



## AUTOMATED FILE SHARING SYSTEM ON NETWORK USING ANDROID APP

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**Abstract:** Network monitoring takes note of slow or failing systems and notifies the network administrator of such occurrences. Such notifications can take the form of email message, page alerts, or plain old phone calls. In this paper “LAN Network Monitoring System” was carried out with a view to deploying effective monitoring for computers in a local Area Network. In this paper we also developed a system that lets administrators 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. The system was developed using Android SDK and JAVA programming language. This language was used because of its easy syntax and structure for developing graphical user interface mobile based application.

**Keywords:** LAN, WLAN, GUI, Monitoring System, Network, Android SDK

### 1.0 INTRODUCTION

In general, networks are form by connecting multiple computers through the LAN. To control and monitor the activities of network form the admin office is very easy job but what? If the admin is not in the admin office. In that case how do you going to control and monitor the network? Instead of depend on any third person for the information about the network we developing the new android application through which we can easily monitor the network. The communication between particular client and the admin is achieved through a central monitoring server, our goal is to develop an integrated software application that will help network admin to remotely monitor network through android phone. The communication between the client and the android phones is done through the server.

Till now there are many techniques for monitoring network from remote place. LAN monitoring using SMS based system is one of them. But there are many disadvantages of monitoring network using SMS based system so to overcome these disadvantages we are implementing new system on android platform with GPRS or Wi-Fi. These may be cost of SMS is high. So we are going to implement new idea in our system is we are developing it on android platform. In this application the android phone is connected to the server using Wi-Fi or GPRS server will take action on respective client. So it is convenient to monitor the network using android phone. This application is more reliable and easy to communicate (Nimodia & Asole, 2013).

The method for monitoring communication performance in a communication network comprising computer systems communicatively coupled to each other with communication equipment in telecommunication, a digital switch which typically contains millions of lines of software is a monolithic unit supporting plain old telephone service. This digital switch have overtime been stuffed with increasing amounts of functionality such as management of routine terminals and charging. In one embodiment, a computer system of communication network measures and time-stamps network performance satisfies and stores them in a memory unit within the computer system (Nimodia & Asole, 2013).

Our goal is to develop a 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.

## 1.1 RESEARCH MOTIVATION

In previous system Admin sends his request via SMS with the help of phone through GSM modem to the LAN server. Then server finds the client machine which admin is to be monitor. Via the GSM service provider the communication is done with the GSM modem which communicates with the server and the server communicates with the client. But such system fails when there is no any SMS service available or low balance.

In network monitoring aspect the problem may include:

- a) Poor network strength
- b) Network hacking
- c) No signal when the network is down etc.

Hence is the need for LAN Network user monitoring system to overcome the shortcoming of the previous system.

## 1.2 DESIGN APPROACH

Having derived the requirements for the new system to be designed through the detailed analysis of the old manual system, the next step to be taken is the construction of the detailed designed plan. The aim of this is to divide the overall problems into smaller tasks, and manageable problems that can be easily handled by separate program modules or subunits. The separate program modules will later be integrated into one to form the entire new system. This designed methodology is called "Top-down design"

That is:

- a) To design and implement a computer network monitoring system.
- b) To be able to maintain the effectiveness of the system when compared with any other way of monitoring network.
- c) To introduce computer in the area of monitoring network.

## 2.0 LITERATURE REVIEW

As a result of the need for Network Monitoring, growing number of authors who have done research in Network Monitoring system, are being discussed:

The purpose of email based LAN monitoring project 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. (Nimodia &A sole, 2013).

With the birth of new technology, abusers of technology are boom. They need not to be hackers or malicious intruders of network user but have used the network for courses other than originally entails by the owing company, organization or entity. (Carl, 2015).

Website monitoring service can check HTTP pages HTTPs, SNMPS, FTP, SMTP,POPS, IMAP, DNS,SSH, TELNE,SSL,TCP, Pling, SIP, media streaming and arrange of other ports with great variety of checks intervals from every four hours to every one minute. Typically, most network monitoring services fest your server anywhere between one-per hour to once per-minute. (Bruton, 2004).

(Khan and Mishra, 2012) developed GPS-GSM based tracking system is design and which discovers the object position i.e., vehicles or other assets etc, and updates remote user via GSM modem. Object motion is reported by a short text message. This real time monitoring system is able to notice object's cur-rent position using GPS and informs the vehicle owner via GSM.

(Ramamurthy et al ,2010) developed humidity remote monitoring and control system, which examines and controls the humidity from the remote location. When the level of humidity crosses the predefined limit; the processor sends a SMS to the concerned person using GSM network. The user can now accesses the system through the cell phone by sending AT commands to a GSM modem. The system also gives password security to

prevent unauthorized access to the system, and uses GSM technology by providing full access to the system for security, analysis and control of humidity by HMCS (Humidity monitoring and control system).

### 3.0 RESEARCH METHODOLOGY

#### 3.1 Data Collection

The following method of data collection was used in writing this research:

- i. Interview
- ii. Observation
- iii. Review of procedure or existing system or procedural manual
- iv. Evaluation of forms

#### 3.2 Design and Framework

The System Design describes the design and framework of the project shows the framework of the whole system. This explains all the processes involve in this system in form of diagram. The outputs from this system are Network monitoring. As shown in the figure below, both outputs are stored in database server..

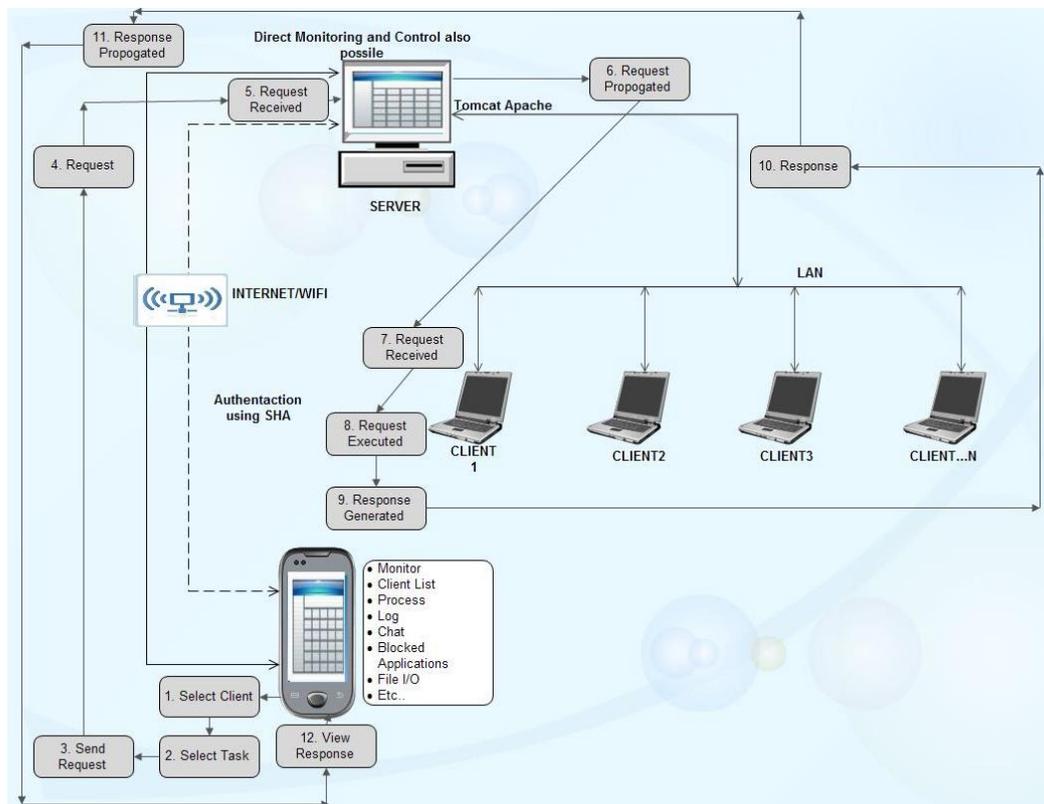


Fig 1: Design and Framework (Source; Authors)

#### 3.3 System Connectivity Interface

All clients of the network (LAN) will update its status (which processes are going on) time to time and it will be stored on the LAN server part of the server.

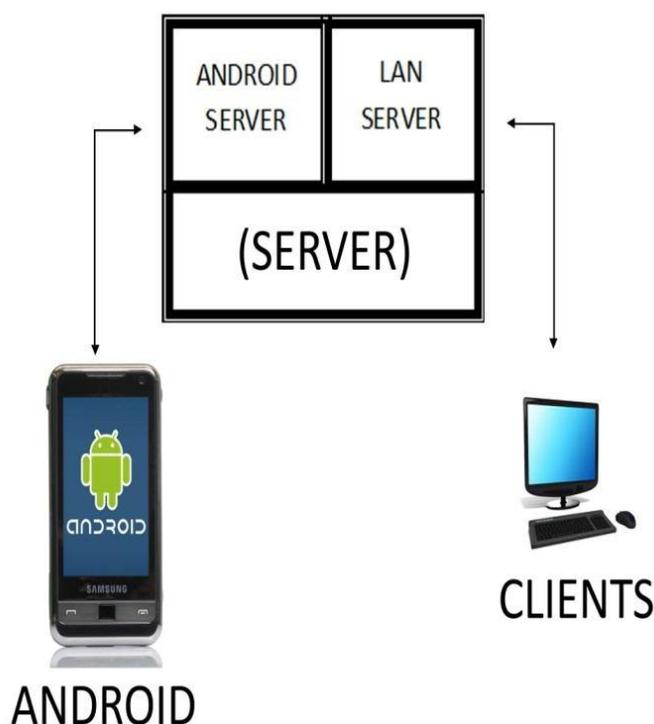


Fig 2: System Connectivity Interface (Source; Authors)

Whenever the administrator ask for any kind of the android server for the result if the it contains the solution then the result will be sent back to the administrator if it does not contains solution then it will check in LAN server for solution if present then it will be transferred to the server and then return back to the android connection and if in case LAN server also does not contain solution the it will find answer on client machine and it will be return back to the LAN server.

### 3.4 Block Diagram of Android Base System

The main purpose of the system is to obtain maximum information about the network to admin on the Android Phone, whenever the admin is not present in the server room. In this system we are going to use number of protocols to control the network. These are as follows:

- 1) **Simple Network Management Protocol (SNMP):** It is standard protocol for managing devices on IP networks. The following devices support the SNMP protocol these are as follows. Routers, Switches, servers, workstations, printer and more. SNMP protocol operates in the 7 layer of OSI model that is Application layer. It receives request at UDP port 161 and the response is sent back to the port 162.
- 2) **Session Initiation Protocol (SIP):** It is used in the application to easily set we the incoming and outgoing voice calls without having transport level communication. All the features controlled by the GSM based system and email based system are also controlled by the android phone system very conveniently because the android phone system provide the very good user interface to carry out operations. It improves the speed of the operation and save many times which is required for login in email to used system. Command typing time also saved in this system. Where use in this system we can perform operation just by starting the application.

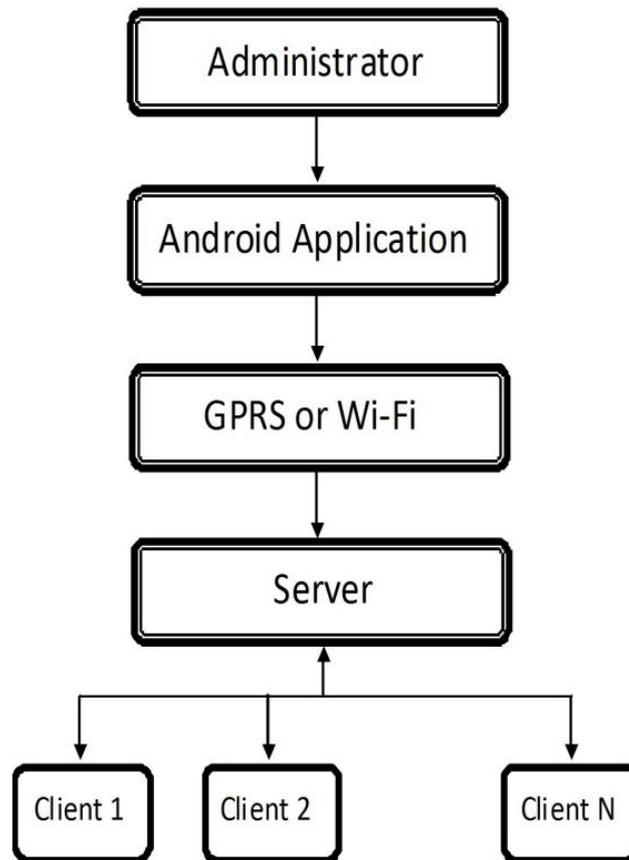


Fig 3: Block Diagram (Source; Authors)

#### 4.0 Results and Discussion

User interface design is the design of computers, appliances, software applications and websites with the focus on the user's experience and interaction. The goal in designing user interface is to make a great interaction between user and the system in term of efficiency, user-friendly, compatible of the system with target users. The interfaces should be understandable, easier to use with a proper arrangement of system flow.

#### 4.1 Main Menu Specification

The system design is broken down into number of classes of analysis, this is the main menu where a user can switch to all the modules in the system. The system control or main menu has submenus. When "Connect" is being selected, a user can connect to a computer in the local area network by specifying the IP address and port number.

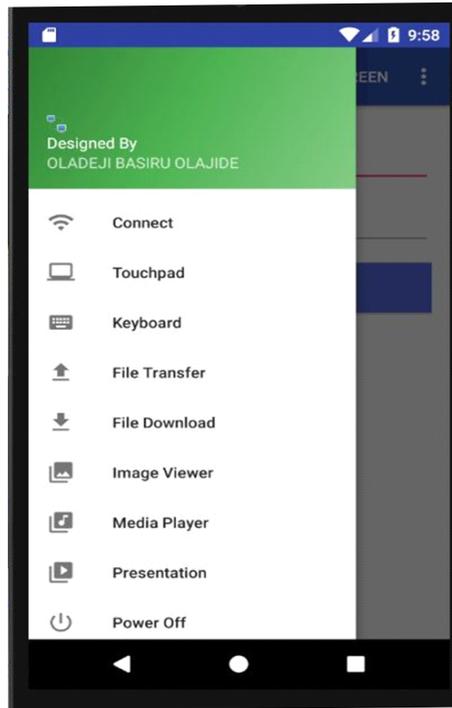


Fig 4: Main Menu Specification (Source; Authors)

#### 4.2 Log in

This shows the login page of the system. At this page, the user has to enter their username and password. The system will verify login either it is admin, lecturer or student based on their username and password.

The Log in specification consists of the common data that will be entered into the system. It is important in the sense that it aids in producing the output to a particular problem.

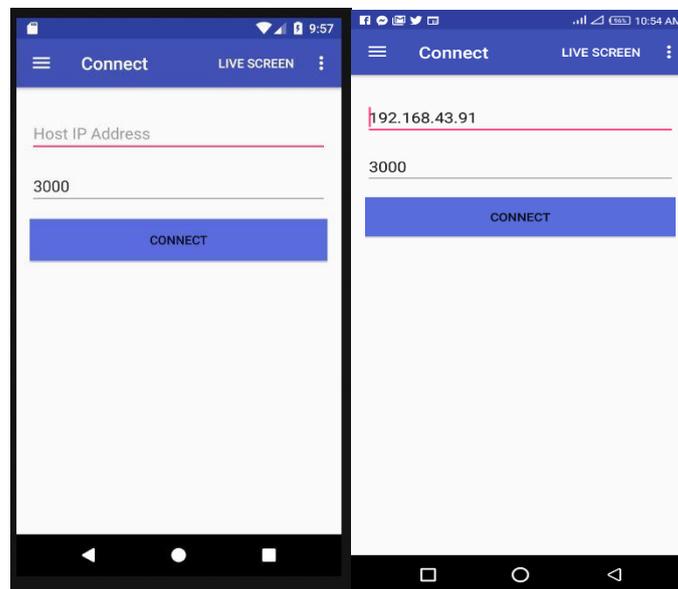


Fig 5: Log in (Source; Authors)

### 4.3 Output Specification

The output specification is the end result that is expected from the new system. Output design is important because without knowing the output, it will be hard to find out how the input will look like. The output medium is either the visual display unit or printed information produced by the printer.

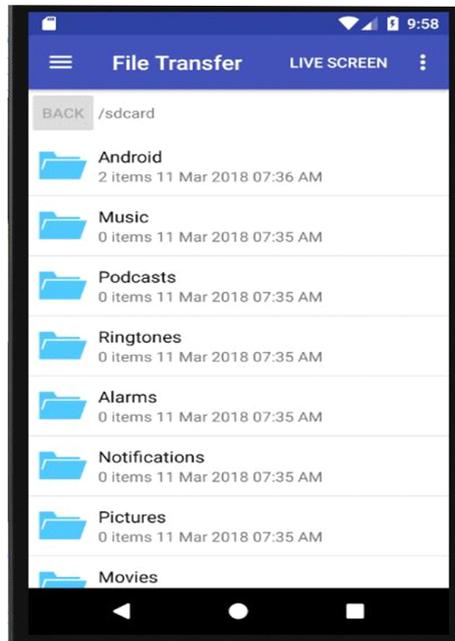


Fig 5: Output Specification (Source; Authors)

## 5.0 Recommendation & Conclusion

### 5.1 Conclusion

The Android based LAN monitoring system is very convenient and secure. The android system gives detail information of the network whenever administrator is away from the server room just by stating application using WIFI or GPRS.

### 5.2 Recommendation

Based on these, it is the researcher's opinion that if implementations are carried out according to the research sequentially, there will be absolutely an effective operation in the establishment.

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