CATALOGUE OF B.E. PROJECT REPORTS

BATCH 2014

BRANCH- CMPN

ABSTRACTS

St. Francis Institute of Technology, Mumbai
University of Mumbai
2013-2014

Introduction

The Library and Information Resource Centre team is happy to bring out this catalogue listing B. E. Project Reports submitted by the 2013-14 batch students to the Institute. This document covers abstracts of 47 projects submitted by 2013-14 batch students and are listed in alphabetical order under each year by the project title. Each entry of the project provides the bibliographical details, such as authors (with Roll number), title, page numbers, year of submission, supervisor name and abstracts. Accession Numbers have been provided to enable the user to locate a specific entry in this catalogue.

Hope you will find this document useful. We would be happy to have your comments and suggestions, if any, to improve this catalogue further.

Updated on: 13/03/2015

Library and Information Resource Centre Team

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BIBLIOGRAPHIES OF PROJECT REPORTS- 2014

1. **TITLE**: INTELLIGENT CRIME REPORTING AND INVESTIGATION SYSTEM

AUTHORS: Jeni Adenshia BE/CMPN A/39
Shaina Lemos BE/CMPN A/49
Rohit Mishra BE/CMPN A/57

GUIDE: Prof. Yogesh Karunakar

ABSTRACT: *This project can be used to report as well as investigate a crime. It can be used mainly when people do not register a complaint for the fear of getting involved. Using Crime Reporting System a person can immediately register a complaint on witnessing crime. The information about the reporter will be kept confidential. The information about the crime and the criminal records will be stored in central database. When a crime is reported, the data is compared with the existing records to find similar patterns and generate a suspect list. The information about complaints registered and the shortlisted suspects will also be maintained by the police. The complainer can view the status of the case on regular basis.*

ACC NO. PR938/ 250 CMPN

2. **TITLE**: VIDEO BASED IMAGE RETRIEVAL

AUTHORS: Leena Fernandes BE/CMPN A/31
Akhila Konreddy BE/CMPN A/44
Reema Nagar BE/CMPN A/58
Albina Joseph BE/CMPN A/62

GUIDE: Ms. Ankita Karia

ABSTRACT: *The framework of Video-based image retrieval system works in eliminating the problems faced by the query-based image retrieval like variations in the capture conditions and viewpoint between the query image and the images in the collection. Multiple images of the same object that are characterized by different capture conditions and viewpoints could, namely, be aggregated together to extract the information for creating a more robust representation of the query object , a representation that is more complete than if any of the individual images are used as query alone. Although multiple images of the same object can be collected in various ways, a video capturing the object provides the most intuitive way to generate such a complex query, as it removes the need for the user to decide about the number of images to take for the same object. So the user can submit a short video clip as a query instead of a single image. Since a video clip may combine object or scene appearances captured from different viewpoints and under different conditions the rich information contained therein is exploited to discover the proper query representation and to improve the relevance of the*

retrieved results. In our system the user captures the query object by his/her mobile device and requests information pertaining to his requirements. If the information found matches with the requested query then the image and the video will be retrieved from the database.

ACC NO. PR939/251 CMPN.

3. **TITLE**: PROPERTY PRICE ESTIMATION USING MULTIVARIATE REGRESSION

AUTHORS: Niyati Bhat A-10
Ashutosh Bhosle A-11
Clive Carvalho A-13

GUIDE: Mrs..G.Anuradha (Associate Professor)

ABSTRACT: *The real estate sector is an important aspect of the financial market. The prices of the real estate sector are mainly dependent on the principles of demand and supply. The real estate prices are generally perceived to appreciate in value and hence are considered a safe investment. The increase in residential complexes has not been able to keep pace with the rising demand for property thereby leading to a steep rise in residential capital values especially in urban areas. Multivariate regression is the process of being able to gauge the impact of many variables which affect the final output. This project aims to estimate prices of residential property by considering a number of factors such as area, no of floors etc which influence the prices of property by using algorithms which are used for predictive modeling. Predictive modeling is a statistical data mining approach that builds a prediction function from the observed data. Multivariate regression has been used on the subset of data as it is the best method. The function is then used to estimate a value of a dependent variable for new data. A commonly used predictive modeling method is regression that has been applied to a wide range of application domains. A model has been proposed which helps in estimating the price of the property .The project involves implementing this model through a website which will predict the prices in future.*

ACC NO. PR940/252 CMPN.

4. **TITLE**: A Highly Secured Chatting Application for Android

AUTHORS: Amol Deshpande BE/CMPN A/18
Sushant Jain BE/CMPN A/37
Aum Upadhyay BE/CMPN A/73

GUIDE: Mrs. Dakshata Panchal (Assistant Professor)

ABSTRACT: *With the advent of 21st century, digital communication is growing exponentially. A large amount of data is communicated through messages, rapidly replacing the*

printed versions of communications. Hence the data to be sent has to be secured against unauthorized entities gaining access to it. The solution is use of various kinds of data encryption techniques to maintain confidential data safe from alteration and theft. The primary focus of this project is to develop an instant messenger application on Android OS that allows communication in a secure manner. It is needed to ensure secure data transmission between the sender and recipient. The architecture is divided into three modules: a chat module, secure module, and routing module. In this project, a hash algorithm is applied to the outgoing message. The hash value is concatenated by the AES encrypted key of the message. Additionally salt function is used to add extra bits to make the key more secured. The purpose of this encryption is to ensure that unauthorized entities cannot view the original data or information through the network.

ACC NO. PR941/253 CMPN.

5. **TITLE**: INVISIBLE CHAUFFEUR – AUTONOMOUS VEHICLES

AUTHORS: NATASHA DSOUZA 27
EVA MURIEL DSOUZA 26
ROSHAN LASRADO 36
SHELDON PINTO 56

GUIDE: SHAMSUDDIN S. KHAN

ABSTRACT: *Autonomous vehicles promise numerous improvements to vehicular traffic; an increase in both highway capacity and traffic flow because of faster response times, less fuel consumption and pollution thanks to more foresighted driving, and hopefully fewer accidents thanks to collision avoidance systems. In addition, drivers can save time for more useful activities. We aim to build an autonomous vehicle (mobile robot) which can commute between any source and destination entered without any human assistance. In order to make such vehicles accident free, we have also added a Collision Avoidance System (CAS) to warn of any impending collision and take action if needed. We will implement an audio alert system to indicate an impending collision. Navigation is a special feature of mobile robots. It is expected to traverse in a complex environment. Our autonomous mobile robot makes use of the principle of following a grid. Within the grid the robot can traverse from any source node to destination node once specified. Coordinating sensors and motor skills along with effective software ensures a robot that can successfully navigate through any specified environment. To implement effective navigation through the grid, we use the Dijkstra Algorithm. The Dijkstra Algorithm is used to find the shortest path from a single source to all other nodes in a positive weighted and directed graph. We consider all vertices of the obstacles as nodes and compute the distance between every pair of connected nodes from the visibility graph as the weight.*

ACC NO. PR942/254 CMPN.

6. **TITLE**: CONGESTION CONTROL IN CELLULAR NETWORKS

AUTHORS: Jeevan Amin BECMPN/A/02
Philbert Anthony BECMPN/A/03
Shardul Jadhav BECMPN/A/36

GUIDE: Prof. Safa Hamdare

ABSTRACT: *Congestion in cellular networks during peak hours and at hot spots is a major problem being faced today almost everywhere especially in metro cities. Even though capacity increase seems to be a natural solution to this problem, it is not economically viable due to heavy infrastructure costs involved. As the traffic demand is continuously increasing the problem of congestion is going to remain forever and therefore needs to be effectively addressed. Proposed scheme tries to address the problem of congestion in cellular networks by introducing a new concept of call duration control coupled with dynamic pricing and call-on-hold principle. Long duration calls in the network is one of the major reasons for congestion in the network. We propose to restrict the duration of such calls depending upon traffic conditions. At heavy traffic conditions the network restricts the duration of ongoing calls up to a specific time beyond which the user has to pay at a higher tariff. At the same time a principle of call-on-hold is also implemented so that if a newly generated call does not get a traffic channel then it is not blocked but is put on hold in a queue hoping to get a channel soon. Our scheme reduces the level of congestion substantially without any compromise with system utilization and at the same time it also marginally increases the revenue per unit time.*

ACC NO. PR943/255 CMPN.

7. **TITLE**: POOL ME.

AUTHORS: Jinesh Kachhara BE/CMPN/A/41
Jinson George BE/CMPN/A/63
Harshal Sanghavi BE/CMPN/A/70

GUIDE: Dr. Vikram V. Shete

ABSTRACT: *In today's world we often find ourselves waiting for rickshaws and taxis. Even after waiting, we are likely to face rejections. This leads to fights between both parties. On the other hand, sometimes rickshaw/taxi drivers cannot find passengers and have to wander around in search of one. Though there are few apps in the market that try to address the former problem, none of them seem to tackle the later. All apps offer functionalities that allow users to find passengers with whom they can share a ride and all of them differ in the way they offer this service. Some lag in their user interface, while others miss out on one or the other functionality. The USP of 'PoolMe' would be that it will not only help user to find commuters with whom they can share their fare but also help rickshaw/taxi drivers find passengers. This will lead to a larger*

user base for the app which will in turn help the users of the app. The app will provide filters for women and other utilities such as providing approximate fares for users over the distance they travel. This initiative will save money, time and most importantly fuel. We hope people find it useful on a daily basis.

ACC NO. PR944/256 CMPN.

8. TITLE: PERSONALIZED WEB BUSINESS RECOMMENDER SYSTEM.

AUTHORS: Shambhavi Dhargalkar BE/CMPN A/19
Apoorv Mahajan BE/CMPN A/50
Akshay Maniyar BE/CMPN A/51

GUIDE: Mrs. Snehal Kulkarni (Lecturer)

ABSTRACT: *How can business users be provided with information and services specific to their needs, rather than an undifferentiated mass of information? An effective solution proposed is the development of personalized e-services. Recommender Systems (RS) are an effective approach for the implementation of Personalized E-Service which has gained wide exposure in e-commerce in recent years. Personalized RS efficiently facilitates the decision-making process of a business user (e.g., buyer) in selecting qualified business partners (e.g., sellers) based on their preferences and product categories. The purpose behind building an intelligent business personalized recommender system is to cater to the requirements of these users to find solutions that match their requirements from the information available on the website.*
The project is a standalone website that provides recommendations for business solutions. The website entails registration of new users looking to advertise their solutions on the website. The prospective buyer then can enter their specific requirements for their business solutions and then based on a list of recommendations, can select the service which matches their specifications.

ACC NO. PR945/257 CMPN.

9. TITLE: FAKE CURRENCY DETECTION SYSTEM.

AUTHORS: VikasBeniwal BE CMPN/A/08
Frenia Pinto BE CMPN/A/65
Jocelyn QuadrasBE CMPN/A/67

GUIDE: Mrs. DakshataPanchal

ABSTRACT: *Counterfeiting of paper currency is one of the major problems in every country. It challenges the financial system of every country by reducing the value of real money,*

increase in prices and decrease in the acceptability (satisfactoriness) of money. Fake Currency Detection System can help us in defeating counterfeiting of paper currency. It is based on the software approach for determining the authenticity of paper currency. The characteristics of 500 rupee note are selected for counterfeit detection. The feature extraction is performed on the image of currency and compared with characteristics of genuine currency. Features like edges, corners and blobs are extracted and compared .Canny edge detector, Harris and SURF algorithms are used for this purpose. Feature Detection algorithm is the core algorithm of Fake Currency Detection System. Feature extraction and feature matching is performed based on the features detected from the paper currency. Sample notes from every year (2010-2013) are collected for feature extraction. Common features (hidden and visible) are grouped together to create templates which are later matched with the input image for verification and authentication of the 500 rupee note. The proposed method is simple and useful in many sectors. It can be used by a common man and shopkeepers for currency authentication and verification and it will also be useful banking field.

ACC NO. PR946/258 CMPN.

10. TITLE: Finger Knuckle Authentication using Smartphones.

AUTHORS: Elroy Alva(2)
RohitAbraham(4)
Leon Dmello(20)

GUIDE: Ms. KAVITA SONAWANE

ABSTRACT: *This project details the development of a smartphone based online system to automatically identify a person by using their finger knuckle image. The key objective is to exploit user-friendly biometric, with least privacy concern, to enhance security of the data in smart phone. The final product from this research is a finger knuckle authentication Smartphone application, which is developed under Android operating system with environment version 2.3.3 and further. This project has developed some specialized algorithms for the finger knuckle detection, image pre-processing and region segmentation. Automatically detected and segmented finger knuckle images are used to encode finger knuckle pattern phase information using a pair of log-Gabor filters. We also developed a user-friendly graphical user interface for the user to enroll and authenticate him/her. The developed system can therefore acquire finger knuckle image from the smart phone camera and automatically authenticate the genuine user. In the best of our knowledge, this is the first attempt to develop a mobile phone based finger knuckle identification which has shown highly promising results in automatically identifying the user from their finger knuckle images.*

ACC NO. PR947/259 CMPN.

11. TITLE: Teaching Boolean Logic Through Game Rule Tuning.

AUTHORS: Neil D'costa (BE/CMPN A/17),
Kevin Mathew (BE/CMPN A/54),
Craig Menezes (BE/CMPN A/56)

GUIDE: Mr. Rajkumar Shende

ABSTRACT: *The Boolean logic is a tool to model the algebra of truth values. It is an essential subject in Computer Programming and Digital Electronics. While teaching the Boolean logic, teacher usually gives examples to elaborate the Boolean logic formulation. However, the physical meaning of the Boolean logic is difficult for AUTHORS to imagine without the realization to real-world case. Accordingly, two learning activities, the Boolean logic realization activity and game scenario formulation activity, are proposed. To manipulate the game scenario for teaching specific learning objectives of Boolean logic, the Game.*
In our project we will be teaching the concepts of Discrete Structures and Graph Theory, and we will cover the following rules using game logic for better understanding.

- Logical AND (A^B)
- Logical OR (AvB)
- Logical NOT (~A)
- Commutative AND (A^B^C = C^B^A)
- Commutative OR (A+B+C = C+B+A)
- Association (A+(B+C) = (A+B)+C)
- Reduction A.(A+B) = A+(A.B) = A
- Distribution A+(B.C) = (A+B).(A+C)
- DE Morgan's theorem (A.B)' = A'+B'
  (A+B)' = A'.B'

ACC NO. PR948/260 CMPN.

12. TITLE: HUMAN COMPUTER INTERFACE USING EYE DETECTION**.**

AUTHORS: Radhika Kotian BE/CMPN A/46
Mayur Navandhar BE/CMPN A/59
Ankita Suvarna BE/CMPN A/72

GUIDE: Prof. Sridari Iyer

ABSTRACT: *It is a simple prototype system for real time tracking of a human head. This system uses a simple yet a effective Face tracking algorithm. The general requirements of a real time tracking algorithm – it should be computationally inexpensive, should possess the ability to perform in different environments and should be able to start and initialize itself with minimum knowledge about the environment, are well addressed by the elliptical head tracking algorithm. The objective of this project is to create an alternative user interface uniquely using real time video of the user's face captured using an off-the-shelf web-camera. The position of the head is tracked and converted into two-dimensional coordinates on a computer screen; additionally, it*

is intended to enable the recognition of a deliberate blink in order that this could be considered as a command from a user.

ACC NO. PR949/261 CMPN.

13. TITLE: Security enhancement using data hiding in images.

AUTHORS: Aparna Thomas BE/CMPN-A/05
Kevin Dias BE/CMPN-A/20
Kimberly Nazareth BE/CMPN-A/60

GUIDE: Ms. Pradnya Rane

ABSTRACT: *E-Banking appeared when banks planned to capture more customer base and Geographical region at the cost of minimal Human intervention. Nowadays this is one of the most important sources for performing bank related operations online. When you will register for Online banking you will get login Id which is generated by system and is Unique across all the registered users of that bank. The most important goal of security enhancement using data hiding in image is to hide messages within the image so the intended receiver of the image get the data of his interest in the form of the image so even if this image fall in wrong hand chances are less that person receiving the image get to know that some data is hidden in the image. This kind of technology is very useful in case of increasing security of the secure system. Through hiding a secret message inside the Image, a simple image is taken as carrier to carry the data to be hidden in it. Once Image is obtained, data that needs to be hidden is taken from user and is placed between the data bytes of actual image such that receiver of the image may consider it as normal image but when supply this image to decoder, can extract the hidden message within it in its entirely. Also to provide additional security we have a third layer of protection i.e the third password will be sent to the users mobile via gsm and will be deleted once used. Thus to hack such kind of system is very difficult.*

ACC NO. PR950/262 CMPN.

14. TITLE: CREDIT CARD FRAUD DETECTION USING HIDDEN MARKOV MODEL.

AUTHORS: Jacquelyn Rapose BE/CMPN/A/68
Joylyn Rapose BE/CMPN/A/69
Siddhi Shingre BE/CMPN/A/71

GUIDE: Prof. Pradnya Rane

ABSTRACT: *Due to a rapid advancement in the electronic commerce technology, the use of credit cards has dramatically increased. As credit card becomes the most popular mode of payment for both online as well as regular purchase, cases of fraud associated with it are also*

rising. In this project, we model the sequence of operations in credit card transaction processing using a Hidden Markov Model (HMM) and show how it can be used for the detection of frauds. An HMM is initially trained with the normal behavior of a cardholder. If an incoming credit card transaction is not accepted by the trained HMM with sufficiently high probability, it is considered to be fraudulent. At the same time, we try to ensure that genuine transactions are not rejected. We present detailed experimental results to show the effectiveness of our approach and compare it with other techniques available in the literature.

ACC NO. PR951/263 CMPN.

15. TITLE: INTRUSION DETECTION SYSTEM.

AUTHORS: Macsen Jose (14)
Merwyn D'souza (26)
Gordon Mathias (55)

GUIDE: Ms. Pradnya Rane

ABSTRACT: *Security is a big issue for all networks in today's enterprise environment. Many methods have been developed to secure the network infrastructure and communication over the Internet, among them the use of firewalls, encryption, and virtual private networks. Intrusion detection is a relatively new addition to such techniques. IDS protect a system from attack, misuse, and compromise. It can also monitor network activity. Network traffic monitoring and measurement is increasingly regarded as an essential function for understanding and improving the performance and security of our cyber infrastructure. Intrusion detection technology can help the system to deal with network attacks extend the security management ability of the system manager and increase the integrity of information security foundation structure. Intrusion detection system (IDS) is a device (or application) that monitors network and/or system activities for malicious activities or policy violations and produces reports to a Management Station. Pattern matching algorithm is the core algorithm of intrusion detection system based on feature matching as well as an algorithm which is universally used in current intrusion detection equipment. An implementation of design intrusion detection system based on pattern matching algorithm is proposed in this paper. Apart from the intrusion detection system, the paper has given a detailed case study on different modules used for finding the Intrusion Detection System.*

ACC NO. PR952/264 CMPN.

16. TITLE: LAN MESSENGER.

AUTHORS: Bijol Joseph BE/CMPNA/12
Christine Anthony BE/CMPNA/16
Jenica D'souza BE/CMPNA/24

GUIDE: Prof Yogesh Karunakar (Lecturer)

ABSTRACT: *Nowadays there are many organization are using LAN messenger to implement communication between staff. LAN messenger application is one of easiest way to chat in an organization through LAN. No internet connection is needed. The only thing which requires is server IP address and you will be able to connect to others members through LAN. Besides that, this application is also provides the security features such as encryption. This application is only allow the authenticated user to be used. The users who have no valid username and password will not be successful in entering the system. To start chatting client should get connected to server where they can practice two kinds of chatting, public one where message is broadcasted to all connected users and private one which is between any two users only. File sharing application is also implemented where a user can upload a file or download a file.*

17. TITLE: CENTRALIZED ASSIGNMENT PLAGIARISM DETECTOR.

AUTHORS: Parth Ashar BE/CMPN A/06
Pratik Chavan BE/CMPN A/15
Viraj Manjarekar BE/CMPN A/52

GUIDE: Prof. Jayashri Mittal

ABSTRACT: *Recent studies show that plagiarism has increased exponentially specially at universities or at school level. Many educational institutions are facing this problem. Plagiarism is the act of taking another person's writing, conversation, song, or even idea and passing it off as your own. This includes information from web pages, books, songs, television shows, email messages, interviews, articles, artworks or any other medium. Whenever you paraphrase, summarize, or take words, phrases, or sentences from another person's work, it is necessary to indicate the source of the information within your paper using an internal citation. It is not enough to just list the source in a bibliography at the end of your paper. Failing to properly quote, cite or acknowledge someone else's words or ideas with an internal citation is plagiarism. At college level it has been found that many AUTHORS blindly copy their assignments or homework without any understanding. That often leads to the failure of AUTHORS. Sometimes it has observed that student who writes his own assignment without copying, does not get any credit, neither does he get appreciated by professors because all his classmates copy the same assignment and come up with the same solution to the particular question asked.*
By taking these hindrances in the educational systems, we are inspired to implement this project that will create a system which will distinguish assignments which are copied from one another. Also this topic of project is comparatively new and immature; we were inclined to it from starting of the semester only. We hope with our plagiarism detector system we would be able to minimize the rate of plagiarism in college level at least.

ACC NO. PR954/266 CMPN.

18. TITLE: WebOS.

AUTHORS: Granal Dmello (19)
Welroy Dmello (21)
Chelsea Gonsalves (29)

GUIDE: Mr. Shamshuddin Khan

ABSTRACT: *WebOs is an application run entirely within a web browser, but have the look and feel of a desktop application. An application's code and data may reside remotely but are executed and modified locally. This model allows for a great deal of freedom. With WebOS, user can have his own desktop, applications and files always with him. WebOS ensures all users are running same current versions of all applications. Int his system, updates and patches need only be applied to the server, no need to update multiple clients. So by using this new type of logical OS, user can have his operating system wherever he goes, he just needs to have a login name, a password, computer device and internet connectivity.*

ACC NO. PR955/267 CMPN.

19. TITLE: Automated Mapping of ER Diagram and its Normalization.

AUTHORS: Princly Fereira BE CMPN/A/29
Swapnil Ghadge BE CMPN/A/33
Jobin Joseph John BE CMPN/A/40
Vivek Pawar BE CMPN/A/64

GUIDE: Mrs. Vincy Joseph (Assistant Professor)

ABSTRACT: *Today we are living in an era where information had become an integral part of our daily life. A large amount of information is being transferred and exchanged over the Internet and in Industries. The industries now-a-days are enjoying success on the basis of keeping and preserving the information of all the transaction and about the employees. Creation and maintenance of the records involves a lot of hard work and sometimes can be time consuming when vast data is present. Most of the industries focus on drawing the schema in the form of Entity Relationship Model and the traditional method of manually entering the record into database. But that does not guarantee the preservation of record for large number of time as if database got corrupt information may lose due to system crash. Also it is a time consuming process by entering the records one by one into the system. The primary focus of this project is to provide the user with an editor screen which provides the facility to draw the Entity Relationship Model and providing him all the necessary features. After drawing the ER Model the user will be able to execute it which will convert into database files at the backend and will*

be normalized and user's job will be limited just to putting the entries and not wasting time in making relations again.

ACC NO. PR956/268 CMPN.

20.TITLE: REDSHARE.

AUTHORS: Ronak Pandya 61
Nitesh Kanchan 42

GUIDE: Mrs. Pallavi Gujar

ABSTRACT: *The importance of blood in the existence of human cannot be over emphasized. It supplies all nutrients and oxygen into the inner part of their body and body cells, and it has been medically proven that no one can survive without the presence of blood. Lack of access to blood has caused great havoc in the medical practice. The issue of blood bank, such as the way how the donated bloods are kept and how to access the blood are very critical for every hospital. Blood donation app is expected to solve the problem of inadequacy of blood when required for medical purposes. This application mainly deals with information available easily when in need. Information is provided according to search.*

ACC NO. PR957/269 CMPN.

21.TITLE: COLORIZATION OF GRAYSCALE IMAGE USING VECTOR QUANTIZATION.

AUTHORS: Sohail Abbas BE/CMPN B/45
Vaibhav Shah BE/CMPN B/51
Wellborn Tellis BE/CMPN B/59

GUIDE: Mrs. Kavita Sonawane

ABSTRACT: *Use of assorted window sizes and their impact on colorization of grayscale images using Vector Quantization (VQ) Code book generation techniques. The problem of coloring grayscale image has no exact solution. Attempt is made to minimize the human efforts needed in manually coloring grayscale images. Human interaction is only to find reference image of similar type. The job of transferring color from reference image to grayscale is done by proposed techniques. Vector quantization algorithms LindeBuzo and Gray Algorithm (LBG) and kerke Proportionate Error (KPE) are used to generate color palette in RGB and Kerke's LUV color space. For colorization source color image is taken as reference image which is divided into non overlapping pixel windows. Initial clusters are formed using VQ algorithms LBG and KPE, used to generate the color palette. Grayscale image which is to be colored is also divided in non-overlapping pixel windows. Every pixel window of gray image is compared with color palette to get the nearest color values. Best match is found using least mean squared error. To test the*

performance of these algorithms, color image is converted into gray scale image and the same grayscale image is recolored back. Finally MSE of recolored image and original image is compared.

ACC NO. PR958/270 CMPN.

22. TITLE: AUTOMATIC WI-FI NOTICES TRANSMISSION IN COLLEGE CAMPUS.

AUTHORS: Smeet Pereira (BE B/CMPN/33)
Kevin Remedios (BE B/CMPN /37)
Ansley Rodrigues (BE B/CMPN /38)

GUIDE: Mr. R.K Shende

ABSTRACT: *Introduction of technology is always invited in every area. In our project we are going to introduce technology for managing notice in the colleges and organization. Our effort will minimize the lengthy job of managing the notices in different organization like colleges, companies, public places etc.*
Wi-Fi is a one of the latest technology for communication which is widely accepted by the industry. Our system will use Wi-Fi technology to transmit the data or notice information to directly on the user mobile. So the person in the organization will be always updated about the circular or events.

ACC NO. PR959/271 CMPN.

23. TITLE: VICINITY EXPLORER.

AUTHORS: Sudeep More BE/CMPN B/28
Shreyas Rane BE/CMPN B/35
Aniket Sakinala BE/CMPN B/46

GUIDE: Ms. Sridari Iyer (Assistant Professor)

ABSTRACT: *The most underutilized area in our lives is right outside our doors. With the Internet age, such information can be provided at the handset of the user to maximize his experience for local events. Vicinity Explorer is an application that aims to provide the user with a Portal service that allows him to connect with people within a geological bound. Friend searches with matching interests, food zones, local events and news, book sharing, smart advertising, promotional offers, expert help, job opportunities, start-up helps and campaign launcher. This location is defined by the user and can be any location that is either a home location, or a work location, or any location that the user frequently visits. The location needs to*

be specified only once and the application can work without GPS. Real time GPS based services can also be provided, if needed. The application can be used by ordinary citizens to find new places of interest and rate them, by firms to promote their services and products, by NGOs to kick start a campaign, by the government to issue public notices and important news, or by hobbyists to create a support group.

ACC NO. PR960/272 CMPN.

24. TITLE: INTELLIGENT TUTORING SYSTEM.

AUTHORS: Divya Barsode BE/CMPN A/7
Nicolette Furtado BE/CMPN A/32
Khushboo Sharma BE/CMPN A/43

GUIDE: Ms. Pallavi Gujar (Lecturer)

ABSTRACT: *Intelligent tutoring system is a system which, using AI, acts as human tutor. It can be used as a personal tutor for each student. The system tutors the student a particular subject in such a way that it creates an interest and encourages the student to study. We have chosen Biology as our subject to tutor the student in. The system first presents a question to the student. The system then starts a conversation with the student to make it an interactive session. During this session, the student is encouraged to think and analyze for herself. The student can ask questions to the system and the system will answer those questions based on the knowledge that it already has. If the student is finding the question difficult she/he can also ask the system for hints. The system organizes the "problem" in (1) knowledge about a domain, (2) knowledge about the learner, (3) and pedagogy. It provides feedback to the learner (positive, neutral, and negative feedback), pumps the learner for more information ("What else?", "Try again."), prompts the learner to fill in missing words, gives hints, identifies and corrects bad answers, answers learners' questions. This tutor can be used to tutor children and adults in a variety of subjects with changes only in the knowledge base. Also, since this will be a web application, AUTHORS can learn from anywhere with just an internet connection.*

ACC NO. PR961/273 CMPN.

25. TITLE: Adaptive Antivirus Based on ANFIS.

AUTHORS: Parth Gantara (BE / CMPN /Roll No: 14)
Yuvraj Kumbhar (BE / CMPN /Roll No: 21)
Nikhil Mistry (BE / CMPN /Roll No: 27)

GUIDE: Mrs. G. Anuradha (Associate Professor)

ABSTRACT: *Over the years and as the result of technological developments, the importance of personal computers in our lives has grown significantly. This has resulted in a desire by some to develop malicious applications, whether lone teenagers or nation states, and distribute them across the Internet where they attack a range of computer systems. As a result, the importance of antivirus software has grown significantly and has resulted in increasing demand for dependable antivirus products that can defend against the range of malicious viruses. Anti-virus programs are meant to locate computer viruses and protect computers from their actions. Currently, antivirus software is considered a reliable and effective defense against viruses and in protecting computers. Every day, viruses and malicious programs are created and distributed across the Internet. In order to guarantee effectiveness and maximum protection, antivirus software must be continuously updated. This is no small undertaking when taking into consideration the fact that computers connected to the Internet are exposed to viruses from every direction and delivered using any range of methods: Infected servers and files, USB drives, and more. Viruses involuntarily draft consumers into boot armies while employees can become unknowing compromised insiders helping foreign governments or competitors.*
With today's world filled with information and data, it is very important for one to know which information or data is harmless and which is harmful. Right from cellular phones to big MNCs and Server companies require a security system that is as competent and adaptive as its ever-updating and evolving counter partite viruses or malware. That is exactly what we aim to develop and implement in the form of our project Adaptive anti-virus based on ANFIS logic. An adaptive anti-virus system that will catch up to the speed at which the viruses update and evolve. Such widespread use of Information Technology comes with an overhead risk in the form of viruses which can be tackled with proper security system. Some viruses can delete all data on your computer, while many can steal your identity and personal details. There are different types of viruses such as Malware, Trojans, Worms and more. There are some viruses that sneak into your computer by pretending to be an anti-virus and make you install it and give out your credit card details. It is highly recommended that you have good Antivirus software to protect you from these sorts of viruses. Our project aims to curb and eliminate all such risks.

ACC NO. PR962/274 CMPN.

26. TITLE: Semantic Search Engine.

AUTHORS: Yogen Trikannad (BE/CMPN B/62)
Rahul Pandey (BE/CMPN B/29)
Shahnawaz Shaikh (BE/CMPN B/53)

GUIDE: Ms. Bidisha Roy

ABSTRACT: *Most of existing search engines retrieves web pages by means of finding exact keywords. Traditional keyword-based search engines suffer several problems. First, synonyms and terms similar to keywords are not taken into consideration to search web pages. Users may need to input several similar keywords individually to complete a search. Second,*

traditional search engines treat all keywords as the same importance and cannot differentiate the importance of one keyword from that of another. Third, traditional search engines lack an applicable classification mechanism to reduce the search space and improve the search results. In this project, we develop a ***Semantic Search Engine****. First, a fuzzy ontology is constructed by using fuzzy logic to capture the similarities of terms in the ontology, which offering appropriate semantic distances between terms to accomplish the semantic search of keywords. The Semantic Search Engine can thus automatically retrieve web pages that contain synonyms or terms similar to keywords. Second, users can check or uncheck the pages results based on their needs to show or hide it next time they search for it. The totally satisfactory degree of keyword scan be aggregated based on their degrees of importance and degrees of satisfaction. Third, the domain classification of webpages offers users to select the appropriate domain for searching web pages, which excludes web pages in the inappropriate domains to reduce the search space and to improve the search results.*

ACC NO. PR963/275 CMPN.

27. TITLE: EMAIL SPAM FILTERING USING FUZZY LOGIC.

AUTHORS: Joyce Fernandes BE/CMPN A/30
Kaushaya Gupta BE/CMPN A/35
Jeba Jino Stephy BE/CMPN A/38

GUIDE: PROF SRIDARI IYER

ABSTRACT: *E-mail has been considered as one of the most primary communication channels among the users with the rapid extension of Internet. Unfortunately e-mail is also one of those tools, if not used properly could bring in irreparable consequences. But, recently the increasing popularity and fewer cost of sending an e-mail makes it very easy to send unsolicited messages blindly to thousands of people at no cost at all by using easily available bulk mailing software and large lists of email addresses typically harvested, even purchased or rented from web pages and new group archives. Email provides a perfect way to send these millions of advertisements without any for a sender, and this fortunate fact is nowadays extensively exploited by several organizations. As a result, the email boxes of millions of people get cluttered with all these so-called Unsolicited Bulk Email (UBE) also known as "spam" or "junk mail". Email spam, is a subset of electronic spam involving nearly identical messages sent to numerous recipients through email. Definitions of spam usually include the aspects that email is unsolicited and sent in bulk. Another subset of UBE is UCE (Unsolicited Commercial Email). The opposite of "spam", email which one wants, is called "ham", usually when referring to a message's automated analysis. In this project, we will be implementing email spam filtering using fuzzy logic that works in the server side keeping track of the incoming mail and the mails are transferred towards the recipient via Internet. It blocks the spam that passes via the engine and protects the user, free from spam and virus mails flooding into the inboxes and prevents the wastage of bandwidth.*

ACC NO. PR964/276 CMPN.

28. TITLE: DECISION SUPPORT SYSTEM FOR TELECOMMUNICATION SYSTEM.

AUTHORS: Divya Bhat (BE / CMPN A / 09)
Harshita Kotian (BE / CMPN A / 45)
Charvi Kunder (BE / CMPN A / 47)

GUIDE: Prof. Snehal Kulkarni (Lecturer)

ABSTRACT: *Decision support systems combine individual's and computer's capabilities to improve the quality of decisions. Modern organizations use several types of decision support systems to facilitate decision support. Data mining extends the possibilities for decision support by discovering patterns and relationships hidden in data and therefore enabling the inductive approach of data analysis.*
Tariff plan designing in a telecom company involves complicated decision-making processes that require different types of information and knowledge.
1) Costs and how they vary with sales volume
2) Sales and how they vary with prices
3) Impact of competitor prices on the sales of the company's plans
Instead of attracting new customers, they would like to perform as well as possible more business operations for customers in order to keep existing customers and build up long-term customer relationship. Based on this reason, the project aims at optimizing the internet tariff plans based on the profits made and customer preference. The aim of the system is to enable the service provider to gain vital insights into the prevailing trends and judge the profits made. The knowledge thus gained can be utilized to identify the plans that need to be modified according to customer preference. The system will also help in finding out what are the chances that a customer may port out.

ACC NO. PR965/277 CMPN.

29. TITLE: COMPUTERIZED ADAPTIVE TESTING.

AUTHORS: Meril Dsouza BE/CMPN A/25
Mona Martis BE/CMPN A/53
Rossy Coutinho BE/CMPN B/06

GUIDE: Prof. Safa Hamdare

ABSTRACT: *The conventional learning environment is being rapidly supplemented by an E-Learning environment, particularly Computer Assisted Instruction (CAI). The arrival of the computer in educational testing has led to the current popularity of adaptive testing-a testing format in which the computer uses statistical information about the test items to automatically adapt their selection to a real-time update of the test taker's ability estimate. Each learner has different learning status and therefore different test items should be used in their evaluation. CAT (Computer Adaptive Testing) successively selects questions so as to maximize the precision of the exam based on what is known about the examinee from previous questions. Using Item Response Theory, CAT can adjust the degree of difficulty of test items dynamically depending on examinee's ability. The name item response theory is due to the focus of the theory on the item, as opposed to the test-level focus of classical test theory. From the examinee's perspective, the exam seems to tailor itself to his/her level of ability. For example, if an examinee performs well on an item of intermediate difficulty, he will then be presented with a more difficult question. Or, if he performs poorly, he will be presented with a simpler question. Compared to static multiple choice tests that nearly everyone has experienced, with a fixed set of items administered to all examinees, computer-adaptive tests require fewer test items to arrive at equally accurate scores.*

30. TITLE: IRIS RECOGNITION SYSTEM.

AUTHORS: Flevia Fargose BE/CMPN B/13
Glancy Rodrigues BE/CMPN B/39
Olivia Rodrigues BE/CMPN B/40

GUIDE: Prof. Jayashri Mittal

ABSTRACT: *A project is always a coordinated, guided and scheduled team effort aimed at realizing common minimum goals. It is executed by team members, though it never reaches completion by team efforts alone, nor does it reach the far off shores, unless there is lighthouse to guide the ship sailing astray.*
We would like to express our deep gratitude and special thanks to all those people who have helped and guided us throughout our project. We would like to thank our project guide Prof. Jayashri Mittal for her constant supervision, encouragement and her valuable suggestions. We sincerely thank our project co-ordinator Prof. G. Anuradha and Prof. Safa Hamdare for their rigorous efforts and constant support in guiding us throughout. We thank Prof. Yogesh Karunakar for his help and providing necessary information in implementation of the project. Our efforts would have been incomplete without thanking our principal Prof. (Dr) A. K. Sen and our mentor Prof. Bidisha Roy, Head of Department; Computer whose guidance made this project complete.

We are also grateful to our college, all our teaching and non-teaching staff, those who have directly or indirectly helped us to make this report a successful one. We would also like thank our friends and family members for their help and support.

ACC NO. PR967/279 CMPN.

31. TITLE: IMAGE STITCHING AND MISSING VIEW REGENERATION.

AUTHORS: Viviana Lopes BE/CMPN B/23
Ruchita Rodrigues BE/CMPN B/41
Sarah Rodrigues BE/CMPN B/43

GUIDE: Prof. Dakshata Panchal

ABSTRACT: *We would like to extend our sincere thanks to all those individuals who extended their kind support and help in making our endeavor success. We are highly indebted to our institute, St. Francis Institute of Technology and the Computer Department for providing us with this learning opportunity along with the required resources to accomplish our task.*
We would like to sincerely thank our project guide ***Prof. Dakshata Panchal*** *for her guidance and constant supervision as well as for providing necessary information concerning betterment of the project.*
Our effort would be incomplete without ***Prof.Yogesh K*** *.We would also like to thank* ***Prof.Vincy J****,* ***Prof.Kavita S****,* ***Prof.Anuradha G*** *for their constant support and guidance in making the project a success. Also, a special thanks to the Head of Department, Computer Engineering,* ***Prof.Bidisha Roy*** *for giving us an opportunity to do the project and also for guiding us through each and every phase of the project. Also we would like to thank Mr.Nelson A. for his constant support during the later stages of our project.*
A word of gratitude to friends and families of all the team members, who have significantly contributed to this project by providing their insightful inputs and innovative suggestions.

ACC NO. PR968/280 CMPN.

32. TITLE: CONTROLING THE MOUSE WITH GESTURE USING WEBCAM.

AUTHORS: Brian Alex D'souza BE/CMPN/B 12
Rohan Philip Lopes BE/CMPN/B 22
Nimish Nelson Main BE/CMPN/B 24

GUIDE: Prof. Shamsuddin S. Khan

ABSTRACT: *CONTROLING THE MOUSE WITH GESTURE USING WEBCAM is a project based on image processing. As the name suggests the project deals with movement and functioning of the mouse pointer using color detection. The input for the project will be taken from a web cam i.e. live video. The main goal of this project is to perform all the activities which are traditionally performed by a mouse, or touch pad using finger or any pointing object using the image processing concept of color detection. All the mouse functions including movement, right clicking, left clicking, and etc. Will be performed with fingers using color detection. Over the recent years, Computer Vision has started to play a significant role in Human Computer Interaction. With efficient object and color tracking algorithms, it is possible to track motion of human hand and fingers in real time using a simple web camera. This is the main background of this project. Therefore, the project aims in replacing the traditional mouse and touch pads with human hand (fingers) to perform all their traditional functions.*

ACC NO. PR969/281 CMPN.

33. TITLE: GPS BASED CONSIGNMENT TRACKING SYSTEM.

AUTHORS: Leonard D'lima (BE/CMPN A/08)
Asmita Govardhane (BE/CMPN A/16)
Keyur Vakharia (BE/CMPN A/64)

GUIDE: Ms. Vincy Joseph (Assistant Professor)

ABSTRACT: *Information Technology (IT) has become ubiquitous and is changing every aspect of how people live their lives. Recent advances in our ability to communicate and process information in digital form— a series of developments sometimes described as an "IT revolution"—are reshaping the economies and societies of many countries around the world. Because of this, the traditional manual processes in many of the companies are been replaced by new Automation Systems which automate the processes which are critical for businesses and whose growth relies on those.*

One of such process is the management of consignments in the companies which are packaged to be sent to the various customers living in different countries around the world. This is an interesting android application developed for managers who would like to keep an eye on their consignments and also to help supervisors get directions online and updating the consignment database without having to visit the firm daily and having to report once or twice a week.

Main idea of this application is as the name suggests tracking the locations of consignments so as to improve consignment delivery system. Additional features would be secure and personal tracking, map location, giving exact location of the consignment to the customers through an SMS. Managers can easily view the locations of their consignments and notify the customers beforehand in case of late delivery. Alarm system will be kept to warn the supervisor and manager that consignment hasn't reached a certain place at a particular time. The tracking will be done using GPS system available in the mobile device. The above features help both manager

and employees to work on same lines together and run the business smoothly. It is a very useful application for small and medium size firms.

ACC NO. PR970/282 CMPN.

34. TITLE: HOME DOMOTICS SYSTEM.

AUTHORS: Brin Pereira BE/CMPN B/31
Saly Rodrigues BE/CMPN B/42

GUIDE: Prof. Safa Hamdare

ABSTRACT: *Power consumption has become one of the major leading issues. People at domestic level suffer from load-shedding while in some cities we find that electricity is wasted in ample amount, for example, Malls. Hence to reduce the electricity usage, there are various technologies available, implementing those will save electricity. But implementation of it is limited due to its higher costs.*
Our project includes an idea of saving power in a person's house and making it a smart home to live. To reduce the unwanted power consumption, we will be implementing the feature of controlling light of rooms and corridor based on human motion. We will capture human motion through sensors and based on the logic lights of room and corridor will be switch on or off. Future implementation of project can be done on controlling dimming of light according to the day and night environment. Meaning that if it is sunny outside then sensors would sense it and will dim the light. Counter will be maintain to track the number of persons entering and exiting the house and based on that switch the light/appliances. Initially counter would be zero means all lights are off, when the person moves in the house the counter will be incremented and no action will be performed. But as soon as person moves out of house counter will be decremented and when it comes back to initial value and then if any appliances are on, it would be switched off.
The main goal of applying home domotic technique is to enable residents to perform normal task in a simpler and more efficient manner.

ACC NO. PR971/283 CMPN.

35. TITLE: HIGHLY CONFIDENTIAL SECURITY SYSTEM.

AUTHORS: Acquin Dmello (BE/ CMPN-B/ 09)
Sagar Dmello (BE/ CMPN-B/ 10)
Alphius Gonsalves (BE/ CMPN-B/ 15)

GUIDE: Mrs. Sonal Dongre (Lecturer)

ABSTRACT: *The present scenario of having your confidential information being safe is very critical. Also people tend to forget their confidential credentials now and then. More over the risk of having your confidential information in any random device like mobile phones or laptops is highly risky. We propose a Highly Confidential Security System which will allow people to store their confidential information such as Bank account number, PAN Number etc. And also images, videos and other files in a highly secure manner. It is a software locker which can hold user sign in Information. To meet this need we found an All-in-one solution called **H**ighly **C**onfidential **S**ecurity **S**ystem (HCSS). This system, with the help of certain modules, can provide a very secure mobile experience. There are four modules to meet this need. This project also meet the users need to share confidential data over the network in a secured manner. The data can be shared via any file sharing application that is installed on the Android device. The system will help user in logging in to the client system for which it is holding/storing the password, either by the software interface. We will provide our users with an easy to use interface to upload their files and retrieve them as when required.*
Information will be secured using the fast data Encryption system ADVANCED ENCRYPTION STANDARD (AES) which is considered to be the most secure algorithm or any other provided algorithms. Thus we will provide our users their own personal security system online.

36. TITLE: COMPUTATIONAL CREATIVITY: DIGITAL POEMS.

AUTHORS: Pankti Kansara 19
Carl Saldanha 47

GUIDE: Ms. G. Anuradha (Associate Professor)

ABSTRACT: *Computational creativity, just like human creativity, can be explored in various fields viz. linguistic creativity, music tec. In this project, the focus is on computational linguistic creativity.*
Poetry is a unique artifact of the human language. The defining feature of a good poem is a strong unity between content and form. Automatic generation of poetry requires intelligence, world and linguistic knowledge and creativity. The proposed system describes a corpus-based poetry generation system. This system used templates to construct poems according to constraints. The constraints can be given on rhyme, syllable counts and the domain of the topic. Automated poetry generation has been a mainstay of computational creativity research. The aim of this project is to build a fully-autonomous computer poet. This aim acknowledges that the poems generated will not provide the usual opportunities to connect with a human poet. And therefore, it involves providing a suitable substitute for the missing aspects of humanity and a context within which a poem can be read.

Using Genetic Algorithm, the system will try to improvise its performance over time. The poems generated are presented to the user to rate. Based on these ratings, a new set of improved poems are generated.

ACC NO. PR973/285 CMPN.

37. TITLE: Digital Ticketing.

AUTHORS: Rashmi Kanekar (BE/CMPN B/18)
Pradhyumna Khandekar (BE/CMPNB/20)
Ruchit Shinde (BE/CMPN B/57)

GUIDE: Dr. Vikram V. Shete (Assistant Professor)

ABSTRACT: *The Mumbai Suburban Railway (MSR) is the lifeline of Mumbai and it serves as a public transport system for Mumbai Metropolitan Region. The MSR is the second busiest rapid transit system in the world. Spread over 465km, the suburban railway operates 2342 train services and carries more than 7.24 million passengers daily. The number of passengers in the Mumbai Suburban Railway (MSR) system is increasing at an alarming pace every single day. The existing ticketing system is causing a considerable increase in the travel time due to major drawback- 'long queues' at ticketing counter, which absorbs a significant portion of the travelling time. Digital Ticketing is a system based on GSM Technology. This system will allow the users to book the local railway tickets and railway pass by SMS. It is utilized to automate the ticketing method of railways by SMS. With this new facility passengers don't have to wait long in queues anymore as they will now get ticket through SMS in just minutes. So we are planning to implement a system in which by just sending the source and destination along with the user name via SMS to the server, the user can get ticket via SMS from the server.*

ACC NO. PR974/286 CMPN.

38. TITLE: VOICE BASED WEB BROWSER.

AUTHORS: SELWYN D'MELLO 11
NEVIN DABRE 07

GUIDE: Prof. VARSHA NAGPURKAR

ABSTRACT: *This paper reviews the topic of voice based web-browser. Voice recognition is a process that recognizes our human voice to produce sentence of word or commands. The output of voice recognition systems can be applied in various fields. Therefore, it will be implement in this project by expand a web browser with speech recognition. Nowadays, most of*

the web browsers don't support speech recognition. For those who are disabilities in typing will facing problem during the web surfing. In this project we will focus on the method to develop prototype speech recognition by using Vb.net, a technology such an agent is implemented in the way for solving about the speech recognition. Vb.net provides necessary environment and libraries for voice recognition. The main objective of the project is to build a prototype of speech recognition to navigate a web browser in English language with continuous and speaker independent. Throughout the project, Vb.net is utilized to build the prototype. Moreover common research methodology is applied for the project development.

ACC NO. PR975/287 CMPN.

39. TITLE: CONTENT BASED AUDIO RETREIVAL.

AUTHORS: Joylina Almeida BE-CMPN|B|01
Tejal Correia BE-CMPN|B|05
Brynal Tuscano BE-CMPN|B|63

GUIDE: Prof. Jayashri Mittal

ABSTRACT: *Music is one of the most popular types of online information and there are now hundreds of music streaming and download services operating on the World-Wide Web. Some of the music collections available are approaching the scale of ten million tracks and this has posed a major challenge for searching, retrieving, and organizing music content. We have selected* ***CONTENT BASED AUDIO RETRIEVAL*** *as our project topic. It can be useful for a variety of purposes and audiences. In record stores, customers may only know a tune from a record they would like to buy, but not the title of the work, composer, or performers. It could be interesting to have a computer do the task of identifying melodies and suggesting records. A search engine that finds musical scores (notations of musical works) similar to a given query can help musicologists find out how composers influenced one another or how their works are related to earlier works of their own or by other composers. This task has been done manually by musicologists over the past centuries. If computers could perform this task reasonably well, more interesting insights could be gained faster and with less effort.*
Copyright infringement could be resolved, avoided or raised more easily if composers could find out if someone is plagiarizing them or if a new work exposes them to the risk of being accused of plagiarism. Content based music retrieval could facilitate such searches. The retrieval of music can be done by firing an audio query. It will retrieve all documents that are somehow similar or related to the query from a music collection. It can be loosely classified according to their specificity, which refers to the degree of similarity between the query and the database documents.

ACC NO. PR976/288 CMPN.

40. TITLE: CUSTOMIZABLE E-COMMERCE WEB APPLICATION USING CONFIGURATOR.

AUTHORS: Nirav Sheth BE/CMPN B 55
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Megha Vyas BE/CMPN B 68

GUIDE: Mrs. Snehal Kulkarni (Lecturer)

ABSTRACT: *The competitive environment of companies has increasingly intensified over the past few years due to globalization, high rate of innovation and scarcity of resources. Delivering products that meet the requirements of individual customers complicates the production process, and diminishes the benefits of the economy of scale. If the product offered by the company does not meet the requirements of the buyer, then they purchase a competitive product, resulting in the loss of the company.*
By exploring commonality among products, this complexity can be significantly reduced. Mass Customization is such a process that uses product configurator that helps the customers to identify their individual needs and assists to transform these needs into a customized product. The Configurator lets you immerse yourself in the design process, explore the numerous possibilities and compare the options. Then view your product from different angles in a range of settings and forward your details to your local dealer.
Also many other features like companies suggested products, secured online payment using a secured payment gateway like paypal etc. are provided.

ACC NO. PR977/289 CMPN.

41. TITLE: NEXT-GENERATION MAIL APPLICATION FOR FIREFOX OS.

AUTHORS: Rini Meledath BE/CMPN B/26
Aaditya Saraf BE/CMPN B/48
Aagam Shah BE/CMPN B/50

GUIDE: Mrs. Varsha Nagpurkar (Assistant Professor) & Dr. David Rajchenbach-Teller (Tech Lead Mozilla Firefox)

ABSTRACT: *The idea of open web apps is to allow developers to create rich experiences that run across multiple devices and form factors using the same web standards and open technologies that many of them will be accustomed to already, such as HTML5, CSS, and JavaScript. This project is part of the ongoing Open Web Applications effort led by* ***http://www.mozilla.org*** *to liberate users from the closed, locked apps and app stores. Open Web Applications bring the power and the freedom of the web to desktops, tablets, cell phones. These "web apps" will be available as both paid and free download, and at this point it looks like almost all web browsers will support them. They utilize a combination of both server side and*

client-side logic, and are poised to take advantage of the popularity of mobile devices as well as more traditional desktop-based web browsers. Email is one of the most prevalent personal and business communications tools today, but it exhibits some significant drawbacks. Unlike telephone conversations or face-to-face meetings, email messages are received in the same way regardless of a user's level of interest and a single sender can flood multiple receivers. This application will help overcome the drawbacks of traditional email applications by providing features that will help users to set their own priorities.

ACC NO. PR978/290 CMPN.

42. TITLE: VOICE CONTROLLED DESKTOP SYSTEM.

AUTHORS: Rohan Pinto BE/CMPN B/34
Tanushree Shanbhag BE/CMPN B/54
Janhavi Tikam BE/CMPN B/61

GUIDE: Mr. Rajkumar Shende

ABSTRACT: *Speech recognition by machines is an important technology in the 21st century. Speech signals are picked up by a microphone, digitized and processed by a computer. Typically, a frequency analysis of the speech signal is performed by the computer, that is, the spectral envelope of the signal is computed and used as features that represent the signal. These features are then compared to stored templates or models of sounds/words to classify them.*
This approach, although marginally successful, has limitationswhen the sounds are observed in a noisy, interference-prone environment. We show that using the proposed features in a speech recognition system results in recognition rates at least comparable to the rates obtained by the best traditional feature extraction techniques. Also the computer can take as input, commands given in the form of speech and execute them. We show that a user is able to control the computer by voice with some interaction via a touch/keyboard/mouse interface.

ACC NO. PR979/291 CMPN.

43. TITLE: UBIQUITOUS HEALTHCARE SERVICES.

AUTHORS: Trevor Sequeira BECMPNB/49
Rahul Vishwakarma BECMPNB/65
Rahul Vithlani BECMPNB/66

GUIDE: Ms. Bidisha Roy

ABSTRACT: *Access to health care varies across countries, groups, and individuals, largely influenced by social and economic conditions as well as the health policies in place. Countries and jurisdictions have different policies and plans in relation to the personal and population-based health care goals within their societies. Ubiquitous Health Care Services offer users the possibility of managing their own health data. Moreover, most users of these applications, like patients and doctors, have an increasing interest in using Health Care to improve healthcare costs, quality, and efficiency. It consists of two parts: a mobile application that physicians can use to access a patient's electronic medical records, and a cloud-based storage system that is inexpensive and doesn't require additional hardware. Users (physicians, patients and medical labs) can access the electronic medical records using an internet connection. They can retrieve, manipulate and save data to the cloud. The data stored online gets updated every time the doctor's prescription is changed, if the patient changes his doctor or his pharmacist. The backend is a cloud computing service.*
This service helps to retrieve, manipulate and save medical records. Utilizing a cloud service helps to achieve one of the project's main goals: building cost-effective solution with the available hardware. The solution is provided through mobile phones, cloud service and low-cost subscriptions. This helps reduce the consumption of paper for giving prescriptions etc. thereby saving trees.

ACC NO. PR980/292 CMPN.

44. TITLE: STEGANOGRAPHY.

AUTHORS: Surobhi Biswas BE/CMPN B/03
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Roshni Thekkath BE/CMPN B/60

GUIDE: Mrs.Kavita Sonawane (Associate Professor)

ABSTRACT: *Today in the age of digital communication the exchange of hidden message plays an important role. Steganography is a technique of hiding information in digital medium. Steganography is an image processing technique used for hiding information and challenges an eavesdropper to break into a message. Steganalysis in opposite is a technique used to real the hidden messages. Nowadays, Steganography has emerged as an important area of research. There are three major requirements for effective steganography: High embedding capacity, imperceptibility and robustness. It is very difficult to maximally satisfy all these requirements simultaneously.*
The categorization of steganographic algorithms into the three categories, namely, spatial domain, frequency domain and adaptive methods, is unique to this work and there is no claim that it is a standard categorization. Adaptive methods can either be applied in the spatial or frequency domains as such they are regarded as special cases. Transform domain techniques for steganography have been proved more robust against various attacks such as image filtering, noise, image cropping, compression etc. Using transform domain techniques it is possible to

embed a secret message in different frequency bands of the cover. Embedding in the high frequency creates less impact on the perceivability of the media but provides low robustness to different attacks.
Steganography is employed in various useful applications, such as, copyright control of materials, enhancing robustness of image search engines and smart IDs where individuals' details are embedded in their photographs. Other applications are video-audio synchronization, companies' safe circulation of secret data, TV broadcasting, and also medical imaging. In basic LSB based technique, the bits from secret image simply overwrite LSBs, i.e. maximum four least significant bits of the carrier image, while other higher order bit planes are preserved. The Discrete Cosine Transform (DCT) transforms the image from spatial domain to frequency domain. It separates the image into spectral sub-bands with respect to its visual quality, i.e. high, middle and low frequency components.
We propose a technique wherein the secret data gets appended behind the master file. The strength of proposed technique lies in secrecy of the parameters that are transmitted separately. Without knowledge of these parameters it is not possible to extract the hidden secret image from given stego image. The proposed steganography scheme works perfectly with minimal distortion of the image quality as compared to LSB based steganography scheme.

ACC NO. PR981/293 CMPN.

45.TITLE: METAMORPHIC VIRUS DETECTION.

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ABSTRACT: *Signature-based detection relies on patterns present in viruses and provides a relatively simple and efficient method for detecting known viruses. At present, most anti-virus systems rely primarily on signature detection.*
Metamorphic viruses are one of the most difficult types of viruses to detect. Such viruses change their internal structure, which provides an effective means of evading signature detection. Previous work has provided a rigorous proof that a fairly simple metamorphic engine can generate viruses that will evade any signature-based detection.
In this project, we generate metamorphic forms of the virus using virus generators. We analyze the same set of viruses using a previously developed approach based on hidden Markov models (HMM). This HMM based technique easily detects the viruses.

ACC NO. PR982/294 CMPN.

46.TITLE: SMART LOGIN FOR ONLINE BANKING SYSTEM.

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ABSTRACT: *Today computers are used for a wide variety of applications and its trending form is providing banking functionality through the internet. For online transactions, users are required to authenticate the transaction through their password. Password is a group of letters which may or may not make sense. It is a way by which entry into a system is restricted. Usually it is recommended that password should be a word which does not have dictionary significance. But are always burdened with overhead of remembering those passwords, and if passwords are easy to remember than they also pose a threat that they can be easily cracked. Further the authentication process is being enhanced to use graphical password, motivated by the fact that human remember picture better than text. It is also difficult to devise automated attacks for graphical passwords. As a result, graphical password schemes provide a way of making more human-friendly passwords while increasing the level of security. To address these issues, Text based graphical password is proposed that is shoulder surfing resistant, while seamlessly integrating the textual and graphical passwords. It also safe guards itself from key logging software, increasing the level of security. Text based graphical password enables the users to use their passwords without the fear of password being captured by anyone else. While the user has its original password secure as he would input a onetime session password at each authentication process during transactions.*

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47.TITLE: Soldier Assistance Ecosystem (SAES).

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ABSTRACT: *Every Indian contributes something as far as the defence of India is concerned. But a soldier plays an unparalleled role in defending and protecting the borders of India. Our nation spends about 2.5% of its GDP on defence. A major portion of this goes towards training and providing facilities to soldiers who risk their lives every single day on the border. The Soldier Assistance Ecosystem (SAES) is a family of robots. It will be used to assist the military in specific activities of patrolling, light-weight supplies and casualties during combat. This report provides a framework of three robots.*

*1. **Daksha:** This patrolling robot will scan the borders while soldiers will receive a live feed from it in a nearby safe zone.*

*2. **Phoenix:** This Unmanned Aerial Vehicle (UAV) is designed to be a multipurpose platform with the primary function of providing courier service during emergencies. Besides that, aerial reconnaissance, package delivery, thermal imaging, search and rescue operations are also envisioned for this platform.*

*3. **Sarathi:** This vehicle will act as a smart stretcher to extract injured soldiers from the combat zone and bring them to a safe location. The objective of this work is to provide a locally developed low cost solution to assist our brave soldiers in their efforts to keep our borders safe.*