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Network Buddy: WLAN Monitoring and Controlling Using Smart Phone

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ABSTRACT:

In this paper, there is anexplanation that how a wireless LAN network can be monitored using an android phone when the administrator is not present at the place of network but when he/she is away from it. This paper demonstrates how the application is used and details about the architecture of the LAN with android phone are given. The current market scenario makes it necessary to handle the workload in the company/workplace located at different locations from one single location. This is possible by using the application developed and a detailed framework is given in this paper. The software will control and monitor the LAN network from our wireless handheld device i.e. smart phone from anywhere irrespective of distance. The main purpose of this application is to provide all the important details of the network to the admin on their android phone. We are using data connectivity or Wi-Fi to connect the mobile phone to LAN server. And we Are also using password encryption for authentication in phone.

KEYWORDS:WLAN, Android Phone, WIFI, Internet.

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1. INTRODUCTION

Today, the world is rapidly changing the statement "We are in the world" to "World is in our hands. To control and monitor the local area networkfrom our wireless handheld device that is mobile phone from anywhere irrespective of remoteness. Supposeyou have a Local area network setup at your workplace, ifsitting at home you want to learn the LAN status and you can do it by keeping this project in your mobile phone and performing the same. Initially Mobile Phones were developed only for voice communication but these days' structures to see mobile has changed. As days are passing many technologies are developed and developing. In today's world more focus is given on the availability of internet and its applications.Here our project focuses on that how to control and monitor the computers that is clients through mobiles while you are in office or outs away from office. Outspreading the Wireless LAN (WLAN) to be a main technology will mean providing granulated WLAN authorization and access control. Within this guide earn about Wireless LAN access control including working users on guest wireless networks and controlling Wi-Fi embedded devices on the Wireless LAN.While WLANs were used to deal network access to guests or employees in corporate areas. They are now frequently long-drawn-out to reach every laptop, pc and desktop in the originality. What is more, they also upkeep both communal and personal smart phones or android phones and tablets. Also embedded Wi-Fi devices like copy machines, stakeout cameras. With all these users and clients, network managers must implement granulated WLAN access control and also network authorization. This is alike to client-server architecture and network is monitored through central server and central server is further connected to an android phone and the android phone used should be of version above 2.3.All computers are connected in network are clients and the android phone is our administrator. The whole system should be WIFI enabled and also internet so that it can perfectly establish connection with the central server, the project should be downloaded in the mobile phone. Numerous features are controlled and developed whenever the admin wants to carry out any task, he will open application in his cell phone and use features or otherwise will perform the tasks whatever he or she want to perform

2. LITERATURE REVIEW

In [1]author says that GSM modem is used to send SMS to server. In this system admin sends his request through SMS using mobile through the GSM modem to monitor server. Server then identifies the client and do task according to request and gives feedback to admin then server sends command to client. In this system all the communication between admin and server is through GSM modem. Another way through which we can monitor is by email, but it is also slow process. Then more advance and convent to use for user is by WIFI or GPRS. In this android based system admin can obtain maximum information on android phone by using number of protocols to control network i.e. [1] Simple

Network Management Protocol(SNMP) [2]Session Initiation Protocol(SIP) As in [1]GSM modem used like that in [6,7,8]Administrator is provided with a GUI based application in J2ME to send command message.

In[2] MAC address is used so, that smart phone can constantly keep in touch with all computers registered. By getting MAC address from pc and it will be stored in .XML file on server. In this system user can access and manipulate the desktop of remote computers through VNC viewer that is provided on user's cell phone. In [9]the remote Desktop with Static IP can be accessed using Android and to develop server and application VNC is used. In[10,11]through VNC viewer can access and manipulate the computer. Android phone sends a request to server via WCF (Windows Communication Foundation), .NET is used to provide services and then request is processed and forwarded to client computers. Server and Client are connected over dedicated connection i.e. TCP/IP.

In[3] author control and monitor smart home using Android phone, Zigbee module is used for monitoring various parameters. Smart home system could supervise household appliances remotely and realize real-time monitoring of home security status through mobile phone. By Data Acquisition System physical parameters of home are sensed. In this sensor nodes are used which monitor physical parameters, this are gathered and processed using digital signal processing. Then analogue signals are generated and converted into digital, again digital to analogue signals and this are transmitted to local server using Zigbee.[14,15,16] is used for networking, security, low-power, Low data rate communication based on IEEE 802.15.4 standard. And used for monitoring and controlling.[13]focus on Wireless Personal Area Network, WiMAX, WI-FI and Zigbee.[14,15,16] IEEE802.15.4 /Zigbee Module and WLAN (WI-FI) Module have been enabled with off-the-shelf module. Is the heart of the system which interfaces the wireless sensor network and the IP based network. WINGZ is a wireless system with support for 3G, WI-FI and Zigbee[15, 16].

In [4]author has proposed SUIPM (Silent Unattended Installation Package Manager) that automates the process of silent unattended installation and requires the minimal possible level of interaction with the user.

In [5] author has studied [1,6,7,8] in which GSM modem used and email and SMS method were used in that which was slow process by doing detail study and using new technology we have monitor WLAN using Android phone in[5]and have used java language and socket programming is also used. The basic architecture of WLAN Monitoring using smart phone as follows:

3. SYSTEM ARCHITECTURE
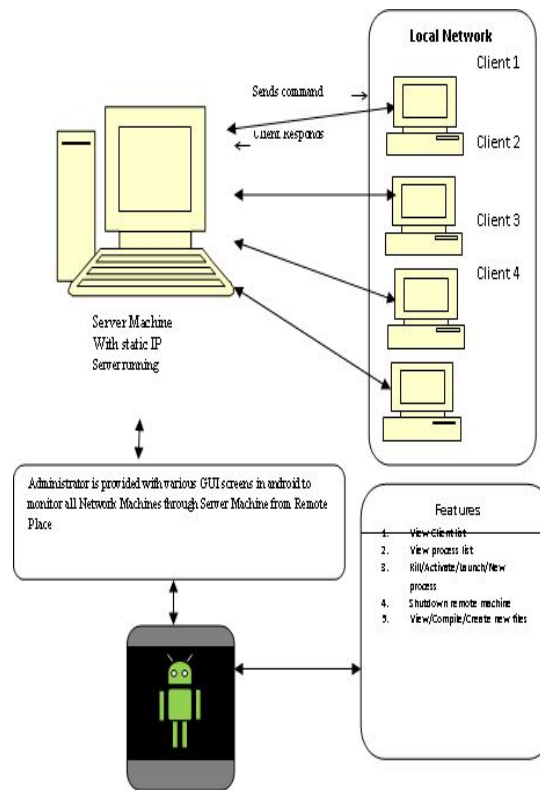
Figure 1: System Architecture

As shown in figure 1: users, admin and server are used.

1. Users: The users can be client. They can communicate among themselves but other computers modification or deleting content cannot be done.

2. Admin: Admin is a person who can control complete LAN system using cell phone.

3. Server: It is the medium of communication between client and server

3.1 Features Controlled from Cell Phone

1. PC List: Get in your cell phone, the list of entire clients' in LAN. Keep pinging every time to check the latest status of the pc. Anytime, the PC goes offline, its name is removed from the list.

2. Process List: Gets the list of all the process running in the remote machine.

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

4. Kill Process: Kill the desired in either the server or client.

5. Shut Down: Shut Down the client machine from mobile.

6. Take Screenshot: Remote Screenshot of machine for debug/troubleshooting.

7. Chatting: You can establish half-duplex chat between clients, server and cell phone.

8. Broadcast Messages: Broadcast messages to clients, sever from cell.

9. Check Virus: Check virus connected in LAN pc.

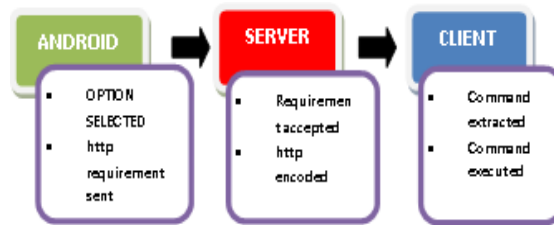### 3.2 Processing of Request from Phone to Network

Figure 2: Processing of request from phone to network

Features which are selected by admin on phone, a HTTP request is sent from the phone in URL format received by the server. This HTTP request is read and encoded and send further to the client. The client reads this URL message and extracts the command name and other parameters. The command is executed on particular machine to which server sent URL to. The URL from phone contains server and its port number. In client server connection we have use 9977for sever port and 9988 for client port. URL from phone to server is written in java code which is at the server side. The client side will only have the client-server connection code.

URL1: URL from phone to server:

http://<Address of server><port no>

URL2: From server to client:

http://<Address of client> /<port no of client/? Method=method_name&parametre value=Val;
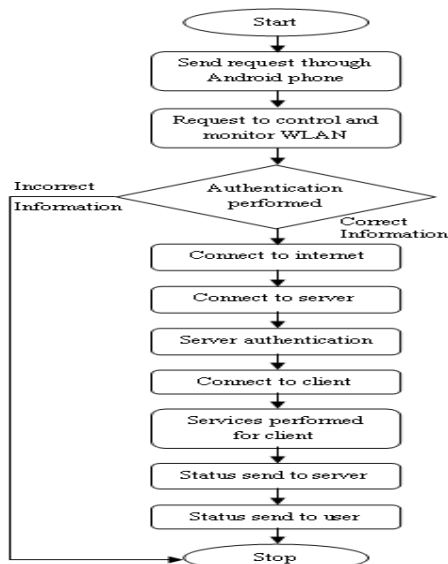
4. WORKFLOW DIAGRAM

Figure 3: Workflow Diagram

5. APPLICATION OF PROPOSED SYSTEM

1. LAN monitoring at the university/college level can be used for monitoring, logging and retention of network packets that traverse university networks. The goal of this project is to maintain confidentiality, integrity and availability of the university network infrastructure and information assets.

2. LAN monitoring at the office level can be used to monitor the office LAN by the administrator at any time if at a particular point he/she cannot be present there. He/she does not have to depend on any third party information regarding the LAN and can instead check the LAN status himself using his mobile.

3. LAN monitoring at the malls is used to monitor all information of malls by administrator at any time if at particular time he/she cannot be present there.

6. CONCLUSION

In WLAN Monitoring using Smart Phone all tasks provided to the clients can be seen or identify connected in the network and are monitor by mobile phone irrespective of distance. It also reduces workload to a great extent by using WIFI

REFERENCES

1. Prof.BhardwajRakhi, Prof.JangamSandeshS., Prof.ShindePrashant.N,Prof.Abhijit.B.Raut, Prof.TriguneRajeshS.,"LAN Monitoring using Android Phone", International Journal of Innovative Research in Computer and Communication Engineering(An ISO 3297:2007 Certified Organization,February,2014; 2(2)

2. Prof ThadaniHarsha, Prof. KumariSupriyaProf.ShaikhMiranuddin, Prof.BaravkarNeha, Prof. KaleShubhangi,"Monitoring PCs using Android",International Journal of Scientific & Engineering Research(ISSN 2229-5518, April-2013; 4(4): 1537)

3. Prof.ChaudharyPooja, Prof. BhutadaManasi, Prof.BavoriaAtul, "WLAN Monitoring Using Android Phone",IJREAT International Journal of Research in Engineering And Advanced Technology,(ISSN: 2320 – 8791 Impact Factor: 1.479, , June-July, 2014; 2(3)

4. Prof.Gowthami.T, Dr.Adilinemacriga. G, "Smart Home Monitoring and Controlling System Using Android Phone", International Journal of Emerging Technology and Advanced Engineering,(ISSN 2250-2459, ISO 9001:2008 Certified Journal, November 2013; 3(11)

5. Prof.Dhanke D.T., Prof.Bodkhe S.S., Prof.HambardeS.M., Prof.Vaidya R.P.,"LAN Monitoring and Controlling using Android", International Journal of Advanced Researchin Computer Engineering & Technology, March 2014; 3(3)

6. Prof. BhamareMamata, SalunkeRenuka, WaghmarePriyanka,"GSM Based LAN Monitoring and Controlling", InternationalJournal of Modern EngineeringResearch,(IJMER)(ISSN:2249-6645,www.ijmer.com, Mar-Apr 2012 ;2(2): 387-389)

7. PomanAmol, GundrasMahesh, PujariPrashant,"GSM Based LAN Monitoring System", PomanAmol et al,/(IJCSIT) International Journal of Computer Science and Information Technologies, 2012; 3(3): 3848-3851)

8. Prof. NimodiaC. S., Prof.Asole S. S.,"A Survey On Network Monitoring &Aministration Using Email & Android Phone"International Journal of Emerging Technology and Advanced Engineering ,Website: www.ijetae.com (ISSN 2250-2459, ISO 9001:2008 Certified Journal, , April 2013; 3(4).

9. GavhaneSonam,Phanse,RasikaB.W.Balkhande,"Remote Desktop on Mobile"International Journal of Innovations in Engineering and Technology (IJIET)(ISSN:2319–1058,February 2013; 2)

10. SwapnilBhikule, JagtapSachin S, Marne Rahul L, SadgarAnagd P.,"LAN Monitoring and Administration using Android Phone",International Journal of Advanced Engineering & Innovative Technology(IJAEIT)(Volume 1,IJAEIT © 2014 ,http://www.ijaeit.com,ISRA IMPACT FACTOR: 0.42 Issue 4,October-2014)

11. Jaya Bharathi chintalapati1, SrinivasaRao T.Y.S2,"Remote computer access through Android mobiles", IJCSI International Journal of Computer Science Issues,(Vol.9,Issue 5,ISSN (Online): 1694-0814 ,www.IJCSI.org, No 3, September 2012)

12. Soyoung Hwang and DonghuiYu,"Remote Monitoring and Controlling System Based on ZigBeeNetworks",International Journal of Software Engineering and Its applications, July 2012; 6(3).

13. Rajasekaran.S1, Kumaran.P2, Premnath.G3, Karthik.M4,"HUMAN HEALTH MONITORING USING WIRELESS SENSORS NETWORK (WSN)", International Journal of Application or Innovation in Engineering &Management(IJAIEM)WebSite:www.ijaiem.org Email: editor@ijaiem.org, editorijaiem@gmail.com(ISSN 2319-4847, December 2013; 2(12)

14. ChoudharyAshutoshkumar,IngolePiyushK. "Smart phone based approach to monitor driving behaviour and sharing of statistic. 2014 Fourth International Conference on Communication Systems and Network Technologies 978-1-4799-3070-8/14 $31.00 © 2014 IEEE DOI 10.1109/CSNT.2014.61

15. ChoudhryAshutosh Kumar," Study of Various Routing Protocols in VANET" InternationalJournalof Emerging Trends in Engineering and Development, Issue 8, Vol.1 (January 2018) DOIhttps://dx.doi.org/10.26808/rs.ed.i8v1.02

16. PurbeySuniti." A REVIEW ON MANET (MOBILE AD HOC NETWORK)" International Journal of Emerging Trends in Engineering and Development Issue 9, Vol.1 (January 2019) DOI https://dx.doi.org/10.26808/rs.ed.i9v1.02