

Multiple desktop access, monitoring and controlling clients simultaneously within local area network using android operating system

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Abstract— Wireless devices are widely used and it has penetrated every part of our life, but remote monitoring of networks through mobile device is still a mirage. To control and monitor the LAN network from wireless handheld device i.e. cell phone from anywhere within wireless consumed area can enhance user's flexibility to handling the networks. Instead of depending on third party information, you can always have your android phone serve the purpose which is already connected to server machine through wireless network.

Key Words— client-server, Networking protocol, Local Area Networking, Authentication, Android application,

1. INTRODUCTION

The main objective of this project is to provide maximum details about the network to the administrator on their mobile phone, when he/she is away from server machine. Today, the world is rapidly changing the statement We are in the world to World is in our hands. The main aim of our project is to control and monitor the LAN network from our Android phone i.e. android phone from anywhere within the wifi range.

Say, you have a LAN setup at your office. Sitting at office anywhere but within wifi range of server machine. You want to learn the LAN status. You can do so by storing this project in your phone and executing the same.

1.1. Project Objectives-

- Extensive in Nature
- Advanced
- Secure

- User-friendly GUI
- Platform dependent

1.1. Product Features-

1.1.1. Net view

Get in your cell phone, the list of entire client's in LAN. Keep ping every time to check the latest status of the PC's. Anytime, the PC goes offline, its name is removed from the list.

1.1.2. Process list

Get the lists of all the processes running in the remote machine.

1.1.3. Activate process

Activate different processes in either the server machine or any of the client's.

1.1.4. Kill process

Kill the desired processes in either the server or clients.

1.1.5. Open file

A small text file residing in any of the client or the server machine can be opened in your cell phone.

1.1.6. Chatting

You can establish half-duplex chat between clients, server, and cell phone

1.1.7. New file

Create a new document in the cell phone and save the same in either the server or client machine.

1.1.8. Shutdown

Shut Down the client machines from mobile.

1.2. System Requirement-

1.2.1. Software:

- Android 2.1 and above operating system.
- Eclipse
- Android SDK

1.2.2. Hardware:

- Processor: Any PC with 1 GHz processor capacity.
- RAM: more than 64 MB. Recommended 256 or more RAM
- Secondary Storage: Requires less than 1 MB of space to get installed and run.
- Mobile Phones with Android operating system.
LAN- Cable based LAN

1.3. Architecture

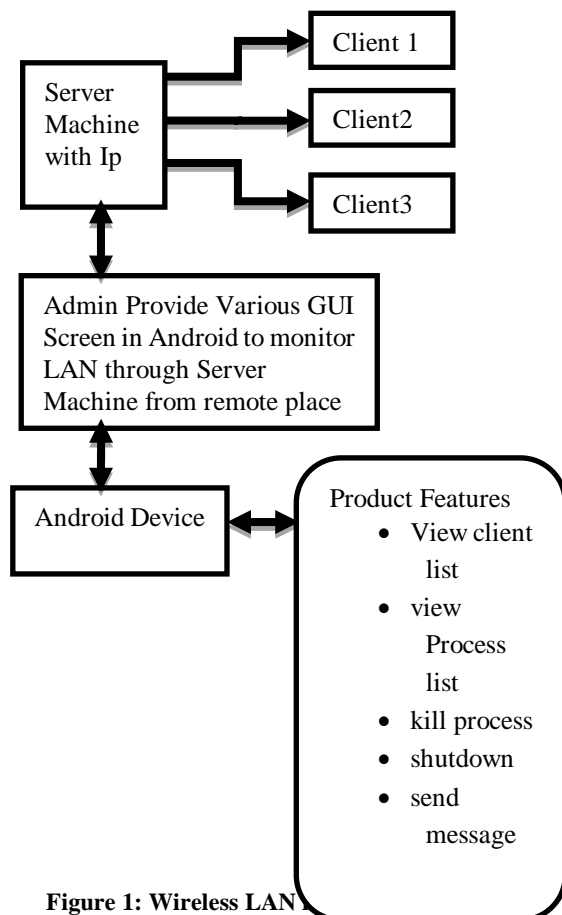


Figure 1: Wireless LAN

2. Outcomes

To monitor and control the LAN through mobile phone of administrator which is connected to the server through wireless media.

To provide access to the client in a LAN through Wi-Fi. This is achieved using WAP Protocol.

To provide easy searching of clients have stored their details (Name with IP Address) in Database (SQLite).

We have provided User Friendly GUI.

We have achieved security by providing login window with proper authentication and hence only registered user in database can log on.

3. Proposed System

In the proposed System, we have used the Wi-Fi network and LAN. The proposed model has two components. One is server component that is dedicated to run in the smartphone which has to

be accessed and protected. Another one is client component that should be in another smartphone to access the server component. In normal mobile phones, we cannot install the client component. In this case, the users will communicate directly through SMS. So the server has been designed to handle the request from the client component as well as the normal SMS command from the mobile phones.

4. Mathematical model

Let S be the set of Whole system which consists:

$$S = \{L_User, Client, Server, Administrator\}$$

Where,

1. L_User is the lan user of the system.

$$L_User = \{Ulist, ChatList\}.$$

Where,

2. Ulist is set of number of users in the system

$$Ulist = \{user1, user2, \dots, usern\}$$

3. Chatlist is used to get list of online users.

4. Client = {Clist, loginId, connection_req, selectpc, a_command}.

5. Clist is the set of number of clients in the system.

6. Clist = {client1, client2, \dots, clientn}.

7. loginId is used by users to login and use the product

8. Server is used for sending commands.

9. Server {Database, updatedb, connect, register, command, fetch}.

10. updatedb is used to keep the records of the users.

11. Invite_connection is used to invite a client for chatting.

12. Register = (loginId, password).

13. Execute = used to execute the command.

14. Result = gives the result of the command.

15. Remove_req = request by user to remove himself from the n/w.

16. Remove = use to remove a user.

5. Advantages

1. User don't have to sit in lab for controlling and monitoring LAN.
2. User should be able to control LAN using cell phone.
3. Can control multiple PC's by phone.
4. Don't have to monitor individual PC's.

6. Conclusion

The available techniques for monitoring and controlling are perfect in themselves. But to improve the accuracy, more efforts need to be taken. The system will provided a low cost, secure, accessible, remotely monitored and controlled solution for LAN monitoring using wireless media is been introduced. However as far as the industrial applications are concerned this can be viewed as a low cost, customized wireless LAN monitoring system. Thus this solution can be customized to suit any other industrial requirement related to monitoring and controlling LAN network.

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