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RESEARCH ARTICLE

AUTOMATED TRACKING OF USER ACTIVITIES USING GSM

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ABSTRACT

Automated tracking of user activities are windows based application which is used to help the staffs to track the activities which is done by the students while they are working in the computer lab. If we installed this software it takes a screenshot of the computer screen and saves in the local hard disk. It provides the administrator to adjust the time to take screenshot and it also save the image if the student opens any restricted application in the system. So, that the staff members or any lab assistants may not watch their activities each and every seconds. If the student opens an unwanted application it automatically alerts the staff members through an SMS using GSM modem. The main objective of this project is to provide user-friendly maintenance by using C#.NET. This Software is a real boon to the staff members which is very useful to track activities of the students. This application is designed in a user friendly.

Key Terms: student monitoring, tracking, SMS alerts, GSM modem

I. Introduction

Nowadays, Monitoring is important because physically accessing every student computer all the time just is not practical. But we can monitor computer activities remotely from any computer with Internet access. Web Watcher is one of the only programs that uses remote monitoring giving you both the power and flexibility you will need for keeping an eye on student computer activities such as emails,

chats and Web searches. Other software may email you recorded data unsecured and unencrypted, or worse, the recorded data remains stuck on computers that need to be physically accessed in order to see what's been recorded. But our intelligent automated tracking system makes monitoring student computers as convenient as possible, without sacrificing thoroughness.

Spy Detection is software which helps the staff members to track the activities of the students who are working in the computer lab. In this project the admin can simply watch the server for incoming screenshots of the clients in the same network. i.e the client machines took screenshot of the system consecutively at the duration of 10 seconds or more than 10 seconds. The admin can add the process like word, excel, Firefox, calculator etc to track if the user open any unwanted software's it simply takes a screenshot of the image and send it to the server in the network.

II. Related Work

Several authors have studied the Monitoring activities. In 2004, Khorshed, A cloud provider's constraints or inability in monitoring its employees, and lack of transparency, may make the detection process even harder[2]. We found these insiders' activities form similar pattern in the monitoring systems as some other cyber-attacks because these also uses huge computer resources. In this paper we first provide a brief overview on the importance of monitoring insiders' activities through a literature survey on cloud computing security. Then, we observe some of the real life insiders' activities that can be detected from the performance data in a hypervisor and its guest operating systems. Rule based learning is successfully used for identification of these activities in this research.

In related study Robert Bodor in 2007, In this research, we developed components of an automated, "smart video" system to track pedestrians and detect situations where people may be in peril[1], as well as suspicious motion or activities at or near critical transportation assets.

The software tracks individual pedestrians as they pass through the field of vision of the camera, and uses vision algorithms to classify the motion and activities of each pedestrian[1]. The tracking is accomplished through the development of a position and velocity path characteristic for each pedestrian using a Kalman filter. With this information, the system can bring the incident to the attention of human security personnel.

Other researchers have studied the monitoring user activities in different areas [6][7][8]. For example, France Monitoring Virtual Classroom An approach based on visualization to support the teacher to observe the students' activities[3].After comparing the teaching in classical rooms and in e-learning systems, we present some visualization techniques used in various domains.

In this study Monitoring students' activity and performance is vital to enable educators[4] to provide effective teaching and learning in order to better engage students with the subject and improve their understanding of the material being taught.

We describe the use of a fuzzy linguistic summarisation (ls) technique[5] for extracting linguistically interpretable scaled fuzzy weighted rules from student data describing prominent relationships between activity/engagement characteristics and achieved performance.

We propose an intelligent framework for monitoring individual or group performance during activity and problem based learning tasks.

III. SYSTEM ANALYSIS

A. Existing System

The existing system of this project is to track the students activity based on the admin's requirements. The staff member has to watch the students whether they are open any software or applications. If the user can track the users activity through system it has to be done by watching one user activity from the server side. The user has to deactivate the USB ports to deactivate the users activity like pen drive insertion.

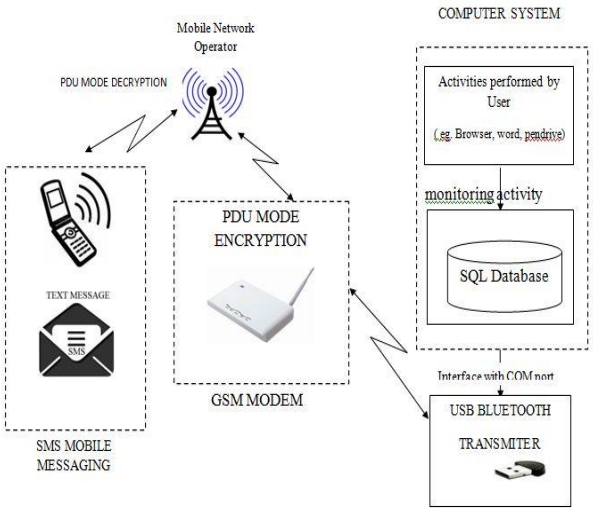
i. Disadvantages

- Manual Monitoring system
- USB ports are being deactivated
- CCTV camera monitoring are also used
- There is no SMS alert
- Mal practice will not be found by using this system

B. Proposed System:

In the proposed system of this project it has to eliminate the drawbacks of the existing system. The admin can track the users details by just adding the software to track. If the tracked software is opened by the user it sends an alert message using GSM enabled mobile phone. If the pen drive is inserted by the student it sends an alert message to the registered staff members.

i. System Architecture



ii. Advantages

- No need of staff interface to check the students
- The system automatically alerts the respective staff
- Quick Report using SMS
- Bluetooth Communication Advantages
- Mal practice will be found through this system

IV. IMPLEMENTATION

i. Add/Remove Process to Black List

The black list, or list of restricted applications, allows IT administrators to ensure that an application will not be allowed to execute on the device. The admin can add the running process as black list process. Select the restricted applications and moves to the tracked process. The admin can view the list of blacklisted contents from the database. Add to blacklist button adds the software list to the database in order to track the user activities without the knowledge of the system user. We can also remove the process from black list and allowed to the user use this application.

ii. Track User Activity

The comprehensive solution that allows administrator to monitor user activity in Windows system. Records every action performed by local and remote users. It track the user activity every 10 seconds in background. If the student tries to do an illegal operation then it takes a screenshot and sends SMS to the respective admin. Ensure tight control of user and system access while simplifying compliance and auditing. With this project for monitoring user activity and system access, you can discover vulnerabilities, trace unauthorized access, address policy violations, and immediately and effectively respond to crises. Capitalize on automated functions and consolidated reporting to demonstrate compliance easily.

iii. View Tracked Screenshots

View tracked screenshot is a module to track the users activity it takes a screenshot of the user working screen while the user opens a black listed process. This module automatically takes screenshot of the end user activity without their knowledge. Captures screenshots either periodically or based on user actions using proprietary IntelliSnap technology. Administrator later can replay a slideshow of user actions.

iv. Send SMS

The SMS contain up to 160 characters, when each character is written according the 7-bits GSM default alphabet. SMS are encrypted by using PDU (protocol description unit) mode. If the student opens an restricted application to use it alerts the staff members through an SMS. The message

contains the details like system name, login name and the application name (which the user starts). So that the staff members get alert to stop the activity.

v. Pen Drive Detection

In this application it also alerts to the admin while the user inserts a pen drive to USB port. When the pen drive device is arrived and removed that time also send SMS by GSM modem. Reports play a vital role in this application to enable the users detail and to get the list of tracked screenshots and to list the black listed process.

V. CONCLUSION

After I am completing the project I am sure the problems in the existing system would overcome. The **"Automated Tracking of User Activities using GSM"** process made computerized to reduce human errors and to increase the efficiency. The main focus of this project is to lessen human efforts. The maintenance of the records is made efficient, as all the records are stored in the MS ACCESS database, through which data can be retrieved easily. The application has been tested with sample data and it is found to be working in a perfect manner. This system has been developed as a user friendly and easy to operate.

Future Work

This system has been developed in such a way that any changes can be made easily in future if necessary. The new system promise to be accurate, adequate and time saving need of the concern.

REFERENCES

1. Vision-Based Human Tracking and Activity Recognition, 2007, Robert Bodor, Bennett Jackson, Nikolaos Papanikolopoulos
2. Monitoring Insiders Activities in Cloud Computing Using Rule Based Learning, 2004, I. Pavlidis, J. Levine, and P. Baukol
3. A Cloud-based Intrusion Detection Service framework, 2009, A. Cretual, F. Chaumette and P. Bouthemy
4. Monitoring Virtual Classroom: Visualization Techniques to Observe Student Activities in an e-Learning System, 2010, A. Mittal and D. Huttenlocher.
5. An intelligent framework for monitoring student performance using fuzzy rule-based Linguistic Summarisation, 2013, C. Eveland, K. Konolige, and R. Bolles..

6. A.F.Baba, F. M. Cin and D. Bakanay, "A fuzzy system for evaluating students' project in engineering Education" Wiley Periodicals Inc, February 2009.

7. R. Sripan and B. Suksawat, "Propose of Fuzzy Logic-Based Students' Learning Assessment", International Conference on Control, Automation and Systems, pp. 414-417, 2010.

8. Data Centre Monitoring and Alerting System using WSN Kiran Nayak 2014.

