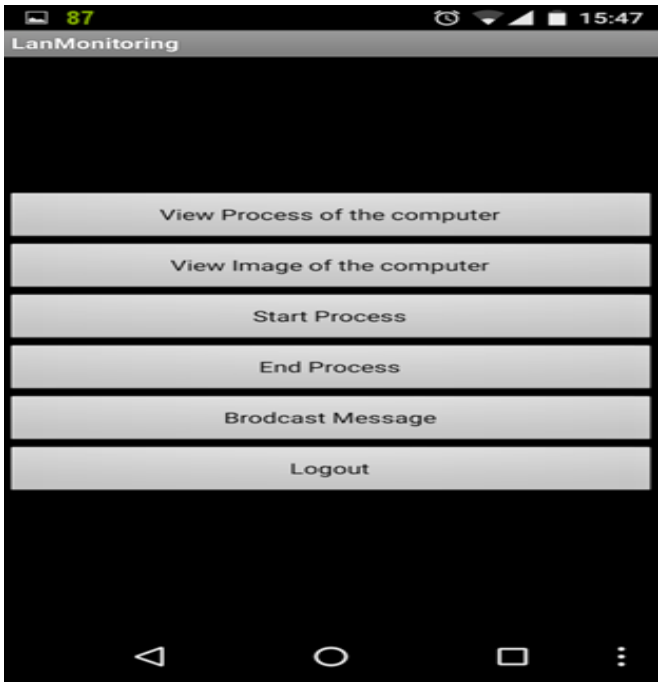

Figure 6. List of functions

- List of Processes- The admin gets the entire list.

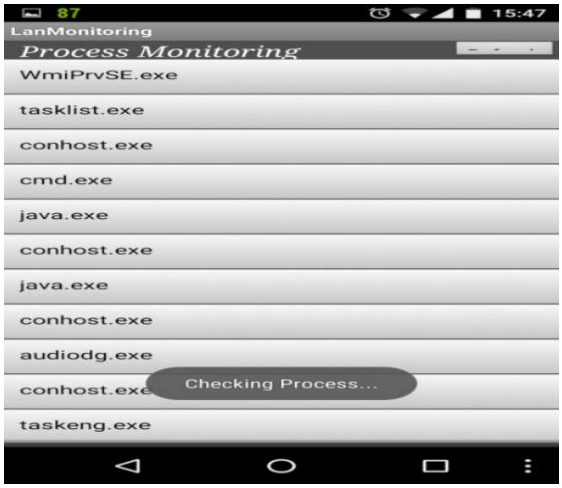

Figure 7. Process List

- Start Process-Using start process the admin can launch any applications such as notepad and MS paint.

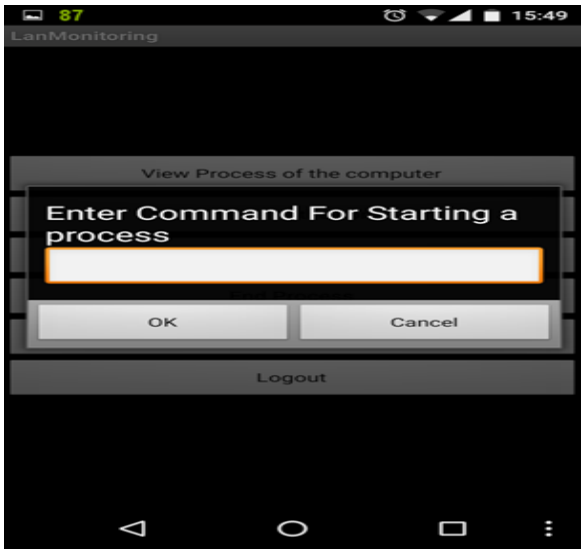

Figure 8.Start Process

- End Process- Similar to start process, the admin can end the process as well.

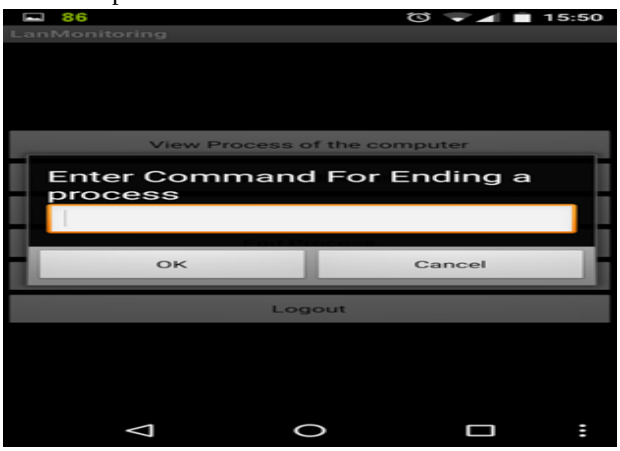

Figure 9.End Process

- Broadcast Message- Using this interface, messages can be broadcasted from server side to client side.

Figure 10.Broadcast Message

- Live Streaming- The following image shows the live streaming image of the connected PC.

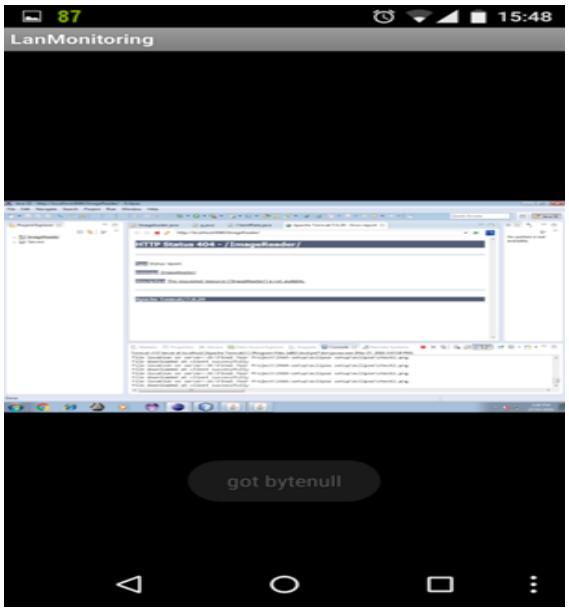

Figure 11. Live Streaming

VII CONCLUSION

Here, we have presented an idea for application which will help to monitor the network when the admin is not in the server room. It is the simple application helps to reduce time and efforts of the network admin.

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