LAN Supervising and Controlling Through Android Device

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Abstract: Nowadays android phones are used for various purposes that are used in our daily life [1]. Similarly android phones can be used for supervising and regulating computers over a LAN network. We will use a Wi-Fi network to make a connection between a mobile phone and a personal Computer through servlet socket programming in java. The Wi-Fi network will work as a platform for sending and receiving commands and messages between the server and the client. Here the android phone will be used as a server and the computer as a client. The client program sends some data as a command to computer's communication port. There is a server program in computer which will read the data from the communication port and executes the commands present in the data.

Keywords: Android, LAN supervising, Wi-Fi Network, Tomcat Apache, Servlet.

I. INTRODUCTION

Generally, a LAN network is formed by connecting group of Computers. It is a difficult task to supervise and regulate multiple computers through LAN with the help of SMS based and email based LAN monitoring system, the other disadvantages of SMS based system was that the prices of SMS were high and live streaming of the computer was not possible. So, an application in android OS will be developed which can easily control and regulate the LAN network and overcome the disadvantages in the existing systems. Here the communication is done between the client and the server where the server is the android phone and the client are the computers connected over the LAN network.The communication between the client and the server will be done by using servletsocket programming in JAVA.

So, we are going to use a new idea in our system with the help of android platform. This application will be used in android phone for connecting to the server using Wi-Fi network. So, it is more favorable to use the network using android phone. This system is more dependable and easy to use.

II. LITERATURE SURVEY

1. Android OS

In 2005, Google acquired Android from Android Inc. which was found in year 2003 by Andy Rubin and they dealt with developing software for mobile devices. Later, OHA which comprises of 79 companies along with Google developed their new mobile platform for mobile devices. This alliance was formed so as to develop open Technologies for mobile devices and make those applications easily available in the market. This new open Source technology was named as Android [3, 4]. Android is an open source architecture which is used for developing applications for mobile devices. Android works on Linux Kernel. It has an operating system, middleware and key applications.

Android announced its code under the license of free software/open source in the year 2008. Android comes up with an API for mobile devices. This Linux Kernel supports Java Virtual Machine which favours Java to be most suitable programming Language for development of the applications.

2. LAN

A **l**ocal-**a**rea **n**etwork (LAN) is a computer network that spans a relatively small area. Most LANs are confined to a single building or group of buildings; however, one LAN can be connected to other LANs over any distance via telephone lines and radio waves. A system of LANs connected in this way is called a wide-area network (WAN) [7].

3. Wi-Fi network

Wi-Fi is the name of a popular wireless networking technology that uses radio waves to provide wireless high-speed Internet and network connections. A common misconception is that the term Wi-Fi is short for "wireless fidelity," however this is not the case. Wi-Fi is simply a trademarked phrase that means IEEE 802.11x [10].

4. Tomcat Apache

Apache Tomcat (formerly under the Apache Jakarta Project; Tomcat is now a top level project) is a web container developed at the Apache Software Foundation. Tomcat implements the servlet and the Java Server Pages (JSP) specifications from Sun Microsystems, providing anenvironment for Java code to run in cooperation with a web server.

III. AIM AND OBJECTIVE

The aim is to design a system that a user can monitor the LAN network by using an android device. The main objective of this project is to view computer desktop screen from cell phone and access it via cell phone.

IV. PROPOSED SYSTEM

We are going to propose a system in which the idea of LAN monitoring through the Android Phone is presented
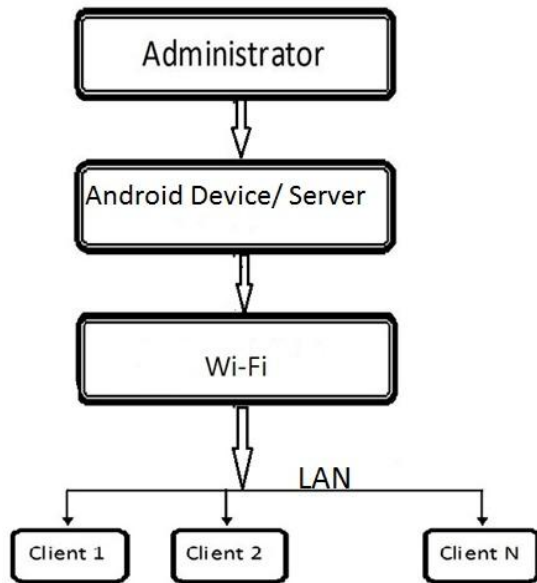

Fig. 1 Block Diagram for Proposed System

This application provides control of computer via android device. The main objective of this project is to view computer desktop screen from android device and access it via android phone. We are going to create interface to monitor process on Android Device and another program to monitor process. For communication between Android Device and Computer we are using Servlet with MYSQL in Backend. Java program will monitor the processes and upload information on server then using JDBC we will store that information in Database. In this system we are going to use some protocols to control the LAN network. These are as follows:

1) Transmission Control Protocol (TCP): TCP is one of the main protocols in TCP/IP networks. Whereas the IP protocol deals only with packets, TCP enables two hosts to establish a connection and exchange streams of data. TCP guarantees delivery of data and also guaranteesthat packets will be delivered in the same order in which they were sent [8].

2) Hypertext Transfer Protocol (HTTP): HTTP is the underlying protocol used by the World Wide Web. HTTP defines how messages are formatted and transmitted, and what actions Web servers and browsers should take in response to various commands. For example, when you enter a URL in your browser, this actually sends an HTTP command to the Web server directing it to fetch and transmit the requested Web page [9].

Features of Android Based System and Advantages of system:

We can use system to monitor LAN network. We can develop same application for I phone and blackberry also.

Features:

- Client list-Can keep track of status of every client at any time.
- Process list- we can obtain the list of processes running in machine.
- Activate process- we can start different processes on server or client machine.
- Kill processes- we can kill the unwanted processes.
- Scheduling-by using scheduling we can stop the processes according to the priorities.
- Open file: we can open the required file.
- Delete file: we can delete the file also.
- We can also take a screenshot of the desktop on our android device.
- We can also get a live streaming of the particular computer on the android device.

Fig. 2 Android Based LAN Supervising

TECHOLOGIES IN PROPOSED SYSTEM

In GSM Based LAN monitoring system we use technology like:

1. SERVLET: By using servlet in these systems we communicate with client and server [2].

2. ECLIPSE: For better programming we will use eclipse for designing this system.

3. PROCESS BUILDER: This class is used in this system which is very important to create operating system processes. [2]

4. JAVA: The java programming language will used to design the proposed system.

5. TOMCAT APACHE: Tomcat apache is a web server that is used to support servlets and JSPs.
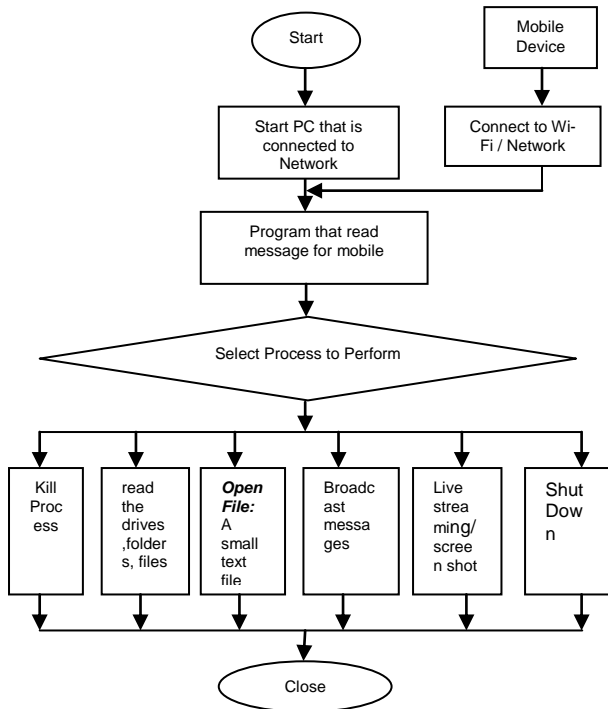
SYSTEM FLOWCHART

Fig. 3 Flowchart of the System

The above flowchart shows the working of the proposed system.

V. CONCLUSION

This paper explains the technique of LAN monitoring using an android application. The proposed system is much more advanced than the present system i.e. GSM based. The Android based LAN monitoring system is very convenient and easy to use. The android system will give detailed information of the LAN network to the admin just by using the application on the android device with the help of Wi-Fi connectivity.

VI. ACKNOWLEDGMENT

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