

Walk-in Watchdog (A LAN Monitoring System)

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Abstract— Walk-in watchdog is open source application software, which is used to monitoring clients remotely on LAN. At server side administrator can view the details about clients PCs that are connected through LAN. Walk-in watchdog is also browser based application software, which provides functionality like browser control, browser report, intelligent screen capture, Real time system monitoring, software distribution and health-dashboard.

Key words: Watchdog, Real time monitoring, LAN, Intelligent screen capture, Process log, Remote Desktop, Client, Server, Open source

I. INTRODUCTION

Today's Commerce being connected with World Wide Web. Which providing internet access to the staff has become business necessity. The internet, e-mail and Social media become inevitable for employees for Carry out the research, Collaborate and Communication.

The Popularity of Internet has grown expeditiously over the past several years. A decade ago, The Internet was limited for Academic and Research Community. Today the Internet has grown into Worldwide Area Network, and reaches to the millions of people around the world. Internet provides powerful and versatile environment for the Business, Education, and Entertainment. The Evolution in Internet become vital business resources used in Marketing for Research, Communication and Collaborate. But this resources are also be a misused or abused. How much time your employees spend on surfing internet? What they are doing when they are online? Search for vacation deal, on Social media. How many e-mails are sent and received are work related and how many are forwarded jokes and videos that unnecessarily consume employee's time.

So, Walk-In watchdog is hectic software which is designed for companies. Walk-in watchdog software tracks computer activities.

II. UBIQUITOUS ISSUES

Now a days the scenario of any company is like: They are online on social media like, Facebook, WhatsApp, Google plus, Twitter etc. Surfing unnecessary and illegal research on internet that are not useful for company.so it's consume employee's time and reduce.

Employees spent time on a frivolous websites can seriously hamper productivity and visiting objectionable sites on a company PCs can make company to serious legal risk, who may be incautious to infursionist content. Other outcome may be far worse than only productivity loss. Either unintentionally or deliberately, employee can reveal owned information, data and many more.

III. HYPOTHESIS APPROACH

The Walk-in watchdog a LAN monitoring system is aimed to control the administrator requirements by automatically

working system. Walk-in watchdog a LAN monitoring system is well functional, secure and easy to manage software for CEO, Manager or Network Administrator of company.

The software should keep monitor on real time activity of the client or employee. It should give the client system information, client's process log, and details of installed software.

IV. EPISTEMOLOGY

Walk-in Watchdog is combination of two words: Walk-in means 'A Service Available for clients or Employees' and Watchdog means 'To watch carefully or to monitor'.

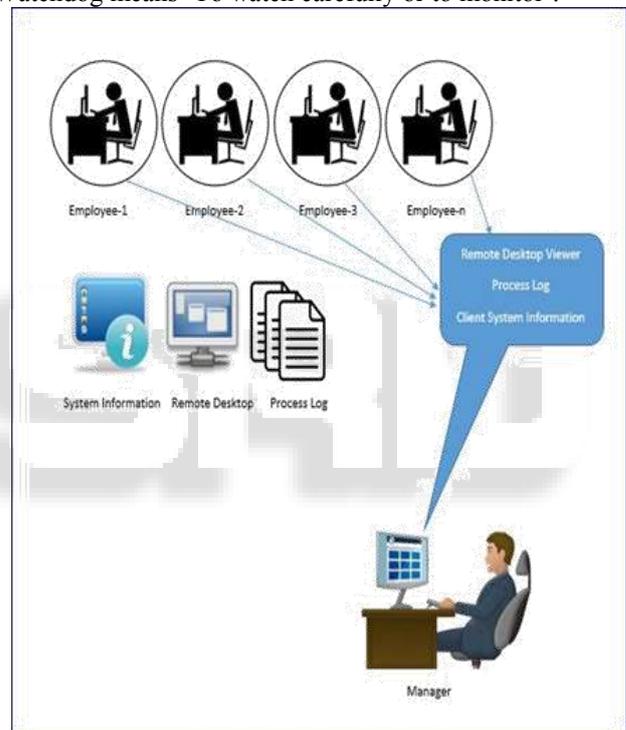


Fig. 1: Walk-in Watchdog Context

Walk-in Watchdog is a LAN Monitoring Software, Which is Follow a Client-Server Model. It is an Open Source Software. Walk-in Watchdog is a Program that provides Comprehensive Monitoring. Walk-in Watchdog consist of a Server-side Application and a Client-side Application that can be remotely installed on any Computer in the LAN and it is completely invisible to the end users. It provides following features

- 1) Client System Information
- 2) Process Log
- 3) Browser Report
- 4) Browser Control
- 5) Distribution of Software
- 6) Network Health Dashboard

V. IMPLEMENTATION AND TESTING

The walk-in watchdog for Linux OS provides you with the capability to monitor Linux, and perform basic actions with Linux. The walk-in watchdog for Linux OS have environment with a client, server and walk-in watchdog with following components:

Operating System	Linux (Ubuntu 12.04) Windows
Processor	Intel core i3-32/64 bit
Memory	1GB
Disk Space	Min.20GB Max.100GB
Other Requirements	Walk-in watchdog must have permission to perform requested actions

Table 1: Requirements of Walk-in Watchdog

As mentioned in above table, in company many computers are there connected in LAN, and different PC having different functionality like different operating system, different processors, memory, disk space and other requirements.

Different PC has different memory usage, disk spaces. So here we need to mention the requirements of Walk-in watchdog software.

In walk-in watchdog software the feature Remote Desktop viewer uses VNC (Virtual Network Computing) Protocol, which is a graphical desktop sharing system that use remote frame buffer protocol (RFB) to remotely control another computer. VNC is platform-independent, open source and under the GNU

Walk-in watchdog client have python user interface for viewing and monitoring LAN connected system.

Walk-in watchdog can synchronize the status of situation events and forwards it to the event server.

Note: companies' employee should not aware about someone is continuously keeping watching on their desktop activity otherwise they feel in comfortable and in secure.

A. User Interface (Gui):

GUI of walk-in watchdog system is built in GLADE using python language. This includes following functionalities

- 1) Remote Desktop Viewer
- 2) Installed Program Log
- 3) Process Management
- 4) Client System Information



Fig. 2: Walk-in Watchdog Interface

1) Remote Desktop Viewer:

Using this functionality one can view desktop activity at server side remotely. Server cannot handle client's Pc/Desktop. In Remote Desktop viewer, server can view continuously client's desktop activity like video mode. If at server side one wants to take snapshot of any kind of on screen desktop activity desktop screen capture feature is useful in such case.



Fig. 3: Remote Desktop Viewer

In Remote Desktop Viewer, One button is also available for full screen mode. The Remote Desktop Viewer, connection is done through IP address/hostname and protocol.

2) Installed Program Log:

While working on some project or professional work for company employee installs some software and use that daily, same way they can download some Games, Songs, Movies and other similar stuff which leads to wastage of working hours. Therefore, to keep watch or to check which software they installed in their pcs we put installed program log module. Therefore, that company's manager can check that what their employees are installing. In addition this module maintains a log for the same too.

It also shows the path of installed software so do not need to find that where this software is installed.

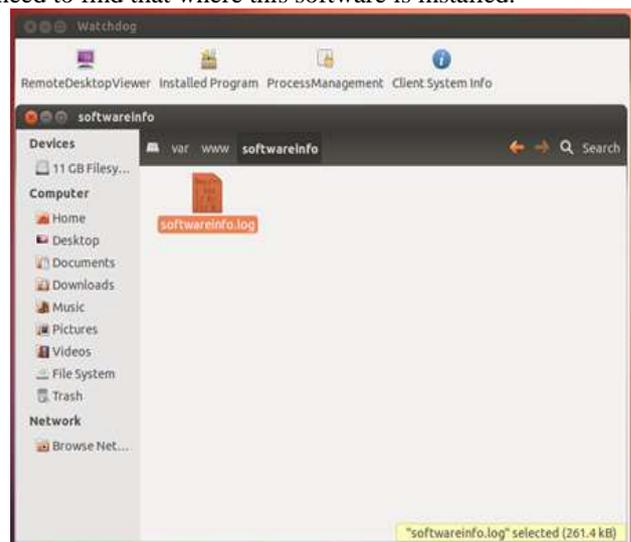


Fig. 4: Installed Program Log

3) Process Management:

In company, there are many systems are in working mode at the same time. So in that, there is need to keep watch on memory usage and CPU usage. In addition it can tack which set of commands are used more frequently by employees and

keeps log of the same. Such information can be used to optimize performance of computers in future when company expands the business. So the log file shown in figure 5 includes Process Id, User name, Usage of CPU and Memory with time and commands.

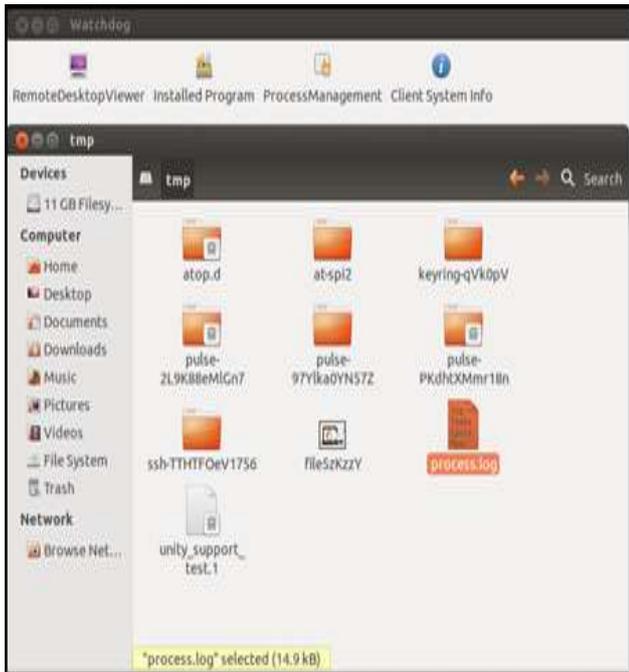


Fig. 5: Process Management Log

4) Client System Information:

Client system information includes detail information of all the system connected in a company network which includes information like system login/logout time, system up time, system hardware type, operating system, main memory, processor type etc.

Such information is useful in maintenance work and it can also indicate required upgrades in company hardware and software. Such feature is handy while managing a large number of systems as well as a small organization or company having 5-10 computers in network.

VI. BENEFITS

Walk-in watchdog is obviously beneficial to employer for the fact that the job performance is generally improved. It can be difficult for manager of remote teams to ensure that their employees in the field are working to their full potential.

Without a means of tracking their activities, Managers and Team-leaders are forced to do a lot of guessing about what employees are doing throughout the course of a day. Luckily, there are many affordable software solutions available, which enable managers to monitor their employee activities.

The idea of Walk-in Watchdog leads to following benefits:

Improve Employee Productivity:

Employees tend to be more conscious of how they spend their time at work if they know their activities are being monitored. This awareness results in increased productivity.

Assess Employee Output:

Another benefit of tracking employees is the ability to measure the output of their work. By doing this, managers can see if the right employees are being assigned to the right projects. For example, if a particular employee's output for a

given task is below average, he or she may not be the best fit for that assignment.

Manage Project Timeline Effectively:

It is likely that managers will outline for a project before assigned task. With walk-in watchdog in place, managers can track the time employees are spending on project and type of activity they carrying out and see if they are aligning with the proposed timeline. By tracking employee's activity helps managers understand which business processes are working and which need amendment.

VII. CONCLUSION

From benefits of walk-in watchdog software, we conclude that, workplace privacy and employee monitoring can go hand in hand such that the employees do not feel pressured but motivated to achieve their outrights best. This can only be achieved through creation of clear work policies and guidelines backed by proper training and communication to define business code of ethics.

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