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A WIRELESS FINGERPRINT ATTENDANCE SYSTEM

Mrs. PratimaPatil¹ , Prof. Ajit Khachane² and Prof. Vijay Purohit³

¹ PG-Student, VIT, Mumbai, India

²Dept. of Information Technology, VIT, Mumbai, India

³Dept. of EXTC, Mumbai, India

ABSTRACT

In this paper we design a system which takes student attendance and the attendance records are maintained automatically in an academic institute. Taking the attendance manually and maintaining its record till end of year (or even beyond) is very difficult job as well as wastage of time and paper. This necessitates an efficient system that would be fully automatic. Top level design of the system includes marking attendance with the help of a finger-print sensor module and saving the records to a computer or server. Fingerprint sensor module and LCD screen are portable although they can also be fixed to a location for e.g. entry/ exit points. To begin with, a student needs to be registered in the finger-print sensor module. Thereafter every time the student attends a lecture he/ she will place his/her finger on the fingerprint sensor module. The finger-print sensor module will update the attendance record in database. The student can see the notification on LCD screen.

KEYWORDS

Fingerprint module, Fingerprint scanner, Zigbee, LCD etc.

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AUTOMATED CONTROL FOR RISK ASSESSMENT ON UNIX OPERATING SYSTEM -I

¹Dr. Prashant Kumar Patra & ²Padma Lochan Pradhan

¹Dept. of CSE, College of Engineering & Technology, BPUT, Bhubaneswar-751003

²Dept. of CSE, Sikha 'O' Anusandhan University. Bhubaneswar, Orissa, India

ABSTRACT

Control and Risk are the two parts of the coin. Risk management is the process of identifying vulnerabilities and threats to operating system resources to achieving business objectives and deciding what counter measures to take in reducing the lowest level of risk. The increased use of computer & communications system by IT industries has increased the risk of theft of proprietary information. Cryptographic control (Encryption) is a primary method of protecting system resources. Automated Control is probably the most important aspect of communications security and becoming increasingly important as basic building block for computer security. Automated Control is inversely proportional to the risk & mean while control is directly proportional to the quality of standard (S). Automated Control provides accountability for individuals who are accessing sensitive information on application, system software, server and network. This accountability is accomplished through access control mechanisms that require identification, authentication, authorization, non-repudiation, availability, reliability & integrity through the audit function. We have to develop java automated control for risk optimization based on unix operating system.

KEYWORDS

AC-Automated Control, PC- Preventive Control, SSH- Secure Shell, AES-Advance Encryption Standard, CBC: Cipher Block Chain, CERT-Computer Emergency Response Team, DC-Detective Control, CCCorrective Control, CMDB-Change Management Database, CKM-Cryptographic key management.

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DYNAMIC ROOT OF TRUST AND CHALLENGES

Sandeep Romana, Himanshu Pareek and P R Lakshmi Eswari

Center for Development of Advanced Computing, Hyderabad, India

ABSTRACT

Trusted Computing intends to make PC platform trustworthy so that a user can have level of trust when working with it. To build a level of trust TCG gave specification of TPM, as integral part of TCB, for providing root(s) of trust. Further TCG defined Dynamic Root of Trust Measurement in Trusted Computing systems in its specification as a technology for measured platform initialization while system is in running state. The DRTM approach is contrary to Static Root of Trust Measurement where measurements are taken during boot process. In this study, since this technology was first introduced, we list and discuss upon publically available open source solutions that either implement DRTM or are applications of these DRTM based solutions. Further, the challenges faced by the DRTM technology along with observations from authors are listed.

KEYWORDS

SRTM, DRTM, TPM, TCB

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AUTHORS

Sandeep Romana obtained his B.Tech from Punjab Technical University and MS in Software Systems from BITS Pilani and is a CISSP. He has more than 8 years of experience in the field of research and development of security software for desktops and small networks. His areas of research include malware detection and analysis.



Himanshu Pareek received his B.E. degree in 2005 from University of Rajasthan and M.S. By Research degree in 2013 from JNTU, Hyderabad. He has around nine years of experience in developing and design of end point and gateway based security solutions. His main research interests include malware detection and data science.



Mrs P.R.Lakshmi Eswari, is presently working as Joint Director, e-Security R&D, CDAC Hyderabad. She is currently involved in the Research & Development of end system security solutions focusing on anti-Malware & device control solutions. As an outcome of R&D efforts solutions like USB Pratirodh, AppSamvid, Browser JS Guard, Malware Resist etc. are developed by their team.



SECURITY SYSTEM WITH FACE RECOGNITION, SMS ALERT AND EMBEDDED NETWORK VIDEO MONITORING TERMINAL

J. Shankar Kartik¹ , K. Ram Kumar² and V.S. Srimadhavan³

¹²³Department of Electronics and Communication Engineering, SRM Easwari Engineering College, Anna University

ABSTRACT

Even though there are various security systems consuming large power are available in market nowadays, robbery rate is very high. We are proposing a novel system to prevent robbery in highly secure areas with lesser power consumption. This system has face-recognition technology which grants access to only authorized people to enter that area. If others enter the place without access using some other means, then the system alerts the security personnel and streams the video captured by the security camera. The face recognition is done using PCA algorithm. The video transmitted is compressed and transmitted by ENVMT. By using this ENVMT, the video can play with lesser bandwidth consumption, latency and jitter.

KEYWORDS

ENVMT, MPEG-4, PCA analysis, ISS, ESS

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A TRUST MANAGEMENT FRAMEWORK FOR VEHICULAR AD HOC NETWORKS

Rezvi Shahariar and Chris Phillips

School of Electronic Engineering and Computer Science, Queen Mary, University of London,
London, UK

ABSTRACT

Vehicular Ad Hoc Networks (VANETs) enable road users and public infrastructure to share information that improves the operation of roads and driver experience. However, these are vulnerable to poorly behaved authorized users. Trust management is used to address attacks from authorized users in accordance with their trust score. By removing the dissemination of trust metrics in the validation process, communication overhead and response time are lowered. In this paper, we propose a new Tamper-Proof Device (TPD) based trust management framework for controlling trust at the sender side vehicle that regulates driver behaviour. Moreover, the dissemination of feedback is only required when there is conflicting information in the VANET. If a conflict arises, the Road-Side Unit (RSU) decides, using the weighted voting system, whether the originator is to be believed, or not. The framework is evaluated against a centralized reputation approach and the results demonstrate that it outperforms the latter.

KEYWORDS

VANET, Trust Management, Security, Tamper Proof Device, Malicious Behaviour

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AUTHORS

Rezvi Shahariar received his B.Sc. degree in Computer Science from the University of Dhaka, Bangladesh in 2006; and an M.S. degree in Computer Science in 2007 from the same institution. After some time as a lecturer at the University of Asia Pacific, Dhaka, Bangladesh, he is now an Assistant Professor at the Institute of Information Technology, University of Dhaka, whilst pursuing a PhD at Queen Mary University of London. His research interests include wireless network analysis with an emphasis on trust, security in VANETs, and the application of machine learning to security.



Chris Phillips (MIEEE) received a BEng. Degree in Telecoms Engineering from Queen Mary, University of London (QMUL) in 1987 followed by a PhD on concurrent discrete event-driven simulation, also from QMUL. He then worked in industry as a hardware and systems engineer with Bell Northern Research, Siemens Roke Manor Research and Nortel Networks, focusing on broadband network protocols, resource management and resilience. In 2000 he returned to QMUL as a Reader. His research focuses on management mechanisms to enable limited resources to be used effectively in uncertain environments.



MANAGING THE INFORMATION SECURITY ISSUES OF ELECTRONIC MEDICAL RECORDS

Nisreen Innab

Faculty of Computer and Information Security, Naif Arab University for Security Sciences, Al-Riyadh, Saudi Arabia

ABSTRACT

All healthcare providers should have enough knowledge and sufficient information to understand the potential risk, which can lead to a breach in the Jordanian health information system (Hakeem program). This study aims to emphasise the importance of sharing sensitive health information among healthcare providers, create laws and regulations to keep the electronic medical records secure, and increase the awareness about health information security among healthcare providers. The study conducted seven interviews with medical staff and an information technology technician. The study results showed that sharing sensitive information in a secure environment, creating laws and regulations, and increasing the awareness about health information security render the electronic medical records of patients more secure and safe.

KEYWORDS

Electronic Medical Records Security, Health Records, Data Breach, Hakeem Program.

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AUTHOR

Dr. Nisreen Innab got her Ph.D. in 2008 in Computer Information System, she was employed as full time lecturer, Assistant Professor and MIS department Chairperson at University of Business and Technology in Saudi Arabia, Jeddah from 2007 to 2010. Then she was worked from May 2011 to August 2014 as a honorary researcher and master thesis examiner in the school of science and technology at University of New England, Armidale, Australia. Finally, from September / 2016 till now she works in the department of information security at Naif Arab University for Security Sciences, Riyadh, Saudi Arabia. She published nine papers in international journals and conferences. Her current research interests are: information security, data mining, machine learning, modeling and simulation, ontology, modeling diagrams.



TRUST: DIFFERENT VIEWS, ONE GOAL

Mubarak Almutairi

College of Computer Science & Engineering, University of Hafr Albatin, Hafr Albatin, Saudi Arabia

ABSTRACT

A thorough review of trust models is carried out in this paper to reveal the key capabilities of existing trust models and compare how they differ among disciplines. Trust decisions are risky due to uncertainties and the loss of control. On the other hand, not trusting might mean giving up some potential benefits. Advances in electronic transactions, multiagent systems, and decision support systems create a necessity to develop trust and reputation models. The development of such models will allow for trust reasoning and decisions to be made in situations with high risk and uncertainty. In recent years, several attempts have been made to model reputation and trust. However, perceiving trust differently and the lack of having a unified trust definition are among the main causes of the proliferation of many trust models across different disciplines.

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EFFECTIVE IMPLEMENTATION AND AVALANCHE EFFECT OF AES

Amish Kumar , Mrs. Namita Tiwari

Department of CSE MANIT-Bhopal

ABSTRACT

Efficient implementation of block cipher is critical towards achieving high efficiency with good understandability. Numerous number of block cipher including Advance Encryption Standard have been implemented using different platform. However the understanding of the AES algorithm step by step is very typical. This paper presents the efficient implementation of AES algorithm and explain Avalanche effect with the use of MATLAB platform. Mainly use of MATLAB in Algorithm development, Data analysis, exploration, visualization, modeling, simulation, prototyping, application development including GUI building and computation.

KEYWORDS

AES, Avalanche effect, S-Box.

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Authors

Amish Kumar,
M.Tech (Information security) NIT-Bhopal,
India



CLLOUD COMPUTING TECHNOLOGY: SECURITY AND TRUST CHALLENGES

Sajjad Hashemi¹

¹Department of Computer Engineering, Science and Research Branch, Islamic Azad University, West Azarbayjan, Iran

ABSTRACT

A lot of exclusive features such as high functionality and low cost have made cloud computing a valuable technology. These remarkable features give users and companies, countless opportunities to reach their goals spending minimum cost and time. Looking at the literature of this technology, it can be claimed that the main concerns of the users of cloud are security issues especially trust. Unfortunately these concerns have not been tackled yet. Therefore we decided to introduce a useful and functioned way to create more trust among consumers to use this technology .In this paper we suggest the foundation of an international certification institute for the service providing companies in order to increase trust and enhance likeliness of using this new and valuable technology among people. Practicality of the technology will improve it and will make its security better by providers.

KEYWORDS

Cloud Computer, Security, Trust

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Authors

Sajjad Hashemi is a M.Sc. student in Computer Engineering Department, Science and Research Branch, Islamic Azad University, West Azarbayjan, Iran.

Email: iau.hashemi@gmail.com



A PROVENANCE-POLICY BASED ACCESS CONTROL MODEL FOR DATA USAGE VALIDATION IN CLOUD

Muralikrishnan Ramane¹, Balaji Vasudevan² and Sathappan Allaphan³

¹²³Department of Information Technology, University College of Engineering
Villupuram, Tamilnadu, India

ABSTRACT

In an organization specifically as virtual as cloud there is need for access control systems to constrain users direct or backhanded action that could lead to breach of security. In cloud, apart from owner access to confidential data the third party auditing and accounting is done which could stir up further data leaks. To control such data leaks and integrity, in past several security policies based on role, identity and user attributes were proposed and found ineffective since they depend on static policies which do not monitor data access and its origin. Provenance on the other hand tracks data usage and its origin which proves the authenticity of data. To employ provenance in a real time system like cloud, the service provider needs to store metadata on the subject of data alteration which is universally called as the Provenance Information. This paper presents a provenance-policy based access control model which is designed and integrated with the system that not only makes data auditable but also incorporates accountability for data alteration events.

KEYWORDS

Access Control, Provenance, Security Policy, Data Auditing

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AUTHORS

Muralikrishnan Ramane has completed post graduate degree in the field of Computer Science Engineering, specialized in Distributed Computing Systems. He is currently working as a Lecturer at University College of Engineering Villupuram, Tamilnadu, India. To his credit he has three International Journal and one International Conference publications. His research interests include Data Management in Distributed Environments.

