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Remote Client Administration

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Abstract— Remote Client Administration is a service offering a full function network, which provides its authorized users with the ability to monitor and manage the connected clients. This software will benefit the administrator in lab/office to manage the clients. This project gives an administrative power to the server. The software mainly provides services chatting through text, audio and sharing resources between computers. The administrator system provides some restrictions for the clients. It gives the system a role of administrator in an organization. Our system is highly user friendly and interacting. Our system can view all users connected with the server. Administrator system can view the hardware status of the client and all process currently running under the client machine. Our system helps the administrator to kill the unwanted process running on the client machine. The administrator can shut down, restart and log off the client system. We are confident that this project will benefit every administrator in delivering his duties.

Keywords— Administration, Java, Java RMI, Network, Security, Java JDBC, SQL

1. Introduction

Remote Client Administrator is a tool that monitors the memory, disk space etc of all the systems in a network and grabs the screenshots of all the applications running on the client machines. There is one server process and client processes running on many machines in a network. Also we have certain modules in the client processes that periodically report to the server about their available resources. It is a network monitoring tool that follows Client-Server Model.

We can transfer the needed files from and to the system. Our system supports chatting through text and audio and also sharing of files by uploading and downloading we can catch the client screen and can visualize that to the administrator. We can also view the memory status of any remote system in the administrator.

Today the world is rapidly changing the statement “We are in the world” to “world is in our hand”. The main aim of our project is to control and monitor the network where technique used to do so is RMI. Remote Method Invocation (RMI) allows a java object that executes on one machine to invoke a method of a Java object that executes on another machine. This allows us to build distributed applications. Before the use of client and server, the necessary stub is generated. Generation of the skeleton may be required. In the context of RMI, a stub is a java object that resides on the client machine. Its function is to present the same interfaces as the remote server.

Socket is one end-point of a two-way communication link between two programs running on the network. Socket programming in JAVA is done through the class Socket and Server Socket. Socket is a client socket and Server Socket is server socket as the name specifies.

Remote method calls initiated by the client are actually directed to the stub. The stub works with the other parts of the RMI System to formulate a request that is sent to the remote machine. In the latter case, the object may have references to other objects. All of this information must be sent to the remote machine. That is, an object passed as an argument to remote method call is serialized and sent to remote Machine.

Hence administrator can view the both static and dynamic snapshot of users’ desktop and then he could sends warning messages to the user to stop that operation immediately.

2. Related Work

Network monitoring describes the use of a system that constantly monitors a computer network for slow or failing components and that notifies the network administrator. While an intrusion detection system monitors a network for threats from the outside, a network monitoring system monitors the network for problems caused by overloaded and/or crashed servers, network connections or other devices.

In one of the research oriented paper [1]. Retrieval of information from shared files, one of the important task displaying the corresponding list to the administrator depending upon the status, monitoring list, System sending request to perform the specified action to increase efficiency and to optimize network resources.
In another research work[2], is an effort to suggest an approach for the characteristic extraction of the capability to identify users accessing the place by means of a nickname, which can either be independently chosen by them and disambiguated by

the system in case of collision, or registered a priority the availability of some authentication and access control mechanism; administrative rights may be reserved to the creator of the place, shared, or delegated the availability of public (broadcast) or private (one-to- one) communication channels

Another study describes an approach [3], WSE-OS allows for an increase of the number of clients without there being an excessive and onerous increase in the transmission of request packets. Obtained data also proves that the system is capable of overcoming the limitations imposed by the strong coupling between hardware and software, administering a single software configuration for the dissemination of information.

This data confirms the viability of using the WSE-OS middleware and the Management Layer as integral parts of a computer management tool based on a wireless communication network, allowing for centralized administration, besides installing and maintaining distributed applications.

Based on How Server gets the IP addresses of all the client's connected to the network using Remote Method Invocation (RMI). There is one more advantage of using RMI is that suppose you are using wireless network like Wi-Fi then also you can get the IP addresses of client's and keep pinging every time to check the latest status of each system connected There is client server architecture between clients and server but to get the static image of client's without knowing them, this is not satisfactory.

We need another client application which runs on client's machine and one server application which runs on server machine. Both these application start working when the system is started and these applications are running in the background doesn't know anything about it [4].

3. Features Of The Proposed System

Remote Administration in proposed system is such an easy task that it can be controlled by even a data entry operator. Here the person who is handling the administrator machine not necessarily needs to have the Operating System knowledge. It is very much user friendly and managing all the users is not that such a difficult task.

3.1 PROCESS VIEW: Administrator once authorized, get on your screen, the list of entire client's in network. Keep pinging every time to check the latest status of the PC's. The Connection Setup menu is clicked in order to get the list of clients currently being connected with the Administrator.
A particular client is selected from the list for controlling.

3.2 DESKTOP GRABBING: Administrator once authorized, the desktop screen image of the remote client is visible to the administrator, Get the details of all processes running on the client's machine and by viewing the image of the client's desktop and memory monitoring and resource monitoring is also enabled.

3.3 CHAT PROCESS: Administrator once authorized, if the server finds anything illegal then server has a facility to send the warning message to the client.
With the help of remote chatting the Administrator and also the clients can interact and share any important messages among each other.
Both One-to-One and group texting is provided.

In One-to-One chatting users privacy is maintained.

In Group texting all clients connected chat on the same window and share views.

3.4 AUDIO PROCESS: Administrator once authorized, if the server finds anything illegal then Administrator has a facility to Guide or giving warning to the client through real time Audio. One-to-One audio Communication is enabled between Clients and between Server and Clients.

3.5 SHUT DOWN: Administrator once authorized, Administrator start monitoring or execute Operations such as Shut down the client's machine by server. Along with Shutdown, Log Off, Restart, Reboot also executed if required.

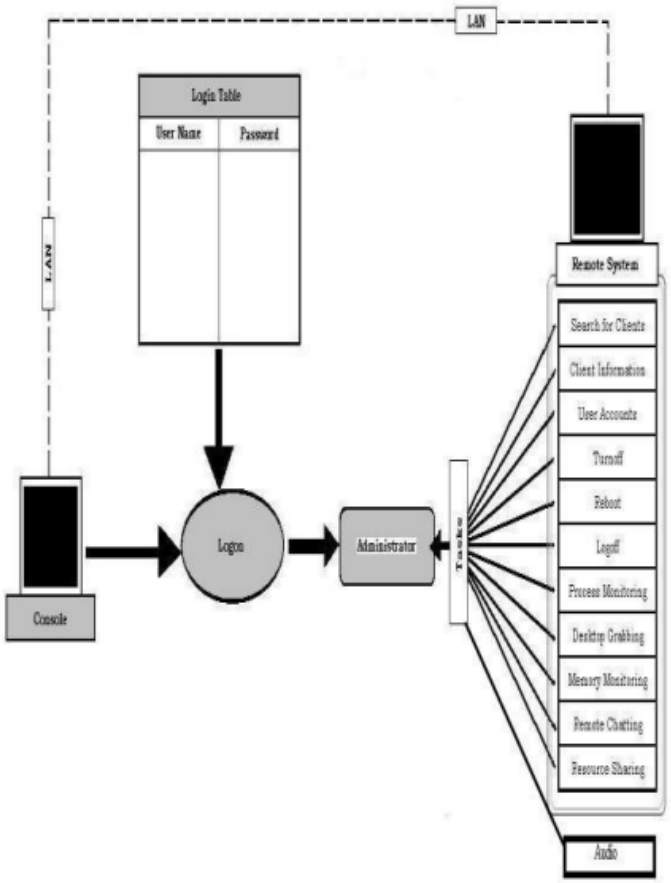

Figure 1: Architecture on working of Administrator

3.6 PROCESS MANAGEMENT: Administrator once authorized, administrator can see what processes are running currently in any remote system along with process details such as process id, name, status memory used, CPU time given a process, system up time. And also the administrator can kill any unwanted process simply by selecting process from the list and clicking on the kill button.

3.7 RECORDS: The administrator can fetch the memory status of any remote system, the drives existing in that system, the total memory space, used memory space and free memory space**.**
With the help of Resource Sharing the client can perform file sharing with the Administrator.

4. Architecture Of Proposed System

From the Architecture of proposed system we see that the main server has the power or authority to monitor whole of the Network. Server or administrator sends the request message to the client through RMI. But the client does not know there is a remote request came and without knowledge of client the automatically response message generate on behalf of request in the form of IP addresses and this will send to the server. Now with the use of client server architecture, the server gets the static or dynamic image of any of the clients desktop. If server or administrator finds anything objectionable in the network or any particular system, an administrator has the power to abort that operation by sending warning messages to the user to stop that operation immediately. Even than if client do not stops than administrator has the facility to abort the system remotely or restart the system, when the administrator shutdown the client, at that instant of images are saved to the database as a record.

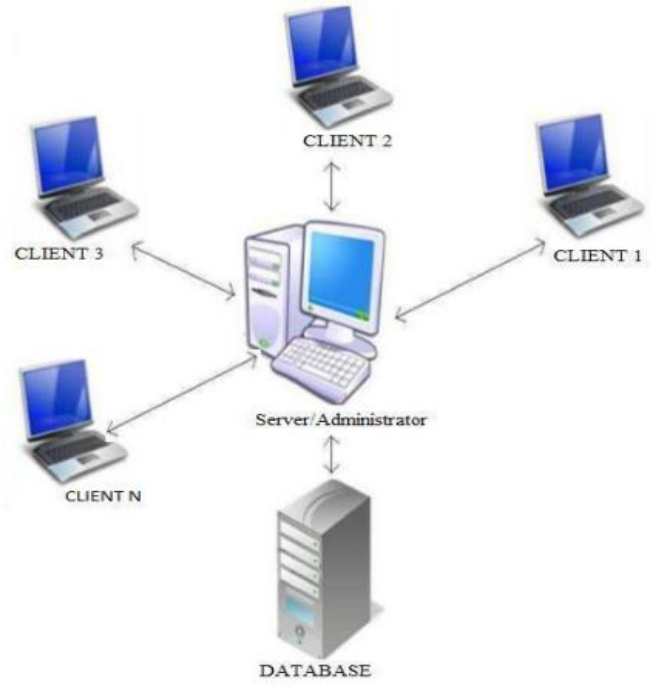

Figure 2: Architecture of proposed system

A connection object represents a connection with a database. A connection session includes the SQL statements that are executed and the results that are returned over the connection. A single application can have one or more connections with a single database, or it can have connections with many different databases.

5. Experimental Analysis

In the proposed system, Administrator needs to monitor all the user list and shared files. The systems with 200 users with an assumption that each user shares more than 50 files on an average are considered. Then, the total storage of the group individual is flexible and any format of file can be stored, which is acceptable. Administrator is security and hence provided by login services, to ensure the process running safely and secure manner.

Therefore, the analysis on the proposed approach shows that the utilization of storage space among different users is flexible and also one to one audio is enabled to secure communication over net. Thus, it is acceptable in real practical usage.

6. Conclusions

Remote Client Administration is the paper on Network Administration and security which works as security provider to whole of the network. This is a complete front end project build in JAVA RMI used to provide the authority to the administrator to stop any illegal process and make him enable to monitor whole of the network and the work carried on connecting nodes and Files sharing scheme, for dynamic groups in an trusted network scheme allows the user's or clients to share files and communication through text and audio with clients within the group without revealing data during privacy chatting and also supports efficient user revocation and new user joining. Additionally, Administrator usually has to manually go to the client machines to monitor and assist the clients for each and every task. But using this software the administrators periodically get reports from the clients about the available resources and Administrator do not need to personally go and shutdown, reboot or logoff every client machine, instead he can simply sit and do it with help of a Remote Administrator.

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