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A WIRELESS FINGERPRINT ATTENDANCE SYSTEM

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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

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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

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

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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

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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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MANAGING THE INFORMATION SECURITY ISSUES OF ELECTRONIC MEDICAL RECORDS

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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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TRUST: DIFFERENT VIEWS, ONE GOAL

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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, mutliagent 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

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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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CLOUD COMPUTING TECHNOLOGY: SECURITY ANDTRUST CHALLENGES

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ABSTRACT

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

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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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