

# Android Based LAN Monitoring System

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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 used 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 acts as a platform for sending and receiving commands and messages between the server and the client. Here the android phone is used as a server and the computer as a client. The server program sends some data as a command to computer's communication port. There is a client program in computer which read's the data from the communication port and executes the commands present in the data. Using Android SDK we have created an interface to monitor process on Android Device. The communication between Android Device and Computer is done by using PHP with Wamp Server in Backend. When the user/admin start's the Android interface he/she can fetch all the process information from the server and display it on the android device. The user can perform various operations using the Android device, the user/admin can perform various actions on the computers connected in a LAN network.

**Keywords:** Android application, LAN supervising, Wi-Fi Network, Tomcat Apache, mobile, 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 on 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, we have developed an application in android OS 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 is accomplished by using socket programming in JAVA. So, this is a new idea in that is used in our system with the help of android platform. This application is 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. 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 our project are:

- Allow user / admin to perform various operations using their android device.
- Providing live streaming of the selected client computer on android device.

## III. FEATURES

- 3.1. Start Process:  
Start the process in either the server or clients.

- 3.2. Kill Process:  
Kill the process in either the server or clients.
- 3.3. Broadcast Message:  
Broadcast message to clients, server from the remote device.
- 3.4. View Process:  
Get the list of all the processes running in the remote machine.
- 3.5. Live Streaming:  
Live streaming of the client is visible on the mobile device
- 3.6. Taking Snapshot and Automated Email sending  
Snapshot of the user is taken while he start the client or server machine and the image is send to mail of the admin.
- 3.7. Shutdown:  
Shutdown all the client computers at one time using the android device.
- 3.8. New File:  
Create a New File using the android device and saving the file on the client computer .
- 3.9. Lock PC:  
User can Lock the selected client computer by sending the lock command through android device

## IV. HARDWARE & SOFTWARE REQUIREMENTS

The system must fulfill all the hardware requirements for memory and space as mentioned below. The system must have:

- Hardware Used
  - 1) 1 GB of System Memory(RAM)
  - 2) 1 GHz x86 Processor.
  - 3) 7 GB of Hard drive space.
  - 4) Android Smart Phone with 1 GB RAM.
  - 5) Extra other hardware component like Wi-Fi Router, etc.
- Software Used
  - 1) J2E JDK 1.6
  - 2) NetBeans 6.7.1
  - 3) Apache Tomcat Server 6.0
  - 4) Android SDK
  - 5) Wamp Server 2.5
  - 6) MySQL 5.0

**V. IMPLEMENTATION**

**5.1. Application flowchart**

A flowchart is a type of diagram that represents an algorithm or process, showing the steps as boxes of various kinds, and their order by connecting them with arrows. This diagrammatic representation illustrates a solution to a given problem. Process operations are represented in these boxes, and arrows; rather, they are implied by the sequencing of operations. Flowcharts are used in analyzing, designing, documenting or managing a process or program in various fields.

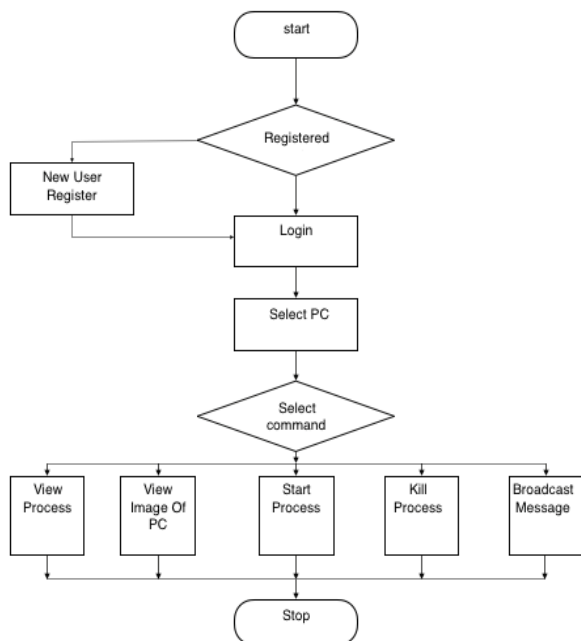


Fig. 1 Application flowchart

**5.1.1 User login**

From this activity user will login to their account or will register themselves & create a new account. This will be the first page of our application. The user’s database will be saved for future use.

**5.1.2 View PC list**

From here, the user will get the detail view of the PC list and can select the client PC that is connected on LAN.

**5.1.3 Select Command**

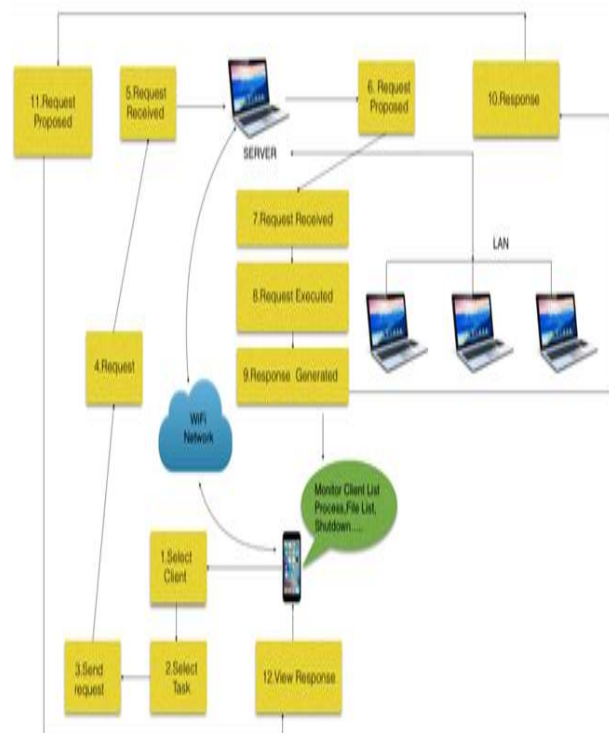
After selecting the PC, the user will have to select the command like start process, kill process, Broadcast message etc

**5.1.4 Live streaming**

After selecting the PC, the user can see the Live Streaming of the PC on the android device

**5.2. Block Diagram**

The network can be controlled in two ways. One way is to enter commands through the mobile device while the other way is to control the network directly through the server which is a part of the network. Administrator sends his request through the client application on his phone via the internet service provider to the server. Server then recognizes the client machine which the 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 information to the administrator as response. Administrator is provided with a GUI based application in J2E to send command message instantly without the need to retype message every time. Server sends command to the clients like start process, shut down process, kill process, through the WiFi in which the server communicates with the client. All clients are controlled by a set of commands.



**VI. CONCLUSION**

This paper explains the technique of LAN monitoring using an android application. The developed 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 software developed is an

android application and a server based software application that provides ability to perform various tasks with the help of Wi-Fi network and the communication is done through Standard TCP/IP and HTTP Protocol.

### VII. FUTURE SCOPE

This application can be applied on a larger scale like at office level, educational institutions, universities, etc. This application can be further developed to monitor a particular LAN by administrator any time from any place. The admin can control the computer remotely from one place or while the admin is travelling. The admin can perform multiple operations using the application.

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