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**LEARNING AND INFORMATION RESOURCE CENTRE**

# BIBLIOGRAPHY OF

# B.E. PROJECT REPORTS (ABSTRACTS)

# BATCH 2016

# BRANCH – CMPN, EXTC, INFT

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St. Francis Institute of Technology, Mumbai
University of Mumbai
2016-2017

**BRANCH: CMPN YEAR: 2016**

**ABSTRACTS**

## An Approach to Sustainable Agriculture

Rishabh Tiwari, Shriraj Salian, Surabhi Singh

Project Guide: Ms. Dakshata Panchal

Acc. No.: CMPN 389 / PR 1276

In India, large number of farmers have committed suicides over spells of drought. Many times farmers are unaware of weather changes which slowly destroys the crops. Hence, it is important to know local weather on day to day basis so as to take preventive measures for reducing damage to crops. Even though advanced systems exist today to solve this problem, farmers are not able to understand the technical information provided by the sources. "An Approach to Sustainable Agriculture" is an attempt to provide crop specific weather based advice to farmers living in Dhule, Nashik and Satara districts of Maharashtra. This system provides advice through SMS for Wheat, Rice, Cotton, Onion, Potato, Sugarcane and Banana. Farmer has to register using his mobile number and he has to select crops out of the options provided for receiving alerts. System is a web application that stores user and crop details in a database. It uses three algorithms ID3 decision tree, Naïve Bayes Classifier and Generalized Regression Neural Network to predict daily temperature for three districts based on other weather parameters. Three algorithms are used to make system more accurate and reliable. After predicting temperature, system offers two modes to system administrator. In Autonomous mode, system periodically fetches weather information from weather API and sends SMSs to farmers and in manual mode, administrator itself can send messages to farmers based on the predicted temperature. Among the three used algorithms, decision tree gives more accurate results than other two and it is used for autonomous operation. For further enhancing effectiveness of system, soil information and ground water levels can be considered while predicting temperature.

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**Advanced usage pattern monitoring and alert system**

Stanley George, Karan Ardeja and Akshada Iyer

Project Guide: Ms. Jayashri Mittal

The age of the technology has ushered in our lives to the deepest highly on our smartphones and computers. However, this usage happens in an essentially poor healthy condition. The number of problems caused by such an unhealthy usage is numerous. In this project, we propose a solution to solve the problems caused by a technology using technology itself. The proposed system for this project would monitor the usage pattern of the user. This will be done by various sensors present on the device (Smartphones and PC).The data collected will be compared with standard values and specific alerts will be generated to warn the user and thereby help reduce the harm caused by technology using technology itself.

Acc. No: CMPN 377 / PR 1264

**Securing Pins Using Biometric Cryptography**

Jenisa Dias, Sonali Dias, Larissa Pereira

Project Guide: Ms. Pradnya Rane and Ms. Vincy Joseph

This projects aims at securing ATM pins using the individual biometric data (fingerprint minutiae). ATM pins are saved into an android sqlite database in the form of (x,y) coordinates. The actual pin is recomputed from this data on providing the fingerprint temple.

Acc. No.: CMPN 386 / PR 1273

**Online Career Guidance System**

Crystal D’mello, Rini Aranha, Boni Gregory

Project Guide: Ms. Varsha Shrivastava

Career Guidance system is an innovative idea. The opportunity provided by this electronic medium are immense and many students can make use of this medium to choose a career more appropriate to their skills. In today's competitive and technology driven world, with innumerable options available , the student is generally confused on choosing right or more suited career. The world these days is moving towards 'information stream'. The information is thrown to the user rather than the user running towards the information. Keeping the above in view, it is felt that the

proposed system has the ability to connect to various students and help them connect to most suited career. To conclude, the objective of designing this system is to lend a helping hand to the students aiming for such a career. By using our system, one will be guided towards a career to pursue and how to work towards it.

Acc. No.: CMPN 380 / PR 1267

## Li-Fi: A VISIBLE LIGHT COMMUNICATION

Vinil Parikh, Adit Pathak, Akshay Pandit and Shruti Rodrigues

Project Guide: Ms. Merlin Jacob

Li-fi system presents an application to transfer information from one system to another system through LED. This design of system is accomplished using a microcontroller as a system on a chip, along with a Li-Fi transmitter, Li-Fi receiver and LED panel, which as a whole can be used as a communication source by modulating the LED light with the data signal. In order to transfer information from one system to another system we use LED to transmit signals and photo detector to receive signals. The main purpose of design of this particular system is to transmit information under security basis. The light waves cannot penetrate walls which makes a much shorter range, though more secure from hacking, relative to Wi-Fi.
Li-Fi may be a new model for optical wireless technology or the superior knowledge to create unexampled possessions inside a limited small area for the particular situation. Rising orders are designed for superior bandwidths, quicker access and safer information transmission additionally as environmental and doubtless human friendly technology. Li-Fi will take in not only for lighting services but moreover a world of fresh and awesome pioneering services and out coming best results. The lighting service makes further accurate results for the wireless data communication. The best solution is that, we can make the environment Mercury free and utilize it in the safe manner.
The main drawback of Li-Fi is that light-weight cannot tolerate the objects, consequently if the receiver is unknowingly blocked in any manner, then the signal can straight off or shot cut out. So as a result the communication breaks out. In case if the sunshine signal is blocked, or once we got to use our device to send information we have to seamlessly switch backside over to non-particulate radiation responsibility and network coverage area unit the main problems to be thought about by the businesses whereas providing VLC services. It has the possibilities of making the entire network and communication to be crashed and entirely stops working. This may cause interruption within the communication.
Acc. No.: CMPN 361 / PR 1248

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**Hierarchical Fuzzy Inference System for Medical Diagnosis**

Pooja Pandit, Vasudeo Purandare and Anand Shukla

Project Guide: Ms. Anuradha Srinivasaraghavan

Fuzzy Cognitive Maps (FCMs) are a soft computing technique that follows an approach similar to human reasoning and human decision-making process, considering them a valuable modeling and simulation methodology. Fuzzy Cognitive Maps (FCMs) are a modeling and simulation methodology based on an abstract conceptual representation of any system. FCMs are suitable to model Medical Decision Support Systems. Hierarchical Fuzzy Inference concept can be used for recognizing disease based on the patterns of symptoms. The proposed system aims to gather symptoms common to both diabetes and thyroid later proceeding towards those symptoms that distinguish between the two using Fuzzy Cognitive Maps to get advantage of accuracy. The proposed system will work on real time Data Set and will provide analysis of data using the concepts of Fuzzy Cognitive Maps (FCM). FCM is used in this case to differentiate between the two diseases having similar symptoms.

Acc. No.: CMPN 392 / PR 1279

**RTO Automation and Enhancement Using NFC**

Imran Hashmi, Aarti Bhosle and Shreya Acharya

Project Guide: Dr. Kavita Sonawane

An RTO can deliver, assess and issue parchments for nationally recognised courses and qualifications. We can use the nationally recognised training logo on all qualifications and statements of attainments we issue. This is valuable as it signifies that the training courses are recognised under the Australian Quality Framework (AQF), and the qualifications are nationally recognised by all other RTOs. The RTO is mainly responsible for issuing driving license to the user and renewal of the expired licence. It contains the details of the vehicles. The RTO manages the total number of vehicles in each city along with their details.
All charges entries are not stored on server automatically. There is user who stores this data manually into the system. It is prone to Corruption as process involves manual work. There are chances of making mistakes in any of the RTO processing.
The need for manual RTO based systems is completely reduced in this method and the RTO system works through NFC. A complete NFC system consists of a transponder (tag), reader/writer and computer host. The transponder, better known as the tag. The microchip contains memory to store a unique data and to receive and send data back to the reader. These tags are powered by the electromagnetic signal received from a reader. Development in technology bring digital world to be border-less. It's proven through a developed technology,

when trade and transaction can be done not only using real Money but also virtual one. A new user can register him with the system. Also an old user can recharge his account balance. The amount for recharge can be entered in the system. In beginning, the user is prompted to scan his tag or ID. The serial code of the tags identified by the reader module and is sent for comparison with stored data. If the ID is matched by the microcontroller, the fine amount is deducted from user's balance and user gets to drive through the area.

Acc. No.: CMPN 369 / PR 1256

**Data Leakage Detection**

Nishali D'mello, Akshay Naik and Denzing Pen

Project Guide: Mr. Rupesh Mishra

A production company gives sensitive data about the products to a set of supposedly trusted agents. This data was found in an unauthorized domain. Finding the agent who leaked this data is a nontrivial task for the company. Traditionally in the production company leakage detection was done by using watermarks but they were destroyed by malicious techniques. In the proposed system, we make use of data allocation strategies. An Admin is appointed. The system used data allocation strategies like optimization of data being distributed, etc.. The Admin monitors the data transfer between sender and receiver. The Admin keeps a record of all the transactions that occur in the system between the sender and receiver. The Admin is also responsible for finding the guilty agent (receiver) who leaked the data when authorized data is found to be leaked. In the system we make a framework for an agent detection mechanism, a distribution mechanism, etc. We create a secure data distribution mechanism which detects data leakage and in turn helps prevent further leakage of data. Thus we try to minimize the damage to the production company.

Acc. No.: CMPN 364 / PR 1251

**SwarTessera: Graphical Password with Voice Authentication Scheme**

Cheryl Rodrigues, Lisa D'mello, Keith Rose

Project Guide: Ms. Rujata Chaudhari

Users often create memorable passwords that are easy for attackers to guess, but strong system-assigned passwords are difficult for users to remember. A password authentication system should encourage strong passwords while keeping it easy for the user to remember.

The proposed system "SwarTessera" ('swar' in Hindi means 'vocal' and 'tessera' is a Greek word meaning 'small tablet of wood or ivory used as a token') consists of using pictures as password and authenticating users using voice. The human brain is better at recognizing and recalling images than text and graphical passwords exploit this human characteristic. A voice biometric or "voice print," is as unique to an individual as a palm or fingerprint. Graphical passwords make it easier for the user to remember the password but the signing in process is time consuming. There is also a huge disadvantage of shoulder surfing.

Acc. No.: CMPN 399 / PR 1286

**Secure Banking Application Using Visual Cryptography On Cloud**

Manisha Dhubaria, Venica Falcao, Bhrugisha Patel

Project Guide: Ms. Aslam Nandyal

Core banking is a set of services provided by a group of networked bank branches. Bank customers may access their funds and perform other simple transactions from any of the member branch offices. The major issue in core banking is the authenticity of the customer. Due to unavoidable hacking of the databases on the Internet, it is always quite difficult to trust the information on the Internet.
To solve this problem of authentication, we are proposing an algorithm based on image processing and visual cryptography. This project proposes a technique of processing the signature of a customer and then dividing it into shares. Total number of shares to be created is depending on the scheme chosen by the bank. When two shares are created, one is stored in the bank database and the other is kept by the customer. The customer has to present the share during all of his transactions. This share is stacked with the first share to get the original signature. The correlation method is used to take the decision on acceptance or rejection of the output and authenticate the customer.

Acc. No.: CMPN 352 / PR 1239

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## AUTOMATED VEHICLE OVERLOAD DETECTION AND FINE COLLECTION SYSTEM

Prathamesh Borlikar, Tinsy Chackappallil and Ross Desa

Project Guide: Ms. Sridari Iyer

Overloaded vehicle is a challenging issue in public transport systems and is one of the major causes of road accidents. Vehicle which carry heavy load pose threat to human life expectancy and also cause excessive wear and damage to road, bridges, pavements and make the vehicle less stable. It has also lead to an increase in the corruption in the R.T.O. department. According to Motor Vehicle's Act, overloading vehicle is an illegal offence which carries with fine and prison sentence. Hence the need to address this problem is relevant in the present scenario. This project will reduce these discrepancies by implementation of an automated vehicle overload detection and fine collection system using vehicle scale technology, which uses weight measuring equipment to determine the excess weight, automatically deduct the amount from the owner's account.

Acc. No.: CMPN 396 / PR 1283

## RESCUE - An Android Application

Chris D'silva, Vegen D'silva and Tina Menezes

Project Guide: Ms. Jayashri Mittal

With the dawn of the Android era, Android mobile applications are used in several ways to assist the common man. Herein we have implemented an application that will address the issues with respect to the aspects based on the Medical field. Our application will consist of these sub-parts: Contact with the nearest ambulance, shortest path to reach the nearest hospital and contacting a blood donor with compatible blood group. Time is the most precious factor to save a victim's life during an accident and hence we aim to implement a model wherein a list of nearest ambulance services will be displayed to the user. The user can then select the desired service. Contact will be via a call or message. The ambulance service will be notified about the exact location of the victim. Nearest hospitals will be displayed to the user on the basis of his current location. Shortest path algorithm will be used to display the shortest path to the nearest hospital and navigation will be displayed along the path. A user willing to donate his blood can become a donor via this application. His credentials will be verified via his Blood Donor ID only after which he will be able to successfully register himself as a Donor. The user in need will enter his blood group, after which a list of blood donors with compatible blood group will be displayed.

On selecting a donor, the user will be directed to a screen wherein through a button click he can call the donor as well as message the donor.

Acc. No.: CMPN 379 / PR 1266

**Smart Shopping Using NFC Technology**

CLINTON GONSALVES, VIVIYAN RUMAO, OLIVIA RUMAO

Project Guide: RUJATA CHAUDHARI

"Smart Shopping Using NFC Technology" is a project which puts forward a novel method to create an Android based shopping application using NFC Technology. It would require Mobile Devices which support NFC technology.NFC stands for Near Field Communication technology which is a short-range, high frequency, low bandwidth radio technology that allows transferring data within few centimeters. In traditional shopping, the customer needs to physically pick up the items to be purchased and carry cash or credit/debit cards with them to make payments. The application mentioned here would read the NFC tag(s) of the product(s) & add it to the shopping cart in our application. It would also provide methods to change the quantity of product/s purchased and edit the cart. Payment could be made through cash or online using existing payment methods. It also includes a backend website which will be handled by the administrator, who can add the customers, employees and products into the database. After the customer is done with shopping he/she can make the payment either by cash or by the e-money in the users' wallet in the Android Application and the entire payment procedure will be handled by an employee
who will manage the customers in the shopping mall. Once payment is done a bill will be generated and the user can logout of the application. The main objective of this project is to throw light on NFC based shopping which will not only save the time in queues but will also entirely ease the shopping process thereby comforting the customers as well as the employees.

Acc. No.: CMPN 400 / PR1287

**Traffic Signal Optimization**

Yash Gokhale, Sania Furtado, Manav Desai

Project Guide: Dr. Vikram Shete

This project presents an optimization technique for the betterment of present road traffic systems. On a cross-road, priorities for the window are assigned as per the usual traffic density on that particular lane. However, this density varies throughout the day. The current traffic signal systems are static and hence, do not adapt according to the varying traffic densities causing disruption in the regular traffic flow. Using Induction Loops, we aim to create a dynamic system

that will allot time frames to a road based on the traffic density at that road at that specific time. Due to this, the traffic system will be able to adapt to high and low traffic densities, saving time and also fuel. The changes in the graph induced by the passing of a vehicle over the induction loop, can be recorded and based on these changes, density of traffic can be estimated. The structure of loop proposed by this project can estimate lane-less heterogeneous traffic density. Thus, with the proposed structure, both big and small vehicles can be detected and this information can be utilized for further calculations.

Acc. No.: CMPN 370/ PR1257

**Abandoned Object Detection**

Larisa Rodrigues,Prajakta Rodrigues, Leon Rodrigues

Project Guide: Rupesh Mishra

We often hear incidents of attacks caused in public places by bombs and explosives left unattended. This demonstrates that effective and efficient detection of abandoned objects is necessary to prevent attacks on landmarks, public transportation, and critical assets. However, it is very challenging to watch over the public places with crowds by security guards and identify the abandoned objects that have been left behind. Public places are monitored with cameras but it's not possible for anyone to track every object manually.
So, to prevent luggage bomb attacks, a fully automated, efficient and effective intelligent surveillance system is required. We proposed to build a robust abandoned object detection system for real-time video surveillance. This system automatically detects objects and on detection of an abandoned object sends alert to the user.
In this approach, we use background subtraction algorithm and various other image processing techniques. Objects foreign to a usual environment are extracted using background subtraction and thresholding and analyzing the difference detected. Further, these objects are tracked throughout the video to determine objects that remain stationary for certain amount of time. Such objects are then highlighted to alert the user.

Acc. No.: CMPN 366/ PR1253

**Hospital Finder with Emergency help**

Sharon Alva, Jismy Johnson,, Vanisha Menezes

Project Guide: Mr. Rajkumar Shende

In case of an emergency such as bomb blasts, train derailment etc. the injured people do not reach the hospital on time due to less services available. Generally, the number of victims is more and hospitals cannot accommodate all the patients. When the injured victim reaches the

hospital and then is denied of medication, time is lost in traveling from one hospital to another.

The proposed system strives to solve this issue with an emergency module. The emergency module helps in finding the nearest hospital by comparing the shortest distance from the user's location to the nearest hospital. The emergency module shortlists three hospitals near to the user. The user's location is received by using GPS. The three nearest hospitals are displayed to the user. From the nearest hospitals displayed, the user selects one of those hospitals. On selecting a hospital from the list, the system shows the shortest route on the map from the user's location to the hospital selected by the user.

The second module of the system is for finding the hospital with all the user mentioned requirements. If a user wishes to search for a specific hospital which comprises of a specific department, then he can do it by typing keywords. This module allows the user to search for hospitals by giving keywords. The details of hospitals along with doctors working in those hospitals and the departments available in the hospitals are stored. We search for nearest possible match for the user request. The results are then displayed for the user. Only if the requested data exist will it display to the user.
Acc. No.: CMPN 367/ PR1254

**Property Ranking And Price Estimation Using Spatial Data Mining**

Krishna Dhruv, Amruta Kalgutkar, Giselle Khosesaon

Project Guide: Prof. Anuradha Srinivasaraghavan

Spatial data mining is a process of discovering interesting, useful, patterns from large spatial datasets. Spatial data mining is very different from traditional data mining as it involves adjacency effects and neighbourhood effects on the said object. In the traditional real estate online portals, the ranking of the property is according to the user preferences who visit the website. The property prices are fixed based on per square foot area depending on the locality and uses various techniques like multivariate regression, or traditional data mining are used hence are not genuine. The existing system does not provide graphical representation of estates. Also there is no distance calculation between geographical points. Also comparison of two properties from the user end is not present. To remove the traditional system flaws spatial data mining can be used. The proposed system is an online portal from where user can search for properties of their preference. The properties will be displayed by using spatial data mining algorithms through MySql server. All the properties available will be put up on the site along with the description where the user selects appropriate property. The property ranking and price estimation will be provided based on the surrounding amenities of the property using algorithms that will be used to group the data. The more amenities surrounding a property, higher the rank. No distinction is made depending on the locality i.e. it doesn't use spatial heterogeneity. Map based search will be included. Lastly, the properties can be compared based on the rating and affordable price.
Acc. No.: CMPN 393/ PR1280

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## Computer Aided System for Detection and Diagnosis of Alzheimer's Disease

Kasturi Nikharge, Mildred Noronha, Apoorva Parulekar

Project Guide: Dr. Kavita Sonawane

In India, more than 4 million people have some form of dementia. Worldwide, at least 44 million people are living with dementia, making the disease a global health crisis that must be addressed. One way in which this crisis can be addressed is through early detection. With this aim in mind, this report presents a "CAD system for detection and diagnosis of Alzheimer's disease". Herein, the present system, its drawbacks and the need for a CAD system are explored. The main challenges encountered were:

- The existing systems involve visual examination which may be subjective.
- Existing systems also use PET images for diagnosis of AD, and these scans are advised only at a later stage; MRI scans are suggested in the early phases of the disease.
- Process of taking PET images is harmful because radioactive chemicals are used.

These problems can be addressed by building a system which is safe in every aspect and aids in early detection of AD. CAD systems are less prone to errors as compared to the existing methods which include visual examination, a subjective method of diagnosis. MRI images do not involve radioactive elements and hold that advantage over PET scans.

The proposed system will help in the early detection of AD as it works with MRI images. MRI images will be subjected to clustering based Feature Extraction using k-means clustering. These features will then be used by a binary SVM classifier to detect and diagnose the presence or absence of AD in the MRI image.

Appropriate testing of the system has been carried out, its result and performance evaluation has been documented, as well as a conclusive report along with scope for future has been made to ensure completeness of this thesis.

Acc. No.: CMPN 362/ PR1249

## Online Training & Placement

Veldrain A.M.Mathias, Nilam Hande

Project Guide: Mr. Rajkumar Shende

This project is aimed at developing an application for the Training and Placement Department of the College. The system is an application that can be accessed throughout the organization with proper login provided. This system can be used as an application for the Training and Placement Officers (TPO) of the college to manage the student information with regard to placement. Students logging should be able to upload their information in the form of a CV. The key feature of this project is that it is a onetime registration. Our project provides the facility of maintaining the details of the students. It also provides a requested list of candidates to recruit the students based on given query. Administrator logging in may also search any information put up by the

students. This project will aid colleges to practice full IT deployment. This will also help in fast access procedures in placement related activities
Acc. No.: CMPN 368/ PR1255

## VOICE CONTROLLED OBSTACLE AVOIDING WHEELCHAIR

SANJAY FAGARE, SHUBHAM DAS, CHANDNI SHAH

Project Guide: MR. SHAMSUDDIN KHAN

Many people with disabilities do not have the dexterity necessary to control a switch on an electrical wheelchair. A voice controlled wheelchair can provide easy access for physical disabled person who cannot control their movements especially with the hands.
The goal of this smart wheelchair project is to enhance an ordinary powered wheelchair using sensors to perceive the wheelchair's surroundings, a speech interface to interpret commands. Intelligent wheelchair will play an important role in the future welfare society.
The System integrates the voice recognition system and infrared sensor system. Basic voice commands will be used for the movement of the wheelchair. E.g. Start, Left, Halt. In order to avoid the environmental disturbances, System will work on less number of voice commands. With the help of Ultrasonic sensors, Wheelchair will intelligently detect and avoid the obstacles. This is a unique system incorporating wheel chair control through voice and the Sensors which provides reliability and comfort.
In this way the wheelchair which can be driven by using voice commands and detects the obstacles between the paths.
Acc. No.: CMPN 398/ PR1285

## Employee Transportation System

Ryan Augustine, Shadaab Ansari, Vaibhav Khandekar

Project Guide: Dakshata Panchal

The transportation of employees conveniently and fast has been one of the primary concerns of companies that focus on increased productivity and efficient logistics. The amount of time required for creating and operating a manual system for picking up and dropping employees and then, to actually carry out this process, using a route that was created manually cannot be overseen. The Employee Transportation System will provide a solution to this problem by helping the organization come up with a scheme to automate the process of finding a shortest path to drop all the employees and also, the employees that can share a car. The main aim of the Employment Transportation System is to overcome the weaknesses of current transportation

schemes. The current situation requires a lot of manual work by a dedicated group of personnel and that too doesn't always deliver optimized results. Our software aims to reduce this manual labor by completely automating the calculation process.
Acc. No.: CMPN 390/ PR1277

**QUERY BY IMAGE CONTENT**
Suchita D'souza, Sachin Dabre

Project Guide: Ms. Merlin Jacob

Image processing is a form of signal processing in which it takes image as input and produces the output which may be in the form of images or the set of characteristics or parameters related to the image. Content based image retrieval is an automatically extraction of the images based on the color, texture and shape. Image retrieval is concerned with the accessing of the desired images from large and varied image collections. Query by Image Content (QBIC) is the system that can filter images based on their content. The term 'content' in this context might refer to colors, shapes, textures, or any other information that can be derived from the image itself. QBIC differs from classical information retrieval in that image databases are essentially unstructured, since digitized images consist purely of arrays of pixel intensities, with no inherent meaning. One of the key issues with any kind of image processing is the need to extract useful information from the raw data before any kind of reasoning about the image's contents is possible. There is a growing interest in QBIC because of the limitations inherent in metadata-based systems, as well as the large range of possible uses for efficient image retrieval. QBIC system is able to serve queries ranging from scenes of purely natural objects such as vegetation, trees, sky, etc. to images containing conspicuous structural objects such as buildings, towers, bridges, etc.
Acc. No.: CMPN 360/ PR1247

**Chess Application for Indian Chess School**
Atit Gupta, Renzil Dourado, Darryl Pinto

Project Guide: Ms. Bidisha Roy

The purpose of this project is to fulfill all the requirements put forth to us by the Indian Chess

School(ICS)which areas follows:

· To convert the website www.indianchessschool.com into an android application.

· To convert all the exercises from the book into a playable interface within the

application.

· To develop a single player chess game.

The first task will be to convert the entire website into an android application. This android application should be able to perform all the tasks carried out by the website and should represent all the data as it appears on the websites. It should also reflect any changes/updates made on the website.

The second task would be to create a playable interface within the application for students to solve different exercises which are currently solved manually on books using pen and paper. A student would be able to select from a range of exercises and difficulty levels and solve them by practically moving the chess pieces or in short, by interacting with the playable interface.

The final task would be to develop a single player chess game within this application. The purpose of this module is to allow each student to put his/her knowledge into practice by playing a chess game with a chess engine

Acc. No.: CMPN 357/ PR1244

**DATA SECURITY USING MULTIPLE CLOUDS**

PARTH KSHIRSAGAR, ADWAIT MORE, AKSHAY MORE

Project Guide: MS. SRIDARI IYER

A movement from single cloud to multi clouds and ensuring data security using Shamir's Secret Sharing with k,n algorithmic scheme.

Acc. No.: CMPN 375/ PR1262

**Personalized PageRank System**

Darryl Saldanha, Shreeju Tanna, Shane Vincent

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MUMBAI 400103
www.sfitengg.org

Project Guide: Pradhnya Pradhan

For each page in a website, Google will allocate a PageRank based on proprietary algorithm owned by them. PageRank is one of the key factors that impact ranking of search results. Over years Google had reduced the dependency on PageRank alone as a sole factor in decided the rank. But to date, it remains one of the most important factor. Algorithm uses the links pointing to the page in questions to determine the rank. Its not about the number of links, but the quality of the links that points to a page. Quality links means, if a government or educational websites gives a link to a page, it is considered as a quality link. Other than .gov and .edu sites, if a link is coming from a High PR blog or website, it can also improve the ranking of page in question. But if a high PR page give out links to hundreds of other pages, the link juice which flows into a single page will be very low. So no of outbound links will negatively impact the PageRank.
This project aims to customize this algorithm based on user's priority. If user want to customize the search algorithm as per his/her wishes, it is not possible at the moment. For example, after going through the search results for multiple keywords, if the user is not satisfied with order of search results provided by Google algorithm, Personalized Page Ranking System helps user to customize the search results. If the user feels that number of links pointing to a webpage is more important than the pagerank of the page that links, we should provide an API to get all the back links to a page. Some websites provide free API's to get these info. Either we need to develop an API or use an existing one.
For some users, numbers of words in an article is more important than back links. Currently there are many online word count tools available. Either use them or develop an API to count words. It wont take much time to develop this feature. Another factor that can impact the personalized Page Rank is user ratings or no of comments. Usually Comments will be provided at the end of each blog. Our search engine should be able to count them. User rating is another pointer which denotes the quality of the article. Read the average rating and no of persons who had done the rating to measure the quality of the article.
Acc. No.: CMPN 355/ PR1242

## ONLINE MEDICAL CONSULTANCY SERVICE: PHARMACEUTICAL VENDOR ANDROID APPLICATION

Joel D' Souza, Lester D' Souza, Ranjith James

Project Guide: Ms. Nidhi Gaur

In the present times the medical field needs a lot of technological support to cure various illnesses and diseases. To cure a particular disease the doctor or the practitioner suggests some medicines. At present patients avail their medicines from the nearby chemist or pharmacy for the treatment. Sometimes the customers do not get all the necessary medicines from the nearby pharmacy and have to search and travel to different chemists to get their medicines. There would be a possibility of the patient not receiving the delivery of medicines on time and can worsen the situation of the patient. We aim to change the way this works by letting the patient know for sure

that all the medicines he needs are there in advance and also by always keeping the chemist stocked in all forms of drugs.
To avoid all these problems we are developing a android application that can be a possible solution to all the problems present in the current system. Since android phones are being used by most of the users, it would be possible for the users to use this application and avail services for getting the medicines. The 'Pharmaceutical Vendor app' will connect the doctor, patient and the pharmacist. The Basic idea behind the application is to reduce the amount of work and complexity of the system. In this application the Doctor writes an application on his android device through this application and sends it to the pharmacist. A no. is generated and is send to the patient, this no. has to be shown to the pharmacist and the patient has to just collect his medicine which will be readily packed in advance. The application will also include image processing which will help the patient to place an order to a chemist by just uploading a prescription after which the app would auto generate a bill for the chemist. The user can also scan the medicine and get details about the drug that he/she is consuming this will create awareness to the user whether the drug is really safe and what are the possible side effects if taken without proper prescription.
The app is simple to understand and is user friendly. Also if a patient has a chronic disease (eg. A diabetic patient) and requires regular consumption of drugs both he and his local chemist will have regular reminders about the quantity of medicine remaining with the user and the details of the last purchase which will serve to let the chemist know when his customer would need a new batch of medicines .The app will also manage the stock at the chemist which will automatically be updated on every transaction and when running low will be informed in form of a warning which will allow the chemist to never be out of stock.
Acc. No.: CMPN 372/ PR1259

**Graphical Password Scheme In Android**
Clatus Dmonte,Jude Rumao,Mirold Dabre

Project Guide: Ms. Bidisha Roy

Passwords provide security mechanism for authentication and protection services against unwanted access to resources. A graphical based password is one promising alternatives of textual passwords. According to human psychology, humans are able to remember pictures easily. In this paper, we have proposed a new hybrid graphical password based system, which is a combination of recognition and recall based techniques that offers many advantages over the existing systems and may be more convenient for the user. Our scheme is resistant to shoulder surfing attack and many other attacks on graphical passwords. This scheme is proposed for smart mobile devices like smart phones.
Acc. No.: CMPN 388/ PR1275

**Stock Market Prediction using Hadoop**
Aishwarya Salian, Shreya Sawant, Rahul Bagdi

ST. FRANCIS INSTITUTE OF TECHNOLOGY (ENGINEERING COLLEGE)
MUMBAI 400103
www.sfitengg.org

Project Guide: Ms. Merlin Jacob

The stock market trend is predicted using technical indicators such as relative strength index(RSI), stochastic oscillators(SO), william %R which tells the stock user whether to hold,buy or sell stocks. The processing and calculation is done using hadoop.

Acc. No.: CMPN 359/ PR1246

## AUTOMATIC PROFILE CHANGER AND MOBIMINDER

KARAN SONI, BRYAN PEREIRA, SIRAJ RODRIGUES

Project Guide: VARSHA SHRIVASTAVA

This changes the profile automatically according to the location selected by the user and also reminds the user for location alarm user sets in past and also shows the best and fastest route as commune and gives the total cost of public vehicle.

Acc. No.: CMPN 381/ PR1268

## Banking Bot

Gopal Duble, Shiny Fernandes, Akshey Jarial

Project Guide: Ms. Pradhnya pradhan

This 'Banking Bot' project is built using artificial algorithms that analyzes user's queries and understand user's message. The system is designed for banks where users can ask any bank related questions like loan, account, policy etc. This application is developed for web users. The system recognizes user's query and understands what he wants to convey and simultaneously answers them appropriately. Even if the user does not frames sentence properly system will understands the query and answers accordingly. There is no specific format user must follow to ask questions. The built in artificial intelligence system realizes users requirements and provides suitable answers to the user. It also uses a graphical representation of a person speaking while giving answers as a real person would do.

Acc. No.: CMPN 356/ PR1243

## SMARTHOMES

ST. FRANCIS INSTITUTE OF TECHNOLOGY (ENGINEERING COLLEGE)
MUMBAI 400103
www.sfitengg.org

AARON REBELLO, ROYDON PEREIRA, RUSSEL PEREIRA

Project Guide: Ms. VARSHA NAGPURKAR

Today everything that we use is expected to be 'Smart' for example smart phones, smart TVs, etc. Similarly, 'Smart Homes' is a project directed towards the most common problem that we face today that is 'Complexity due to convenience'. With more things coming into our life for our convenience, the aspect of keeping all of them under your control is getting complex. As the socio-economic conditions are improving and the technology is progressing, more and more appliances are put into our houses for our ease and convenience in turn increasing the complexity. To tackle this, our project proposes to implement a smart system that allows you to control your appliances over the internet. There is a new buzzword in the field to networking that is 'Internet of Things'. IoT allows people and things to be connected anytime, anyplace, with anything and anyone, by using ideally any path/network and any service. But the issue is that there is no substantial framework to implement this project at a commercial level and so, our project is also directed towards providing this framework for IoT by implementing 'Smart homes'. Our objective is to control the appliances in the house using a smart phone. You can control all the appliances in the house from any place in the world where there is internet connectivity just by one touch. This will also be an aid to the elderly and the physically handicapped. This project proposes to build a smart phone application that can be customized according to each user's home needs. We intend to commercialize the system which can be fitted into already existing connections of electrical appliances. In future this system can serve the purposes of controlling and securing our homes from anywhere on our command making it a smart and a secure home.

Acc. No.: CMPN 350/ PR1237

**Advanced Car Parking System**

Rishi Agarwal, Steven Taylor, Hitesh Rajpurohit

Project Guide: Nidhi Gaur

With the proliferation of vehicle availability and usage in recent years, finding a vacant car parking space is becoming more and more difficult, resulting in a number of practical conflicts. Parking problems are ubiquitous and ever growing at an alarming rate in every major city. People waste time in seacrhing vacant spaces near crowded places also in malls and supermarkets scenario is same. While looking for vacat spaces they waste there time, fuel etc. To overcome all these problems a smart parking system can be implemented with the help Wi-Fi module, arduino, some sensors etc. Everytime a car enters a parking lot a

screen will be displayed to drivers showing vacant spaces in the parking lot. So driver need not waste time, fuel etc. As soon as a car is parked at any place sensors will detect that the place is been occupied. Sensors will be connected with the Wi-Fi module and as sensors sense that the place is occupied by car with the help of Wi-Fi module central server will be updated. As soon as the central server is updated it will update the screen which is diplayed to drivers.

Acc. No.: CMPN 371/ PR1258

**SECURE BROWSING USING ANTI-PHISHING**

RUCHI BHUTA, POOJA EKBOTE, NIKITA JADHAV

Project Guide: VINCY JOSEPH

This project outlines the Anti-Phishing Technique on the social networking sites. Phishing is the attempt to acquire sensitive information such as usernames,passwords,credit card details from websites. Attacker uses replica of original website that is send to the user, user fills and submits the sensitive and useful information into the website, attacker pulls the information and saves the data, credit card details etc from websites for its own illegal use. Hackers commonly use these sites to attack persons, using these media sites in their workplace,homes or public in order to take personal and security information that can affect the user and the company. The main objective of this project is to make the user capable of identifying the fake website this will enable him to know whether the site is safe(original) or not. Once the identification is done by the user can safely use the website with full security from attackers. One of the Anti-Phishing technique which we aim at is Visual Cryptography.Visual Cryptography is a cryptographic technique which allows visual information(pictures,text,etc)to be encrypted in such a way that decryption becomes a mechanical operation that does not require a computer. This project includes implementation of (2,3) visual cryptography using color images where 3 is the number of shares in which the image is divided and 2 or 3 is the number of shares required for recovery.

Acc. No.: CMPN 376/ PR1263

**Plant Disease recognition**

Ketan Joshi, Aditya Kore, Jerin Rajan

ST. FRANCIS INSTITUTE OF TECHNOLOGY (ENGINEERING COLLEGE)
MUMBAI 400103
www.sfitengg.org

Project Guide: Mr. Aslam Nandyal

India is agriculture country where in more than 65% population depends on agriculture. The crop losses due to diseases are approximately 10 to 30%. Farmers judge the diseases by their experience but this is not accurate and proper way. Sometimes farmers call the experts for detecting the diseases but this also time consuming way. Over the past few decades every plant disease has degraded the quality of plants and the level of damage varies depending on the size of bacteria or fungus which has affected it and stage of the crop. The big question on everyone's mind when dealing with the aftermath of a plant disease being diagnosed is what to do next. Our software Plant Disease Recognition is a huge help in facilitating a quick recovery by taking care of the plants, no matter what type of crop when this domain system would be expanded and taken as a whole.
Images form important data and information in biological sciences. Digital image processing and image analysis technology based on the advances in microelectronics and computers has many applications in biology and it circumvents the problems that are associated with traditional image taken. This new tool helps to improve the images from microscopic to telescopic range and also offers a scope for their analysis. An image-processing-based system for the automatic leaf diseases detection and classification. We test our solution on the various parameters which has effect on the plants. Here we use Grey Level Co-occurrence matrix, which is used for feature calculations. The parameters calculated from the above method are used to classify the disease.
Acc. No.: CMPN 395/ PR1282

**MEDICAL ASSISTANCE USING CLOUD**

LIVYA DAVID, RONIA KANNANAIKAL,

Project Guide: MS. SNEHAL KULKARNI
ANDROID APP TO PROVIDE ALL MEDICAL REPORTS IN DIGITAL FORM
Acc. No.: CMPN 383/ PR1270

**Advanced Car Parking System**

Rishi Agarwal, Steven Taylor, Hitesh Rajpurohit

Project Guide: MS NIDHI GAUR

With the proliferation of vehicle availability and usage in recent years, finding a vacant car parking space is becoming more and more difficult, resulting in a number of practical conflicts. Parking problems are ubiquitous and ever growing at an alarming rate in every major city. People waste time in seacrhing vacant spaces near crowded places also in malls

and supermarkets scenario is same. While looking for vacat spaces they waste there time, fuel etc. To overcome all these problems a smart parking system can be implemented with the help Wi-Fi module, arduino, some sensors etc. Everytime a car enters a parking lot a screen will be displayed to drivers showing vacant spaces in the parking lot. So driver need not waste time, fuel etc. As soon as a car is parked at any place sensors will detect that the place is been occupied. Sensors will be connected with the Wi-Fi module and as sensors sense that the place is occupied by car with the help of Wi-Fi module central server will be updated. As soon as the central server is updated it will update the screen which is diplayed to drivers.

Acc. No.: CMPN 371/ PR1258

**Question Paper Generation**

Maithili Kalkar, Radhika Gathia, Nikhil Kajrekar

Project Guide: Ms. Varsha Srivastava

Examinations play a vital role in deciding the quality of students. Generating an effective question paper is a task of great importance for any educational institute. Conventionally question papers are developed manually. Traditional method of test paper generation is time-consuming, less efficient. The nature of the exam questions would determine the quality of the students produced by the institutions. Preparing the exam questions is very challenging, tedious and time consuming for the instructors. There are chances of redundancy in the traditional system. Thus according to the need, an autonomous system is proposed, so as to make the system more efficient, reliable, improve its quality, and also to reduce the time taken by instructor in setting the question papers manually.
Acc. No.: CMPN 354/ PR1241

**Television Time Controller Using Arduino**

Naman Kothari,Varun Navghare, Shamsad Khan
Project Guide: Ms. Ankita Karia

ST. FRANCIS INSTITUTE OF TECHNOLOGY (ENGINEERING COLLEGE)
MUMBAI 400103
www.sfitengg.org

Television is really a form of boon as well as bane to children because the children learn many activities and subjects by watching television. Today due to the advent of satellite technology many channels such as Discovery, Nat Geo, and History provide interactive sessions to the children. They teach the children about the fascinating world of science, animals, geographical locations, places and some historical events of the past. Children become more exposed to the world.
On the other hand watching television is a curse because the children are easily distracted from the studies. It diverts the attention from studies because they are tempted to watch some serials or shows that spoil their moral fabric. Many children are induced to violent acts after watching the violent scenes on the television. Research shows that an average family watches television at least 4 hours a day, it also shows that the children between the age group of 2-5 years watch television at least 32 hours a week which leads to a lot of problems. Also the present child lock systems are not up to the mark.
So we came up with a smart time controller using Arduino which helps us to restrict the view time smartly. This application mainly helps the society by allowing you to restrict the amount of hours you child watches television. It is something which basically monitors the amount of time the television remains in the working or on state and thereby alerting the parent about it. Also after the daily viewing hours are done it breaks the power supply to the television thus restricting the children with the amount of watch time.

Acc. No.: CMPN 385/ PR1272

**Virtual Market Place for Farmers.**

Eric Figer,Malissa Figer, Mark Furtado

Project Guide: Dr.Vikram Shete

Farming, is the main occupation in our country.Most of the rural population depends on farming as their source of income. What these farmers produce in their fields is what the whole country consumes in their day to day lives. But are the farmers being paid a fair price for their produce? The answer is No. Many a times they hardly recover their investment. After researching we realized that this was because of the presence of multiple middlemen between the producer and the consumers who hike up the cost at every stage. Through our project we intend to give direct access of the consumer market to farmers. We want the farmers to get a higher return on investment, by helping them reach out to the consumers, interact with them and stay up to date with the present market prices etc. Through our research we found that even though there are measures being taken to try and overcome this issue all over the world, in our country there are very few such platforms where farmers can directly display their produce and consumers can buy it directly from the producer. Our solution will ensure that consumers pay market price or less,

and yet farmers make more profits than before. We are trying to provide this platform to ease the exchange between the producer and the consumers. This will be effective as the consumers will be able to get all the details about the farmer, the produce and also we will be providing the step-by-step details about the production. We also have ' cash on delivery ' as the mode of payment, so the customer can check the quality themselves before paying. This will build up trust in the system. This will help thousands of farmers all over the country to get what they deserve and also reduce the number of suicides happening every year.

Acc. No.: CMPN 358/ PR1245

**A mix virtual reality clothes try on system**

Atish Nayak, Jessline Cutinho, Dhwani Nissar

Project Guide: Ms. Varsha Nagpurkar

Virtual try-on can help to speed-up the process as the shopper can see the clothes on an avatar that he creates without actually wearing them, or narrow down her selections before physical try-on. Interactive virtual try-on can also be an interesting feature of digital signage for advertisement and/or attracting crowds. Some earlier systems using image processing techniques have been reported in literature. In this paper, we propose a robust alignment method to align the virtual clothes on the user's created avatar. Scaling of the virtual clothes to fit well on the user's avatar is another important requirement for a realistic virtual try-on. Inaccurate alignment and scaling is a major reason of lack of realism in current systems is that the actual clothes worn by the user remain visible from sides and the overlaid virtual clothes do not completely cover them. An example of this would be a virtual T-shirt augmented on a user's avatar wearing long sleeves dress.
We use a scaling method that scales different sections of the clothed avatar separately and also retains their connectivity by appropriately translating different parts after resizing. Since the clothes in our system are worn by an avatar, we can use certain body measurements of the user to automatically customize the avatar and the clothes to match to the user's body size. The project aims at building a web application wherein the user will be given the choice of clothes and according to the user's selection, he/she can actually select an avatar resembling to his/her body type and accordingly see whether that outfit will suit him/her or no. Since this is a web application, it will be very much feasible for users to access it irrespective of place, time etc. unlike the earlier virtual mirror reported in literature which will amount to lot of space and also won't be feasible to all users as it uses augmented reality technology.

Acc. No.: CMPN 349/ PR1236

**Home Automation Using Hand Gestures**

Aneesh Aranha, Norwin D'cruz, Pronoy D'sa

ST. FRANCIS INSTITUTE OF TECHNOLOGY (ENGINEERING COLLEGE)
MUMBAI 400103
www.sfitengg.org

Project Guide: Rujata Chaudhari

In our project we have implemented the back of the smartphone cameras as the base of acquiring the hand gestures which are taken as inputs using the android application on the android smartphone. Now, once the hand gesture is taken as an input it is stored in the database. So when the home application needs to be activated or deactivated (switched On/Off), the hand gesture is read from the input and matched from the database using gesture recognition algorithm. Then the command signal mapped on the hand gesture is send over Wi-Fi Connection to the raspberry pi which is in serial connection to a Arduino board. Once the command signal is received at the Arduino, it forwards it to the relay circuit which is connected to the device which needs to be activated. In short, our project enables users to control home appliances over wireless connection using hand gestures with the help of smartphone cameras.

Acc. No.: CMPN 401/ PR1288

**A Mixed Reality Virtual Clothes Try-On System**

Dhwani Nisar, Atish Nayak, Jessline Cutinho

Project Guide: Varsha Nagpurkar

One of the most time-consuming stages of apparel shopping is trying the apparel on, which is not even possible in online stores. Virtual try-on of clothes has received much attention recently due to its commercial potential. Some technologies do exist in market such as augmented reality technology due to which virtual fitting rooms are beginning to take place in real and in virtual stores.Advanced virtual fitting rooms show the apparel items either on the video of the user or on a virtual avatar, both scaled to reflect the user's body characteristics. Some studies employ automatic body and garment segmentation and physics-based garment and sewing simulation techniques for a better fitting experience. It can be used for online shopping or intelligent recommendation to narrow down the selections to a few designs and sizes. In this paper, we present a mixed reality system for virtual clothes try-on that enables a user to see virtual clothes being tried on an avatar that he has modified. We will provide the user two options one to directly buy by selecting the cloth and other to virtually try it on with our system and decide to buy based on the avatar fitting. The user can select various virtual clothes for trying-on. Then the user will be given the option of selecting avatar which would define his/her body size. Along with avatar the user will also be able to select skin-tone and hair length(only in case of Women) The system physically simulates the selected virtual clothes on the user's created avatar body in real-time and the user can see virtual clothes fitting on the avatar. The major contribution of this paper is that we automatically customize an invisible (or partially visible) avatar based on the user's body size and the skin color and use it for proper clothes fitting, alignment and clothes simulation in our virtual try-on system. Based on the output of which the user can decide if he/she wants to buy the particular cloth having particular design or to go for other trying other clothes.
Acc. No.: CMPN 349/ PR1236

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**Process visualization using text analysis**

Chintan Mistry, Akshita Katchhi,

Project Guide: Nidhi Gaur

Books have been a reliable source for education for almost more than a thousand years now. They are a media where one can express his/her thoughts and learn new ideas. Chiefly books store information in the form of characters, words, sentences, paragraphs and so on. But there are some unseen disadvantages with this method learning. Firstly, one may get bored or overwhelmed by the amount of textual information. Secondly, the popular custom of black text on white paper is very boring and cannot create an impact to boost visual memory. Thirdly, the process of reading long lines of text is boring to the advanced generations who prefer rich GUI oriented learning methods like a video.
A research by Edgar Dale, in 1933, tested the memory retention of subjects after two weeks of a particular activity. Dale found that after two weeks, an average human is able to remember only 10% of what we read, 20% of what we hear, and 30% of what we see and so on the retention increases as we use more and more senses. So the question arises that if we remember only 10% of what we read, then why do we still use books as the chief method of learning? What if we can improve the learning method by adding colors, transitions, animations and sounds? What if we can make studies fun?
For the purpose of this migration from boring texts to a new graphically rich learning methodology, we propose a system of 'process visualization using text analysis', that is, to use animations, transitions and colors to help visualize any process. Our system consists of an application that accepts textual information as input and analyzes it. The app will, do natural language processing, semantic analysis, highlighting keywords, relationship establishment and produce a step by step process with high animations, graphs (wherever needed), colors and sounds. This will help boost the visual memory of the user and he/she will be able to retain the information for much longer as compared to plain text reading.

Acc. No.: CMPN 363/ PR1250

**AUTOMATED FACULTY ATTENDANCE SYSTEM USING NFC.**

Farhaan Patel, Malay Mehta, Girivraj Wakade

Project Guide: MS.ANKITA KARIA

In every organization/companies attendance system is necessary. Same those for the colleges, the college have to maintain attendance record of all staffs. Attendance is a system to record when employees start and stop work and the department when the work is performed. The attendance process normally involves writing the name of the faculty in the register. To avoid proxy attendance and to reduce the cost of the attendance we use NFC (Near Field Communication)

that will simplify the attendance process, by simply touching and attendance poster or NFC based mobile device in the staff room.

Acc. No.: CMPN 374/ PR1261

**Automatic Solar Tracking System**

Jagrut Kini, Tejaswee Gourkhede, Gladys D'Souza

Project Guide: Shamsuddin Khan

As people are much concerned with the fossil fuel exhaustion and the environmental problems caused by the conventional power generation, renewable energy sources and among them photovoltaic panels and wind-generators are now widely used. So Solar Energy is a good choice for electric power generation.

The solar energy is directly converted into electrical energy by solar photovoltaic module. Photovoltaic sources are used today in many applications such as battery charging, water pumping, home power supply, swimming-pool heating systems, satellite power systems etc.

They have the advantage of being maintenance and pollution-free but their installation cost is high and inmost applications, they require a power conditioner (dc/dc or dc/ac converter) for load interface. Since PV modules still have relatively low conversion efficiency, the overall system cost can be reduced using high efficiency power conditioners which, in addition, are designed to extract the maximum possible power from the PV module.

The photovoltaic modules are made up of silicon cells. The silicon solar cell which gives output voltage of around 0.7V under open circuit condition. When many such cells are connected in series we get a solar PV module. Normally in a module there are 36 cells which amount for a open circuit voltage of about 20V. The current rating of the modules depends on the area of the individual cells. Higher the cell area high is the current output of the cell. For obtaining higher power output, the solar PV modules are connected in series and parallel combinations forming solar PV arrays.

Solar Tracker is a Device which follows the movement of the sun as it rotates from the east to the west every day. The main function of all tracking systems is to provide one or two degrees of freedom in movement. Trackers are used to keep solar collectors/solar panels oriented directly towards the sun as it moves through the sky every day.

Acc. No.: CMPN 397/ PR1284

**Smart Charger**

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MUMBAI 400103
www.sfitengg.org

Kunal Parikh, Kunal Rawoot, Tushar Pandey

Project Guide: Sridari Iyer

The traditional charger or the conventional charger has many problems which is not been given an attention to. This major problems can cause a serious damage to the battery life and health of the mobile phones. The most common problem that we face while charging is overheating. With this system we are trying to minimize the drawbacks of the traditional charger by means of a mechanism called as relay circuit. The advantage of using relay circuit is the system can turn on/off the current whenever it is signaled to. So using this advantage, when the battery gets fully charged then the app will signal the smart charger to stop charging further. This will avoid the major problem of overheating and extra charging which will drastically improve the health of the battery.
This system will be having features that mainly concentrate on improving the battery health. The system have certain features like timer which will further help to achieve the battery to attain 100% of its juice. It has a battery cooler which will take care of the cpu temperature. When the temperature of the cpu is high then it will kill some background running apps to free up few cores of the cpu and then when the temperature becomes feasible to charge then only the current starts to flow.

Acc. No.: CMPN 353/ PR1240

**Data Mining for Business Strategy**

Hinal Joshi, Ami Shah, Bhavika Jain

Project Guide: Mrs. Snehal Kulkarni

The Information and Communication Technologies revolution brought a digital world with huge amounts of data available. Enterprises use mining technologies to search vast amounts of data for vital insight and knowledge. Mining tools are automated software tools that are used to achieve business intelligence by finding hidden relations and predicting future events from vast amount of data.
Data Mining Techniques thoroughly acquaints you with the new generation of data mining tools and techniques and shows you how to use them to make better business decisions. One of the first practical guides to mining business data, it describes techniques for detecting customer behavior patterns useful in formulating marketing, sales, and customer support strategies. These techniques helps in preprocessing, cluster detection, memory-based reasoning, market basket analysis, and how to prepare data sources for data mining, and how to evaluate and use the results you get.
In our project, our aim is to improvise the profit by delivering pizzas. We would find the pizza that is favored by all the people. Whether they buy soft drink with the pizza. Based on customer (if age is asked), we would also know which pizza is favored by which age group. Similarly, knowledge would be guessed from location, day of the week etc. This would establish a trend. Using this trend we can improvise the profit margins.

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Acc. No.: CMPN 384/ PR1271

**Emotion Detection Using Speech Analysis**

Alfred Johnson, Vikrant Fernandes, Liston Mascarenhas, Clyde Mendonca

Project Guide: Rupesh Mishra

The project aims at tapping this resource - "user emotion" and using it to power the next generation of applications and redefine human computer interaction. The paper will outline the approach taken to identify and quantify the information extracted from a speech sample using MFCC coefficients.

Acc. No.: CMPN 365/ PR1252

**FINANCE APPLICATION USING COLOR SCHEMES**

HEMANT KAMATH, SAGAR DESAI, MITESH KOTI

Project Guide: JAYASHRI MITTAL

COLOR PALLET ALONG WITH USER ID AND PASSWORD TO MAKE THE ACCOUNT ROBUST.

Acc. No.: CMPN 378/ PR1265

**Online Leave Management System**
Glen Corriea, Mervin Pinto,

Project Guide: Varsha Nagpurkar

To Develop an Online Leave Management System

Acc. No.: CMPN 351/ PR1238

**Eblood locator and Notifier**

ST. FRANCIS INSTITUTE OF TECHNOLOGY (ENGINEERING COLLEGE)
MUMBAI 400103
www.sfitengg.org

Nishant Bharti, Shruti Desai, Vinit Sawant

Project Guide: Mrs. Snehal Kulkarni

India's population numbers in hundred crores. Issues related to blood searching scenario need to be addressed by having a critical approach towards the game. In the medicine world lot of casualties take place due to inadequate resources to seek the availability of blood. Every life is precious and so the age old approach of checking the availability of required blood by calling the blood bank or going in person to the same wastes precious time. Many blood banks still have the monotonous job of recording the inventory data of blood packets manually in files and papers.
Our aim is to minimize this work and store all of the data related to blood on our website. This data is transparent and visible to all the users of our system. Detailed list of blood banks, real time blood inventory of every blood bank and most prominent notification feature are some of the features of our proposed system

Acc. No.: CMPN 382/ PR1269

**Data Security in Cloud Using Hybrid Encryption Algorithm**

Kevin Lopes, Donal Gonsalves, Kavin Silveira

Project Guide: Mr.Aslam Nandyal

Cloud computing is the new technology which provides services on demand from shared pool of computing resources. This new technology brings about new security challenges. There are various risk associated with the security but major issues are data privacy and data stealing. Our system put forward a new security scheme for the files to be uploaded on cloud; it uses hybrid encryption and secret sharing algorithm. By using Blowfish algorithm and AES algorithm data will be encrypted for providing confidentiality. Security being the most important factor in cloud computing has to be deal with great precautions. The use of a single encryption and decryption technique is very prone to malicious attacks. But in hybrid encryption, this problem is solved by using multiple encryption as well as decryption techniques. These secret key is stored on the cloud in form of shares by using Shamir secret sharing algorithm, each share contains some part of the key; and it is regenerated by merging those shares again. The secret key used for encryption is also encrypted and stored; to enhance the security the secret key is not just encrypted but divided into multiple shares and stored. In this way, both the secure upload as well as secure download of the data is facilitated

Acc. No.: CMPN 394/ PR1281

**Refreshable Braille Display For Mathematical Equations**

Shalaka Coutinho, Ghanshyam Khatavkar, Grecilda rumao

ST. FRANCIS INSTITUTE OF TECHNOLOGY (ENGINEERING COLLEGE)
MUMBAI 400103
www.sfitengg.org

Project Guide: Dr. Vikram Shete

Visually impaired people access the digital world of information through speech synthesis software
and to read characters they use refreshable Braille display. Braille has distinguished advantages over synthesis of speech, especially because of its important role in uplifting education, employment and income [1]. Refreshable Braille Display is a combination of number of roundtopped
pins aligned in a particular manner for the displaying of each character in Braille script which is done using actuation and retraction of these pins which a visually impaired person can feel through his fingers tips. The concept used in Braille display is similar to the one used for books printed in Braille script, the difference being, in refreshable display the information is dynamic.
Nowadays there is no such easy way available to teach mathematical problems to the visually impaired people. The methods used for teaching includes use of paper and thumb pins and every time the teacher has to draw a new pattern for the student. To overcome this problem, we built a cost-effective Refreshable Braille Display which has continuous dots instead of cells so that they can show the equations on the display instead of writing it on a new paper every time. Currently employed technology for the actuation and retraction of the pins is piezoelectric actuation
or SMA based actuation but SMA is commercially not available as piezoelectric. These Braille displays are in the range of 2500-4000 USD (65-100 USD per Braille display character) and thus inaccessible for users in both the countries developing as well as developed countries. [1]
Shape Memory Alloy (SMA) based actuation is a potential low cost alternative to the commercially
available display and is being used in this project to develop an affordable Refreshable Braille Display. This display will be a portable display which when connected to a device such as a computer or mobile phone through USB will display the content the user desires to read.

Acc. No.: CMPN 387/ PR1274

**Cryptography Based on Color Substitution.**
Cassian Gonsalves,Shawn Gonsalves Cliffon Dmello

Project Guide: Ms. Ankita Karia.

The emerging threats to information security are increasing at an alarming rate. The most influential and universal approach to counter such threats is encryption. Traditional encryption techniques use substitution and transposition. Substitution techniques map plaintext into cipher text. In all traditional substitution techniques, characters, numbers and special symbols are substituted with other characters, numbers and special symbols [3]. An innovative cryptographic substitution method is proposed by us to generate a stronger cipher than the existing substitution algorithms. This method emphasizes on the substitution of characters, numbers and special

symbols with color blocks. This algorithm of substitution is based on Play Color Cipher. The cryptanalysis done on this will prove that the cipher is strong.

Acc. No.: CMPN 373/ PR1260

**Application for Sahara Travels**

Sujit Hiremath, Nilesh Kapre,

Project Guide: Ms. Pradhnya Pradhan

Now days, almost human life becomes more and more easier. It is possible only because of the technology. Various online systems make the life of human very comfortable. By some clicks only, we can get whatever you want at home. We already know about the online shopping, ebanking,
etc. Similarly, The Car Rental System is the online facility to book cars online within few clicks only. Some people cannot afford of having a car, for those people this system becomes
very helpful. This system includes various cars, as per the customer order and comfort, it place the order and deliver the car as per the location within the area. For travelling a long distance, booking can be done via android app.

Acc. No.: CMPN 391/ PR1278

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**BRANCH: EXTC YEAR: 2016**

**ABSTRACTS**

## Pick and Place Wireless Line Follower Robot using FRDM-kl25z

Jones Nadar, Sohan Sagar, Oniel Telies, Prashant Yadav

Project Guide: Dr. Kevin Noronha

Our Project deals with material handling system. It synchronizes the movement of robotic arm to pick the objects present at the destination. The Pick and place robot is a mobile machine that can detect and follow the line drawn on the floor. It consists of two parts viz. line follower robot and robotic arm placed on it. Generally, the path is predefined and can be either visible like a black line on a white surface with a high contrasted color or it can be invisible like a magnetic field. Therefore, this kind of Robot should sense the line with its Infrared Ray (IR) sensors that installed under the robot. These IR sensors will send the voltage difference depending upon which the relay will either start the motor or stop it. This allows the whole robot to turn into a particular direction as specified by the user. Hence, the logical IC is going to decide the proper commands and then it sends them to the driver and thus the path will be followed by the line follower robot.Once the robot has reached the desired destination the function of robotic arm comes into picture. The arm is controlled by the frdm-kl25z board for its movement in order to

pick the object.The problems and obstructions for the loading process has been deeply analyzed and been taken into consideration while designing the pick and place robot.

Acc. No.: ExTC 348 / PR1324

**Reversible Color Image Watermarking**

ARISTON RODRIGUES, MARK SEQUEIRA,RAJAT SHARMA, SEBIN BABY

Project Guide: Monika Cheema

The implementation of this project is based on reversible color image watermarking technique, using trigonometric functions. The method deals with embedding secret bits into the Red, Green and Blue planes of color image, using interpolation method and few trigonometric functions. Experimental results obtained shows that the watermark can be successfully embedded and extracted from an image, without distorting the original image. The Peak Signal to Noise Ratio (PSNR) and Mean Square Error (MSE) values claims the robustness of the above method. The properties of a good watermark should include robustness, security and imperceptibility. Sometimes watermarked images may be compressed before transferring.

Acc. No.: ExTC 341 / PR1317

**Compact MIMO Antenna for UWB Applications with Reduced Mutual Coupling**

Smit Lokhande, Shubhankar Kulkarni, Omkar Chogle,

Project Guide: Ms. Anjali Chaudhari

A compact multiple-input-multiple-output (MIMO) antenna with a small size of 36.48 X 23.712 mm is proposed for portable ultra wideband (UWB) applications. The antenna consists of two planar-monopole (PM) antenna elements with micro strip-fed printed on one side of the substrate and placed perpendicularly to each other to achieve good isolation. To enhance isolation and

increase impedance bandwidth, two long protruding ground stubs are added to the ground plane on the other side and a short ground strip is used to connect the ground planes of the two PMs together to form a common ground. Implementation on FR4 substrate leads to bandwidth loss which is compensated by inserting E-shaped slots in each of the planer monopole elements. Commercially available high frequency electromagnetic solver HFSS based on the finite element method is used for simulations. A MIMO antenna having an impedance bandwidth of larger than 3.1-10.6 GHz, low mutual coupling of less than -17 dB is obtained.
Acc. No.: ExTC 314 / PR1290

**Recommendation System for Restaurants**

Jevin Menezes, Theron Menezes, Jigar Mistry, Gauri Nare

Project Guide: Dr. Deepak Jayaswal

Restaurants and Dining is one of the businesses which will never shut down for the next 100 years to come. Also, after the globalization of Internet, the increase in online activity such as social networking, E-commerce, paying online bills, online teaching of courses and many other services have led the internet users to search for trivial as well as most difficult things online through their computers, smartphones and other internet enabled smart-gadgets. Such an internet user finding an appropriate restaurant for a family weekend outing, hosting parties or similar occasions would have to search for restaurants information and making decisions on where to eat will have to rely on crowd-sourcing review sites or blogs. But Internet as a whole is quite messy with loads of information and details of each and everything and this has created the problem of information overload for an average user. To help making such decisions, recommendation systems play an important role in all kinds of aspects e.g. books, movies, shopping, entertainment etc. In this project, we designed an idea and built a restaurant recommendation system by incorporating the Yelp's datasets for restaurant businesses. This project work focuses on whether a given a (yelp) user wanting to visit a restaurant will like it or not. To model this, we worked on machine learning algorithms and reduced the dimensionality of restaurant features to have better classification results.

Acc. No.: ExTC 336 / PR1312

**Multiband Microstrip Patch Antenna**
Purva Halarnkar, Sushant Karandikar, Minal Khombal

Project Guide: Ms. Jovita Serrao
A rectangular multi-band micro-strip patch antenna with Defected Ground Structure is proposed for ultra-wide band applications. The antenna is simulated using IE3D software and fabricated on FR4 substrate. Using this antenna, multiple resonant frequencies will be obtained with acceptable bandwidth and high gain. This antenna was made by cutting four asymmetrical U-slots in the patch. The advantage of multi-band system is that, when there is interference in one band system,

the other can still work normally. The main advantages of U-slot patch antenna are that it produces board band characteristics with a single and simple topology. The proposed DGS pattern is simple and easy to etch on a commercial micro strip. . The proposed antenna is fabricated for UWB applications such as Wi-Max (3.3-3.8GHz) and WLAN (5.150-5.250, 5.250-5.350, 5.725-5.825 GHZ).

Acc. No.: ExTC 327 / PR1303

**Frequency Tuned Image Saliency Detection**

Rini John, Shrinivas Shetty, Rutvij Shevde, Apeksha Srivastava

Project Guide: Mr.Santosh Chapaneri

This project helps in detecting the salient parts in an image along with the context of an image.

Acc. No.: ExTC 334 / PR1310

**AGE ESTIMATION BASED ON FACIAL FEATURES**

Nikit Poojary, Lisa Mendonca,Gajanan Patil, Adriel Pinto

Project Guide: MR. RAVINDRA CHAUDHARI

Facial images are given as the input and determining the features of the person's face, the age group of the person is predicted.

Acc. No.: ExTC 346 / PR1322

**GSM based E-Meter reading**

GAURAV SAWANT. VAIBHAV SHAH

Project Guide: Mrs. Snehal Lopes.

The present system of energy billing is error prone and also time and labor consuming. Errors get introduced at every stage of energy billing like errors with electro-mechanical meters, human errors while noting down the meter reading, and errors while processing the paid bills and the due bills. The home appliances which consume more power causes an increase in the payment of excessive bills. The remedy for all these problems GSM based power meter and control system is

developed which consist of the digital power meter. It will keep track of the meter reading of each day and the reading with the user identification will be sent to the user as well as to the electricity department and Electricity Billing system associated with electricity department will keep the track of each SMS meter reading. Also appropriate bill get generated and the bill is forwarded to user from the user. So there is no chances of confusion to the user for paying the bill. The project also feature distribution control system which controls the power of the appliances remotely. LCD will be used to display digital meter reading. Also if the user doesn't pay the bill electricity department can cut off power supply to the consumer using GSM remotely.

Acc. No.: ExTC 312/ PR1188

**MAODV in MANET using NS-2**

Surbhi Mundra, Shravan Rao, Divyesh Sawant, Sonal Surve

Project Guide: Ms. Jayasudha Koti

To compare conventional AODV routing protocol with Modified AODV routing protocol which considers route stability factor
Acc. No.: ExTC 342 / PR1318

**E-Footprint System**
Vivina Francy Monis, Melwin Brandon Nadar, Juliana Nair, Tejas Yederi

Project Guide: Prof. (Dr.) Uday Pandit Khot

Maintaining a record of individuals present in a classroom is a time consuming and a very laborious task. There are possibilities of human errors when it comes to manually recording footprints. An individual forging the footprint of another individual is also possible. In the proposed project, we intend to build a secure system by making use of RFID technology, microcontrollers as also managing the data by designing a database and a webpage. Each individual is provided with a unique passive RFID tag in their identity cards. The RFID Readers are placed at the entrance of the classroom. The individual has to flash the card in front of the reader. The reader reads the data stored in the passive RFID tag and sends this data to the PSoC4 microcontroller. The microcontroller collects this data and stores it in the designed local host database. This data can be viewed using the designed webpage on local host.An added advantage to this system is that data can be made available online by using Ethernet Shield with FRDM-KL25Z Board.

Acc. No.: ExTC 337 / PR1313

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## Android Based App For Emotion Recognition From Speech

Mitali Sable, Pratik Sheth, Amey Mhaskar

Project Guide: Mr. Santosh Chapaneri

With the aim of recognizing not just what a person says, but also with what intention the words are being said, we have designed an Android Application for emotion detection from speech. This is due to the fact that even non-verbal communication says a lot about the intention of the speaker. In addition to spoken words, the manner in which the words are spoken tells us a lot more about the speaker's intention. The same message or words can be conveyed with different semantics (meaning) by incorporating appropriate emotions. For example: the word “OKAY” in English is used to express admiration, disbelief, consent, disinterest or assertion. We have used Android powered smart phones in our project due to their obvious proximity to the users and hence, subsequently to their emotions. The emotions to be recognized from the user's speech are to be broadly classified into the following 7 types: Anger, Boredom, Disgust, Fear, Happiness, Sadness and Neutral; the voice samples for each emotion are available in the Berlin database called Emo-DB and these voice samples are used in our project. Our project basically involves: developing an Android App, extraction of features from the acquired speech and then the classification of these features based on certain parameters. We made use of the Android Studio IDE which is official integrated developing environment developed by "Google‟ for App developers for developing on Android platforms and also provides some predefined classes. We used Audio Record and Audio Track classes and their subsequent methods for recording and playing speech. Then speech features such as Pitch, Energy, Formants, MFCC (Mel Frequency Cepstral Coefficients), Pitch difference and Energy difference are extracted from voice samples of the Emo-DB database as well as the input speech. Then using a classifier, these features are classified into different emotions. We also take into consideration the adverse effects that noise could have on emotion detection in case the input voice is affected by noise and hence, to lower its effect we make use of the Noise Suppressor class in Android to avoid interference from stationary as well as non-stationary background noise to improve the accuracy of our application.

Acc. No.: ExTC 339 / PR1315

## Wifi Energy Harvester for indoor application

Adhinav Mathur, Bhushan Sarafdar, Ishita Rakholia, Myron Pereira

Project Guide: Mrs. Anjali Chaudhari

In recent years, active Radio Frequency Identification (RFID) tags have crossed into ultra-low power domain. With obvious advantages over passive tags, a setback for active tag growth is the

need for battery replacement and limited operational life. Battery life could be extended by scavenging surrounding Wi-Fi signals using rectenna architecture which consists of a receiving antenna attached to a rectifying circuit. The proposed system harvests energy using microstrip antenna to cover three ISM (Industrial, Scientific, and Medical) channels with center frequency at 2.34 GHz. Output from each harvester antenna is then connected to a seven-stage voltage multiplier circuit. The multiplier circuit is utilized to rectify and boost the harvested energy to a higher voltage level so that it can be stored in a battery.

Acc. No.: ExTC 345 / PR1321

**Dual Band Impedance Transformer Using Two-Section Shunt Stubs**
Ashwin Chourasiya, Nikhil Fernandes, Surajkumar Gupta

Project Guide: Mr. Inderkumar Kochar

This project presents a modified shunt-stub dual-band Impedance transformer. The load impedances can be complex and unequal at two uncorrelated frequencies. The impedance transformer has two parts: each part is composed of a two-section transmission line. Similar to the single-stub matching network at a single frequency, a two-section transmission line is connected to the load and transforms the load impedances to normalized unit conductance at the two designated frequencies simultaneously. The resulting susceptances are then cancelled out simultaneously by a two-section shunt stub at the two frequencies. We avoid using high-impedance transmission lines by choosing the characteristic impedance of each transmission line. Return loss for various load impedances are determined through simulation to validate the design process. Good agreement between numerical and measured results obtained using vector network analyzer validate the design.

Acc. No.: ExTC 331 / PR1307

**Beach Cleaning Robot**
Pradeepkumar Vishwakarma, Abhijit Vishwakarma, Swapnali Waghunde

Project Guide: Ms. Quanitah Shaikh

This project presents the garbage collection robot on the beach using wireless communication. The robot is built on the track belt, sizes 70×40×50 cm and the power is supplied from 12V 15Ah Lithium-ion battery which is connected to 10W solar cell. The robot is made up of Acrylic sheet which is water resistant and light in weight. The weight applied is maximum 5 Kg. The user can control a robot via an Android Bluetooth Terminal application based on mobile system. The commands from user are sent via Bluetooth to PIC18F4550 for processing. In addition, it is also equipped with sensors to detect garbage or human presence. The robot can move with an average speed of 12.5cm per second on the sand via wireless communication. The robot has a strainer shovel with dimensions 24×24×11 cm. This shovel does the task of lifting up and collecting the garbage, for example, glass bottles, plastic, etc. The sand

is filtered out via the strains on the shovel. It is proposed that the robot is superior to handle tasks conveniently, control capability and operate environmentally friendly.
Acc. No.: ExTC 343 / PR1319

**Home Based Automation System using PSoC**

DARSHIL SHAH, VIVEK SHAH, YASH SHAH, ANKIT SIKLIGAR

Project Guide: Ms. KAVITA SAKHARDANDE

Acc. No.: ExTC 335 / PR1311

**V-BLAST BASED VARIOUS MIMO DETECTION TECHNIQUE**
Neha Nayal, Kunal Panchal, Siddhesh Parab, Rachita Patel

Project Guide: KAVITA SAKHARDANDE

ABSTRACT
Multiple-input multiple-output (MIMO) system has become one of the major focuses in the research community of wireless communications and information theory. The study of the performance limits of MIMO system becomes very important since it gives a lot of insights in understanding and designing the practical MIMO systems. There are many schemes that can be applied to MIMO systems such as space time block codes, space time trellis codes, and the Vertical Bell Labs Space-Time Architecture (V-BLAST). V-BLAST is a multiple transmit and receive antenna system that provides very high capacity compared to single antenna system. In this paper, we study the performance of V-BLAST technique with a MIMO technology followed by receiver detection techniques like Zero Forcing (ZF), Minimum Mean Square Error (MMSE) and with back substitution Successive Interference Cancellation (SIC). The numerical analysis is conducted using MATLAB. The performance improvement is significant and simulation result shows that the proposed V-BLAST reduces Bit Error Rate (BER)

Acc. No.: ExTC 333 / PR1309

**Human Identification using Biometrics**
Aniruddha, Darvalikar,Priyanka Dhuri,Russel D'souza, Alexander D'souza

Project Guide: Ms. Jovita Serrao

Human identification is of utmost importance to perform authentication and authorization and has been a subject of research for a few years. Human identification using biometrics has been under scrutiny as certain human traits like physical attributes i.e. fingerprint, face, iris, gait, ear, hand shape etc. cannot be stolen or modified. Ear lobe based recognition gains the most interest since it is not affected by aging and also by factors such as mood and health because of which it

can be used for long term identification. We have worked on an ear database of 212 users with 754 ear images. Feature extraction has been explored using Gabor filter and later the features such as Mean Amplitude and Local Energy have been extracted. The Classifier which we are using is Support Vector Machine. In this work we have acquired an accuracy of about 68%.

Acc. No.: ExTC 319 / PR1295

**Gradient Orientation based Novel Face Recognition**

Omkar Mahadik, Darryl Mascarenhas, Nived Puthiyapurail, Patricia Rodrigues

Project Guide: Mr.Vaqar Ansari

Used for face recognition using hausdorff distance

Acc. No.: ExTC 347 / PR1323

**Robocam for motion detection and tracking.**

Bhagyashri Rodrigues, Rajashree Patil, Swapnali Patil, Joyce Saldanha

Project Guide: Dr. Gautam Shah

Vision is most advanced of our senses.

Acc. No.: ExTC 344 / PR1320

**V-BLAST based various MIMO Detection Techniques**

Neha Nayal, Kunal Panchal, Siddhesh Parab,, Rachita Patel

Project Guide: Kavita Sakhardande

Multiple-input multiple-output (MIMO) system has become one of the major focuses in the research community of wireless communications and information theory. The study of the performance limits of MIMO system becomes very important since it gives a lot of insights in understanding and designing the practical MIMO systems. There are many schemes that can be applied to MIMO systems such as space time block codes, space time trellis codes, and the Vertical Bell Labs Space-Time Architecture (V-BLAST). V-BLAST is a multiple transmit and receive antenna system that provides very high capacity compared to single antenna system. In this paper, we study the performance of V-BLAST technique with a MIMO technology followed

by receiver detection techniques like Zero Forcing (ZF), Minimum Mean Square Error (MMSE) and with back substitution Successive Interference Cancellation (SIC). The numerical analysis is conducted using MATLAB. The performance improvement is significant and simulation result shows that the proposed V-BLAST reduces Bit Error Rate (BER).

Acc. No.: ExTC 333 / PR1309

**Neural Network based Deblocking Algorithm for JPEG images**

Brandon D'Abreo, Krupa Fadia, Yash Faria, Calvin Gonsalves

Project Guide: Mr. Ravindra Chaudhari

JPEG is the most popular image compression format used over the internet. It offers the freedom for variable levels of compression to achieve small file sizes. However higher compression ratios result in a deformity known as Blocking Artifacts. The reason for this is, during the quantization stage in JPEG compression process of individual 8x8 blocks, a lot of frequency domain data (DCT Co-efficients) is lost and during the reconstruction, it results in sharp discontinuities in block boundaries. In this project, a neural network based approach to remove such blocking artifacts has been proposed. We also use complementary set of neural networks to predict the lost DCT co-efficients in order to improve the overall performance and quality of the end result. Supervised learning is used to train the neural networks for DCT co -efficient prediction. For boundary pixel prediction, the neighbourhood pixels are taken i nto account. The computational load during training would be considerably high but after training it is possible to achieve a reasonable computational speed.

Acc. No.: ExTC 322 / PR1298

**DETECTION OF BLACKHOLE ATTACK ON AODV-BASED AD-HOC NETWORKS**

STEFFI CREADO, RAISA D'SOUZA, VITUS D'SOUZA, BONSON GONSALVES

Project Guide: MRS. JAYASUDHA KOTI

A Wireless ad-hoc network is a temporary network set up by wireless mobile computers (or nodes) moving arbitrary in the places that have no network infrastructure. Since the nodes communicate with each other, they cooperate by forwarding data packets to other nodes in the network. Thus, the nodes find a path to the destination node using routing protocols. However, due to security vulnerabilities of the routing protocols, wireless ad-hoc networks are unprotected to attacks of the malicious nodes. One of these attacks is the Blackhole Attack against network integrity absorbing all data packets in the network. Since the data packets do not reach the destination node on account of this attack, data loss will occur. There are lots of detection and defense mechanisms to eliminate the intruder that carries out the blackhole attack. In this project,

we simulated the blackhole attack in wireless ad-hoc network scenarios and have tried to mitigate the same using Intrusion Detection Systems.

Acc. No.: ExTC 315 / PR1291

**Vehicle Theft Detection System**

Harshil Mehta,Jigar Mehta

Project Guide: Mrs. Snehal Lopes

To design and implement an advanced security system to prevent vehicle theft

Acc. No.: ExTC 350 / PR1326

**Vibration and voice operated navigation system for visually impaired person**

Hardik Mehta,Harsh Patel,Makarand Ramji,Parth Raorane

Project Guide: Namrata Mankad

Usually blind people use white canes which are very limited in its ability to provide navigation assistance to the user and cannot easily detect obstacle. Mobility of visually impaired people is limited by their inability to perceive their surroundings. There were various technologies in the past, which were made to assist visually impaired people. Among these technologies were Normal White Canes, Trained Dogs, Mowat Sensors,C5-Laser Cane, Nottingham Obstacle Detector. These technologies had various limitations like C-5laser cane used to affect human eyes, Nottingham obstacle detector and Mowat Sensor were quite expensive and requirement of continuous scanning results in lot of time consumption. Therefore the purpose of this project is to build a navigation system that will be able to guide a visually impaired person safely and with ease, in an indoor and outdoor environment.In this system obstacle is detected and corresponding response to the visually impaired person through voice feedback and vibration. An ultrasonic sensor (HCSR04) is used to detect the obstacles in the path PIC16F877A microcontroller is used to measure the distance between the person and the obstacle using the ultrasonic sensors. The microcontroller also controls the motor circuit to act as a warning system. Simultaneously the microcontroller interfaces with Play and Record chip(ISD2560) to produce a speech output so that the person can know the direction of the obstacle, the system includes three sensor instead of one sensor and three vibrator motors for the warning system.

Keywords: Ultrasonic Sensor; ISD2560; Obstacle Detection; Vibrating Motor

Acc. No.: ExTC 349 / PR1325

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**Home Automation using PSoc**

Yash Shah, Darshil Shah,Ankit Sikligar, Vivek Shah,

Project Guide: Kavita Sakhardande

We have implemented the home automation using psco kit. we have develop system for wireless remote for controlling home appliances

Acc. No.: ExTC 335 / PR1311

**Communication System for Physically Impaired people, in Hindi**

Dylan DSouza,Jolton DSouza, Benz DMello, Karan Bhavsar

Project Guide: Ms. Shilpa Chaman

Hand gesture is one of the typical methods used in sign language for non-verbal communications and verbal both. Sign gestures are a non-verbal visual language, different from the spoken language, but serving the same function. It is often very difficult for the hearing impaired community to communicate their ideas and creativity to the normal humans. This project presents a system that will not only automatically recognize the hand gestures but will also convert it into corresponding text in Hindi so that speaking impaired person can easily communicate with the normal human. Also, the normal human can effectively communicate using Hindi text and the corresponding gestures shall be used for the same for an effective understanding to the impaired. This will provide a system to fill in the gap of communication between the two.

Acc. No.: ExTC 328/ PR1304
I

**Mpedance Transformer using Transmission Zero**

Jerrin Francis, Roydon Fernandes, Blaise Dmello, Rochelle Lewis

Project Guide: Mr. Inderkumar Kochar

Impedance transformers are widely used circuit in RF/microwave systems. In addition to providing a good match between two circuits, an impedance transformer also plays important role in the design of filters, amplifiers and oscillators. An impedance transformer in most cases is a quarter-wave impedance transformer and terminated in some known impedance. At radio frequencies of upper VHF or higher up to microwave frequencies, one quarter wavelength is conveniently short enough to incorporate the component within many products, but not so small that it cannot be manufactured using normal engineering tolerances, and it is at these frequencies

where the device is most often encountered. In this project, we designed a three stage dual band impedance transformer, capable of producing a good match between two circuit modules. Based on analytical formulation of the dual band impedance transformer, simulations and measurements have been performed to validate the reliability of the proposed structure and design formulas. The structure has been fabricated the dual band impedance transformer on FR-4 substrate and tested using a Vector Network Analyzer. Measurement results are in good agreement with results obtained through simulation using Agilent ADS software.

Acc. No.: ExTC 330/ PR1306

## VIDEO STABLIZATION

MITHIL NAIK, SAURAB KULKARNI, SUBHAM JAIN,

Project Guide: ANJALI CHAUDHARI

TO STABLIZE THE JITTERRY VEDIOS

Acc. No.: ExTC 332/ PR1308

## Speaker Diarization with unsupervised Calliberation

Reena Antony, Aleena Mary Paul, Aishwarya B Chavan,

Project Guide: Deepak Jayaswal
The difficulty of noting down the minutes in a meeting can be remarkably reduced by the speaker diarization system that we have developed using Matlab

Acc. No.: ExTC 313/ PR1289

## Robotic Vision using 3D Reconstruction Techniques for Object Retrieval

Siddhesh Gotad, Adrian John Lasrado, Omkar Chavan, Harsh Jain

Project Guide: Vaqar Ansari

This work proposes the development of a completely automated system capable of 3-dimensional reconstruction of a given scenario and retrieval of objects from the scenario. Kinect for XBOX 360, a sensor developed by Microsoft which is a relatively low cost alternative in the family of RGB-D cameras is being used for the implementation of the same. The use of a

combination of RGB and depth information on each step of the process makes it possible to obtain a full scene representation in one shot and minimizes user interaction. The required framework can be divided into five main parts: 3D scene reconstruction, target object detection, calculation of the possible paths, transmission of encoded data to the robot and object retrieval. An image acquisition algorithm is being implemented in MATLAB 2015a on a variety of RGB-D images. The process involves conversion of RGB-D images into 3D point clouds. 3D rendering is being performed by stitching of the individual point cloud to a complete 3D map of the scenario. The process of 3D reconstruction of a scenario is followed by identification a specific object which can be considered as a target by the user remotely. The co-ordinates of this target can be recorded and the shortest path to the object calculated using the A-star algorithm. The next step involves wireless transmission of encoded information regarding the shortest path to the Fire Bird V Robot which has been pre-programmed for locomotion and wireless communication. The final process involves the reception and decryption of the received data by the Fire Bird V Robot and navigation through the scenario to the intended location and retrieval of the object.

Acc. No.: ExTC 317/ PR1293

## IRIS RECOGNITION USING MATCH SCORE FUSION

SHRADDHA S. SHINDE, NAFISA SHAIKH, OSHIN PINTO, SEONA RODRIGUES

Project Guide: KEVIN NARONA

Most modern electronic sophisticated applications automatic person identification has become a very important topic for security reasons. Traditional based person identification techniques had several drawbacks since they are easy for spoofing and performing fraudulent operations. A support-vector-machine-based learning algorithm selects locally enhanced regions from each globally enhanced image and combines these good-quality regions to create a single high-quality iris image. Distinct features are extracted from the high-quality iris image. The global
textural feature is extracted using the Gabor wavelet. The verification and identification performance of the proposed algorithms is validated and compared with IIT DELHI database.

Acc. No.: ExTC 338/ PR1314

## Comprehensive analysis of WiMAX using adaptive modulation

Parnavi Deshpande, Harsh Kolhatkar Gauri Kadam

Project Guide: Ms. Monica Cheema

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MUMBAI 400103
www.sfitengg.org

The goal for the current generation of mobile communications system is to seamlessly integrate a wide variety of communication services like multimedia traffic, high speed data and video as well as voice signals. One of the promising approaches to this is Adaptive Modulation in an OFDM (Orthogonal Frequency Division Multiplexing) system. Two key technologies, MIMO (Multiple Input Multiple Output) and OFDM have been adopted in Mobile WiMAX (Worldwide Interoperability for Microwave Access) standard. WiMAX technology is one of the most prominent solutions capable to provide a Broadband Wireless Access in metropolitan areas. The system performance for three types of modulations is computed. The modulations which we used are Binary Phase Shift Keying (BPSK), Quadrature Phase Shift Keying (QPSK) and Quadrature Amplitude Modulation (QAM). The goal of this project is performance analysis of a WiMAX system by computing BER and throughput for different modulation schemes. Our aim will be to get a constant BER of 10^-3 by incorporating Adaptive modulation in a WiMAX system.

Acc. No.: ExTC 318/ PR1294

## HAND GESTURE RECOGNITION

RUTUJA KADAM, MABEL FRANCIS, HANSIKA KARKERA, GISA MARIAM SAM

Project Guide: DR.UDYA PANDIT KHOTE

Sign Language is natural media of communication for the hearing and speech impaired all over the world. This paper presents sign gesture recognition system using neural network. This system enables deaf people to interact easily and efficiently with normal people. The system firstly converts images of gestures of American Sign Language into Lab color space where L for lightness and (a, b) for the color-opponent dimensions, from which skin region i.e. hand is segmented using thresholding technique. The region of interest (hand) is cropped and converted into a binary image for feature extraction. Then height, area, centroid, and distance of the centroid from the origin of the image are used as features. Finally each set of feature vector is used to train feed-forward back propagation network.

Acc. No.: ExTC 316/ PR1292

## SPEAKER DIARIZATION USING MATLAB

AISHWARYA CHAVAN, REENA ANTONY, ALEENA MARY PAUL, AISHWARYA BALWANI

Project Guide: DR.DEEPAK JAYASWAL

ST. FRANCIS INSTITUTE OF TECHNOLOGY (ENGINEERING COLLEGE)
MUMBAI 400103
www.sfitengg.org

Speaker diarisation (or diarization) is the process of partitioning an input audio stream into homogeneous segments according to the speaker identity. It can enhance the readability of an automatic speech transcription by structuring the audio stream into speaker turns and, when used together with speaker recognition systems, by providing the speaker's true identity.It is used to answer the question "who spoke when?"Speaker diarisation is a combination of speaker segmentation and speaker clustering. The first aims at finding speaker change points in an audio stream. The second aims at grouping together speech segments on the basis of speaker characteristics.

Online recruiting methods have become an important part in the recruitment system. However, the lack of personal service in a web environment is one of development bottlenecks of online recruiting system.
A real world challenging task of the web master of an organization is to match the needs of user and keep their attention in their web site. So, only option is to capture the intuition of the user and provide them with the recommendation list. Most specifically, an online navigation behavior grows with each passing day, thus extracting information intelligently from it is a difficult issue. Web master should use Web Usage Mining (WUM) method to capture intuition. A WUM is designed to operate on web server logs which contain user's navigation. Hence, recommendation system using WUM can be used to forecast the navigation pattern of user and recommend those to user in a form of recommendation list. We propose a two tier architecture for capturing users intuition in the form of recommendation list. Intuition List consists of list of pages visited by user as well as list of pages visited by other users having similar usage profile. The practical implementation of proposed architecture and algorithm shows that accuracy of user intuition capturing is improved.
To elaborate, first, we analyze single online candidate's personal requirements. According to their requirements, a personalized recommendation system framework is proposed based on the technology of web usage mining. The system provides individual recommendations in accordance with the analysis of single job seeker's searching custom and interest, so the quality of service could be improved.
Acc. No.: ExTC 313/ PR1289

**Automated Detection of Depression using EEG Signals**

Alson Correia, Jui Kadam, Grenil Lopes, Ralph machado

Project Guide: DR. KEVIN NORONHA

Depression is a mental disorder that affects emotional and physical state of a person. It is a state of extreme sadness and dejection. The electroencephalographic (EEG) signals can be used to detect the alterations in the brain's electrochemical potential. The highly irregular and complex EEG signal variations can be determined by different processing tools. The present work is based on the automated classification of the normal and depression EEG signals. The discrete cosine transform (DCT) decomposes the normal and depression EEG signals into different frequency sub-bands. Nonlinear methods such as sample entropy, fractal dimension, Hurst exponent are

applied to the DCT coefficients and the extracted characteristic features are ranked using t-value. These significant features are fed to support vector machine (SVM). Three significant features are selected and the SVM classifier with radial basis function (RBF) results in a classification accuracy of 93.8%, sensitivity of 92% and specificity of 95.8%.

Acc. No.: ExTC 321/ PR1297

**PRECISION FRAMING-APPLICATION OF WSN**

PIYUSHA THORAT, VALENTINA RANI, BHUSHAN SONAR, YASHAWANT PARAB

Project Guide: MRS. JAYASUDHA KOTI

Even though technology has developed to a greater extent, very few technologies are meant for agriculture which is one of the major concerns as it is related to food which is a basic need for living organisms. Researchers are now trying to enhance the productivity of farms by incorporating new standards to keep the productivity in check and also maintain the sustainability of resources related to agriculture. Precision farming is one such concept which is information and technology based system that results in optimum profitability, sustainability and protection of the land resource. Precise data acquisition about soil parameters is one of the major concerns in precision farming. A Wireless Sensor Network can be used for this purpose. Wireless Sensor Network provides a solution for monitoring the environmental condition precisely. Thus we intend to use the concept WSN for precision farming which in turn would result in improvement of the agricultural sector in terms of economy and production. It would also help is protecting the existing environmental resources.

Acc. No.: ExTC 351/ PR1327

**Comprehensive Analysis of WiMAX using Adaptive Modulation.**

Parnavi Deshpande, Gauri Kadam, Harsh Kolhatkar

Project Guide: Mrs. Monika Cheema

Analysis of WiMAX at the physical layer.

Acc. No.: ExTC 318/ PR1294

**Removing Noise from MRI and X-ray images using DTCWT and Curvelet transform**

Hansel Nunes,Crystal,Pereira, lodson Tuscano, Brian Tapeli

ST. FRANCIS INSTITUTE OF TECHNOLOGY (ENGINEERING COLLEGE)
MUMBAI 400103
www.sfitengg.org

Project Guide: Namrata Mankad

Whenever any image is stored, transferred or recovered back unwanted error get introduced in image this is termed as noise in image.Thestages where noise gets introduced in image is during acquisition, transmission & reception and storage & retrieval processes. For medical images the quality of the image should be of high standard,so the noise must be removed and the processs is known as Denoising which is use to remove the noise from corrupted image, while retaining the edges and other detailed features as much as possible. In this project, to find out denoised image the Dual tree complex wavelet and Curvelet transforms based methods are used and we will evaluated and compared performances of Dual tree complex wavelet transform method and the Curvelet transform method based on MSE(Mean Square Error)and PSNR (Peak signal to noise ratio) between original image and denoised imag.we also focus to find the best technique to remove noise from image and therefore, get the best image after denoising with better visual effect. In this project, these two methods are implemented on MRI and X-ray images for denoising by using MATLAB software.

Acc. No.: ExTC 340/ PR1316

## Wireless Notice Board

Darius D'Souza, Akshay Kumar, Dwayne D'Souza

Project Guide: Ms. Monika Cheema

The use of Embedded System has given rise to many interesting applications that ensures comfort and safety to human life. At present almost all electronic notice boards are designed using wired system. One of the drawbacks of this design is that the system is inflexible in terms of placement. The common notice board cannot be placed anywhere because of messy wires. The aim of this project is to develop a wireless notice board that can be used to display latest information in real time. This wireless notice board mainly focuses on transmission of text by the use of GSM through asynchronous serial communication. This data is processed by the FRDM-kl25z at both ends. The data can be displayed on LCD only after entering a unique pass key.

Acc. No.: ExTC 325/ PR1301

## POTHOLE DETECTION AND NOTIFICATION

ANSON ALAPPAT, ANKIT ANTONY, GLATIAN ALVA, JOHANN BARRETTO

Project Guide: MS. NAMRATA MANKAD

ST. FRANCIS INSTITUTE OF TECHNOLOGY (ENGINEERING COLLEGE)
MUMBAI 400103
www.sfitengg.org

Potholes are an unavoidable obstacles that all motorists in India face, once the rains have begun which carry on growing day by day. Unfortunately, there is no system to pin point the exact location of potholes , moreover fixing them is labor intensive and expensive, and hence robotic automation system for detection and notification can be considered for this job. In this project we intend to make a system capable of detecting the potholes autonomously without human assistance with the help of a prototype version of a surveying bot. Making use of a micro-controller, ultrasonic sensors, GPS module, CD-Tray scanner, Motor Driver Module we would like to implement a circuit which could detect the pothole and make a note of the pothole coordinates by making an entry into the database. This data collected is run through a simple algorithm designed to notify drivers or concerned authorities. When any other vehicle approaches this pothole or is present in its proximity, then the driver would receive a notification stating that a pothole is present at a particular distance from the current position of driver, which was earlier detected by the authority and data was collected regarding it, thus this system can in turn reduce the accidents occurring due to potholes. For a driver's current location, he needs to have a smartphone with the GPS facility. A Notification app is also made which makes the alert just a click away. Implementation at an initial stage will be carried out using a robotic vehicle which can be remote controlled, and depending upon the results and conclusion drawn, real-time implementation of this system can be carried out on any two-wheeler or four wheeler vehicle. An added advantage of this system can be that, it can be used as an anti-theft system too, where in, in case a vehicle is stolen it can be tracked using the synchronization feature between the mobile and the car system.

Acc. No.: ExTC 320/ PR1296

**Offline Signature Verification System**

Amiya Dash, Patrick Daniel, Ryan Carvalho,

Project Guide: Ms. Pallavi Patil

Signature identification and verification are considered among the most popular biometric methods in area of personal authentication. In the proposed method, we deal with offline verification of signature by two different algorithms. Before extracting different features from the signature, some preprocessing of the signature is done. In preprocessing, the signature is color normalized and scaled into normal format. Local binary pattern (LBP) and local directional pattern (LDP) are the two algorithms used for feature extraction. Support vector machines (SVM's) are a set of supervised learning methods used for classification, regression and outliner detection. In the proposed method, we train SVM with the features extracted using a combination of LBP and LDP in order to recognize the signature of a specific user. The performance of this system is tested by calculating FRR for different number of trained samples and FAR for simple and random forgeries
Acc. No.: ExTC 326/ PR1302

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**Home Automation Using Internet of Things**

Kshitij Hunari, Kartik Dulloo, Dan Chettiar, Amol Birwadkar

Project Guide: Mrs. Shilpa Chaman

This work proposes the development of a completely automated system capable of remotely controlling electrical household appliances and equipment through the use of embedded system technology. In today's world, the increasing number of internet users has created an unprecedented hike in the application of Wireless Home Automation System (WHAS). A Home Automation system differs from other systems in ways that it can be accessed from any part of the world. We have used a Bluetooth module called BLE which limits its range to a bare minimum and provides a viable model for wireless connection. WHAS is used to conserve electric power and reduce human energy for implementing tasks that can be automatically controlled using IoT. Embedded System is the underlying idea behind this technology. Secondly, a PSoC board is used as a medium of interface between the Mbed board and sensors. The different sensors used are temperature sensor, LDR, IR sensor, and a relay circuit to connect all of them to each other. We send an interrupt through the mobile application to the terminal software and see the change in values on an online platform. With the combination of aforementioned hardware and software parts, we implemented a successful Home Automation model. We control two electrical devices like a fan and a light bulb simultaneously using our proposed model.
Acc. No.: ExTC 324/ PR1300

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MUMBAI 400103
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**INTERNET OF THINGS USING POWER LINE COMMUNICATION**

NIPUN KHATRI, HARIYA CHIRAG, BHAT VIKRANTH, DSOUZA DIALEN

Project Guide : MRS PALLAVI PATTIL

The Internet of Thing(or IoT), is a network of physical objects which enables Machine to Machine(M2M) communication and thereby transforming an ordinary device into a smart connected device. The Project at its core intends to use the 230V ac power line as a backnone channel for M2M communications. The power line communication (PLC) enables us to transmit data over the already existing infranstructure of mains supply lines and thereby eliminating any need for deploying a new infranstrure altogether. All the present architectures for the IoT systems uses wireless communications techniques in one form or another. All of this wireless commnications, technique have a peculiar shortcoming range limitations and also add unnecessary clutter to the RF spectrum. Also it imparts a need of a new infrastructure to be employed which adds to the system cost making the present IoT systems very expensive. The project under consideration makes use of already available insfrastructure of powerline wiring for the M2M communications and thereby exploiting the fact that almost all the devices that needs to connected to the systems, such as home appliances, need 230V ac supply to functions and hence comes in the range of communications. Since the power lines are widely spread in an apartment or industry it can provide an extensive coverage. The project amis to initially implement a data rate of 1200 bauds for upline and a same rate for downlink in a full duplex arrangement, thus making a combined simultaneous data rate of 2400 bauds. A marrowband phase lock loop structure is used to realize the FSK modulation scheme for the PLC transceiver module. The data structure and frame format for the PLC frame was also developed after a comprehensive literature survey and is discussed in details in this document. A simulation kind of exercise was performed to examine the work flow of the IOT cloud- machine interface. IT is intended to realize the complete interface in embedded hardware in the scop of project.

Acc. No.: ExTC 323/ PR1299

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**BRANCH: INFT**

**YEAR: 2016 ABSTRACTS**

## Web Based Mining in Personalised Online Recruiting System

Melita D'souza, Dwayne D'souza, Stany D'souza

Project Guide: Ms. Vaishali Jadhav

Online recruiting methods have become an important part in the recruitment system. However, the lack of personal service in a web environment is one of development bottlenecks of online recruiting system.

A real world challenging task of the web master of an organization is to match the needs of user and keep their attention in their web site. So, only option is to capture the intuition of the user and provide them with the recommendation list. Most specifically, an online navigation behavior grows with each passing day, thus extracting information intelligently from it is a difficult issue. Web master should use Web Usage Mining (WUM) method to capture intuition. A WUM is designed to operate on web server logs which contain user's navigation. Hence, recommendation system using WUM can be used to forecast the navigation pattern of user and recommend those to user in a form of recommendation list. We propose a two tier architecture for capturing users intuition in the form of recommendation list. Intuition List consists of list of pages visited by user as well as list of pages visited by other users having similar usage profile. The practical implementation of proposed architecture and algorithm shows that accuracy of user intuition capturing is improved.

To elaborate, first, we analyze single online candidate's personal requirements. According to their requirements, a personalized recommendation system framework is proposed based on the technology of web usage mining. The system provides individual recommendations in accordance with the analysis of single job seeker's searching custom and interest, so the quality of service could be improved.

Acc. No.: INFT 491/ PR1205

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MUMBAI 400103
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**Connecting Food Courts in Mall Using An Android Application**

Desiree D'Mello, Stephina D'souza, Carrin Falcao, Jocelin Thomas

Project Guide: Mrs. Purnima Kubde

The advent of our Android Application is making it possible for the customers to order food online in particular mall.This requires the mobile handset to have internet connection during the entire process from viewing the menu till the order is delivered to the customer. Furthermore, the list of food item along with the details of price and description can be viewed by the customer. The customer can use the cart option to add items to the cart or remove items from the cart. This will enable the customer to decide which items they want to order and compare menu cards of different food courts. This will also enable the customer to know which food courts are available at a particular mall. The issues of standing in a long queue as well as incorrect money transactions can be resolved using the online ordering and payment options. Once the order is placed, the customer will get the acknowledgement and can proceed for the payment which can be done through Paytm or Credit-card, after which the user will get the confirmation message from the server. Android applications are becoming popular because not only can you use them on the go but you can also make online payments from any place at any time with no issues. The customer needs to download the application from the Android Store in order to use this feature.

Acc. No.: INFT 489/ PR1203

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**Session Password using Grids and Colors for Banking Application**

Larry D'cruz, Kevin D'souza, Niraj Verma, Sachin Kumar Yadav

Project Guide: Mr. B.D. Gokhale

A highly severe menace to any computing device is the impersonation of an authenticate user. Textual passwords are the most common method used for authentication. But textual passwords are vulnerable to eves dropping, dictionary attacks, social engineering and shoulder surfing. Graphical passwords are introduced as alternative techniques to textual passwords. Though the graphical password schemes provide a way of making more user friendly passwords, while increasing the level of security, they are vulnerable to shoulder surfing. To address this problem, text can be combined with images or colors to generate session passwords for authentication. Session passwords can be used only once and every time a new password is generated. In this report, two techniques are proposed to generate session passwords using text and colors which are resistant to shoulder surfing.

Acc. No.: INFT 519/ PR1233

**DATABASE ACCESS FOR NON-TECHNICAL USERS USING NLP AND VOICE RECOGNITION**

Atmiya Fadia, Bhagyashri Lokhande, Sagar Malaviya, Seaman Munis

Project Guide: Mrs. Amrita Mathur

The field of Natural Language Processing (NLP) has seen a dramatic shift in both research direction and methodology in the past several years. In the past, most work in computational linguistics tended to focus on purely symbolic methods. Recently, more and more work is shifting towards hybrid methods that combine new empirical corpus-based methods, including the use of probabilistic and information theoretic techniques, with traditional symbolic methods. The main purpose of Natural Language Query Processing is for an input sentence(s) to be interpreted by the computer and appropriate action taken; asking questions to databases in natural language is very convenient and easy method of data access, especially for casual users who do not understand complicated databases such as SQL. This project proposes the architecture for translating input sentence(s) into SQL query using Semantic Grammar with added feature of Voice Recognition.

Acc. No.: INFT 484/ PR1198

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**Gaming On Windows Using Android Application**

Gaurav Modi,Hardik Patil, Clifford Pereira, Vinayak Redekar

Project Guide:Mr. Pramod Shanbhag

The Project aims at creating a Windows platform 3D racing game where a user comes across deadly tracks.The game can be also controlled wirelessly via Android Application via Hotspot.

Acc. No.: INFT 510/ PR1224

**AlphaBets: Android Application As A Game Based Learning Medium**

Sean Miranda, Shaina Moraes, Shreya Pai, Omkar Vaidya

Project Guide: Vaishali Jadhav

Preschool age is critical for a child's development. Learning generally consists of copy writing and other disassociated methods. But nowadays the need for easy to use and effective learning aids has become vital. The parents of competitive society are challenged to meet learning needs of children and combine it with enjoyment. A child learning with the help of conventional methods of teaching might get bored. Children these days are more attracted to devices such as mobile phones, which keep them hooked for quite some time. We can channel this interest of theirs in, to help them learn the basics of the English language, like alphabets and numbers.

The proposed project, 'AlphaBets', aims at supporting self-learning of modern day pre-school children between two to four years. It is an Application based on the Android Operating System. It is a learning tool that helps kids develop cognitive and psychomotor skills such as drawing, writing, and recognition of alphabets, basic shapes and logical thinking with the help of tracing. With a user interface based on direct manipulation, Android is designed primarily for touch screen mobile devices such as smart-phones and tablet computers. The OS uses touch inputs that loosely correspond to real-world actions, like swiping, tapping, pinching, and reverse pinching to manipulate on-screen objects. For this purpose we intend to develop our application using Android OS as these features are in tandem with our purpose of teaching kids in an interactive manner. The Application will initially provide the user with two options based on what he wishes to learn; alphabets or numbers. On selecting an option, the user will be taken to a tracing screen where he/she will have to trace the alphabet or number within the fixed boundary as displayed. The Application will include a number of puzzles to keep the kids interested and check how much they have learnt.

'AlphaBets' provides an attractive and interesting environment that can arouse the curiosity of

the mind of the child and therefore presents a practical solution to parents to support the learning needs of their pre-school kids in an effective way. Successful pre-school education plays a significant role in a child's development and it has to be done in a very careful manner. Development in one learning domain influences development in other domains. Therefore, the dynamic interaction of all areas of development must be considered.

Acc. No.: INFT 509/ PR1223

**Analysis of Results and Placements using Dashboard and Data Mining**

Riya Mehta, Ameya Nadkarni, Ankit Parekh, Siddhi Parekh

Project Guide: Ms. Nazneen Ansari

Student Result Analysis system is used for the Students and the faculty to have an easy access for viewing the marks. Currently our college does not have a single integrated system for storing the data of students. College has data of student's right from admission, exam results, placements and other related departments maintained in excel sheets which are different for each of the concerned departments (admission, exam, accounts, and placements). As the data is maintained by the staff in a non-centralized way there is an issue of inconsistency among the various departments in the form of formats and revisions. Also, beyond examination result, not many programs in use provide multi-level aggregated data of student academic progress at various stages of studentship.

Acc. No.: INFT 507/ PR1221

**NFC BASED SMART SYSTEM FOR MEDICAL DATA MANAGEMENT**

Sanket Gandhi, Akash Ghagare, Tejal Hardikar, Jenil Shah

Project Guide: Mrs. Prachi Raut

Nowadays, Many NFC based Medical devices are available such as blood sugar system, blood pressure which just helps to export data to Software system making it precise and secure. In developed countries such as United States, Japan, Germany, France use of EHRs (Electronic Health Record) and EMRs (Electronic Medical Record) increasing rapidly. However in India, there is a need for storing and easy access to distributed data of all the patient records in efficient, precise and secured manner. Unique NFC tag is used for identifying unique patient. The main motive of implementing this system is to reduce all paper work in hospital. Doctors, nurses as well as chemists can use this system for viewing prescription and medical history of a patient very efficiently and conveniently.

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Acc. No.: INFT 485/ PR1199

**SFITBOT**

Shreya Salunke,Natalina Rodrigues, Natasha Rego, Samiksha salgaonkar

Project Guide: Amrita Mathur

A chatterbot/chatbot is an artificial intelligence (AI) program that simulates interactive human conversation by using key pre-calculated user phrases and auditory signals. It plays an important role in basic customer service and marketing systems that frequent social networking hubs and instant messaging (IM) clients, chatting about products or services. The SFITBOT will be a bot system for answering FAQs of the students at the college level. In the proposed system, information will be accepted in the form of natural language. The result of the SFITBOT will be a higher level of interaction with the teachers and college which will help in learning as well as increase the availability of information that the student may find difficult to obtain. the implementation will be done using AIML and concepts of keyword matching with data being stored over the database. It will give the student the impression of interacting with a real teacher or staff.

Acc. No.: INFT 505/ PR1219

**Access Control Mechanism Using Eye Veins Identification**

Anushri Ketan Pandya, Jaini Vikram Parikh, Jyoti Dhirubhai Patel, Harshi Manish Shah

Project Guide: Mrs. Prachi Raut

Recent advances in computing technology and image processing have made real time biometric authentication system a viable application area. Eye-vein is a method of biometric authentication where the complex and random patterns are unique, and modern hardware and software can detect and differentiate those patterns at some distance from the eyes. We developed a MatLab built biometric software application for human eye-vein identification where documentation and demonstration will provide the verification of a person using various feature extraction from eye veins and provide authentication to the use. The motivation of this endeavor stems from the stability of the pattern of eye blood vessels and reliability that it provides where the technology works through contacts and glasses. The project involves taking an input image and processing it using various steps which include vessel detection, feature extraction and comparison of the image with the stored image.

Acc. No.: INFT 504/ PR1218

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**Questioning And Answering Using Crowsourcing**

Shah Vaibhav, Shubham Kumar Sharma, Somi Varghese

Project Guide: Mrs. Shree Jaswal

To help the Student in Learning by helping crowd.

Acc. No.: INFT 521/ PR1235

**Student Career Builder**

Anuj,Shetty, Srushti,Sushilkumar, Deepti,Todankar, Deepti,Todankar

Project Guide: Mrs.Bidisha Acharjee

This project is software which keeps a record of the entire student database that will make the work of the teachers simpler and also help students to work and perform in the subjects where they excel. The software will have different logins for different type of users (Admin, Class teacher, Subject teacher). Every user will have the privilege to perform different actions. The database will consist of marks of all the students of the entire school and their extra-curricular activities. In this software the admin will notify the teachers and the parents about the different competitions and exams coming up. The admin has the privilege of generating reports and statistics based on the student's yearly performance using various data mining algorithms. Other users will be able to retrieve the marks of students, of particular class or category, they wish to see. The users will also be able to update the data of the student on timely basis. The software will use cloud computing for storing the entire student database.

Acc. No.: INFT 513/ PR1227

**Predicting Indian Movie Ratings**

Orville D'cruz, Sanika Gothivarekar, Anjali Hemmadi, Beena Jha

Project Guide: Ms. Shree Jaswal

The objective of the project is to predict ratings of Indian movies by performing sentiment analysis on the reviews given by the registered users.

Acc. No.: INFT 492/ PR1206

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## FRAUD DETECTION IN INSURANCE USING DATA MINING

RAKSHITA ACHARYA, YUTIKA ACHARYA, AISHWARYA ADYANTHAYA, CYNTHIA ALMEIDA

Project Guide: SHREE JASWAL

Fraud is widespread and very costly to the health care and life insurance system. Fraud involves intentional deception or misrepresentation intended to result in an unauthorized benefit. It is shocking because the incidence of health insurance and life insurance fraud keeps increasing every year. So, to make health and life insurance industry free from fraud, it is necessary to focus on elimination or minimization of fake claims arriving through health and life insurance. In order to detect and avoid the fraud, data mining techniques are applied. Data mining automatically filters through immense amounts of data to find known/unknown patterns, bring out valuable new perceptions and make predictions. This also includes some preliminary knowledge of health care and life insurance system and its fraudulent behaviors, analysis of the characteristics of both health care and life insurance data. Data mining which is divided into two learning techniques viz., supervised and unsupervised is employed to detect fraudulent claims. But, since each of the above techniques has its own set of advantages and disadvantages, by combining the advantages of both the techniques, a novel hybrid approach for detecting fraudulent claims in health and life insurance industry is proposed.

Acc. No.: INFT 490/ PR1204

## Governance Council Dashboard

Rohit Mane, Mohak Raut, Madhur Salvi, Darshan Sanghavi

Project Guide: Nazneen Ansari

Efficient internal processes contribute much towards the growth and success of any organization. As an organization grows, the amount of data required in an organization also becomes massive. Collecting and analyzing vast quantities of data can be a tedious process. Lack of availability of data in the right form at the right time can result in a delay in a decision that may need to be made related to that data. The main goal of this project is to analyze the use of business intelligence dashboards for decision making processes among various departments in an engineering college.
This project aims to create a dashboard for governing different subject areas related to college. This project gives holistic view of all the aspects of subject area.

Acc. No.: INFT 518/ PR1232

## Smart Secure Online Payment using Text Based Steganography and Visual Cryptography

ST. FRANCIS INSTITUTE OF TECHNOLOGY (ENGINEERING COLLEGE)
MUMBAI 400103
www.sfitengg.org

Arnold Furtado, Deepak haldar, Allan Jones,

Project Guide: Sonali Vaidya

A rapid growth in E-Commerce market is seen inrecent time throughout the world. With ever increasing popularity of online shopping, Debit or Credit card fraud andpersonal information security are major concerns for customers, merchants and banks specifically in the case of CNP (Card Not Present). The security provided by a payment portal cannot completely protect a consumer's payment information.Phishing attack is one of the most common attacks in online shopping websites.
The proposed system, instead of taking the card details, it only takes the account number of the customer. Customer submits all required details along with his account number during registration, where the account number is encrypted and will be decrypted and sent to the bank for the transfer of fund. This is achieved by the introduction of a central certified authority (CA) and combined application of steganography and visual cryptography. The algorithms used are Advanced Encryption Standard (AES) for Steganography and Secure Hash Algorithm-1(SHA-1) for Visual Cryptography. This is a User Dependent approach. Various User Independent approach like Spam-Trap and Domain-Watch ,Validation of Sender Information and Fraud Detection can be implemented solely by the service provider.

Acc. No.: INFT 486/ PR1200

**Big data analytics of social media**

Adarsh Ashok,Rushvi Jain, Ankesh Jha, Tanaya Joshi

Project Guide: Ms. Sonali Vaidya

The proposed system involves the collection, analysis and interpretation of social media data to facilitate effective decision making. It uses the content of social media to create a real time visual understanding of how people, trends, products and brands are mentioned in social media. The task of sentiment analysis is done by categorizing the data into two polarities that is positive or negative sentiments. The system provides organizations with an intimate platform to track and understand customer views, sentiments, key topics, trends and identify key influence-rs.

The proposed system in addition to sentiments also takes into consideration context and content to provide an in-depth analysis for better and accurate insight. The system proposed here handles crawling, extracting reviews and storing them for analysis. Collected unstructured text is prepared for text mining and sentiment analysis. System presented gives the analysis results for every single review or tweet.

The proposed system will also perform filtering based on the type and time. The system will let the user filter data by images, videos, posts, tweets and links. The system will also display the data based on the number of days/weeks/months/year old it is. So anyone can view the data that is a month old or say a day old. The system will also provide a graphical interpretation of the data. It could be a graph showing number of tweets vs. months or number of likes vs. number of days, etc. This would help companies know the status of their product in the market through data collected from various social media sites and how it has created a stir there.

Acc. No.: INFT 498/ PR1212

**LOOTLEY: An Android application for Shopping Malls**

Swin Almeida, Disha Bhatia, Sweeny Dias, Pooja Italia

Project Guide: Ms. Prajyoti Lopes

In the modern world, shopping has become an essential day to day activity for most of the people. Some of the difficulties that people have to go through when they do shopping includes having to travel a long distance without knowing the availability of the items, difficulty in finding relevant shops inside a shopping mall, forgetting to buy some items which they intended to buy and not being aware of the deals and offers going on in a particular store/particular brand. In order to overcome the above mentioned problems a fully functional shopping mall application is proposed in this project.

Acc. No.: INFT 500/ PR1214

**Fingerprint based Electronic Voting Machine using Raspberry Pi**

Rashmi Shinde, Manasi Chavan, Aarti Nimbalkar

Project Guide: Mrs. Mrinmoyee Mukherji

The proposed system is capable of handling electronic voting process. The system caters for integrity of an election process in terms of the functional and non-functional requirements. The functional requirements embedded in the design of the proposed system warrant well-secured authentication processes for the voter through the use of combined simple bio-metrics. The design of the system guarantees that no votes in favor of a given candidate are lost, due to improper tallying of the voting counts. Transparency of voting follows through in all phases of an election process to assure the voter that his/her vote went in favor of his/her candidate of choice or in case if the voter wishes not to vote for any candidate he/she may do so. Besides its main functional properties, the proposed system is designed to cater for several essential nonfunctional requirements. Of utmost importance are the requirements for correctness, coherence, consistency, and security. Results of the simulations show that security and

performance of the system are according to expectations. These results provide the proper grounds that would guide in customizing the proposed system to fit his particular voting needs.

Acc. No.: INFT 511/ PR1225

**Mobile Application For College Canteen**

Priyanka Bhandari, Lianne Cota, Steffi Crasto, Ashley D'Costa

Project Guide: Ms.Grinal Tuscano

A mobile app is a computer program designed to run on mobile devices such as smartphones and tablet computers. Most such devices are sold with several apps included as pre-installed software, such as a web browser, email client etc. This mobile app will provide convenience for the customers. It overcomes the disadvantages of the traditional queuing system. In traditional system the customer has to wait in a queue for his order to get processed. The traditional approach of canteen management is keeping a register of issue and usage, calculating monthly consumption of each employee and deducts the same from their salary, no prior information of the required amount of food, searching for loose change when there is a long queue.NFC ordering has a number of benefits as well. These include reduced wait times for patrons, easier transactions, enhanced customer analytics and the ability to make real-time decisions regarding seating, staffing and specials. In this application, an id and password is provided to each user. With a menu online you can easily track the orders, maintain customer's database and improve your food delivery service. This system allows the user to select the desired food items from the displayed menu. The user orders the food items, pays for it and receives an order id. The user details maintained are confidential. This online system enhances the speed and standardization of taking the order from the customer. It provides a better communication platform. The user's details are noted electronically. The mobile app will be set up with a menu online and the customers easily place the order via the app.

Acc. No.: INFT 493/ PR1207

**S-PORT': An Android application for students' portal**
Antheo Fernandes, Siraj Fernandes, Ashton Lobo, Savia Lobo

Project Guide: Mr.Pramod Shanbhag

Android is a platform consisting of an operating system and a Software Development Kit (SDK) for devices. It originates from a small software company, acquired by Google and is now owned by Open Handset Alliance (OHA), Google is a member. S-port is an Android application based on students' portal. It will help students access information related to their profile, academic curriculum, attendance and news. Our application will deliver all the respective information

within a single domain. The application will consist of four modules namely Students' Profile, Attendance and News Feed. It will be designed with the help of Ionic and Cordova framework which is a framework used to design Android applications and database connectivity will be through Apache server.

Acc. No.: INFT 488/ PR1202

**Spatial Data Mining to determine real estate property ranking**

Milind Gadhia, Sanchita Harlalka, Pranali Dhumal, Krutarth Majithia

Project Guide: Ms. Vaishali Jadhav

Spatial data mining is a process of discovering interesting, useful, non-trivial patterns from large spatial datasets. Spatial data mining differs from traditional data mining in a way that the attributes of neighbors of some object of interest may have an influence on the object. The traditional systems like Magicbricks , 99 acres.com are online portals in which the seller or broker posts a property picture along with the description and various users who visit the website, rate the property according to their preferences. The prices are given based on per square foot area and uses techniques like multivariate regression, or traditional data mining are used. The existing system is not map enabled and do not provide graphical representation of estates. Distance calculation between geographical spots is missing. Also comparison of properties is not done and the rating provided is not standard. The traditional flaws can be removed using spatial data mining.
The proposed system is an online portal from where user can search appropriate properties. Spatial data mining will be done using SQL server. All the properties available will be put up on the site along with the description where the user selects appropriate property. The property rating and price estimation will be provided based on the amenities surrounding the property using algorithms that will be used to group the data. Also, map of the location will be provided. Lastly, the properties can be compared based on the rating and affordable price.

Acc. No.: INFT 487/ PR1201

**Medical Tourism**

Fairy D'monte, Shane John, Sherene John, Eram Sayed

Project Guide: Ms. Nazneen Ansari

The purpose of our project is to serve as a reliable source of information for patients on quality and affordability in terms of medical options,thus raising people's awareness about the abundance of choices they have ,where local health care fails to satisfy a patient's needs.Our

purpose is to provide cost effective wellness and biomedical services along with tourism to nearby destination and to help the patients who seek to reduce their health care expenditure.

Acc. No.: INFT 499/ PR1213

## COMPUTER INTERACTION FOR A DISABLED PERSON

PRIYANKA JAGTAP, POOJA SINGH

Project Guide: Mr. KEVIN D'SOUZA

We present a simple prototype system for real time tracking of a human head. This system uses a simple yet a effective Face tracking algorithm. The objective of this project is to create an alternative user interface uniquely using real time video of the user's faced captured using an off-the-shelf web-camera. Also allowing speech inputs from the user to perform machine operations.

Acc. No.: INFT 502/ PR1216

## Emoji Pins

Parth Mehta, Chelcy George, Muriel Pinto, Kshitij Shah

Project Guide: Ms. Vandana Patil

Security in ATM networks is necessary because ATM is wide-spread and many areas such as financial or medical applications, network administration, etc. require very sensitive handling of the transmitted data. If we look at other fields of interest (multimedia technologies and cable television) we see that ATM channels might be used for billing. Misuse of the ATM network, manipulation of transmitted data, spoofing, or repudiation would be fatal in billing/accounting system Emoji passcode is being introduced as a replacement to pins in an ATM system. A traditional four-digit pin is an absurdly weak authentication system, offering just 10,000 variations (even fewer when your account for the fact that certain common combinations, such as 9999, aren't allowed by most banks). By contrast, the emoji passcode offers a choice of 44 emoji, and four slots, offering 3.8 million different passcodes. Because human beings live and interact in an environment where the sense of sight is predominant for most activities, our brains are capable of processing and storing large amounts of pictorial data with ease. Hence, emoji password schemes provide a way of making more human-friendly passwords.

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Acc. No.: INFT 517/ PR1231

**ERP solutions**

Leena rikhai, Merilyn rozario, Dhvani shah, Shelly mathew

Project Guide: Bidisha acharjee

This project focuses on Customised Enterprise Resource Planning (ERP). The objective of development strategy is to provide a valued software solution with technology, functionality, ease of implementation, and effective cost. The ERP system is developed for a manufacturing company wherein several isolated modules such as Inventory Control, Sales, Purchase, Manufacturing and Accounts are integrated on cloud. In this system, all the employees from the different modules get access to the data, i.e. the integrated data as per their designation and requirements.

This project will enable better management of financial data, elimination of redundancy within multi-location organization, timely availability of information would facilitate better strategic decisions, effective deployment of resources amongst various locations, increases efficiency & productivity, less dependency on the information of other departments, improve access to information and workflow.

The system gives the administrator complete access to the system and the right to decide which user should or should not be able to access the system.

Acc. No.: INFT 506/ PR1220

**Smart home automation**

clannon noronha, laher ereira, nolan Pereira, jovin louis

Project Guide: nitika rai

The smart home automation system is a mobile web based application that allows users to monitor and control home/office/college door using their mobile device. This system includes the remote control and monitoring of home appliances and security through a live video feed, providing security and energy management. This system can be implemented in home/office/colleges wherein the entry can be restricted to only authorized personnel. The system also incorporates the feature of automatic sending of alarm/notification to the administrator in case an attempt to entry is made by an unauthorized entity. Hence, the main objective is to consider issues of security, authentication and access control. The main application of this project is to ease life of old people who cannot walk all the way to open the

door. This prototype can also be used for college attendance. In today's world using a mobile device is easy. With the latest and powerful technology, the system is not only expected to be workable, but also highly efficient in terms of execution speed and response time. The system design is dynamic and supporting concurrent users to interact with the system over the Web-based or SMS. This project is highly customizable and very useful tool in present times.

Acc. No.: INFT 516/ PR1230

**Bus Routing Problem**

Russel Moraes, Lordson Pereira, Ivan Rodrigues

Project Guide: B.D Gokhale

The Bus Routing Problem (BRP) seeks to plan an efficient schedule of a fleet of school buses that must pick up students from various bus stops and deliver them by satisfying various constraints: maximum capacity of the bus, maximum riding time of students, time window to arrive to school.
The problem is solved using ant colony optimization (ACO) and metaheiristic algorithm. Results lead to increased bus utilization and reduction in transportation times with on-time delivery to the school. The proposed decision-aid tool has shown its usefulness for actual decision-making at the school. Existing literature on routing of school buses has focused mainly on building intricate models that attempt to capture as many real-life constraints and objectives as possible. In contrast, the focus of this paper is on understanding the joint problem of bus route generation and bus stop selection two important sub-problems in its most basic form. To this end, this paper defines the school bus routing problem as a variant of the vehicle routing problem in which three simultaneous decisions have to be made:
(1) Determine the set of stops to visit,
(2) Determine for each student which stop (s)he should walk to, and
(3) Determine routes that lie along the chosen stops, so that the total traveled distance is minimized.

Acc. No.: INFT 520/ PR1234

**Virtual Supermarket**

Prathiksh Naik,Drashti Bhuta, Krunal Bodiwala, Smita Parekh,

Project Guide: Bhavesh Pandya

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The existing supermarket environment requires the customers to either carry a basket for all the products that they want to purchase or put them in a trolley. It is inconvenient to carry the items in a basket when shopping. Moreover, multiple quantities of each product should be displayed on the racks in an organized manner. This occupies extra space and time for arranging the products. Also there is a significant amount of time wasted by the customers at the billing counter. Virtual Supermarket eliminates the use of trolleys and carrying baskets in a supermarket. The actual products in the shelves are replaced by their pictures or dummies. The users need to scan the barcode of the respective product using the virtual shopping application in their smart phone to add the product to their cart.

Acc. No.: INFT 515/ PR1229

**Trekker-a single app for all your treks**

Marita Sequiera, Anu Abraham, Makarand Tawde, Supriya Yadav

Project Guide: Vipula Rawte

Trekking is an activity in which people take hiking trips through rural, often rugged territory. As travelers move through rural areas, trekking gives them an up-close view of the scenery. There are innumerable trekking places in the state of Maharashtra. Some spots are well known whereas some are still isolated. The information required by a trekker includes locating nearby trekking spots, the difficulty level involved in trekking, reviews of the people who have already been there, directions and the climatic condition of the place. An android application that helps one to easily discover unusual trekking locations that are otherwise not much talked about, mentioned or is difficult to discover is introduced in our project. This is a completely user friendly application, providing the best destination match and is more convenient than referring to any travel book or map. Trekker is an android app for trekkers that detect the users' current location using the Global Positioning System (GPS) present in an android smart-phone. Accordingly it provides the nearest trekking locations and the navigation routes to get there. It also gives useful information about that trekking spot (Images, Reviews). Also you can upload your photos of that place or post reviews for that place so as to help other trekkers to decide before they set out for trekking. It helps to easily discover unique trekking locations that are usually not described or mentioned or difficult to find in travel books. All in all it will be an Easy to use and quick app that is better than any travel book or map. The proposed application is going to provide the facilities to the users when the user is new to any place.

Acc. No.: INFT 514/ PR1228

**NFC based smart system for medical data management**

Sanket Gandhi, Tejal S. Hardikar, Jenil Shah, Akash Ghagare

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MUMBAI 400103
www.sfitengg.org

Project Guide: Prf. Prachi Raut

Nowadays, Many NFC based Medical devices are available such as blood sugar system, blood pressure which just helps to export data to Software system making it precise and secure. In developed countries such as United States, Japan, Germany, France use of EHRs (Electronic Health Record) and EMRs (Electronic Medical Record) increasing rapidly. However in India, there is a need for storing and easy access to distributed data of all the patient records in efficient, precise and secured manner. Unique NFC tag is used for identifying unique patient. The main motive of implementing this system is to reduce all paper work in hospital. Doctors, nurses as well as chemists can use this system for viewing prescription and medical history of a patient very efficiently and conveniently.

Acc. No.: INFT 485/ PR1199

**Entity Translation**

Jewel Vaz,Enid Serrao, Vignesh Shettigar, Dominic Mascarenhas

Project Guide: Bidisa Acharjee

Our project aims to develop a machine translation by combining the state of art name entity translation scheme. Improper translation of name entities lapse the quality of machine translated output. In this work, name entities are transliterated by using statistical rule based approach. It describes the translation and transliteration of name entities from English to Marathi. We have experimented on four types of name entities which are: Proper names, Location names, Organization names and miscellaneous. Various rules for the purpose of syllabification have been constructed. Transliteration of name entities is accomplished with the help of Probability calculation. NGram probabilities for the extracted syllables have been calculated using statistical machine translation Toolkit MOSES

Acc. No.: INFT 512/ PR1226

**ARTKART**

Bhavesh Awalkar, Aniket Balam, Ryan D'Cruz, Shubham Dhande

Project Guide: Joanne Gomes

ArtKart is a user friendly portal for artwork where art lovers will find works of their interest which they can purchase, embellishing their homes through the collections. Upcoming artists who wish to showcase their work on a bigger platform that is internet, can make use of

ArtKart to expand their audience.
Artists can customize the store according to their requirements, they do not need any technical knowledge or specialized expertise for customization. The portal provides user friendly graphics based interface to both artists and their audience for the ease of working. The artist has been provided with a separate login through which he can maintain his profile.
Customers can search for artwork as per their preferences. They can register themselves on the website through which the work of various artists can be browsed. They can specify their requirements for personal portraits and other works by communicating with the artists through the chat server.
The process of buying and selling will be facilitated by the administrator and he will also be responsible for the authenticity of the work.

Acc. No.: INFT 496/ PR1210

**Trustworthiness of comments in e-commerce website**

Aparna Naik, Priyanka Nair, Sonal Patil, Catina pereira

Project Guide: Prajyoti Lopes

Robust Trust Reputation Systems (TRS) provide actionable information to support relying parties taking the right decision in any electronic transaction. In fact, as security providers in e-services, TRS has to faithfully calculate the most trustworthy score for a targeted product or service. Thus, TRS must rely on a robust architecture and suitable algorithms that are able to select, store, generate and classify scores and feedback.

In this work, we propose a new architecture for TRS in e-commerce application which includes feedbacks' analysis in its treatment of scores. In fact, this architecture is based on an intelligent layer that proposes to each user (i.e. "feedback provider") who has already given his recommendation, a collection of prefabricated feedback summarizing other users' textual feedback. A proposed algorithm is used by this architecture in order to calculate the trust degree of the user, the feedback's trustworthiness and generates the global reputation score of the product.

Acc. No.: INFT 503/ PR1217

**Automatic Switching of Android profiles**

Mansi Bhosale,Aishwariya Joshi, Yomeena khan, Rochelle Fernandes

ST. FRANCIS INSTITUTE OF TECHNOLOGY (ENGINEERING COLLEGE)
MUMBAI 400103
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Project Guide: Mr. Pramod Shanbhag

The field of Natural Language Processing (NLP) has seen a dramatic shift in both research direction and methodology in the past several years. In the past, most work in computational linguistics tended to focus on purely symbolic methods. Recently, more and more work is shifting towards hybrid methods that combine new empirical corpus-based methods, including the use of probabilistic and information theoretic techniques, with traditional symbolic methods. The main purpose of Natural Language Query Processing is for an input sentence(s) to be interpreted by the computer and appropriate action taken; asking questions to databases in natural language is very convenient and easy method of data access, especially for casual users who do not understand complicated databases such as SQL. This project proposes the architecture for translating input sentence into SQL query using Semantic Grammar with added feature of Voice Recognition.

Acc. No.: INFT 494/ PR1208

**Secure file sharing system over cloud computing environment**

Ketan Khatri, Tejas Mehta, Piyush Bag, Selwyn Correia

Project Guide: Bhavesh Pandya

In today's information age, information sharing and transfer has increased exponentially. The threat of an intruder accessing secret information has been an ever existing concern for the data communication experts. Cryptography and steganography are the most widely used techniques to overcome this threat. Cryptography involves converting a message text into an unreadable cipher. On the other hand, steganography embeds message into a cover media and hides its existence. Both these techniques provide some security of data neither of them alone is secure enough for sharing information over an unsecure communication channel and are vulnerable to intruder attacks. Although these techniques are often combined together to achieve higher levels of security but still there is a need of a highly secure system to transfer information over any communication media minimizing the threat of intrusion. In this paper we propose an advanced system of encrypting data that combines the features of cryptography, steganography along with multimedia data hiding. This system will be more secure than any other these techniques alone and also as compared to steganography and cryptography combined systems Visual steganography is one of the most secure forms of steganography available today. It is most commonly implemented in image files. However embedding data into image changes its color frequencies in a predictable way. To overcome this predictability, we propose the concept of multiple cryptography where the data will be encrypted into a cipher and the cipher will be hidden into a multimedia image file in encrypted format. We shall use traditional cryptographic techniques to achieve data encryption and visual steganography algorithms will be used to hide the encrypted data.

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Acc. No.: INFT 497/ PR1211

**Summarization of user reviews for opinion generation**

Aaron Buthelo, Maxwell Corriea

Project Guide: purnima kubde

The growth of E-commerce has led to the invention of several websites that market and sells products as well as allows users to post reviews. It is typical for an online buyer to refer to these reviews before making a buying decision. Hence, automatic summarization of users' reviews has a great commercial significance. Online product reviews are one of the important opinion sources on the Web. These user reviews if appropriately classified and summarized can play an instrumental role in influencing a buyers' decision.

Acc. No.: INFT 501/ PR1215

**Book IT**

Archit Ghag, Shubham Choudhary, Jerome Jose, Akshay Karki

Project Guide: Sonali Vaidya

Electronic Commerce is process of doing business through computer networks. A person sitting on his chair in front of a computer can access all the facilities of the Internet to buy or sell the products. Unlike traditional commerce that is carried out physically with effort of a person to go get products, ecommerce has made it easier for human to reduce physical work and to save time. Barter is the activity of trading one product or service for another. It is a method of exchange by which goods or services are directly exchanged for other goods or services without using a medium of exchange, such as money. BookIT provides a way to connect to the avid book readers across Mumbai over a common platform. E-commerce and trading sites face various issues like safety and reliability. BookIT will be an interactive website that will provide safe connectivity and run on a reliable network. BookIT is a platform through which a user can purchase books online or exchange their books with other users. This E-commerce site will provide each user with recommendations based on their personal details. Every user can use BookIT to buy new books and trade their existing books with others by posting ads for the same. The users can create their own groups and join other groups based on their preferences. The site provides user to user chat facility to maintain security. As the personal details of the users are not displayed anywhere in the website the users can build their trust over chat and then they can share their contact information or address.

Acc. No.: INFT 495/ PR1209

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## Smart Home Automation

Clannon Noronha, Laher Pereira, Nolan Pereira, Jovin Louis

Project Guide: Nitika Rai

The Smart home automation system is a mobile web based application that allows users to monitor and control home/office/college door using their mobile device. This system includes the remote control and monitoring of home appliances and security through a live video feed providing security and energy management. This system can be implemented in home/office/college wherein the entry can be restricted to authorized personnel. The system also incorporates the feature of automatic sending of alarm/notification to the administrator in case of unauthorized entry. Hence the main objective is security, authentication and access control. The main application of the project is to ease life of old people who cannot walk to open the door. This prototype can also be used for college attendance. With the latest and powerful technologies, the system is not only expected to be workable but also highly efficient in terms of speed and response time. The system design is dynamic supports many users over the web or SMS. This project is highly customizable and a very useful tool in present times .

Acc. No.: INFT 516/ PR1230

## Android Application for finding Tutors using Data Mining Techniques

Mili Sanghavi, Dolly Panchal, Shikha Pandey, Pradnya Jadhav

Project Guide: Elizabeth George

The increasing trend of private or group tuitions has made it more difficult for a parent to find a perfect tutor for his/her child. The process of finding a tutor is time consuming. The rise in educational standards has led to the need for additional coaching along with basic schooling. An Android application for finding tutors can help a parent find tutors without consulting any third party. The application encourages parents to find tutors and tutors to find prospective students in their nearby vicinities. The tutor application also considers the fact that students need personal attention and guidance in studies. Naïve Bayes algorithm is implemented in order to compare tutor profiles. Along with the Android platform used for Graphical User Interface (GUI), SQLite is used to store tutor data. Naive Bayes algorithm classifies the tutor records and thus helps in achieving maximum accuracy. WEKA is the platform used for implementing data mining techniques. The data mining process aims to extract information from a data set and transform it into an understandable structure for further use. When tutor registers or signs up his/her data is stored in SQLite. Parent can find tutors based on three parameters, namely area, board and preference. Based on stipulated requirements, search results are retrieved from SQLite and shall be displayed to the user

Acc. No.: INFT 508/ PR1222

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**Entity Translation**

Dominic Mascarenhas, Enid Serrao, Vignesh Shettigar, Jewel Vaz

Project Guide: Bidisa Acharjee

Our project aims to develop a machine translation by combining the state of art name entity translation scheme. With increasing globalization, information access across language barriers has become important. Given a source term, machine transliteration refers to generating its phonetic equivalent in the target language. This is important in many crosslanguage
applications. Improper translation of name entities lapse the quality of machine translated output. In this work, name entities are transliterated by using statistical rule based approach. It describes the translation and transliteration of name entities from English to Marathi. We have experimented on four types of name entities which are: Proper names, Location names, Organization names and miscellaneous. Various rules for the purpose of syllabification have been constructed. Transliteration of name entities is accomplished with the help of Probability calculation. NGram probabilities for the extracted syllables have been calculated using statistical machine translation Toolkit MOSES.
Acc. No.: INFT 512/ PR1226