

Objective behind Technical Magazine

Department of Computer Engineering is very happy and proud to publish technical magazine of year 2016-17. Through this technical magazine we wish to highlight on use of technology for the society.

Department has set objective to bring technical competency among the students. Department is taking efforts for the same since second year of these students. Outcome of these efforts is reflected through their final year projects ,placement and admission to higher studies.

We also take initiative to make students aware of social responsibilities and ethics .Our final year students worked on projects addressing the social issues.

Coordinator

S.P.Pimpalkar

S.N.Zaware

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Personal Assistant to Reserve Car-Spot

Author: Adannawar Nikita Vishwanath, Pawane Pooja Balanath, Mochemadkar Hemant Dilip

Abstract

In today's parking lots there is no standard system to check for availability of parking spaces. The current system mostly relies on human interaction with the physical world and entity. This leads to wastage of human power and time. These parking lots are dependent on Human-to Human Interaction (HHI) which is not much efficient. Many times when people go to malls and commercial complexes, they experience that there is a limited space for parking especially during the prime hours. Hence, there is an immense need for a robust parking system that will enable us to reserve the parking spots. For this it's necessary to build a centralized system to gather all the information of parking spots of malls, and other commercial complexes car parking systems. Smart Parking systems typically deals with reserving the car spot in a desirable commercial complex for predefined period of time. It involves using low-cost sensors, realtime data collection, and mobile-phone-enabled automated payment systems that allow users to reserve parking spot in advance for specific amount of predefined time. This implies the use of mobile-to-mobile technologies which aims at rightness/safety as well as convenience of user.

Social Impact

An efficient Car Parking Reservation Application is proposed which will majorly reduce the parking problem. It shows how the parking problem at crowdy places can be handled in an organized manner. It helps the clients in finding out the availability of a parking slot, get the availability confirmed, and reach the place within the time slot allotted and also make the online payment. It also makes the management easier from the side of administrator. It also saves the time of users required for searching a parking slot. The components used for the implementation of the system provides efficient output at various stages of implementation of the system. The interfaces established between various components provide an effective way of communication across the overall working of the system. Thus, the system functioning is efficient and is recommended for commercial implementation.

Honeyword encryption mechanism

Author : Pushpa Varsha, Jena Jeevanjyoti Prafullakumar, Megha Koul, Sonavane Aishwarya Avinash

Abstract:

Juels and Rivest proposed honeywords (decoy passwords) to detect attacks against hashed password databases. For each user account, the legitimate password is stored with several honeywords in order to sense impersonation. If honeywords are selected properly, a cyber-attacker who steals a file of hashed passwords cannot be sure if it is the real password or a honeyword for any account. Moreover, entering with a honeyword to login will trigger an alarm notifying the administrator about a password file breach. At the expense of increasing the storage requirement by 20 times, the authors introduce a simple and effective solution to the detection of password file disclosure events. In this study, scrutinization of the honeyword system and present some remarks to highlight possible weak points. Also, suggestion to an alternative approach that selects the honeywords from existing user passwords in the system in order to provide realistic honeywords – a perfectly flat honeyword generation method – and also to reduce storage cost of the honeyword scheme.

"Honey" is an old term for decoy resources in computing environments. Honeywords are a defense against stolen password files. They are fake passwords placed in the password file in the database, to deceive attackers. They resemble ordinary, user-selected passwords, making it difficult for an attacker to distinguish between honeywords and true user passwords.

Goals and objectives are to secure the user bank account from various attacks such as DOS, Brute force, Cross site scripting, url injection by applying AES 128,RSA encryption algorithm on the password through Honeyword.

BENEFITS OF HONEYWORD

- Capacity to detect password thefts.
- Can be used to prevent the usage of stolen credentials.
- Used to defer attackers trying to compromise private accounts

APPLICATIONS

- Banking system for better security measures.
- Can be implemented for Military high sensitive online transactions.
- A better perspective for privacy in social network and e-mails.

Efficient Meet location Finder: Social imapct

Authors : Akshata Kedar, Yuvaraj Patil, Gitanjali

Now-a-days people are using smart phones and mobile devices on large scale for daily life planning. This mobile devices contains lot and lots of applications to provide service to users. Similarly this application provides a planning tool for determining the optimal meeting location which is highly desirable. In this application we are using GPS(Global Positioning System) location to find efficient location for meeting. We used a fast and elitist multiobjective Nondominated Sorting Genetic Algorithm(NSGA II) for selecting location which is minimum to all users.

Location-based marketing is one of the best ways to convert foot traffic and online traffic into new customers. People who may never have heard of you, or may never have considered using your product, can be persuaded to try your business for the first time. It is extremely easy to navigate as it tells you to the direction for each turns you take or you have to take to reach to your destination. It works in all weather so you need not to worry of the climate as in other navigating devices. The costs is very low in comparison other navigation systems. The most attractive feature of this system is its100% coverage on the planet. It also helps you to search the nearby restaurants, hotels and gas stations and is very useful for a new place.

Smart Parking lot System using Cloud based service

Authors: MeghMakwana, UmangMahant, ShubhamBhalerao

To design a smart parking lot system that provides the user with real time dynamic viewing of the parking space on your smartphone over internet connection, the services are provided through a cloud based service called artik cloud.

Social Impact

Traffic congestion caused by vehicle is an alarming problem at a global scale and it has been growing exponentially. Car parking problem is a major contributor and has been, still a major problem with increasing vehicle size in the luxurious segment and confined parking spaces in urban cities. Searching for a parking space is a routine (and often frustrating) activity for many people in cities around the world. This search burns about one million barrels of the world's oil every day. As the global population continues to urbanize, without a well-planned, convenience-driven retreat from the car these problems will worsen.

According to a report, Smart Parking could result in 2, 20,000 gallons of fuels saving till 2030 and approx. 3, 00,000 gallons of fuels saved by 2050, if implemented successfully.

Smart Parking systems typically obtains information about available parking spaces in a particular geographic area and process is real-time to place vehicles at available positions .It involves using low-cost sensors, real-time data collection, and mobile-phone-enabled automated payment systems that allow people to reserve parking in advance or very accurately predict where they will likely find a spot. When deployed as a system, smart parking thus reduces car emissions in urban centers by reducing the need for people to needlessly circle city blocks searching for parking. It also permits cities to carefully manage their parking supply Smart parking helps one of the biggest problems on driving in urban areas; finding empty parking spaces and controlling illegal parking.

Smart Parking would enable the following

• Accurately predict and sense spot/vehicle occupancy in real-time.

• Guides residents and visitors to available parking.

Optimize Parking Space Usage

• Simplifies the parking experience and adds value for parking stakeholders, such as drivers and merchants

• Help traffic in the city flow more freely leveraging IoT technology.

• Enables intelligent decisions using data, including real-time status applications and historical analytics reports

• Smart Parking plays a major role in creating better urban environment by reducing the emission of CO2 and other pollutants

• Smart Parking enables better and real time monitoring and managing of available parking space, resulting in significant revenue generation

· Provides tools to optimize workforce management

Smart Technology: A Mobile Device using Context Management System

Author: Rohit Pardeshi

- It is used in secure bank servers.
- It helpful at the times of banking transaction
- Remonatision
- Location based encryption

Cloud computing is a new approach in the field of information technology and development of computer technologies based on the World Wide Web. One of the most important challenges in this area is the security of cloud computing. On the other hand the security of access to critical and confidential information in banks, institutions and etc is extremely essential. Sometimes even with the enormous costs, it is not fully guaranteed and it is compromised by the attackers. By providing a novel method, we improve the security of data access in cloud computing for a company or any other specific locations using the location-based encryption.

We are developing banking application using Location Based Encryption. As compare to current banking application which are location-independent, we are developing banking application which is location dependent. It means in Cryptography Cipher-text can only be decrypted at a specified location i.e. location-dependent approach. If an attempt to decrypt data at another location, the decryption process fails and reveals no information about the plaintext. This is important in real time application, example in military base application, Cinema Theater. But our system is flexible enough to provide access to customer to his/her account from any location. Our system also provide solution to physical attack using virtualization, in which customer is allowed to perform fake transaction for his/her physical security purpose.

Reranking of image using text query and attribute of image : Social impact

Project members :1) Rajashri Dorge 2) Sayali Pawar

Existing system displays the images according to text query. User required **images** are not displayed sometimes, due to different understanding of human and machine. For example, if user provide 'baby' as a text query then the result will contain the images related to human babies, movie named 'baby' etc. If here user requires images particularly of 'human baby' then images of movie named 'baby' are irrelevant and they should not get displayed in result. Giving user precise result by overcoming this we provide option to user to click on the image according to his intention. To implement this, we use algorithms named as Hyper-sphere based relevance preserving projection (HRPP), Reversed KNN(Reversed k-nearest neighbour), H-Rank (Hyper-sphere-based ranking) which all together form a new algorithm named as 'H-Re-ranking algorithm'. This proposed algorithm have great practical significance as' user's intent is captured by only getting the features of clicked image to rank the images , so that the user will get his required images.

Existing system displays the images according to text query. User required images are not displayed sometimes, due to different understanding of human and machine. For example, if user provide baby as a text query then the result will contain the images related to human babies, movie named baby etc. If here user requires images particularly of human baby then images of movie named baby are irrelevant and they should not get displayed in result.

Providing Additional Layer of Security to Data

Authors: Pradnya Dalavi, Monal Patel, Atul Chaudhari, Charuta Dalape

The system aims at using another dimension for enhancing the encryption technique. A generation of location is introduced for every transaction, which shall work as an additional level of security. Since the exact location will only be known to the user, the encryption becomes safer. The AES algorithm is only used for the encryption purpose. There will a sender, receiver and a server. The sender will encrypt the message and will send it to the server along with the location of the receiver at which the message will be decrypted. Hence, server will generate the key and will send it to the receiver with the key. The key will keep on generating itself at the particular time interval. The receiver should be present at the location specified by the sender while encryption.

As devices and the core networks are the most heavily targeted areas for security threats – they will not be enough in and of themselves as the focus shifts beyond access and transport networks. Equal attention will be needed at the Signaling and Service Layers, which increasingly tie directly to operators' network assets, partner relationships, and subscriber privacy and loyalty. Consider, for instance, that in LTE networks no less than 100 percent of revenue- generating traffic becomes dependent on Diameter signaling. In multi-device/multi-screen environments, the Diameter protocol has to be appreciated and protected for its power to orchestrate critical communication among policy servers (PCRFs), charging systems, subscriber databases and many policy enforcement functions, such as packet gateways, deep packet inspection, application servers, and mobility management functions.

Online exam proctering system : social impact

Project group members –Avanti Awaghade, Tanmay Deshmukh, Diksha Bombe, Kshitija

Online education is helping students and institutions worldwide to access knowledge base of wide variety. This form of learning and education is increasing rapidly, Evaluation and proctoring for the online courses has become a major bottleneck for scalability of such learning systems. Manual human supervision is a common approach for exam proctoring and evaluation where examiner needs to be present in the testing environment or needs to monitor testing environment of a test taker visually and acoustically through a webcam.

In our system, we present a completely automated, exam proctoring solution that requires no human involvement. The system hardware includes devices like webcam, microphone, and appropriate system configuration, for receiving visual and acoustic inputs. The system integrates all the inputs to process and estimate the variety of events, behaviours and patterns typically associated with cheating.

By combining continuous identity verification and automatic detection of malpractice or suspicious activities by a student, this system provides a scalable, online, completely automated, human interaction free proctoring system that can be accessed by test takers and administrators to offer a truly efficient solution to conventional problem of online exam proctoring.