# Developing Monitoring System for Analyzing Client and Server Activitie

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*Abstract— Security of networks has always been a major problem in the new enterprise environment. A number of ways have been thought of and implemented to ensure security over the infrastructure all over the Internet. Firewalls, VPNs (virtual private networks), intrusion detection systems are used to secure systems from attacks and any kind of misuse. Similarly monitoring of clients over a network becomes an essential function so as to enhance the performance the cyber infrastructure. Section I introduces the subject of security of network and the need of an application to monitor activities of clients. Section IV is a detailed System model of the Activity Monitoring System (AMS). Section III explains the need of an AMA. Section IV explains the features. Section Vi describes the benefits, Section VIII concludes the paper, and Section X presents the references.*

*Keywords: Activity Monitor, Client-Server Monitor, Client Screen Access.*

## I. INTRODUCTION

Today the network is a important player in the field of computers and we need to communicate with the help of computers. Here we are creating a tool which helps a user to interact between client and the server. The main application is to monitor the network / Internet, because in nowadays the use of internet becomes misuse. So to monitor the basic activity of the systems available on the network we use the proxy monitoring application. The communication has the following advantages: Faster Communication, Security, Application Control (For remote PC), Management of the applications, Monitor the machines on the network. Our aim is to Create a system which can used by the administrator for various purpose and also set the objective to work less and get more benefits. The Admin can monitor with help of LOG so the users can be monitored easily and remotely [1]. The objective of developing this web based application is to provide security over LAN. To monitor the activities of client computer connected via LAN and take appropriate action accordingly. With this application a user can monitor the activities of the client & take an appropriate action against him when they are misuses the resource given to him [2].

## II. NEED OF CLIENT ACTIVITY MONITORING

Monitoring in some way or the other is important because of majority of reasons. Some employers monitor if the cash handed over to the employee has been handled in the way it was meant to, some monitor the accuracy and quality of employees' work. Monitoring in such a manner has become a business activity today because not doing so is an irrational step and can produce unwanted results. The misuse of the computer activity can pose a great threat to organizations. The need for monitoring in order to check the following:

1. Intellectual property Theft.

Intellectual property theft (IPT) is a matter of big concern for companies. The people can get an opportunity to access data and even steal it because of the connected computers and other mobile devices. Documents can very easily and promptly be transported to a flash drive. Most organizations are worried about theft from the outside but, in fact, majority thefts take place on the inside of an organization. Hence firms are responsible for Employee Monitoring: An indispensable part of the risk management activity. Companies frequently do not confess being sufferers of IPT, hence it becomes impossible to count the losses which can, however, be considerable. In such cases an activity monitor helps in preventing this kind of theft.

2. Cyber Slacking.

Surfing sites like shopping sites, social networking sites are a a major setback in the employee's performance. These sites pose a major problem for the employers. Some employees shop, some play games, some chat, some watch and share videos and some remain online like during the peak working hours too. This phenomenon is known as "Cyber slacking". Hence, a considerable amount of time is wasted by employees due to this cyber slacking [4]. These activities are a hindrance to the target the companies set. Social networking is now-a-days becoming social-not-working. Hence if the activities are monitored properly and timely, then the employees are in a position to prevent repeating such activities after they are caught [7].

## III. System model and Concept of AMS

The system model consists of four basic modules namely:
1. Remote Desktop
2. IP Calculator
3. E-mail
4. Monitor System Resource
Now we will explain the system modules one by one:

**1. Remote Desktop**: While the client logs in to the server, the Client IP Address and System names can be added to the server. Server will display the IP addresses of all the clients [8].

a. **Image Receiver Server:** This module receives the screenshot of the client's desktop.
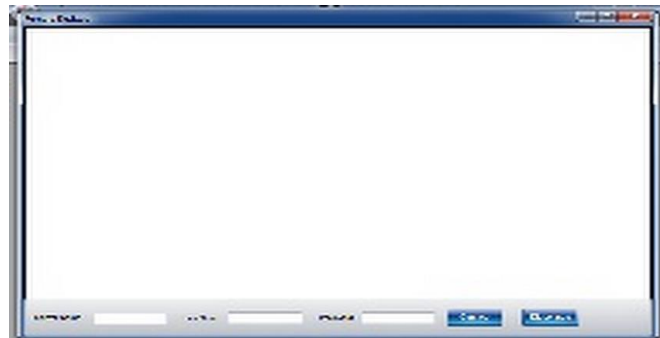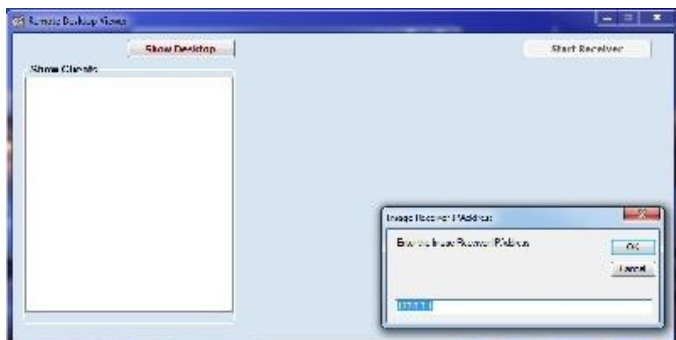

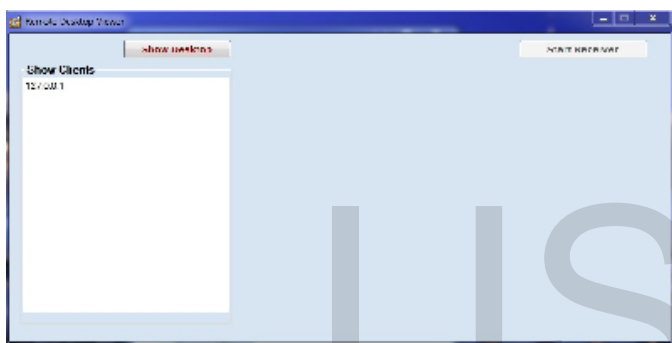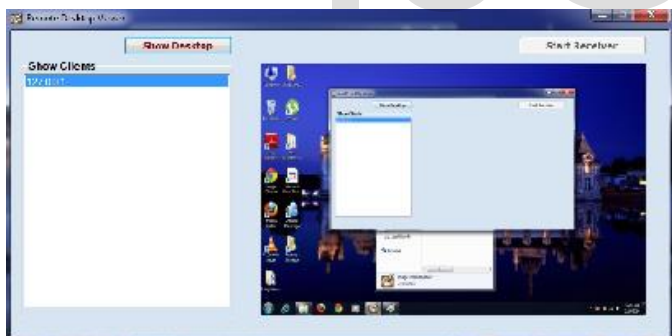Fig 1: IP Address of Image Receiver


Fig 2: List of Clients


Fig 3: Remote Desktop shown

b. **Image Sender Client:** This module sends the screenshot of the client's desktop to the server. The remote desktop module of the application can monitor every activity the client makes. The server needs the user name of the client, login, password and the IP address of the client [3].


Fig 4: Window showing the fields like Username, Password, IP address to connect to the client computer.

2. **Monitor System Resource:**

The system resources of the client are monitored by the server. This module displays all the folders that the client has browsed. This has the following sub modules.
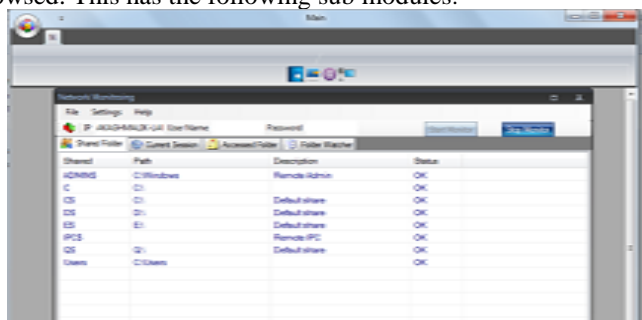


Fig 5: Monitor system resource

a. **Shared Folder:** This module shows the shared folder name, the path of the shared folder and the status[4].

b. **Folder Watcher:** The folders which have been created, renamed and deleted can be monitored through this folder.
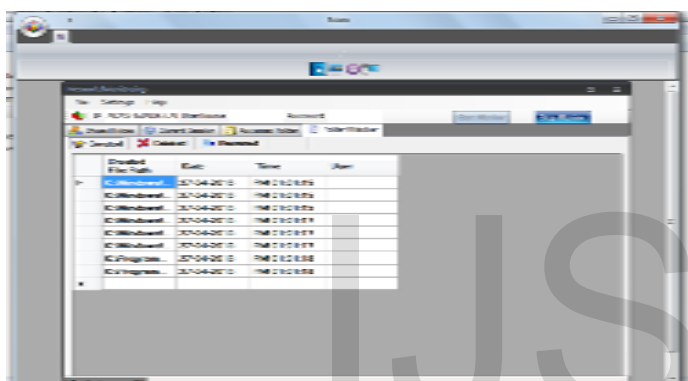


Fig 6: Created, Deleted and renamed folder log.

3. **IP Subnet Calculator:** This module of the network monitoring application calculates the maximum number of subnets based upon the inputs given such as class, broadcast range etc. This is an add-on feature of AMA.
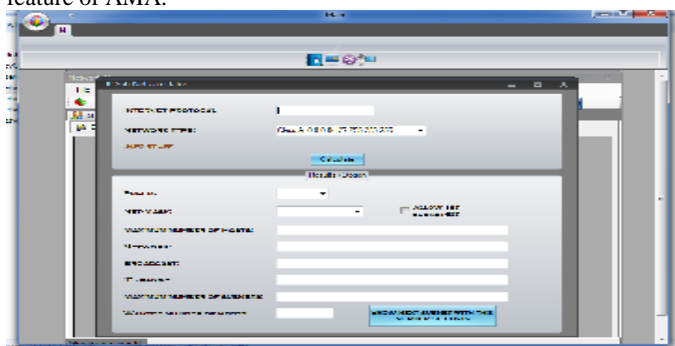


Fig 7: Subnet Calculator.

3. **Email:** This feature is an additional feature in the application. This helps in e-mailing on different kinds of email ids be it gmail or yahoo.

## IV. Features of Network Monitoring System

Monitoring of networks is important because of many network problems that occur when a group of computers come into play. At times, it becomes necessary to regularly check what activities are being made on the client side [6]. In such cases the need for network monitors arises. These tools help not only to solve network problems within a stipulated time but these are also required to prevent failures in network, to detect any kind of threats be it inside or outside the system.

Be it a cluster of hundreds computers or thousands, be it hubs or switched networks, be it Ethernet or ATM, much more sophisticated equipment's are required so that the networks can be managed effectively. This section surveys the features of a good network monitoring tool. Activity Monitor can enhance the efficiency and productivity of firms or places where the tracking of local networks is a major requirement [5].

The AMA has the following features:

1. It has to be installed at both client and server side.
2. It can be installed on all the computers one wants to monitor.
3. A live view of the remote desktops can be seen without manual monitoring [6].
4. One centralized computer where the AMA is installed can monitor multiple clients.
5. The application can store the entire history of communications for each and every user in the form of log tables .
6. Its an easy to install application.
7. Remote desktop able to receive screenshots
8. Provides security of documents: can trace and theft of information by employees.
9. Tracks the folders created, deleted or renamed.
10. Can help in subnet calculation and sending e-mails.

Activity monitor helps in protecting sensitive information, protect employees, and protect the reputation of the organization and much more.

## V. BENEFITS OF ACTIVITY MONITORING

1. Enhance personnel efficiency instantaneously
2. Reduce use of the Internet on a personal basis.
3. Avoid viewing of unsuitable content by people at work.
4. Stop the employees from wasting time on games.
5. Eliminate cyber slacking and boost productivity [10].
6. Protects the firm from any kind of fraudulent activity.
7. Protect from theft of any intellectual property.
8. Protect from trade secrets theft.
9. Prove basis for penalizing action, hence reduce chances of unfair firing of any kind [9].
10. Protect the employees from bullying and persecution [11].

## VI. STATE CHART DIAGRAM

This diagram represents the states on which the process proceeds one by one. This diagram has states and events which help in recognizing the timeline according to which the project completes. It begins with a 'Start' and halts at the 'Stop'.
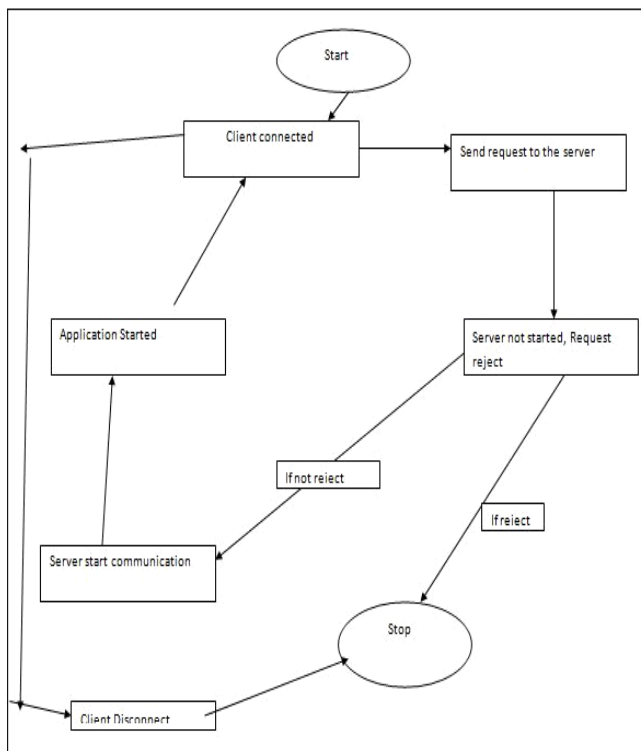
## VII. FUTURE SCOPE OF THE PROJECT

Activity monitor helps in protecting sensitive information, protect employees, and protect the reputation of the organization and much more. A few key benefits of the same are listed below:

1. Enhance personnel efficiency instantaneously.

2. Reduce use of the Internet on a personal basis.

3. Avoid viewing of unsuitable content by people at work.

4. Stop the employees from wasting time on games.

5. Eliminate cyber slacking and boost productivity

6. Protects the firm from any kind of fraudulent activity.

7. Protect from theft of any intellectual property.

8. Protect from trade secrets theft.

9. Prove basis for penalizing action, hence reduce chances of unfair firing of any kind [12].

10. Protect the employees from bullying and persecution

Therefore the activity monitoring tool helps a lot in many area widely. If the application is enhanced on the front of cryptography, it can be used for enhancing security more efficiently.

## VIII. CONCLUSION

It is that application works well and satisfies the company and students. The application is tested very well and errors are properly debugged. The application is simultaneously accessed from more than one system. Simultaneous login from more than one place is tested.

The application works according to the restrictions provided in their respective browsers. Further enhancements can be made to the application, so that the application functions very interactive and useful to existing application .The application

satisfies both the company and students by eliminating more input. The speed of the transactions become more enough now.

The ultimate measures of performance are the users' perceptions of the performance of their networked applications.

This performance is affected by the performance of the complete *Distributed System*, which includes:

- physical network plant
- communications devices (e.g. routers, switches) , computers and peripherals attached to the network plant
- host resource utilization
- Software from device interfaces, thru operating systems to applications running on computers and devices To set and meet user expectations for distributed system performance, we must monitor all of the above.

## IX. ACKNOWLEDGMENT

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