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Wireless Buddy – LAN Monitoring Using Android Phone

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Abstract- In this continuously developing world, the use of android devices has increased tremendously. Basically these days everyone is using android cell phone. In market there are a number of applications for remote controlling and monitoring systems in an easier and efficient manner. This paper proposes a new idea for remote control and monitor of Android devices, examining the network and performing different functions. In this paper our aim is to develop an application to control and monitor the network connected in LAN to save time and perform different operations easily in no time. We can use Wireless Buddy to perform different operations like message broadcasting, detection of removable drives, virus detection, take screenshots, start or end any process on Pc's connected in LAN and many more functions. Wireless Buddy surrounds the Client and Server application. We are developing this application using the latest technology that is Android and Java along with SQLite database.

Keywords- *Android, JAVA, Window OS, Remote desktop, remote visualization, Smart phone, SQLite, Wireless Devices.*

1. Introduction

In this dynamically changing world our main aim is to do various tasks in quick time for rapid development in the society and to ease out life. In this application we can control and monitor the PC's connected in LAN or WIFI network. The computers connected in LAN in office can be monitored using an android cell phone away from the office. We have to install the application on android device which will contain the functions to monitor and perform different tasks. The PC's in the network are communicate with the android device through a server.Technological development has improved the capabilities of mobile devices with varieties of technical features that previously conceived only in PC architectures. The world is changing rapidly and new technologies are developed everyday tremendously to enhance the development and to achieve new heights. In Wireless Buddy application the PC's can communicate with the android device to control and monitor the systems connected in the network through client server communication. This paper proposes the implementation of mobile based PC control system using android application [3].

2. Related Work

Within the scope of Remote Control there are various applications available to control and monitor the systems in LAN. There are a number of existing architectures that provide remote monitor and control access of systems. Wireless LAN (WLAN) is a core technology that provides granular wireless LAN authorization and access control. In wireless remote applications the Remote control is a simple application to control device via local WIFI network[4]. We need to know the IP Address, port number of the PC's connected in network. WLANs were once used to offer network access to clients or employees in offices and work spaces, they are now often extended to reach every laptop and desktop in the enterprise [4][8]. They are supported by smartphones and tablets and various android cellphones available in the market. The computer connected in WLAN provides authorization and access control with the application to monitor and control the systems.

3. Flaws in Current System

Old methods of securing guest wireless networks are no longer sufficient. Once upon a time, wireless guest networks were given their own service set identifiers (SSIDs) and mapped onto an isolated Ethernet VLAN. HTTP requests from newly connected clients were sometimes redirected to a captive portal, where guests had to accept "terms of service" before being released onto the Internet. This left the door open for infected devices to access the guest SSID and the VLAN. It also left that captive portal open for attack. As a result, enterprises must consider other methods for securing these networks. A number of companies sell equipment that comes with built-in guest management [4][7]. This equipment requires users to sign in and create accounts, and allows enterprises to create walled-gardens of access depending on their own user policy. Captive portals can require guests to run anti-virus programs, and they allow the IT team to configure permitted destinations, ports and URLs tied to bandwidth limits and priorities. Companies can also integrate NAC or IDS product to do checks on wireless guest networks.

4. Features of Wireless Buddy

[1] Net View: It will show list of Computer in network.

[2] Process List: It will display list of processes in computer.

[3] Activate Process: It will run new process on client machine.

[4] Kill Process: It will kill process on particular client machine.

[5] Shut Down: It will shut down the client machine.

[6] Image Capture: It will take the screen shot of the Desktop on phone.

[7] Send Message: We can send message to the machine selected.

[8] View Screenshot: View Remote Computer Screenshot.

[9] Detect Removable drives: detect external devices connected to client computers.

[10] Virus Detection: Getting alert notification if PC consists of some malicious data.

[11] Message Broadcasting: Sending messages to client PCs.

[12] Centralise Printing: Printing a file on PCs from android Phone of Admin.

5. Architecture

Figure1 shows the internal software structure of the client side and server side of Wireless Buddy System. Each side is divided into well-defined components and their functionalities. Client is an android device which controls the remote PC. Query is fires using SQLite database whenever client wants the list of PC. There are mainly two servers present in our system: One is the main server who handles the requests from the android device and the other one communicates with the PC's present in the LAN. Database contains only one table which stores the IMEI number of mobile phone.

General Users: These types of user can be a client. They can communicate among them. They cannot modify or delete content of another computer.

Admin: Admin is the user who can monitor complete LAN system using cell phone.

Server Program: This is the communication medium program between Admin and clients.

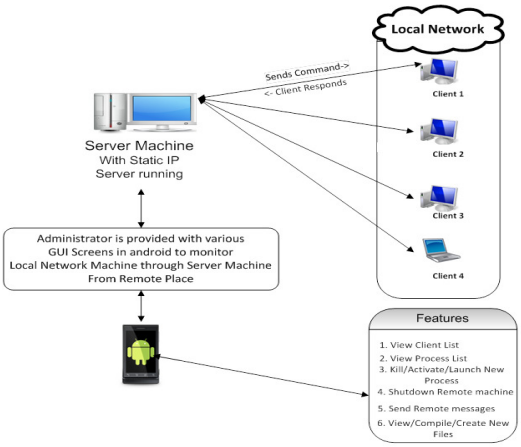

Fig 1. Architecture of Wireless Buddy

6. Design and Implementation

The system basically involves communication between an android phone and a remote desktop. Errors that occur during processing should be resolved and solved out. The screen resolution should be visible enough to admin. Different types of exception should be handled appropriately.

6.1 General Constraints

[1] Network Speed –As number of PC increases in LAN, it introduces an additional overhead on network bandwidth.
[2] Processing speed - Processing speed depends on the network connection.

6.2 Assumptions and Dependencies

[1] User must have basic knowledge of computer.
[2] Must be familiar with basic concepts of Networking and communication.
[3] Speed of the recognition may be depending upon the network traffic.
[4] Screen resolution depend totally depends upon hardware
[5] Admin cell phone should be WI-FI enable.
[6] Cell phone should be compatible with Android.

7. Future Work

In future if time and cost permits we are going to implement the application using Static IP. Using Static IP we can monitor the PC's connected in network using android cell phone from any location. As a continuation of work in this application, we would include remote monitoring of PC's thought GPRS network and to include the encryption algorithm to prevent data leakage. We will also put efforts for displaying the screen of the

target PC on the android phone itself for the purpose of better visualisation.

8. Conclusion

This paper describes an application which can monitor and control the multiple PC connected in network using android mobile phone. The IMEI number of the android user needs to be registered in database for security purpose. In this application we can perform various features using android phone. It does not require any additional equipment or software and the application will work fine irrespective of environmental factors and the server is used in Linux or Windows platform. Security will be maintained on the client side as android phone that needs permission for internet access. The application thus will be beneficial for different Network communications carried out in an industry.

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