

# Mobile LAN-Controller

Shiva Shree Nagendra R<sup>1</sup>, Bhat Geetalaxmi Jairam<sup>2</sup>

Student, Department of PG Studies in Computer Engineering and Applications, NIE, Mysore, India<sup>1</sup>

Associate Professor, Department of Information Science & Engineering, NIE, Mysore, India<sup>2</sup>

**Abstract:** When the network administrator is placed near the LAN, He/she will be able to take care of all the activities of LAN. What if he/she is to monitor a LAN consisting of hundreds of machines? It is easy to monitor the work of the sub ordinates when the supervisor or manager is in the same physical location as that of the sub ordinates. However, if the managing authority is situated somewhere else apart from the location of its team, it is a tedious task to monitor its activities. The system proposed in this document can be used to monitor the LAN of an organization. The system proposed in this document provides an integrated solution wherein the work of the team members situated in a LAN can be monitored through the mobile phone of the manager without the notice of the members thereby improvising the productivity of the team. This system can also be used in a corporate training center where all the training activities are online. By using this Mobile LAN-Controller system, the trainers/invigilators can keep a watch on the whereabouts of the trainee employees.

**Keywords:** LAN, GSM, J2ME, Client, Server.

## I. INTRODUCTION

By 2030, the number of gadgets and computers will touch 40 billion according to a survey. The population will be 8 billion by that time. To put in other words, by 2030, each person will have 5 machines to take care of!! It is not an exaggeration, it is bound to happen. At times the people face a lot of difficulties in monitoring their own machines. Then what about the case of a network administrator who has to monitor several machines (a mind-boggling number)? Need not say, the mobile devices also have become a part and parcel of every human being's life directly or indirectly. Is there any way that we can utilize these mobile devices to track the devices connected to each other in a LAN? The answer is 'Yes'. Let us consider a LAN with a server connected to it. The server is in turn connected to the mobile device which controls the LAN. The LAN is controlled by the mobile device through the server.

## II. FEATURES CONTROLLED BY THE SYSTEM

A. *View the clients:*

The list of all the clients working in a LAN

B. *View the processes:*

The list of all the processes running on the machine in a LAN

C. *Activate a process:*

A light process can be started on any remote machine in a LAN

D. *Kill a process:*

Any process can be killed on the machine.

E. *Open a file:*

A text file can be opened.

F. *Shut Down*

Even a machine can be shut down if it is misbehaving

G. *Save the message on client*

A message can be typed on the cell phone and can be saved on the client of a LAN

## III. LITERATURE SURVEY

A. *Prof. Mamata Bhamare, Tejashree Malshikare, Renuka Salunke, Priyanka Waghmare, "GSM Based LAN Monitoring and Controlling", IJMER, 2012.*

The paper proposes to develop an integrated software solution that allows a network administrator to remotely monitor his LAN by his cell phone.

In a concern, computers are grouped together to form a network to manage and control activities of network while in office is an easy task, but while you are outstation/away from office to monitor and controlling of network instead of depending on third party information you can always have your cell phone serve the purpose, login anytime to application and see who is busy with what in the office [1].

B. *Prof. C. S. Nimodia, Prof. S. S. Asole, "A survey on Network Monitoring and Administration using email and android phone", IJETAE, 2013.*

The main objective of this paper is to provide maximum details about the network to the administrator on their email accounts and android phones, when administrator is away from office or goes out station.

In the era of internet services & mobile phones, email & mobile applications are widely used and it has penetrated every part of our life, but remote monitoring of networks through email and android mobile applications which are GPRS or Wi-Fi enabled is still a mirage. There can be number of protocols which are used to monitor and control the network using android phone; it can be android protocol and network management protocols or combination of them [2].

#### IV. ARCHITECTURE OF THE SYSTEM

The administrator is provided with the GUI based application developed using J2ME. The application is opened on the mobile phone of the administrator. He/she has been provided with many options to control the LAN devices including starting the process, viewing the processes running, killing a process, saving a message etc. Before using these options, the administrator might have to complete one step authentication so that illegal users will not control the LAN. Server is the central part of overall system. The cell phone user should interact with the server in order to control the Local Area Network. The web server and the server part program must run in the server. If the cell phone user needs the information regarding the server, then the client part program must run in the server also. The server must be interconnected to all client terminals. The block diagram of the system proposed is as shown in Figure 1.

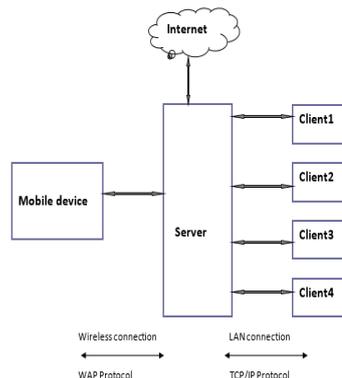


Fig. 1. Block diagram of the System

#### V. TECHNOLOGIES USED IN THE SYSTEM

Operating system: Windows 98/2000/xp/7  
Software tool : KToolbar, J2SDK  
Server : Tomcat server  
Database : MS-ACCESS  
Languages : J2ME  
Intel Pentium-700MHz or an equivalent/ higher processor  
128MB RAM  
600MB of hard disc space

#### VI. CONCLUSION

This system can be used as a simple application to monitor the activities being executed on a LAN. This provides a tremendous opportunity to the network administrator/manager/trainer to ensure that the productivity of the working environment is maintained. As a further enhancement, this system can be modified to make heavy process to run on the client machines just by a click of the button on the mobile device.

#### VII. FURTHER ENHANCEMENTS

The wireless sensor networks which is progressing rapidly in the current world is finding its way in almost each and every application now-a-days. This system can be modified accordingly to sense the temperature of the machine, processes which are consuming lot amount of

processor cycles and kill the processes which are a burden to machines [5][6].

#### ACKNOWLEDGMENT

We would like to acknowledge the contribution of **Mr. Muzammil Asgar** and others in proposing the said system.

#### REFERENCES

- [1]. AmolPoman, Mahesh Gundras, Prashant Pujari, "GSM Based LAN Monitoring System" IJSCIT, 2012
- [2]. Prof. MamataBhamare, TejashreeMalshikare, Renuka Salunke, Priyanka Waghmare, "GSM Based LAN Monitoring and Controlling" IJMER, 2012
- [3]. E. Wong, "A phone-based remote controller for home and office automation", IEEE Trans., 1999
- [4]. A. R. Al-Ali, Imran A. Zualkernan, AssiaLasfer, AlaaChreide, and Hadel Abu Ouda, "GRPS-Based Distributed Home-Monitoring Using Internet-Based Geographical Information System", IEEE Transactions on Consumer Electronics, vol.57, no 4, November 2011.
- [5]. Bhat GeetalaxmiJayram, D. V. Ashoka, "Merits and Demerits of Existing Energy Efficient Data Gathering Techniques for Wireless Sensor Networks", International Journal of Computer Applications (0975-8887), Vol. 66, Issue 9, pp 15-22, March 2013.
- [6]. Bhat GeetalaxmiJayram, D. V. Ashoka, "Intelligent data gathering in distributed wireless sensor environment-A Real Scenario", International Journal of Scientific & Engineering Research(2229-5518), Vol. 5, Issue 2, pp 789-794, March 2013, .
- [7]. Herbert Schildt, "Java Complete Reference"
- [8]. James Keogh, "J2ME: The Complete Reference"
- [9]. <http://www.ijmer.com>
- [10]. <http://www.ijetae.com>

#### BIOGRAPHIES



**Shiva Shree Nagendra** Robtained his Bachelor's degree in Electronics and Communication Engineering from VTU, Belgaum. Now, he is pursuing his M.Tech from VTU. His field of interest are Computer Networks, Data Structures, Programming and Server-Side Scripting.



**Bhat Geetalaxmi Jayram** was born on 17th May 1975 and presently working as an Associate Professor, Department of Information Science and Engineering, National Institute of Engineering, Mysore. She has obtained her Bachelor's degree in Electronics from Dr. Baba Saheb Ambedker University, Aurangabad then she has obtained her M.Tech from VTU and secured II-Rank in M-tech. Now she is pursuing PhD degree in Information Science and Engineering from VTU, Belgaum. Her registration year is NOVEMBER 2011. She is having more than 9 years of experience in Teaching. Her fields of interest are Wireless Sensor Network, Computer Networks, Data Structures, Software Engineering, Graph Theory, Advanced Microprocessors, Electronics Devices and circuits. Her Research has got Grant along with citation award from, VGST (K-FIST-Level-I) citation award, Bangalore. She has presented four research papers in different international conferences, three papers in international journals and one in national conference awarded with best paper award.