

**CATALOGUE OF B.E PROJECT**  
**REPORTS**

**BATCH 2014-2015**

**[BRANCH – INFT, EXTC, CMPN]**

**ABSTRACTS**

St. Francis Institute of Technology, Mumbai University of  
Mumbai 2014-2015

## INTRODUCTION

The Library and Information Resource Centre team is happy to bring out this catalogue listing B. E. Project Reports submitted by the 2014- 15 batch students to the Institute. This document covers abstracts of the 47 projects submitted by 2014-15 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, title, name of the guide and abstract. 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.

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**Bibliography of Project Report BE INFT**  
**2014-2015**

1. **Title:** Personalized Plans Using Data Mining.

**Author:** Smith D'mello, Darryl Fernandes, Vishal Carnerio

**Guide:** Mr. Vaibhav Kala

**Abstract:** Generates personalized plans based on the usage profile for specific users. It is done on three main parameters like Recharge done, No of calls and data usage.

**Acc. No.:** PR1025/444INFT

2. **Title:** Interactive Learning System.

**Author:** Sheffield Burboz, Vivian Foss, Tyrone Almeida, Alistair Almeida.

**Guide:** Mrinmoyee Mukherjee

**Abstract:** The Interactive Learning System (ILS) best depicts the role that technology can play in correcting problems that are faced in today's educational means. Experience proves



that the best way to avoid a mismatch between supply and demand is to deploy technology in response to clearly articulated needs. This project is designed to facilitate the development technology that will adapt knowledge to the needs of the learners. The four aspects that would be addressed are content management, access to study materials, system security and tracking student activity boards. The software helps the teacher the necessary study materials and present it to the students in the class in an interactive real time environment. All the study material is presented in ordered sequence which satisfies the required for the academics. The software can also track students work by online assessment, tailoring feedback and hints along the way. The Motivation of this project is to allow electronic education to incorporate the value of interactivity affordable to a student by machine with the help of the teacher. The technology encompasses aspects derived from various fields of study including computer science, education and psychology. Thus the adaptive educational hypermedia focuses on providing a unique user experience in real time.

**Acc.No. PR1026/445INFT**

**3. Title:** E-Currency

**Author:** Melroy Anthony, Kenneth Fernandes, Rasia Ferriera, Jacqueline Furtoda

**Guide:** Purnima A. Kubde

**Abstract:** In our today's world, basically the transactions are being done by using paper notes and coins. This is done because it creates a unified standard for the current monetary transaction system. The following project uses the QR code scanning technology wherein, the QR code of every user is being generated to formulate a unique identification for authentication purposes of the user. This information is being used by the administrator of the system i.e. banks, financial institutions, etc. to maintain the flow of the system. If the user possesses an Aadhar Unique Identification Card then the QR code of the same is being used as an authentication. Initially the user has to login to the application by entering the username and password set or provided during the registration of the user account. The QR code is basically a website of the same end-user where all the vital information is stored in the virtual database. The scanning of the QR code is the driving force of the transaction to take place between the two recipients. This system will not only solve the loopholes of the currency note system, but will also prove one of the best and most efficient modes of transfer of money with accuracy. It basically enhances the transaction in the peer-to-peer basis.

**Acc.No: PR1027/446INFT**

**4. Title:** Decision Support system for medical diagnosis using data mining

**Author:** Donila Almeida, Kajal Teli, Valencia Carvalho, Kalpita Patekar

**Guide:** Vandana Patil



**Abstract:** The healthcare industry collects a huge amount of data which is not properly mined and not put to the optimum use. Discovery of these hidden patterns and relationships often goes unexploited. Our research focuses on this aspect of Medical diagnosis by learning pattern through the collected data of diabetes, hepatitis and heart diseases and to develop intelligent medical decision support systems to help the physicians. In this paper, we propose the use of decision trees, CART algorithm to classify these diseases and compare the effectiveness, correction rate among them. The major challenge facing the healthcare industry is the provision for quality services at affordable costs. A quality service implies diagnosing patients correctly and treating them effectively. Poor clinical decisions can lead to disastrous results which is unacceptable. Even the most technologically advanced hospitals in India have no such software that predicts a disease through data mining techniques. There is a huge amount of untapped data that can be turned into useful information. Medical diagnosis is known to be subjective; it depends on the physician making the diagnosis. Secondly, and most importantly, the amount of data that should be analyzed to make a good prediction is usually huge and at times unmanageable. In this context, machine learning can be used to automatically infer diagnostic rules from descriptions of past, successfully treated patients, and help specialists make the diagnostic process more objective and more reliable. Decision support systems are defined as interactive computer based systems intended to help decision makers utilize data and models in order to identify problems, solve problems and make decisions. The mission of decision support systems is to improve effectiveness, rather than the efficiency of decisions. A decision support system which can learn the relationships between patient history, diseases in the population, symptoms, pathology of a disease, family history and test results, would be useful to physicians and hospitals. However, the development of such system presents a daunting and yet to be explored task. Many factors have been attributed but inadequate information has been identified as a major challenge. To reduce the diagnosis time and improve the diagnosis accuracy, it has become more of a demanding issue to develop reliable and powerful medical decision support systems (MDSS) to support the yet and still increasingly complicated diagnosis decision process.

**Acc.No:** PR1028/447INFT

5. **Title:** Face Recognition using Artificial Neural Networks

**Author:** Shyam Gawade, Princia Vadela, Ruth Baptista, Trashika Gomes

**Guide:** Ms. Nitika Rai

**Abstract:** The field of biometrics involves identifying people. It promises a convenient and secure alternative to typed passwords, mechanical keys, or written signatures for access to computers, facilities or vehicles. Personal access control systems have been implemented using visual recognition for identification of individuals. Visual recognition systems use characteristic portions of the human body for identification purposes. Face recognition systems essentially operate by comparing some type of model image of a person's face (or representation thereof) to

an image or representation of the person's face extracted from an input image. Face recognition, is becoming an increasingly popular feature in a variety of applications. We present a biometric access control system which is based on the identification of human faces in an upright frontal face position where recognition phase is being implemented by artificial neural network. The motivation for this endeavor stems from the observation that the human face provides a particularly interesting structure on which identical biometric assessment can be performed. Face images are being obtained by a web camera and then processed using the image processing techniques like Discrete Cosine Transforms (DCT). This processed image acts as the input to the neural network which classifies the image to which class it belongs. We propose to use the back propagation to train the images. The main aim is to optimize the system to efficiently train and classify the individual, final aim will be a MATLAB built biometric software application for human face recognition.

**Acc.No:PR1029/448INFT**

**6. Title:** Penguin Download Manager

**Author:** Abhishek Parab, Ghanshyam Radia, Prashant Gupta, Trayambkeshwar Nishad

**Guide:** Ms. Mudra Doshi

**Abstract:** Our project PDM aims to provide means to recover from errors without losing the work already completed, and can optionally split the file to be downloaded into 2 or more segments, which are then moved in parallel, potentially making the process faster within the limits of the available bandwidth. Our project aims to provide better and efficient download manager to all Linux users and contribute this project to Free and Open Source Society. Our project provides download manager which can be used in all Linux Operating System. Our project aims in increase in downloading speed, download file in batches. Our project aims to recover from errors without losing the work already completed. Our project also aims at putting constraints on download i.e., when a website is visited, PDM restricts virus to get downloaded. PDM aims at providing constraints on speed while surfing. PDM also provides facilities like pause, resume, stop download. It would be software that allows you to download videos from YouTube and other media sites.

**Acc.No:PR1030/449 INFT**

**7. Title:** Data Management System for Gera Service Provider using MVC4 Architecture

**Author:** Bhoomi Shah, Arpita Gaonkar, Hetal Rathod, Vishesha Agarwal.

**Guide:** Mrs. Monalisa Kini

**Abstract:** This is an application to manage their customers, services and other information very effectively by using MVC Architecture with Web API. Purpose of DMS is to develop

software which will be very efficient for any providers to manage their data. It includes filters like date filter and user search filter so that it will become very efficient to fetch particular information very easily. It is basically based on MVC architecture that is the major advantage, because there will be more reusability of business logic. MVC is a software architectural pattern for implementing user interface .It divides a given software application into three inter-connected parts, so as to separate internal representation of information from the ways that information is presented to/or accepted from user. We are also going to use Web API which is light weight framework that will provide support to use same business logic for any mobile applications too. This service will be running on local host for demo purpose, then any other application can use this service by just making request to this service. This is the major benefit i.e. same service can be reuse many times in many applications. Also we will be providing many more functionalities like printing of bill, sms notification about the expiry of plan.

**Acc.No:PR1031/450INFT**

**8. Title:** Detecting word substitution in text.

**Author:** Leo markose, Harshal naik, Prasad saitwal, Zubiar sayyed.

**Guide:** Mr B.D Gokhale

**Abstract:** Searching for words on a watch list is one way in which large-scale surveillance of communication can be done, for example in intelligence and counterterrorism settings. One obvious defense is to replace words that might attract attention to a message with other, more innocuous, words. For example, the sentence "the attack will be tomorrow" might be altered to "the complex will be tomorrow", since 'complex' is a word whose frequency is close to that of 'attack'. Such substitutions are readily detectable by humans since they do not make sense. We address the problem of detecting such substitutions automatically, by looking for discrepancies between words and their contexts, and using only syntactic information. The project detects these substitutions to bring out the original content, with very high efficiency. Our project also suggests synonyms of a word and replaces the words with its synonym. This new sentence can be used as a reference to detect usage of the original article by others. The other part of this project is spell check and auto correct which suggests substitution for the words in an article which are typed wrongly or which does not exist in a dictionary and the same can be replaced based on the suggestion made by the user.

**Acc.No:PR1032/451INFT**

**9. Title:** Effective Key generation for multimedia Application

**Author:** Diksha Dhar, Ripson Dsouza, Haseeb Jaipuri, Melroy Saldhana

**Guide:** Mr.BD Gokhale



**Abstract:** An application which will use the concepts of steganography and cryptography to protect the data sent via that application from third party attack.

**Acc.No:PR1033/452INFT**

**10. Title:** Airport Tycoon- A Simulation and Time Management Game

**Author:** Arjun Mohan, Arnab Banerjee, Aaqyl Chagla, Priyank Cerejo

**Guide:** Ms. Nazneen Ansari

**Abstract:** Games have been used throughout time as an instrument of instruction for all different aspects of life. Puzzles to learn logic, mathematical games to enhance basic math skills, and even reading games to reading ability have all been used successfully to teach children the basic skills that they will need in life. It logically follows, then, that using computer games is an effective way to teach computing skills. The benefits of teaching algorithms by games are numerous, beginning with its potential to reverse a growing trend of lack of computer science popularity, and continuing to provide a fun learning environment in which students can approach abstract topics in a visual manner. Learning should be fun. When a Student is doing something that he deems as fun, he is able to grasp its concepts much more effectively, because he has a desire to learn more about it, and to work harder at it. There isn't a student in the world that would object to homework if it were a fun experience: instead would yearn for more. Thus, we are building a game that will teach management and many other concepts to the users as well as provide a good gaming experience.

**Acc.No:PR1034/453INFT**

**11. Title:** Multimedia Security for Image Encryption Using Secret Sharing Scheme

**Author:** Olivia Colaco, Lidiya D'Souza, Karthik Haritha, Anupama Jinde

**Guide:** Nazneen Ansari

**Abstract:** With an ever increasing growth of multimedia applications, security is an important issue in communication and storage of images, and encryption is one of the ways to ensure security. This project proposes image encryption and decryption process using zonal transformation matrix. The image is divided into zones of size 6 x 6. According to this, there are two levels of process. In the first level, the block matrix of 3 x 3 is constructed using the secret key. In the second level, the zone is formed from the block matrix. The two levels are repeated until all the zones are constructed. Finally, all the zones are combined together to form a new transformation matrix and is used for encryption purpose. The sender sends the secret in the form of polynomial's function value for their ID value. The receiver reconstructs the secret from the polynomial's function value. Then form the transformation matrix and decrypt the image to get

the original image. The comparison of the proposed method with Samier Secret Sharing methods reveals that the size of the share is smaller and the protection level is high.

**Acc.No:PR1035/454INFT**

12. **Title:** Recommendation System Using Analysis of Web Logs and Web Users Using Web Usage Mining.

**Author:** Anju Mathew, Susan, Mathew,

**Guide:** Bhavesh H. Pandya

**Abstract:** Recommendation uses Fuzzy Logic as it is relatively young theory. Major advantage of this theory is that it allows the natural description, in linguistic terms, of problems that should be solved rather than in terms of relationships between precise numerical values. This advantage, dealing with the complicated systems in simple way, is the main reason why fuzzy logic theory is widely applied. It also provides the idea of creating an extended log file and learning the user behavior.

**Acc.No:PR1036/455INFT**

13. **Title:** A New Algorithm For Inferring User Search Goals With Feedback Sessions

**Author:** Jonita Almeida, Dolcy Carvalho, Jagruti Dalmet, Malisa Dbritto

**Guide:** Bhavesh Pandya

**Abstract:** Identifying or inferring user's search goal from given query is a difficult job as search engines allow users to specify queries simply as a list of keywords which may refer to broad topics, to technical terminology, or even to proper nouns that can be used to guide the search process to the relevant collection of documents. Information needs of users are represented by queries submitted to search engines and different users have different search goals for a broad topic. Sometimes queries may not exactly represent the user's information needs due to the use of short queries with ambiguous terms. Hence, to get the best results it is necessary to capture different user search goals. These user goals are nothing but information on different aspects of a query that different users want to obtain. The judgment and analysis of user search goals can be improved by the relevant result obtained from search engine and user's feedback. Here, feedback sessions are used to discover different user search goals based on series of both clicked and un-clicked URL's. The pseudo-documents are generated to better represent feedback sessions which can reflect the information need of user. With this the original search results are restructured and to evaluate the performance of restructured search results, classified average precision (CAP) is used.

**Acc.No:PR1037/456INFT**

**14. Title:** Game Prediction System

**Author:** Terence Correia, Kim Coutinho, Trupti Kotian, Jay Bhatt

**Guide:** Mrs. Vaishali Jadhav

**Abstract:** Our project predicts the income of the up-coming games by using Naive Bayes prediction algorithm. It uses the past data as its source and calculates the value for the future, it takes into account attributes such as producer, developer, etc. and by calculating values for each combination of attributes in the past predicts how the combination of attributes would fare in the future market.

**Acc.No:**PR1038/457INFT

**15. Title:** Website Vulnerability Scanner

**Author:** Kajol Acharya, Jyotishri.B, Shivraj Bhaygude, Tanmay Damle

**Guide:** Tanmay Damle

**Abstract:** Web script crashes and malformed dynamically generated webpages are common errors, and they seriously impact the usability of Web applications. Current tools for webpage validation cannot handle the dynamically generated pages that are ubiquitous on today's Internet. We present a dynamic test generation technique for the domain of dynamic Web applications. The technique utilizes both combined concrete and symbolic execution and explicit-state model checking. The technique generates tests automatically, runs the tests capturing logical constraints on inputs, and minimizes the conditions on the inputs to failing tests so that the resulting bug reports are small and useful in finding and fixing the underlying faults. Our tool implements the technique for the JSP programming language. The tool generates test inputs for a Web application, monitors the application for crashes, and validates that the output conforms to the HTML specification.

**Acc.No:**PR1039/458INFT

**16. Title:** Application Of Data Mining For Marketing Of Online Games

**Author:** Prasad Hadkar, Anselm Fernandes, Haenon Mendes, Harsh Joshi.

**Guide:** Mr. Pramod Shanbhag

**Abstract:** Abstract Data mining is the process that attempts to discover patterns in large data sets. In many instances, predicting the outcomes of game events has always been a challenging and attractive work and is therefore drawing a wide concern to conduct research in this field. It utilizes methods at the intersection of artificial intelligence, machine learning, statistics and database systems. The overall goal of the data mining process is to extract information from a



data set and transform it into an understandable structure for further use. Application of data mining techniques in marketing of online games proves to be beneficial. In this work, an attempt has been made to show how data mining integrated with marketing including gaming parameters that are useful for decision making and better data management which would help the third party. This project describes the framework; which provides results based on current and historical data which consists of game genre, ratings, system preferable for playing and popular game between different age group. It suggests best suited game for the users along with the profit to the company. The outcome will reveal result of information related to games including various types of games such as action, adventure and sports games. This information would then prove to be of great use to company for decision making and planning sales strategy. Key words: Data mining, Machine Learning, Data Management and Games.

**Acc.No:PR1040/459INFT**

**17. Title:** Exam Cell Management System

**Author:** Mahesh Bachhav, Siddhesh Gawde, Sahil Dodti, Bhavya Chhdya

**Guide:** Winnie Fernandes

**Abstract:** Examinations are conducted on periodic basis in every educational institution. It should be systematic and proper. The manual conduction of examination is always tedious and cumbersome. All these problems can be solved by automating the examination system. By automating the examination system, the coordinators of the examination can conduct the examination systematically. Computerizing the examination system, the examinations are conducted smoothly, error free. This project is applicable to examinations conducted in colleges, schools or any other institutions conducting examinations. This project deals with the automation of whole process of examination work such as adding the details of the student(according to department, year etc), invigilators, class room etc and preparing examination schedules, invigilator allocation list, class room allocation list etc. The allotment of invigilators for each class room is automatically prepared for the examinations. The schedule of examinations can be generated by entering the details of examination. Thus the system helps solve various problems and provides simplicity to the process of Exam Management.

**Acc.No:PR1041/460INFT**

**18. Title:** Alien Face-Off: An iOS (iPad) App (Game)

**Author:** Tejas Karelia, Nitesh Kadam, Arjun Kantesaria, Rutuja Jadhav

**Guide:** Mrs. Nazneen Ansari

**Abstract:** Abstract Data mining is the process that attempts to discover patterns in large data sets. In many instances, predicting the outcomes of game events has always been a challenging

and attractive work and is therefore drawing a wide concern to conduct research in this field. It utilizes methods at the intersection of artificial intelligence, machine learning, statistics and database systems. The overall goal of the data mining process is to extract information from a data set and transform it into an understandable structure for further use. Application of data mining techniques in marketing of online games proves to be beneficial. In this work, an attempt has been made to show how data mining integrated with marketing including gaming parameters that are useful for decision making and better data management which would help the third party. This project describes the framework; which provides results based on current and historical data which consists of game genre, ratings, system preferable for playing and popular game between different age group. It suggests best suited game for the users along with the profit to the company. The outcome will reveal result of information related to games including various types of games such as action, adventure and sports games. This information would then prove to be of great use to company for decision making and planning sales strategy. Key words: Data mining, Machine Learning, Data Management and Games.

**Acc.No:PR1042/461INFT**

**19. Title:** Automated Student Attendance System Using NFC

**Author:** Abhilash Nair, Vaibhav Mhatre, Nikita Bhanushali, Remilda Dsilva

**Guide:** Remilda Dsilva

**Abstract:** Registering for attendance in education environments especially universities is a highly demanding activity as a result of increasing number of students. In the proposed system we would be designing a automated attendance system where all the records related to the attendance of a student would be registered over a web server. The attendance would be registered using an NFC sensor through which the student will record his/her attendance. NFC is a new, short range, high frequency, low bandwidth, and wireless communication technology. NFC communication is activated by touching an NFC enabled devices with an NFC tag, by bringing them into close range. In our proposed system two modes of operation will be used: Reader/writer mode (like smart poster) and Peer-to-Peer mode (like android beam). The difficulties and challenges involved in the current attendance registration process in a university environment can be reduced if not completely eliminated by automating the process. NFC is a new, short range, high frequency, low bandwidth, and wireless communication technology. NFC communication is activated by touching an NFC enabled device with the NFC tag, by bringing them into close range. In our proposed system two modes of operation will be used: Reader/writer mode (like smart poster) and Peer-to-Peer mode (like android beam). The system proposed in our project is a web based attendance system utilizing NFC technology. The difficulties and challenges involved in the current attendance registration process in a university environment can be reduced if not completely eliminated by automating the process. Moreover, automating an attendance system will also reduce the time spent unnecessarily on handling this

important process in an education institution, especially by looking at how the number of students are keep increasing in our institutions these days

**Acc.No:PR1043/462INFT**

**20. Title:** CAMP –Completely Automated Management of Project

**Author:** Shimpi Akshata, Cabral Marrisra, Dsouza Tanya, Barot Ronak

**Guide:** Ms. Mudra Doshi.

**Abstract:**

**Acc.No:PR1044/463INFT**

**21. Title:** BOX MAZE

**Author:** Salvius Soosai, Sagar Shah, Roystine Machado, Narayan Kulye,

**Guide:** Mr. Vaibhav Kala

**Abstract:** Can You Get A Rectangular Cube Into A Square Hole? Yes, you can & that we do into this game application. This is a PC based Application. This application aims at creating interesting environment to capture people's attention. This game tests the logical thinking and reasoning of the individual with criteria like path followed, number of trials etc. The scoring would be based the number of moves individual takes to take the rectangular block to the goal state. The user has a rectangular block which he has to rotate over the maze to reach the desired destination square in order to finish the level. The Pattern of the maze changes every level. In every level new obstacles are included in order to increase the complexity of the game. After every successful level he gets some utilities, which he can utilize in the proceeding levels to progress. Obstacles can be a stone/holes etc.

**Acc.No:PR1045/464INFT**

**22. Title:** Natural Language Query Processing

**Author:** Nikhil Shende, Rohit Kumar, Mithil Vasani, Chandresh Yadav

**Guide:** Bhavesh Pandya

**Abstract:** The main purpose of Natural Language Query Processing is for an English sentence to be interpreted by the computer and appropriate action taken. Asking questions to databases in natural language is a convenient and easy method of data access, especially for casual users who do not understand complicated database query languages such as SQL.

**Acc.No:PR1046/465INFT**



**23. Title:** Resume Analyzer

**Author:** Pooja Sawant, Ankita Vaidya, Aarti Prabhu, Reshma Mindhe

**Guide:** Kalpesh Kubal

**Abstract:** A company receives N number of resumes on daily basis for various posts. All the resumes are in different format for e.g. Gender: Female or F Qualification: Bachelor of Engineering or BE The system analyzes the resume and extracts the required details like name, contact details, experience, qualification etc. The data extraction will be done on the basis of keyword matching. The input to the system in this study is short text, specifically, job resumes. A resume is a short text, so the main content cannot be determined by the frequency of occurrence of particular keywords. The first step in text processing is to eliminate stop words from the documents. Stop word elimination enhances the text by saving space and improving searching speeds. Wikipedia defines stop words as words which are so common that they are useless to index or use in search engines. The algorithm has two main parts of the Text Analyzer Algorithm: Built Knowledge Tree and Text Analysis Process. Based on a set of keywords yet to be searched, a knowledge tree is built. Keywords can be a word or a phrase. The extracted data is placed in another format which is standard for company. Once the new format is ready, depending on the post required, the resumes are categorized and ranked accordingly. The resumes are ranked on the basis of qualification, experience and extra curriculum. Ranking assist the company in scheduling the interviews.

**Acc.No:PR1047/465INFT**

**24. Title:** Face detection and recognition

**Author:** Salvius Soosai, Sagar Shah, Roystine Machado, Narayan Kulye

**Guide:** Nitika Rai

**Abstract:** Humans have a remarkable ability to recognize faces in a variety of poses. It is highly desirable that this ability be replicated in computers and be utilized at the basic levels. The aim of this project work is to carry out a comparative evaluation of two popular face detection and recognition (FDR) algorithms on the basis of a few critical performance parameters. The performance metrics include processing time, computational efficiency and recognition rate. The algorithms shall also be evaluated for variations in image on the basis of parameters like change of expression, illumination, alignment/pose and background. This comparative study will be used to suggest suitable modifications to enhance the performance of the given FDR algorithms. We also aim to focus on the developments in the fields of image capturing, image enhancement and image segmentation in our project and study the impact of these newer technologies on the three algorithms. Our project can be used as a tool to explore the suitability of an FDR algorithm for different applications.

**Acc.No:PR1048/466INFT**

**25. Title: HIERARCHICAL SUPER RESOLUTION BASED INPAINTING**

**Author:** Sonia Kargutkar, Abhay Khandhar, Kalyani More Kushang Upadhayaya

**Guide:** Mrs. Payal Mishra

**Abstract:** Image inpainting refers to methods which consist of filling in missing regions (holes) in an image [1]. The main challenge is to fill in the hole that is left behind in a visually plausible way. In the past, this problem has been addressed by two classes of algorithms: 1) "Texture synthesis" algorithms for generating large image regions from sample textures 2) "Inpainting" techniques for filling in small image gaps. A combination of these two approaches was the exemplar-based texture synthesis. It contains the essential process required to replicate both texture and structure; the success of structure propagation, however, is highly dependent on the order in which the filling proceeds [2]. Exemplar-based inpainting based on local geometry was a novel inpainting algorithm which combined the advantages of PDE-based schemes and exemplar-based approaches. It relied on the use of structure tensors to define the filling order priority and template matching [3]. First a coarse version of the input picture is inpainted. The most important problem with respect to exemplar-based inpainting is related to the parameter settings such as the filling order and the patch size. This problem is addressed by hierarchical super resolution based inpainting by considering multiple inpainted versions of the input image. To generate this set of inpainted pictures, different settings are used. The user then selects any one of the inpainted pictures. We are implementing a reduced search region algorithm which can then be used to recover details on the missing areas in the future. The gain is both in terms of computational complexity and visual quality. However, to be less sensitive to the parameter setting of the inpainting method, the input picture is inpainted several times with different configurations [4].

**Acc.No:PR1049/467INFT**

**26. Title: Online Leave Management System for Educational Institution**

**Author:** Cleo Pereira, Madan Panth, Akshay Patil, Bhoomi Patel.

**Guide:** Mr Kalpesh Kubal

**Abstract:** This project is aimed at developing an online leave management system that is of importance to either an organization. The Leave Management System (LMS) is a web based application that can be accessed by the staff of a certain educational institute after being registered by the administrator into the system. This system can be used to automate the workflow of leave applications and their approvals. The periodic crediting of leave is also automated. There are features like email notifications, automatic approval of leave, report

generators etc.in this system. Leave Management application will reduce paper work and maintains record in more efficient way.

**Acc.No:PR1050/468INFT**

**27. Title:** Web Game (InfiKick) Using WebRTC

**Author:** Nishesh Doshi, Prathamesh Khamkar, Amol Nalawade, Gaurang Sudra

**Guide:** Mr. Vaibhav Kala

**Abstract:** This paper support for enabling real-time communication (RTC) in the Web is currently gaining momentum with the two main Internet standardization bodies — the IETF and W3C. Standardization activities in this area aim to define a W3C API that enables a Web application running on any device — through secure access to input peripherals (such as webcams and microphones) — to send and receive real-time media and data in a peer-to-peer (P2P) fashion between browsers. The API's design must allow Web developers to implement functionality for finding and connecting participants in a communication session. The W3C API will rely on existing protocols the IETF community has identified as the most appropriate for addressing network-related aspects (control protocols, connection establishment and management, connectionless transport, selection of the most suitable encoders and decoders, and so on). However, no clean separation exists between the two standardization activities, which clearly intersect at the interface between the application-level responsibilities residing in a single node and the intercommunication activities among remote nodes. Here, we discuss the growing interest in integrating interactive multimedia features into Web applications.

**Acc.No:PR1051/469INFT**

**28. Title:** Dynamically Heuristic Anti-Fraudulence

**Author:** Valentina Rodrigues, Siddhesh Shirke, Nishant Shetty, Tejaswini Patil

**Guide:** Shree Jani Jaswal

**Abstract:** Together with the growth of e-commerce transaction, Phishing the act of stealing personal information - rises in quantity and quality. Phishing is a significant problem involving fraudulent email and web sites that trick unsuspecting users into revealing private information. Phishing is an arms race, with criminals continually devising new ways of tricking people. We propose an approach for detecting phished web sites, based on the TF-IDF information retrieval algorithm that produces weights that assess the term importance to a document, by counting its frequency along with the evaluation of several heuristics developed to reduce false positives. Specifically, the proposed method focuses on the similarity of phishing site's URL and legitimate site's URL. In addition, the ranking of site is also considered as an important factor to decide



whether the site is a phishing site. These features are extracted automatically without any intervention from the users using computerized developed tools

**Acc.No:PR1052/470INFT**

**29. Title:** use of mining techniques to improve effectiveness of marketing and sales

**Author:** Jason misquitta, sujoy lopes, deep nakum, samarth vyas

**Guide:** Mrs. Vaishali Jadhav

**Abstract:** The mentioned system is designed to find the most frequent combinations of items. It is based on developing an efficient algorithm that outperforms the best available frequent pattern algorithms on a number of typical data sets. This will help in marketing and sales. The technique can be used to uncover interesting cross-sells and related products. Three different algorithms from association mining have been implanted and then best combination method is utilized to find more interesting results. The analyst then can perform the data mining and extraction and finally conclude the result and make appropriate decision.

**Acc.No:PR1053/471INFT**

**30. Title:** Data Leakage Detection

**Author:** Humairah Kotadiya, Vikrant Bhat, Rollan Fernandes, Amod Panchal

**Guide:** Grinal Tuscano

**Abstract:** Social media is changing the way we communicate and the way we are perceived, both positively and negatively. Every time you post a photo, or update your status, you are contributing to your own digital footprint and personal brand. With the growing need of communication, social networking sites provide a medium to connect people across the world. Uni-Connect provide a way to connect all the 30,000 employees of Union Bank of India over a common platform. Social networking sites face various issues like safety and reliability. Uni-Connect will be an interactive website that will provide safe connectivity and run on a reliable network. Uni-Connect is a platform through which an employee can exchange their views with other employees. This social networking site will provide each employee with a personal profile that contains their personal details. Every employee can use Uni-Connect to post blogs, view events and notices regarding the bank etc. The employees will also get updates regarding events taking place in the particular branch group to which he belongs.

**Acc.No:PR1054/471INFT**

**31. Title:** Uni-Connect: A Social Networking Site

**Author:** Vaishnavi Naik, Reena Nair, Abigail Nicols,

**Guide:** Miss. Sonali Vaidya

**Abstract:** Social media is changing the way we communicate and the way we are perceived, both positively and negatively. Every time you post a photo, or update your status, you are contributing to your own digital footprint and personal brand. With the growing need of communication, social networking sites provide a medium to connect people across the world. Uni-Connect provides a way to connect all the 30,000 employees of Union Bank of India over a common platform. Social networking sites face various issues like safety and reliability. Uni-Connect will be an interactive website that will provide safe connectivity and run on a reliable network. Uni-Connect is a platform through which an employee can exchange their views with other employees. This social networking site will provide each employee with a personal profile that contains their personal details. Every employee can use Uni-Connect to post blogs, view events and notices regarding the bank etc. The employees will also get updates regarding events taking place in the particular branch group to which he belongs.

**Acc.No:PR1055/472INFT**

**32. Title:** Ranking of Tweets during High Impact Events

**Author:** Olfeeo Lemos, Bonson Pereira, Denzil Pereira Kunal Khanolkar

**Guide:** Mr. Pramod Shanbhag

**Abstract:** Online social network services have become a popular web activity to establish online social relationship among the people all around the world. These online social networking services allow its users to share opinions or posts on any high impact events in the world. The primary task of these services is to sort out credible posts and provide credible information about the event to the users. In this paper, the focus has been on Twitter, a rapidly growing micro blogging platform, which provides a large amount, diversity and varying quality of content. As Twitter is open to all, it emerged as an excellent means to disseminate information to a large user community in the shortest time. Due to very open, uncontrolled nature, Twitter has become vulnerable to incredible information from malicious and credulous users. Consequently, it is important to formulate sophisticated methods for analysis of credibility and relevance for ranking tweets. In this paper, tweets of an event posted by users have been collected and allowed to perform annotation process on those tweets by three human annotators to assess the tweet credibility. In order to provide ranks to the tweets according to the features, content based features are extracted.

**Acc.No:PR1056/473INFT**

**33. Title:** Medical Prescription reminder using Bluetooth

**Author:** Valred Rodrigues, Chintan Shah, Keith Rodrigues Prasad Rao

**Guide:** Ms. Winnie Fernandes

**Abstract:** In this project we have developed two things an application and a website. The website will be used as a database which will be developed using HTML5, PHP5, JavaScript, CSS. The application is developed using J2ME. In this system we have the hospital to register to us and thus giving us information about their doctors, patients and chemist of the hospital and in turn the hospital gets access to use our system efficiently. This system basically helps the patient to remember about the medicines he needs to take by setting an alarm automatically on the patient's phone as soon as he receives the prescription sent by the doctor via Bluetooth. Also if the patient needs to undergo any laboratory tests and e-mail of those tests is sent to the respective labs. In order to run the process smoothly and also to avoid any misuse of the prescription the doctor uploads the same prescription on the website which acts as medium of communication between the chemist and the doctor. Due to this the chemist can verify the prescription id and give right medicine to the right person. The chemist also has the facility to add update and delete the database to indicate which medicines are available whereas the doctor can only view the database while prescribing medicines.

**Acc.No:PR1057/474INFT**

34. **Title:** Secret sender

**Author:** Preshma Pereira, RebelloEden, Pinto Rachil, Jose Merin

**Guide:** Mrs. Purnima A. Kubde.

**Abstract:**

**Acc.No:PR1058/475INFT**

35. **Title:** Box Office Prediction for Upcoming Movies

**Author:** Grevil Lopes, Raj Carvalho, Smith Pereira

**Guide:** Mr. Kalpesh Kubal

**Abstract:** Box Office prediction is a software application that is used to predict box office income of upcoming movies. This software uses Naive Bayes algorithm for probability and prediction. The features data necessary for the project was acquired from various internet sources, e.g.: IMDB (Internet Movie Database), Wikipedia, Rotten Tomatoes. This training data was filtered to include only the required information for the prediction. Then using Naive Bayes algorithm the prediction for an upcoming movie is made. The prediction result is displayed as a specific range of revenue.

**Acc.No:PR1059/475INFT**



**36. Title:** Graphical Password Authentication using Passfaces

**Author:** Aakriti Tulasyan Akshata Shetty Malvina Rumao Aishwarya Shetty

**Guide:** Ms. Grinal Tuscano

**Abstract:** Security is the ability of a system to protect information and system resources with respect to confidentiality and integrity. Nowadays, authentication is one of the important issues in information security in order to protect users privacy. The most common authentication method is alphanumeric passwords. Alphanumeric passwords are strong password schemes that provide security only to a certain degree. Graphical Password Authentication (GPA) has been proposed as an alternative solution to alphanumeric passwords, which uses pictures as passwords. It is motivated by the fact that human brain can remember pictures better than string of characters. Thus, Graphical passwords provide a means for making more user-friendly passwords while increasing the level of security. There are several graphical password authentication techniques based on recognition. Since, existing GPA systems are vulnerable to shoulder-surfing and predictability; thus, to overcome the limitations we are implementing Pass faces with distortion technique. Pass faces is a recognition-based technique, where a user is authenticated by challenging him/her into recognizing human faces. By carrying out distortion it not only provides prevention from various vulnerable attacks but also helps to reduce the drawback of predictability. Also, assigning the names for images further helps in making it more difficult to crack the passwords. Thus, our proposed scheme is helpful in making the overall authentication system more secure.

**Acc.No:**PR1060/476INFT

**37. Title:** Adaptive and Fast Predictions by Minimal Item sets Creation

**Author:** Keegan Pereira, Neil Rego, Vincent so ares Struan Souto

**Guide:** Ms. Sonali Vaidya

**Abstract:** Association rules in data mining are useful for the analysis and prediction of an individual user's behavior which facilitates the data analysis on a regular basis for market basket data, clustering of products, designing catalogs and playing an immense role for store layout setting. This paper presents a successor of the A priori and variation of the CHARM algorithm, which is the MG-CHARM algorithm that is used for finding relationships between certain attributes instead of the whole dataset. The MG-CHARM algorithm is an Association Rule Mining (ARM) algorithm that is used to select the target database which in turn takes less time to find the desired association rules. In the proposed implementation, the actions performed by a user will be effectively recorded in the target database. The datasets that are generated will have to be fed to the semi - automated, adaptive software which will fetch the output based on ARM algorithm. The algorithm will determine the relations for

different datasets by mining Minimal Generators (mGs) from Frequently Closed Item sets (FCI's) to carry out decision making and pattern analysis of the Item sets.

**Acc.No:PR10561/477INFT**

**38. Title:** George's Day Out!

**Author:** Asim Rajan, Priyanka Kakkad, Anil Kanojiya Sanil Melge

**Guide:** Pramod Shanbhag

**Abstract:** Gaming refers to playing electronic games, whether through consoles, computers, mobile phones or another medium altogether. Gaming is a nuanced term that suggests regular gameplay, possibly as a hobby. Although traditionally a solitary form of relaxation, online multiplayer video games have made games a popular group activity as well. Asim Rajan

**Acc.No:PR1062/478INFT**

**39. Title:** Bus Ticketing using NFC

**Author:** Grishma Shah, Shah Sohagini, Shetye Saloni, Vyas Nandini.

**Guide:** Monalisa Kini

**Abstract:** For making the day to day life more convenient for the passengers travelling in bus some technology should be used like near field communication or NFC, A radio frequency (RF) communication technology that allows data to be transferred between two NFC enabled electronic devices. Here NFC is used to generate E-ticket; E-ticket is basically a paperless electronic document which is used for passenger ticket of bus transportation system. NFC permits the secure transaction i.e. passengers and the service provider cannot accuse each other of forgery by ensuring that either both party receive their desire data from other or neither does. NFC ticket helps collect passenger's information which will be maintained in the database which in turn will minimize fraudulent activity. Another important aspect is Reusability which helps use tickets multiple times.

**Acc.No:PR1063/478INFT**

**40. Title:** Self-Manageable Congestion Control

**Author:** Viviyana Fernandes Bhaumik Oza, Geetika Varma Varsha Patil

**Guide:** Payal Mishra

**Abstract:** Transmission Control Protocol (TCP) Vegas detects network congestion in the early stage and successfully prevents periodic packet loss that usually occurs in TCP Reno. It has been demonstrated that TCP Vegas outperforms TCP Reno in many aspects. However, TCP

Vegas suffers several problems that affect its congestion avoidance mechanism. One of the most important weaknesses in TCP Vegas is that  $\alpha$  and  $\beta$  ( $\alpha$  and  $\beta$  are the lower bound and upper bound of the desired queue length) depend on a good expected throughput estimate, depend on a good minimum Round Trip Time estimate. In order to make the system more robust,  $\alpha$  and  $\beta$  must be made responsive to network conditions ( $\alpha$  and  $\beta$  are currently chosen statically). This project will be a modified Vegas Algorithm which can be adjusted to present good performance compared to other Transmission Control Protocol (TCP) techniques. In order to do this, we use Particle Swarm Optimization (PSO) Algorithm to tune  $\alpha$  and  $\beta$ . The simulation results will validate the advantages of the proposed algorithm in terms of performance.

**Acc.No:PR1064/479INFT**

## **Bibliography of Project Report BE EXTC**

**2014-2015**

1. **Title:** Automatic Number Plate Recognition

**Author:** Divya John, Parima Gayaska, Mrunalini Reddy.

**Guide:** Vincy Joseph

**Abstract:** Data mining is a type of sorting technique, which is actually used to extract hidden patterns from databases. The major advantages of using data mining are the fast retrieval of data or information, Knowledge Discovery from databases, detection of hidden patterns, and reduction in the level of complexity, time saving etc. Naïve Bayes and Random Forest algorithms have been used.

The Naive Bayes Classifier technique is based on the so-called Bayesian theorem and is particularly suited when the dimensionality of the inputs is high. Despite its simplicity, Naive Bayes can often outperform more sophisticated classification methods.

Random Forests grows many classification trees. To classify a new object from an input vector, put the input vector down each of the trees in the forest. Each tree gives a classification, and we say the tree "votes" for that class. The forest chooses the classification having the most votes (over all the trees in the forest).

**Acc.No: PR1065/271EXTC**

2. **Title:** An Energy Efficient Data Aggregation in WSN

**Author:** Anagha Kulkarni, Melissa Kannampuhza, Terryboy Pereira, Sharan Sagar

**Guide:** Dr. Kevin Noronha



**Abstract:** The aim of the project is to simulate the performance of an energy efficient data aggregation algorithm in wireless sensor network so that the nodes in the sensor network last for a longer duration. Many algorithms have been widely proposed in wireless sensor network to increase the efficiency of the network which in turn increases its lifetime. NS-2 is used to simulate Wireless Sensor Network algorithm. NS2 is an open-source simulation tool that runs on Linux which targets at networking research and provides substantial support for simulation of routing protocols. Data aggregation has been simulated on NS-2 software. Three routing protocols, AODV, DSDV and DSR are compared on the basis of their performance. Using simulation results, the performance of a wireless sensor network, with and without data aggregation has been analyzed. The residual energy of the nodes has been analyzed on the basis of the number of Cluster-Heads.

**Acc.No:PR1066/272EXTC**

3. **Title:** Image Forgery Detection

**Author:** Sonia Fernandes, Neha Kulkarni, Komal Ransing, Shrutika Redkar

**Guide:** Dr. Deepak Jayaswal

**Abstract:** With emerging digital technology, digital images have replaced the original analog photographs. Forgery of these digital images has gradually become easier and undiscoverable. Image splicing is a fundamental step used in digital photo montage. Image splicing is a technology of image compositing by combining image fragments from same or different images without further post processing such as smoothing boundaries among different fragments. The proposed approach of Image splicing detection analyses two simple but efficient statistical features, viz, image run-length representation and sharp image characteristics. A total of 61-D statistical features are extracted to detect image splicing. A binary Support Vector Machine (SVM) is used as classifier. The experimental results show better accuracy and least computational time than that of previously proposed method.

**Acc.No: PR1067/273EXTC**

4. **Title:** VOICE RECOGNIZING BIPED ROBOT

**Author:** SURABHI GODAMBE, KRINA RANCH, MEGHA GAWDE, NAOMI LEON

**Guide:** MR VAQAR ANSARI

**Abstract:** Humanoid Robots as well as Voice Recognition are both popular current research areas today. Humanoids are able to access different types of terrain and to climb stairs. Advancement in technology has made it possible to actually design and implement realistic humanoid robots. The purpose of this project is to build a prototype of a humanoid robot having only two legs that is, a Biped Robot. Like its human counterpart, this robot has the

ability to move forward and backward, sideways to the right or the left. In addition, the robot can avoid obstacles and it will follow voice commands for the above specified functions. Speech Recognition is a technique that allows people to control the system with their voice. Instead of typing on the keyboard or operating buttons for the system, it is convenient to use Voice Recognition. This can be implemented using MATLAB Software, HM300 Chip or BitVoicer Software. This project uses BitVoicer Software to accomplish Voice

**Acc.No.PR10689/274EXTC**

**5. Title:** An Efficient PAPR Reduction technique in OFDM Systems

**Author:** Merint Thomas, Osden Remedios, Sean Rodrigues, Chinmayee Thakur

**Guide:** Ms. Jayasudha Koti

**Abstract:** For wireless communication systems remarkable achievements have been achieved. A significant portion of such improvements has come from numerous innovations in the modulation techniques in mobile communication. Future digital communications systems reaching for ever increasing data rates require higher bandwidths than those typical used in today's cellular networks. Orthogonal Frequency Division Multiplexing (OFDM) is an efficient method of data transmission for high speed communication. OFDM has numerous advantages such as high bandwidth efficiency and less inter-symbol interference (ISI) but it also has some drawbacks of high Peak to Average Power Ratio (PAPR), which reduces the efficiency of the transmit high power amplifier. There are various PAPR reduction techniques where in our project we have proposed the Clipping and Filtering method of reducing PAPR. In our project we calculated the PAPR value of the transmitted signal. We then decided a threshold value to clip the high PAPR signal and the clipped signal is then filtered to get the smooth signal as output.

**Acc.No.PR1069/275EXTC**

**6. Title:** Finger Knuckle Print Recognition System

**Author:** Shruti Patel, Prajakta Patil, Karuna Pote

**Guide:** Mrs. Pallavi Patil

**Abstract:** Biometrics based methods, which use unique physical or behavioral characteristics of human beings, are of broad interest and have great potentials because of the high accuracy and convenience to use in the modern e-world. The most popular and commonly applied biometric systems use hand as a medium, as it is easy to use and be implemented lively. Finger-Knuckle-Print (FKP) uses feature detection and matching techniques in its hard core design. The skin pattern on finger knuckle surface is highly unique and hence finger knuckle print (FKP) is used as a biometric identifier. The Scale Invariant Feature Transform (SIFT) is

the most reliable feature extraction technique that is used in authentication systems on FKP. The feature descriptors detected by SIFT claim to be capable of distinguishing each and every image in the dataset from one another. Here, we use PolyU FKP database images to examine the performance of the proposed system

**Acc.No:PR1070/276EXTC**

**7. Title:** FPGA Implementation of Vedic Multiplier

**Author:** Rohit Wadke, Sushrut Sahasrabudhe, Shrinath Pai

**Guide:** Ms. Sonia Aneesh

**Abstract:** Vedic mathematics is the name given to the ancient Indian system of mathematics that was rediscovered in the early twentieth century from ancient Indian sculptures (Vedas). This project proposes the design of high speed Vedic Multiplier using the techniques of Vedic Mathematics that have been modified to improve performance. A high speed processor depends greatly on the multiplier as it is one of the key hardware blocks in most digital signal processing systems as well as in general processors. Vedic Mathematics has a unique technique of calculations based on 16 Sutras. From a number of Vedic multiplication techniques like Urdhva tiryagbhyam, Nikhilam and Anurupye, Urdhva tiryagbhyam has been thoroughly analysed for arithmetic multiplication. Using Urdhva tiryagbhyam, a 32x32 bit Multiplier has been designed using block repetition. The adder used is Carry Look Ahead adder which is found to be efficient in terms of speed as compared to conventional adder i.e. Ripple Carry Adder. Further, the VHDL coding of Urdhva tiryagbhyam sutra for 4x4 bit and 8x8 bit and their FPGA implementation by Xilinx Synthesis Tool on Spartan 3 kit have been done. Multiplication using Urdhva tiryagbhyam Sutra is more efficient Sutra (Algorithm) than the conventional Array multiplication. For example, the delay for 8x8 Array multiplication is 43.593 ns which is high compared to 30.796 ns.

**Acc.No:PR1071/277EXTC**

**8. Title:** Saliency Detection in Images

**Author:** Hezal Britto, Vaibhavi D'Mello, Sonia Dmonti

**Guide:** Mr.Santosh Chapaneri

**Abstract:** The human visual system can quickly and efficiently capture the salient objects in a scene. Visual saliency is the perceptual quality that makes an object, person, or pixel stand out relative to its neighbours and thus captures our attention. Saliency detection is considered to be a key attention mechanism that facilitates learning and survival by enabling humans to focus their limited perceptual and cognitive resources on the most pertinent subset of the available sensory data. Our project uses an algorithm to solve the problem of saliency



detection based on histogram. We consider the images in RGB color space and LAB color space. Salient features are computed in six color channels such as, RG, BY, L, A, B and finally, we fuse the six saliency maps to get the final map.

**Acc.No:PR1072/278EXTC**

9. **Title:** Image Super Resolution

**Author:** Royston Rodrigues, Trushali Rodrigues, Celin Lopes, Akanksha Fargose

**Guide:** Dr. Deepak Jayaswal

**Abstract:** This project deals with harnessing patch redundancy. Single Image Super-Resolution is a process to obtain a high resolution image from a corresponding low resolution one. Conventional interpolation techniques such as bi-cubic interpolation makes use of mathematical curve fitting to determine missing pixel values, its results are generally smoother. But the increased smoothness of bi-cubic interpolation comes at a cost of losing high frequency detail. We introduce a patch-wise reconstruction technique that we term as smart interpolation which will enhance the quality of the image, super resolve it, and at the same time preserve the high frequency detail of the image that is smoothed out in conventional interpolation technique.

**Acc.No:PR1073/279EXTC**

10. **Title:** Impedance Transforming DC Blocks

**Author:** Pawan Yadav, Mulerickal Jerry Johns, Robinson R Nadar, Anto Nadar

**Guide:** Mr. Inderkumar Kochar

**Abstract:** The DC block is a passive component preventing dc current flow, while permitting RF power to flow through. As dc blocks, compact capacitors have been used for many applications. However, as operating frequencies increase, the capacitors have disadvantages, one of which is to produce parasitic elements, which is difficult to handle. To overcome this disadvantage, distributed dc blocks with coupled micro strip line sections have been proposed for impedance transforming. If the dc blocks can transform termination impedances, the total size of the circuits can be reduced. Impedance-transforming dc blocks appear with symmetric or asymmetric coupled transmission line sections for Chebyshev or Butterworth response. To verify the design methods, a DC blocks fabricated on an FR-4 substrate and its responses are measured at the designed center frequency of 2 GHz. The results are in good agreement with the predicted results, taking into account the various losses encountered.

**Acc.No1074/280EXTC**

11. **Title:** Virtual Keyboard

**Author:** Mathew Jose, Shailesh Pashte, Kunal Singh, Sanket Tendulkar

**Guide:** Ms. Quanitah Shaikh

**Abstract:** Computers have undergone rapid miniaturization from being a 'space saver' to 'as tiny as your palm'. Disks and components grew smaller in size, but one component still remained the same for decades - it's the keyboard. Miniaturization of keyboard had proved nightmare for users. Users of smart phones are annoyed by the tiny size of the keys. The new innovation Virtual Keyboard uses advanced technologies to project a full-sized computing key-board to any surface. This device has become the solution for mobile, computer users who prefer to do touch-typing than cramping over tiny keys. Virtual

Keyboard is a way to eliminate finger cramping. All that's needed to use the keyboard is a flat surface. Our project, the 'virtual keyboard' will discuss a new technology in human machine interface. Instead of using the mechanical keyboard having moving parts and buttons, this gadget is virtually created on plain paper sheet and interfaced with the computer using MATLAB. This project mainly consist of the following parts, First part is 'The Frame Extraction Module' which includes extracting images from real time video which is done using MATLAB. Next part consists of "Detecting Region Of Interest" which includes eliminating the redundant data from the captured image. Further part consist of dividing the region of interest obtained that is the keyboard into different coordinates. This is done to separately get the co-ordinates of each key present in the keyboard. Now with the help of finger tag we are detecting the position of fingers on the desired key and comparing this value with the database we detect which key is pressed. In this way we finally get the output by using finger tag method.

**Acc.No1075/281EXTC**

12. **Title:** An Automated Approach To Prevent ARP Spoofing Attack Using Static ARP Entries

**Author:** Manica Auxzinia, Thelma Lobo, Madonna James, Alita Fernandes

**Guide:** Dr. Kevin Noronha

**Abstract:** Address Resolution Protocol (ARP) is a protocol having simple architecture and has been in use since the advent of Open System Interconnection (OSI) network architecture. Address resolution refers to the process of dynamically finding the MAC address of a computer on a network. The ARP thus provides a dynamic mapping between the two different forms of addresses; the 32 bit IP address and the 48 bit MAC address that the data link layer uses. ARP spoofing is an act of introducing a specious IP to Ethernet address mapping in another host's ARP cache. Therefore, a strong need is felt to harden the security system since, LAN is used in maximum organizations to get the different computer

connected. So, an attempt has been made to enhance the working of ARP protocol to work in a more secure way. Here, we made use of Network Simulator 2 which is used to conduct simulations and helps in detecting attack.

**Acc.No PR1076/282EXTC**

13. **Title:** recognition of emotions from facial expressions using textural operators

**Author:** Manish Thakur, Nikhil raorane, Vaibhav sapkal, Nixon D'Souza

**Guide:** Dr. A. K. Sen

**Abstract:** Just as a picture is worth a thousand words, our faces can express a wealth of information. The ability to communicate subtle emotions with a simple raised eyebrow or curl of the lip may be innate. Facial expressions have always been one of the important means of communication. 80% of effective communication happens by facial expressions. Humans can distinguish between various expression very easily but for a machine to recognize those expressions is a difficult task. Five facial expressions namely: anger, sad, surprise, happy and neutral from JAFFE databases are used in our work. Here, LBP and Gabor are extracted to give textural features. Energy and mean amplitude is the Gabor filter features extracted and form a two feature vector and histogram of the LBP labels form a 256 feature vector. SVM is used for classification. Here, results are computed using LBP, Gabor and combination of Gabor and LBP. Accuracy of about 92% is achieved.

**Acc.NoPR1077/282EXTC**

14. **Title:** Complex Impedance Transformers

**Author:** Kevin Moses Solomon, Krutarth Malwankar, Janice Furtado, Michelle Rebello

**Guide:** Mr. Inderkumar Kochar

**Abstract:** Complex impedance transformers can be used to solve the conventional problem of imaginary value of characteristic impedance of transmission-line sections. The complex impedance transformers consist of only transmission-line sections, and the design formulas are the function of the reflection coefficients of the complex termination impedances. Firstly, the impedance transformers that transform a complex impedance into a real one are discussed. Secondly, those transforming a complex impedance to another complex one are studied. Depending on where the complex impedances are located on the Smith Chart, a method to reduce the size is discussed in more detail. We intend to fabricate and test complex impedance transformers, a few of which have been simulated. The results obtained are in close agreement with those reported in the literature.

**Acc.No PR1078/282EXTC**



15. **Title:** Dynamic Obstacle Avoidance with Real Time Optimum Path Planning

**Author:** Ameya Chitnis, Prit Zaveri, Devesh Thakker, Jugal Talati.

**Guide:** Dr. Gautam Shah

**Abstract:** In robotics, obstacle avoidance is the task of satisfying some control objective subject to non-intersection or non-collision position constraints. What is critical about obstacle avoidance concept in this area is the growing need of use of automated mobility in all the fields. There are always known Static Obstacles and unknown Dynamic Obstacles in any environment. Dynamic Obstacle avoidance is the one where major research is going on as to satisfy our need of automation. Automation also includes capability of the bot to find the best path to reach its destination. The task of path planning has continued to be a challenge for researchers. It could be described as an extensive research in the field of automation. Path planning will help in determining an optimum path and using the obstacle avoidance algorithm the dynamic obstacles will be avoided.

**Acc.No** PR1079/283EXTC

16. **Title:** Breast Cancer Detection

**Author:** Melinda DCosta, Brinetta DMello, Glane Gonsalves,

**Guide:** Dr. Kevin Noronha

**Abstract:** This is a method of efficient detection of breast cancer from mammogram images. The methodology consists of the following steps: contrast enhancement, segmentation, feature extraction and classification. To improve the quality of images and limit the risk of distinct regions fusion in the segmentation phase an enhancement phase is applied. We adopt adaptive equalization to increase the contrast in mammogram images, apply morphological operations to segment the mammogram & select the region of interest (ROI) with the help of a predefined square. Thereafter we derive the gray level co-occurrence matrix (GLCM) from the mammogram image and extract the desired features from it. Finally we classify the images into normal and abnormal with the Support Vector Machine (SVM) as the classifier. Some of the experimental results on mammogram images show the feasibility and the performance of the proposed approach.

**Acc.No** PR1080/284EXTC

17. **Title:** Gesture Based Wheelchair Control

**Author:** Dennis Duraira, Keegan Carneiro, Careena Braganza

**Guide:** Prof. Anjali Chaudhari

**Abstract:** The aim of this project is controlling a wheelchair by using ADXL335 Accelerometer Sensor technology. ADXL335 Accelerometer Sensor is a Micro -Electro-Mechanical System which is a highly sensitive sensor and capable of detecting the tilt. This sensor finds the tilt and makes use of the microcontroller to change the direction of the wheelchair depending on the tilt. The wheelchair uses two permanent magnet DC motors which are differentially driven using an L293D motor driver.

**Acc.No PR1081/285EXTC**

**18. Title:** Online Signature Recognition System

**Author:** Christine D'Souza, Vishal Gandhi, Prima D'Costa, Venencia Fernandes

**Guide:** Mrs. Pallavi Patil

**Abstract:** The advancement of technology has revolutionized the field of person identification and authentication. The pervasive use of technology-aided biometric recognition systems and the growing research on biometric techniques have facilitated the idea of using peculiar biometrics namely signature for user authentication. The dynamics of signatures can be effectively captured to build an automatic user identity recognition system that is accurate and trustworthy enough to be integrated in practical applications. The Online Signature Recognition System implemented is modeled on the concept of symbolic representation of signatures. A digitizer tablet which captures both spatial and dynamic information of the writing is used for the real-time acquisition of signatures. Each user in the signature database is represented in the form of an interval-valued feature vector created from the global features extracted from her/his signature samples. The concept of writer-dependent threshold is exploited to adapt the system to the characteristics of each user unlike a predetermined common threshold.

**Acc.No PR1082/286EXTC**

**19. Title:** self-reconfigurable smart robot

**Author:** Rushabh Devalia, Rohit yadav, Rohit Chaudhari

**Guide:** prof. Vaqar Ansari

**Abstract:**

Now-a-days robots are used everywhere but usually a robot is specialized for a particular task. Whereas with the advancement of technology, multitasking has become a need in each and every field. Thus a multitasking robot is required which can transform itself according to different conditions. Self-Re-configurable Robot is such a smart robot which can be used to tackle such kind of situations efficiently because it would be

able to change its configuration to overcome a wide range of physical obstacles and perform a wide range of task. In this project light weight compliant element with embedded actuation and simplified controlled architecture is presented. Sensors provide the necessary intelligence to the robot to overcome the obstacle and perform various tasks without any human interference. This physical system would allow the robot to make geometric configuration changes. A Robot with such unique feature can be used in defense services to defend and serve the nation in battle field and rescue operation in case of natural calamities. This modular shape shifting robot, with the ability to change its shape can be designed and developed for potential application in Urban Search and Rescue (USAR) operations. Space mission are highly constrained which lacks manual operator and moreover sending individual robot to perform only a particular task is not feasible therefore it is indeed required to send a autonomous robot to tackle different task.

**Acc.No PR1083/289EXTC**

**20. Title:** Embedded Optical Character Recognition System

**Author:** Blanyal Dsouza, Joel Dsouza, Sanil Dsouza, Wayne Gomes

**Guide:** Dr. Uday Pandit Khot

**Abstract:** The aim of the project is to develop software for Embedded Optical Character Recognition (OCR) System that can be used for the recognition and storage of serial numbers that are printed on Indian currency notes, on a stand-alone system. The stand-alone system will take the input of image of the currency note, recognize the serial number and display the same.

Optical Character Recognition is the mechanical or electronic translation of images of handwritten or typewritten text (usually captured by a scanner or a camera) into machine-editable text. OCR is a field of research in pattern recognition, artificial intelligence and machine vision.

The project is implemented using Raspberry Pi microcontroller. The use of Raspberry Pi makes the system compact and cheap. This system will help in various fields such as banking, trading services, and other financial institutes. By using Raspberry Pi, a horde of advantages in terms of area, speed, cost and accuracy can be realized. It is portable, swift, cheap and unambiguous

**Acc.No PR1084/290EXTC**

**21. Title:** Passenger Bus Alert System For Easy Navigation Of Blind

**Author:** Johnty Koli, Abhishek Sakpal, Franklin Viegas, Vinayak Swami.



**Guide:** Dr. Gautam Shah

**Abstract:** The project “Passenger Bus Alert System for Easy Navigation for Blind” is based on speech recognition and global positioning system. The purpose of this project is to reduce the difficulties faced by the visually impaired people when taking city buses, using an interactive wireless communication system. The system comprises a user module and a bus module to establish a direct one-to-one connection using wireless technology. The desired bus that the blind wants to take is notified to him with the help of speech recognition system. The blind takes the right bus parked in front of him and when the destination is reached, it is indicated by means of the global positioning system. The interactive wireless communication aid system is a novel and low-cost device for assisting visually impaired people to use city buses.

**Acc.No PR 1085/291 EXTC**

22. **Title:** Simulation of MIMO spatial multiplexing detection techniques

**Author:** Natasha Arez, Loyella Castelino, Ryan Castelino,

**Guide:** Kavita Sakhardande

**Abstract:** Multiple Input Multiple Output (MIMO) technology is one of the most promising wireless technologies that can efficiently boost the data transmission rate, improve system coverage, and enhance link reliability. At one time in wireless the term “MIMO” referred to the mainly theoretical use of multiple antennas at both the transmitter and the receiver. In modern usage, “MIMO” specifically refers to a practical technique for sending and receiving more than one data signal on the same radio channel at the same time via multipath propagation. By employing multiple antennas at transmitter and receiver sides, MIMO techniques enable a new dimension the spatial dimension – that can be utilized in different ways to combat the impairments of wireless channels. In MIMO, many receiver algorithms have been used for the detection of the transmitted symbols. A proposed MIMO system was simulated using MATLAB software. The different equalization schemes Zero Forcing (ZF) equalizer and Minimum Mean Square Error(MMSE) which improve overall performance, were compared to analyze the BER of the designed system. MIMO is fundamentally different from smart antenna techniques developed to enhance the performance of a single data signal, such as diversity.

**Acc.No PR1086/292EXTC**

23. **Title:** CFA based motion blur removal

**Author:** Sanesh Sahshidharan, Nissmole Srmbikal, Prajakta Kadam

**Guide:** Mrs.Savita Kulkarni

**Abstract:** Traditionally, it is much easier to capture a steady object as compared to capturing an object in motion. Capturing an object which is in motion is very troublesome as it results in blurred image. Therefore there is a need to develop technique which removes the blurriness from the image and give us a high resolution image. The current techniques used are Photoshop, SmartDeblur and various other software which adds artifacts in the image and doesn't result in an accurate image. In this project, color filter array technique is used to remove the blurriness from the image by suppressing the noise and preventing artifacts around the object boundary along the true color estimation resulting in a high quality in a image and blurriness from an image is successfully removed with low complexity.

**Acc.No PR1087/293EXTC**

**24. Title:** EXTERNAL TONGUE DRIVE SYSTEM

**Author:** FELIX MARATTUKALAM, RINI LOBO, DALE MARTIS, AABID KHAN

**Guide:** DR.GAUTAM SHAH

**Abstract:** The "External Tongue Drive System" (E-TDS) is a tongue-operated assistive system developed for people with severe disability or paraplegia to control their movements. The tongue is considered an excellent appendage in severely disabled people for operating an assistive device. The tongue is chosen as it is directly connected to the brain by a cranial nerve that generally escapes damage in severe spinal cord injuries or neuromuscular diseases. E-TDS consists of Hall-effect magnetic sensors mounted on an external support outside the mouth to measure the magnetic field generated by a small permanent magnet secured on the tongue. The sensor signals are transmitted across a wired link and processed via a microcontroller to operate a powered wheelchair prototype. This provides the user with a smooth proportional control as opposed to a switch based on/off control that is the basis of most existing systems. The effects of position and orientation of the permanent magnet on the sensors are modeled and experimentally measured. A prototype of the wheelchair is built and four movements with respect to the sensors are tested.

**Acc.No PR1088/294EXTC**

**25. Title:** Gas Discrimination through Serial Port Communication

**Author:** Abhilash Nair, Aditi Shah, Anand Prabhu, Jayesh Harjule

**Guide:** Dr. A.K. Sen

**Abstract:** In all industries, odor assessment is usually performed by human sensory analysis, by chemo sensors, or by gas chromatography. The latter technique gives information about volatile organic compounds but the correlation between analytical results and actual odor perception is not direct due to potential interactions between several odorous components. In

the Wasp Hound odor detector, the mechanical element is a video camera and the biological element are five parasitic wasps conditioned to swarm in response to the presence of a specific chemical. In our project we have built an embedded system which can detect the accidental leakage of gases in real time and alert the concerned individuals to prevent the occurrence of any major mishap. An ADC data acquisition system was constructed in order to control an array of different types of sensors and to collect their data. The collected data can also be stored on a computer for further analysis and validation via serial communication between the data acquisition system and the computer. The system will be used as the core for gas discrimination and identifying the concentration of various gases. The heart of the system is a PIC16F877A microcontroller that collects acquired data from the sensors and performs further processing of data. The concentration of various gases is displayed through a series of LEDs and also on the LCD for comfortable and distant viewing. If the concentration of the gas exceeds a specified threshold an alert message is sent to the mobile of concerned individual via GSM module. MPLABX IDE software is used to program the microcontroller. Gas discriminator gives output voltage response when it senses odor. This voltage response is converted to concentration in ppm and displayed.

**Acc.No PR1089/295EXTC**

**26. Title:** Automatic Ambulance Rescue with Intelligent Traffic System

**Author:** Abhishek Bhosle, Amar Chavan, Apurvash Kadam, Jigar Panchal

**Guide:** Mrs. Savita Kulkarni

**Abstract:** Traffic congestion and tidal flow management were recognized as major problems in modern urban areas, which have caused much thwarting for the ambulance. Moreover road accidents in the city have been incessant and to bar the loss of life due to the accidents is even more crucial. To implement this we introduce a scheme called AARITS (Automatic ambulance rescue with intelligent traffic system). The main theme behind this scheme is to provide a smooth flow for the ambulance to reach the hospitals in time and thus minimizing the expiration. The idea behind this scheme is to implement a ITS which would control mechanically the traffic lights in the path of the ambulance. The ambulance has a RF unit which will control the traffic lights in the path of the ambulance and thus reaching the hospital safely. This scheme finds the accident spot, controls the traffic lights, helping to reach the hospital in time.

**Acc.No: PR1090/295EXTC**

**27. Title:** Accident Monitoring System

**Author:** Neha Gupta, Akshay Kamat, Prasanna Kamath

**Guide:** Ms. Anjali Chaudhari



**Abstract:** Accident Monitoring System consists of co-operative components of an Accelerometer, Microcontroller unit, GSM modem and GPS module. In the event of accident, the wireless device will send the mobile phone a short message indicating the position of vehicle by the GPS system to family member or Emergency Medical Service. The threshold algorithm and speed of vehicle are used to determine the type of fall or accident in real time which determines the severity of accident and sends it in the message. The proposed system is compact and easy to install in a vehicle.

**Acc.No:PR1091/297EXTC**

**28. Title:** Automation of cell phone jammer

**Author:** Sanoop Menon, Rahul Kamath, Pramod Gogdare

**Guide:** Prof Jaysudha koti

**Abstract:** We are controlling our jammer using zigbee and microcontroller in a wireless manner!!

**Acc.No PR1092/298EXTC**

**29. Title:** Glove Talk

**Author:** Adhar Jain, Aakash Ganjoo, Pinkesh Mehta, Bhavin Dharod

**Guide:** Kavita Sakhardande

**Abstract:** Glove-based systems represent one of the most important efforts aimed at acquiring hand movement data. Generally dumb people use sign language for communication but they find difficulty in communicating with others who do not understand sign language. It is based on the need of developing an electronic device that can translate sign language into speech in order to make the communication take place between the mute communities with the general public possible. The gestures that people produce while talking plays an important role in communication. If we consider deaf and dumb people, gestures are one of the medium through which they can communicate. Glove talk is a project which takes into account all other functions, gestures can produce and tries to help the people with speaking impairments as one of the applications. It converts the gestures which are made after wearing a glove to signals of text and voice; this voice is then fed to an audio amplifier (speaker), thus making an impaired one to communicate with the outer world.

**Acc.No PR1093/299EXTC**

**30. Title:** Efficient Tracking And Transmission Of Solar Energy

**Author:** Avantika Bandre, Arpita Suthar, Khyati Thaker

**Guide:** Ms. Anjali Chaudhari

**Abstract:** The energy extracted from a solar photovoltaic (PV) panel depends on solar insolation. For extraction of maximum energy from the sun, the plane of PV panel should always be normal to the incident solar rays. Energy efficiency of a solar PV panel can be substantially improved by using solar tracking systems. In this work, dual axis solar tracking system has been realized by using LDR sensors and DC motors with gear arrangements. The tracking (azimuth angle and altitude angle) has been implemented via microcontroller based control logic. We have proposed a system incorporating solar tracking and harvesting of the same into rechargeable batteries followed by the power transfer. Generally the power is transmitted through wires. This project describes an idea to eradicate the hazardous usage of electrical wires which involves lot of confusion in particularly organizing them. Here, wireless power transmission implements the principle of mutual inductance.

**Acc.No**PR1094/300EXTC

31. **Title:** An Approach to Reduce ICI in OFDM System

**Author:** Glen Anthony, Nixon Albuke, Mareena Rodriguez, Ronel Paul

**Guide:** Quanita Shaikh

**Abstract:** Orthogonal Frequency Division Multiplexing (OFDM) is a multi-carrier modulation scheme which has been used in several wireless standards such as IEEE 802.11a and HiperLAN2. OFDM is used in wireless communications to achieve high data rate and is widely used in fourth generation mobile communications system. OFDM is sensitive to Carrier Frequency Offset (CFO). CFO introduces inter-carrier interference (ICI) in the OFDM symbol which threatens the orthogonality of the carriers and this in turn dampens the system performance. This project aims at combating the effects of ICI by using ICI self-cancellation method and improving the system performance. Reducing the effect of ICI on the system and to get a better SNR versus BER graph is an important focus of the project.

**Acc.No:** PR1095/301EXTC

32. **Title:** Discriminative Features for Emotion Speech Recognition

**Author:** Danica D'Souza, Joanna Peris, Rajiv Rozario, Gregory Sequeira

**Guide:** Prof. Santosh Chapaneri

**Abstract:** With the surge in human-computer interaction in the field of artificial intelligence in recent years, it has become apparent that significant attention must be paid to the emotional content of human speech. Emotion recognition systems aim at automatically identifying the emotional state of humans. This project encompasses discriminative features that are extracted from speech samples that are drawn from the Berlin emotion database (EMO-DB). These samples

are then used to classify the speaker's utterances into their emotional states that include anger, boredom, disgust, fear, happiness, neutral and sadness. The discriminative features to be extracted from these utterances are Pitch, Energy and Mel Frequency Cepstral Coefficients (MFCCs) with their individual 12 functional, thus amounting to 384 features. Support Vector Machine (SVM) is the classifier of choice while the Radial Basis Function is the accompanying kernel. This entire mechanism provides an accuracy of 62% for the aforementioned emotions.

**Acc.No PR1096/302EXTC**

**33. Title:** Smart Street Lighting System

**Author:** Pratik Jhunjhunawala, Shanice Fernandes, Noel Anto

**Guide:** Mrs. Kavita Sakhardande

**Abstract:** Currently in India, enormous electric energy is consumed by the street lights, which are switched on when it becomes dark and switched off when the sun rises. This is a huge wastage of electrical energy and in order to reduce it we have designed a Smart Street Lighting System.

In this system, lux level of the street light changes as per natural light, motion in the vicinity of the system and weather conditions, thus the street light will switch to full light intensity when a human or a vehicle is detected and the intensity will be lowered if there is no one present in the surrounding. This system incorporates a natural light sensor, motion sensor, rain sensor and a fog sensor. It is a stand-alone system and works irrespective of any other street light. To make the system more energy efficient it draws out power from the solar panel. This solar panel is mounted on sun tracking system, which generates maximum possible power available from the sun. This power is stored in the battery and can be used for the street lights at night.

**Acc.No PR1097/303EXTC**

**34. Title:** An Efficient Routing Algorithm for Wireless Sensor Networks

**Author:** Aayushi Kumar, Gurpreet Arora, Ronal D'Souza, Ashutosh Shetty

**Guide:** Ms. Jayasudha Koti

**Abstract:** A sensor network is composed of a large number of sensor nodes, which are densely deployed either inside the phenomenon or very close to it. Realization of sensor network applications requires wireless ad hoc networking techniques. The performance of Wireless Sensor Networks (WSNs) routing protocols can be evaluated from route structure, the network lifecycle, energy consumption, robustness, expansibility, node mobility, data fusion technology, whether QoS is supported and so on. In this report, we present a survey of



the state-of-the-art routing techniques in WSNs. We first outline the design challenges for routing protocols in WSNs followed by a comprehensive survey of different routing techniques. Overall, the routing techniques are classified into three categories based on the underlying network structure: flat, hierarchical, and location-based routing. We have implemented flat based routing for Flooding and Directed diffusion protocols and analyzed them on the basis of- Energy, Packet delivery ratio and Normalized routing load as parameter metrics.

**Acc.No PR1098/304EXTC**

**35. Title:** Automated vehicle for smart traffic navigation

**Author:** Jason Miranda, Yogesh Pusarla, Ankit Singh, Meet Vora

**Guide:** Vaqar Ansari

**Abstract:** This project is an attempt to make transportation safer, locomotion easier, reduce manual efforts while simultaneously reducing the risk of accidents by automating transport. This is a prototype that demonstrates the above targets using communication, via Zigbee modules. The bots concerned operate unmanned, and co-ordinate and communicate with each other via these modules. The sensors mounted on them give a feel of the obstacles in and around the path defined.

**Acc.No PR1099/305EXTC**

**36. Title:** Finger Knuckle Print Recognition System

**Author:** Shruti Patel, Prajakta Patil, Karuna Potel

**Guide:** Mrs. Pallavi Patil

**Abstract:** Biometrics based methods, which use unique physical or behavioral characteristics of human beings, are of broad interest and have great potentials because of the high accuracy and convenience to use in the modern e-world. The most popular and commonly applied biometric systems use hand as a medium, as it is easy to use and be implemented lively. Finger-Knuckle-Print (FKP) uses feature detection and matching techniques in its hard core design. The skin pattern on finger knuckle surface is highly unique and hence finger knuckle print (FKP) is used as a biometric identifier. The Scale Invariant Feature Transform (SIFT) is the most reliable feature extraction technique that is used in authentication systems on FKP. The feature descriptors detected by SIFT claim to be capable of distinguishing each and every image in the dataset from one another. Here, we use PolyU FKP database images to examine the performance of the proposed system.

**Acc.No PR1100/306EXTC**

**37. Title:** Chaos based Image Encryption

**Author:** Sneha Dhulap, Rashmi Jadhav, Monisha Jacob, Honey Babariya

**Guide:** Mr.Santosh Chapaneri

**Abstract:** In recent years, owing to frequent flow of digital images across the world over the transmission media, it has become essential to secure them from leakages. Due to the exceptionally desirable properties of mixing, sensitivity to initial conditions and parameters of chaotic maps; chaos-based encryption has recommended a new and efficient way to deal with the problem of fast and highly secure image encryption. The implemented image encryption scheme consists of an 80-bit secret key and uses chaotic map like Arnold Cat-Map and Logistic Map. The initial conditions for the chaotic maps are derived using the 80-bit secret key. In this cryptosystem, permutation-diffusion architecture followed by an efficient diffusion scheme is implemented. This scheme consists of two diffusion procedures, with a supplementary diffusion procedure padded after the normal diffusion. In the supplementary diffusion module, the control parameter of the selected chaotic map is altered by the resultant image produced after the normal diffusion operation. As a result, a slight difference in the plain image can be transferred to the chaotic iteration and bring about distinct key streams, and hence totally different cipher images will be produced. Therefore, this scheme can remarkably accelerate the diffusion effect of the cryptosystem and effectively resist differential attacks. Our project objective is to provide high level of security and satisfactory encryption speed for practical secure image applications.

**Acc.No** PR1101/307EXTC

**38. Title:** Smart Prepaid Energy Meter

**Author:** Martin Mathai, Neethu Thomas, Mohit Rege

**Guide:** Ms. Savita Kulkarni

**Abstract:** The aim of Smart Prepaid Energy Meter is to minimize the queue at the electricity billing counters and to restrict the usage of electricity automatically, if the bill is not paid. The project also aims at proposing a system that will reduce the loss of power and revenue due to power thefts and other illegal activities. The project deals with a very new concept of "Prepaid Electricity". The GSM technology is used so that the consumer would receive messages about the consumption of power (in watts) and if it reaches the minimum amount, it would automatically alert the consumer to recharge. An extra feature of smart card that uses RFID technology for recharge is also proposed. Tampering of energy meter is controlled to an extent on implementation of this project. The implementation of this project will help in

better energy management, conservation of energy and in doing away with the unnecessary problems over incorrect billing.

**Acc.No PR1102/308EXTC**

**39. Title:** Dual band Bandpass filter for GPS/WLAN

**Author:** Jinesh Bhayani, Omkar Mestry, Tushar Prabhu, Saish Sawant

**Guide:** Prof. Inderkumar Kochar

**Abstract:** Modern communications systems support various frequencies and frequency selectivity is of prime importance. To understand the operation of a multiband (frequency) filtering process dual band bandpass filter is an optimum tool to start with. In this project, we have designed a dual band bandpass filter in order to achieve low insertion loss and high isolation for applications such as Global Positioning system and Wireless Local Area Network. The implemented bandpass filter is designed using an asymmetric stepped impedance resonator with one step discontinuity on the basis of two important parameters which are impedance ratio (R) and physical length ratio ( $\alpha$ ). The designing was simulated in Hyperlynx environment and the results were obtained on the basis of dimensions of the filter and simulation. Furthermore, the simulated filter was fabricated onto a flame retardant-4 substrate with two ports assigned on either side to get the desired response.

**Acc.No.PR1103/309EXTC**



# **Bibliography of Project Report BE CMPN**

**2014-2015**

1. **Title:** Near field authentication using android application

**Author:** Ninad Khalate, Raisa D'monte, Craig Noronha

**Guide:** Ms. Dakshata Panchal

**Abstract:** NFA aims to fulfill the purpose of NFC for all smart devices without using NFC chips. Our project is a standalone android application that allows a device to send data to another using a secure authenticated connection.

**Acc.No**PR1104/297CMPN

2. **Title:** Automatic Subtitle Generator

**Author:** Annamariya Jimmy, Sneha Tuscano, Swapnali Tuscano

**Guide:** Ms. Dakshata Panchal

**Abstract:** The Project creates subtitles for videos automatically. Hence manual labor of typing subtitles is reduced. Another advantage of using this software is that user is able to search for particular word in the video

**Acc.no:**PR1105/298 CMPN

3. **Title:** Automated Sickle Cell Anaemia

Detector **Author** Gemmy George, Linus

Castelino **Guide:** Ms. Dakshata Panchal

**Abstract:** 'Sickle Cell Anaemia' is widely prevalent inherited blood disorders wherein the red blood cells present in the blood-vessels assume a 'sickle shaped' or 'crescentic' form. This affects the oxygen carrying capacity of the blood, resulting in anaemia and various other life-threatening complications. There's no standard cure for the disease but early detection can prevent fatal complications that may arise in later stages. Our project, therefore, involves developing software termed – Automated Sickle Cell Anaemia Detector (A.S.C.A.D). It is based on image processing as it takes as input microscopic image of the blood smear and detects the presence of abnormally shaped red blood cells and thereby diagnoses sickle cell anaemia in patients. By cutting down the time exhausted in manual laboratorial blood examinations and accidental human errors, we attempt to expedite the process of differential diagnosis.

**Acc.no:** PR1106/299CMPN

4. **Title:** Movie Rating and Review Summarization in Mobile Environment

**Author:** SHIVANI JAIN, ANJALI JHA

**Guide:** Miss Sridari Iyer

**Abstract:** In this project, we design and develop a movie review-summarization system. The movie-rating information is based on the sentiment-classification result. The condensed descriptions of movie reviews are generated from the feature-based summarization. Furthermore, we find a way to reduce the size of summary based on the product features obtained from sentiment analysis. We consider both sentiment-classification accuracy and system response time to design the system. The movie review-summarization system can be extended to other product-review domains easily.

**AccNo.PR1107/300CMPN**

5. **Title:** Wireless Area Scanner Robot

**Author:** Manoj Soni, Ashok Yadav

**Guide:** Sridari Iyer

**Abstract:** It is estimated that even on tight watch on border many intruders get in our territory. Intruders take forest way in order to penetrate the border security. Since independence of India there is gradual increment in quantity of intruders in our territory.

Our goal is to stop such type of entry by using robots across the whole area those would keep watch of every minor activity in these areas.

The project is intended for surveillance system using camera and moving robot.

Detection of any humans in human prohibited areas and notification of existence of human to defense department is done. This project includes concept of human detection by heat variation that would work by capturing images by surveillance camera. Human detection is done by Passive Infrared Sensor (PIR) and further processing is done on robot by microcontroller. If processing results existence of any unwanted object (human) then system will show notification.

**Acc.no: PR1108/301CMPN**

6. **Title:** E-Certification

**Author:** Shraddha Surve, Rucha Pereira, Vikita Pimple

**Guide:** Ms. Snehal Kulkarni

**Abstract:** In today's world of internet every application is online. So the information is available at fingertip. Transactions are also carried within a short duration of time. This altogether saves time, money and efforts. Coming to the legal certification like birth, death and marriage certificates they still are offline and are tedious piece of work. The birth certificate in Mumbai



can be applied by visiting nearest office of Municipal Corporation. You need to first register the name of child by filling the form that can get from the office. After getting registered, the birth certificate application form can be taken from hospital or from Municipal Corporation office. Candidate has to provide all the details. The birth certificate will have a stamp of Municipal officer. You need to wait for few days. The Ecertification will play an important role in issuing the certificates. As mentioned in the problem of issuing it, E-certification will issue these certificates online to the authenticated user. Since government and citizens of India use internet in day to day life it will increase and save time for such processes. For the new born, the Municipal Corporation and the hospital will be integrated. On the other side cloud storage is provided to the Municipal Corporation for certificate storage. For death certificates similar procedure will be followed.

**Acc.no: PR1109/302CMPN**

**7. Title:** Web Usage Mining

**Author:** Steffy Dmello, Calista Lopes, Melba Moro

**Guide:** Snehal Kulkarni

**Abstract:** Web Usage Mining is the application of data mining techniques to discover interesting usage patterns from Web data, in order to understand and better serve the needs of Web-based applications. Usage data captures the identity or origin of Web users along with their browsing behavior at a Web site. Web usage mining itself can be classified further depending on the kind of usage data considered. They are web server data, application server data and application level data. Web server data correspond to the user logs that are collected at Web server. Some of the typical data collected at a Web server include IP

Addresses, page references, and access time of the users and is the main input to the present Research. This Research work concentrates on web usage mining and in particular focuses on discovering the web usage patterns of websites from the server log files. The comparison of memory usage and time usage is compared using Apriority algorithm.

**Acc.no: PR1110/303CMPN**

**8. Title:** Process Mining for Project Management

**Author:** Yasha Ballal, Tanya Emmatty, Jeni Joe

**Guide:** Ms.Snehal Kulkarni

**Abstract:** Business process mining or process mining is the intersection between data mining and business process modeling that extracts business patterns from event logs. Event logs are freely available in any organization. Business logs are a potential source of useful information. By the various patterns that are present in the logs, a lot can be estimated about the type of

procedures that should be incorporated into the organization for better performance. Event logs store information about time and event data of business processes. Process mining algorithms are used to mine business process models using event logs. Generating automated business models out of this could provide valuable insight to a firm eventually leading to customer satisfaction. Process Mining works by three phases: discovery, conformation and alteration. By using process mining, many kinds of information can be collected about the process, such as control-flow, performance, and organizational information and decision patterns. A process model could be represented as Petri nets which is a formal graphical representation of the workflow diagram or it can be represented as Business Process Modeling Notation. This project aims to develop a user friendly platform which is capable of generating petri net models by process mining. By using various process mining algorithms we will develop software which would mine the event logs of a particular firm. It would provide a data or workflow analysis scheme. This would optimize business process intelligence and thus provide alternative and superior work strategies. In this project, we are mainly targeting project management using process mining. There are many projects that are undertaken by an IT company that all follow the same procedure. The concept of business process mining can be used in order to improve the performance of a company by optimizing its Software Development Life Cycle. By feeding the previous logs of a similar project of the company, the software would give a flow graph. This flow graph can help to identify the sequence of the activities, roles in the organization as well as various efficiency parameters. The Algorithm being used is the Heuristic Miner Algorithm for process mining which is better than most of the process mining algorithms in many respects and has been recommended in many papers and trustworthy websites.

**Acc.no: PR1111/304CMPN**

**9. Title:** Android Remote Security Application

**Author:** Joel D'cruz, Jovita D'cunha, Nisha George

**Guide:** Priya Karunakarani

**Abstract:** Earlier phones were only used for communications purpose .To serve the ever increasing needs Smartphones were developed .Smartphone is a mobile phone with more advanced computing capability and connectivity than basic feature phones. All these advancements gave rise to threats of the phones private data being compromised if stolen or misplaced.

To prevent these problems we put forward a smart phones' data protection and synchronization system based on Android OS. Our systems key functionality is remotely accessing the various functions of the smartphone. It includes a bidirectional communication between a web server and client (Smartphone) which enables solving the problem of the phones private data being compromised or getting detrimental to the owner. It provides the user the options of locating the device using GPS and without GPS, remotely locking the

phone, taking rear photo and front photo remotely, taking rear video and front video remotely, to ring phone and stop ring remotely, to send SMS, send shell commands, request a file from device similarly download a file on the device, deleting the data stored on the phone memory, and remotely accessing the phone details

This system pays attention to phones' data security, protects the private data, achieves an integrated management of smart phones and computers and controls the smart phones via web.

**Acc.no: PR1112/305CMPN**

**10. Title: Cloud based health care System**

**Author: Sayali Jaitpal, Tushar Karia, Veer Lade.**

**Guide: Ms. Priya Karunakaran**

**Abstract:** Cloud computing is one of the most recent revolutionary technologies in the world. Today the application of cloud computing is so widespread that it is being used even in the health care industry. Recently, there has been a remarkable upsurge in activity surrounding the adoption of Personal Health Records (PHRs) on the cloud. The benefits of storing electronically the records of patients have increased the productivity of patient care and easy accessibility and usage. Hospitals, doctors, research clinics, private and public health care institutions are looking for alternatives in order to increase the efficiency of the services for less money. If these cloud computing technologies are implemented appropriately, they meet the requirements of majority of the problems faced by the healthcare industry. The major advantages of cloud computing in the Healthcare industry include mobility of records, speed, security and privacy. The recent World Health Report reveals an estimated shortage of almost 4.3 million doctors, midwives, nurses and support workers worldwide. The situation is not too different in our country as well; India ranks 67th in developing countries in the doctors per patient ratio. The shortage is most severe in the under-developed and developing countries but many developed nations also report doctor shortages, especially in rural areas. The rural areas are deprived of quality healthcare centers due to poor working conditions and earning opportunities for the physicians and the medical staff.

We have proposed a framework from India's perspective wherein the healthcare institutes and the physicians can be connected with the rural masses who face financial and geographical constraints.

A globalized cloud based database will make the patient's medical record and history available at a single click from anywhere at any time. Also the patients' health records that are stored in the cloud will prove beneficial for statistics and research purposes. This will also pave a way for e-prescribing in the near future. As the evolution of cloud computing in health care is occurring at a rapid rate in recent times, we can expect a major part of the healthcare services to move onto the cloud and thereby more focus is laid on providing a cost effective and efficient healthcare service to the people all around the globe.



**Acc.no: PR 1113/306CMPN**

**11. Title:** Sentianalyze on college reviews

**Author:** Minal Shettigar, Jyoti Solanki

**Guide:** Priya Karunakaran

**Abstract:** Sentiment analysis of college reviews based on fuzzy logic technology. In this project we have used post taggers, sentiwordnet and fuzzy ontology in order to obtain a rating for each college based on the number of good and bad comments received over sites such as stupidsid.com, mouthshut.com etc.

**Acc.no: PR1114/307CMPN**

**12. Title:** Intelligent Virtual Agent for Social Communication in Autism

**Author:** Sony Scaria, Aneesha Jose, Gideon Pinto

**Guide:** Mr. Shamsuddin S. Khan

**Abstract:** Virtual agents have been investigated as an educational tool for use with children on the autistic spectrum with positive results being gained for language skills with the use of autonomous agents and social skills with human-controlled agents.

Individuals with autism spectrum disorder have difficulties with social communication and picking up on social cues and empathy. Children with ASCs have an affinity with technology and are motivated by computer-based training. Software programs are predictable and structured environments that can accommodate the children's need for organizational support and their preference for routine behaviors. The anxiety linked with social interaction can be mitigated by the use of artificial peers which are tireless, consistent and positive towards the child regardless of the child's behaviors. We propose to create a virtual agent that help young children with Autism Spectrum Conditions acquire social communication skills.

This project combines these ideas to investigate the utility of autonomous agents for teaching social skills. The virtual agent used in this project, known as the Thinking Head, has an ability to realistically portray facial expressions that lends it to this task. Two prototype modules were developed for this agent platform, one teaching basic conversation skills and the other dealing with bullying. In a pre-test-post-test evaluation, a group of children with autism who were exposed to the training modules obtained significantly higher post-test scores on their knowledge of these two topics. In addition, responses to a post-training survey indicated that participants found the virtual tutor enjoyable and useful.

**Acc.no: PR1115/308CMPN**

**13 Title:** 3D Printer

**Author:** Sagar Panigrahi, Steven Parapully, Jude Menezes

**Guide:** Shamsuddin S. Khan

**Abstract:** The aim of our project is to build a 3-D printer which can eliminate the problem faced by the current traditional manufacturing system and increase the accuracy of the printer by implementing modified design and extruder. Our main purpose is to reduce the cost of the printer so as to make it inexpensive and provide the same functionalities as the higher end, expensive 3D printers. Small scale industries can purchase it in bulk. We have also taken care to make this project as eco-friendly as possible. We use PLA (Poly Acrylic Plastic) for printing the object. PLA is a biodegradable plastic. Once the use of PLA is over it can be easily disposed or the plastic can be recycled into the PLA strings again. 3-D printer basically prints a 3-D model of an object that can be used in day to day life and reduce cost of purchase. 3-D printer can encourage designers and engineers to prototype various designs faster before implementing it for commercial use. We are doing this project with the financial support from Homi Bhabha Center for Science and Education (HBCSE), Tata Institute for Fundamental Research (TIFR) due to which we are able to make the product by trial and error approach. Hence presenting a product with better accuracy and a suitable design.

**Acc.No:**PR1116/309CMPN

**14 Title:** Smartphone Controlled Minidrone

**Author:** Gurubux Gill, Pratik Parmar, Shivam Sanghvi

**Guide:** Samshuddin Khan

**Abstract:** An unmanned aerial vehicle (UAV), commonly known as a drone and referred to as a Remotely Piloted Aircraft (RPA), is an aircraft without a human pilot aboard. Its flight is controlled either autonomously by onboard computers or by the remote control of a human on the ground. The typical launch and recovery method of an unmanned aircraft is by the function of an automatic system or an external operator on the ground. In today's world unmanned aerial vehicles which are also known as drones are viewed with a sense of high cost and as an high-end, state-of-the-art military product. But that's not entirely correct and that is what exactly the smartphone controllable minidrone is all about. To run this mini drone one just have to install a app on an android phone which comes handy with a easy to use interface and connect the drone to the smartphone with a secure Wi-Fi network. At this point, the app will connect to your Drone and you're set for takeoff. They are surprisingly affordable, easy to use, can be used for fun or for profit, can be used to lift medium object and transport it to medium ranges. From spying to corporate to household purposes, there is a place for sure, for this minidrone.

**Acc.No: PR1117/310CMPN**

**15 Title:** Launchpad

**Author:** Pradnesh Adurkar, Meetali Bageshwari, Ankit Chandrakar

**Guide:** Prof. Safa Hamdare

**Abstract:** layers as per requirement. This necessitates development of a framework that is Software service companies work on wide projects ranging from small scale startup projects to large scale commercial projects and also government agency project. Each project has its own specific requirements and constraints and most projects today have very short delivery time and also low budget constraints. As a result most projects start in a hurry particularly projects with external consultants and contractors. Initial analysis is usually followed quickly by development. In this newly accepted agile environment of work far less time is set aside for establishing a basic application structure by exploring proven architectures, practices, frameworks, etc. In order to meet the short delivery time constraints different teams work on different aspects of the projects parallel and in most cases each team ends up following their own format, own structure which makes the project inconsistent and difficult to maintain. Such an approach also leads to module integration problems. In order to ensure consistency throughout the organization and to address the above mentioned challenges, organizations may develop frameworks and enforce best practices through the organization and its different project teams. One such useful and compatible framework available in market is Do factory; however due to the lower budget constraints and licensing problems associated with such commercial products and to avoid dependency on a third party product, companies choose to invest in their own frameworks that enable them to enforce a consistent architecture throughout their organization. Furthermore such commercial products do not handle the scalability and extendibility well. Each project is unique in its own way and hence would require the use of different frameworks in various architectural flexible and capable of incorporating other modules and functionalities.

**Acc.No:PR1118/311CMPN**

**16 Title:** Mobile Augmented Reality Systems

**Author:** Amey Borkar, Akash Pathak, Bony Carvalho

**Guide:** Mrs. Safa Humdare

**Abstract:** MARS (Mobile Augmented Reality Systems) is a mobile application software used in smartphones. It is used for navigation and map functionalities. It helps the user in locating its own current locations as well as gets notified about different venues and



landmarks nearby. It adds virtual information to real time camera screen and provides the required information.

**Acc.No:PR1119/312CMPN**

**17 Title:** Intelligent Robot

**Author:** Drashti Patel, Khushboo Mehta, Shubham Patel

**Guide:** Prof. Safa Hamdare

**Abstract:** Interaction with its environment is a key requisite for a robot. Especially the ability to recognize and manipulate objects is crucial to successfully work in natural environments. The industry is moving from current state of automation to Robotization to increase productivity and to deliver Uniform quality. The industrial robots of today may not look the least bit like a human being although all the research is directed to provide more and more human-like features and superhuman capabilities in these.

**Acc.No:PR1120/313CMPN**

**18 Title:** Sales Forecasting Using UP Growth Tree

**Author:** Alysia Pereira, Rhea Alexander, Nigel Rodrigues.

**Guide:** Ms. Vincy Joseph

**Abstract:** The UP-Growth Algorithm maintains a tree based data structure named Utility Pattern Tree. With the help of UP-Tree candidate item sets can be generated with only two scans of database. UP Growth Algorithm, not only reduces the number of candidate item sets but also works efficiently when the database contains lots of long transactions. The system aims at achieving the overall goal, i.e. to produce reliable models, while enabling market analysts to understand the reasons behind model predictions

**Acc.No:PR1121/314CMPN**

**19 Title:** Traffic Accident Analysis Using Data Mining Techniques

**Author:** Divya John, Parima Gavaskar, Mrunalini Reddy.

**Guide:** Vincy Joseph

**Abstract:** Data mining is a type of sorting technique, which is actually used to extract hidden patterns from databases. The major advantages of using data mining are the fast retrieval of data or information, Knowledge Discovery from databases, detection of hidden patterns, and reduction in the level of complexity, time saving etc. Naïve Bayes and Random Forest algorithms have been used.

The Naive Bayes Classifier technique is based on the so-called Bayesian theorem and is particularly suited when the dimensionality of the inputs is high. Despite its simplicity, Naive Bayes can often outperform more sophisticated classification methods.

**Acc.No:PR1122/315CMPN**

20. **Title:** VIAssist- Assistance for the Visually Impaired

**Author:** Denson George, Rishi Malve, Aparajita Marathe

**Guide:** Ms. Vincy Joseph

**Abstract:** There has been a vast advancement in Computer Vision since its inception and it has been used since for the ease and betterment of the visually impaired in particular. One of the problems that the visually impaired face is they find it difficult to commute using public transport. When it comes to railways, railway stations have periodic announcements that are made regarding the train that has just arrived on the station, where it is heading and so on. Now to the other most used means of public transport, the intra-city Bus service i.e. BEST. However, in spite of this BEST has done very few things to ease commute for the visually impaired. The proposed work will be deployed on BEST bus stops. It will basically consist of a camera, a processing unit and speakers. Once a Bus is detected, the corresponding video frame will be captured. The Bus number will then be input to the Character Recognition Engine which will use template matching for recognition of the numbers. Once the Character Recognition phase is over, the numbers will be matched against a database containing the number and destination of the bus. The information will be retrieved and announced through the speakers using the text to speech module.

**Acc.No:PR1123/316CMPN**

21. **Title:** Music Recommendation System based on Genetic Algorithm

**Author:** Primus Dabre, Barry Pegado, Bonison Gomes

**Guide:** Vincy Joseph

**Abstract:** With the high-speed development, it is essential that the enterprises must find and understand customer's interests and preferences and then provide suitable products or services. Recommender systems provide one way of circumventing this problem. Recommender systems are widely implemented in e-commerce websites to assist customers in finding the items they need. A recommender system should also be able to provide users with useful information about the items that might interest them. The ability of promptly responding to changes in user's preference is a valuable asset for such systems. We present an innovative recommender system for music data that combines two methodologies, the

content-based filtering technique and the interactive genetic algorithm. The proposed system aims to effectively adapt and respond to immediate changes in user's preferences.

**Acc.No:PR1124/317CMPN**

22. **Title:** Safe Drive

**Author:** Aloma Lopes, Joyli Dmello, Clyton Dantis,

**Guide:** Vincy Joseph

**Abstract:** Safe drive is an automated non-intrusive fatigue detection system. Using visual cues like eye closure, yawn and head rotation drivers of vehicles can be alerted.

**Acc.No:PR1125/318CMPN**

23. **Title:** Localized Voting System

**Author:** Arunkumar Pandey, Anuj Pandey, Dhvani Shah

**Guide:** Ms.Vincy Joseph

**Abstract:** The word "vote" means to choose from a list, to elect or to determine. The main goal of voting is to come up with leaders of people's choice. Elections allow people to choose their representatives and express their preferences on basis of how they will be governed. The election system must be able to withstand a variety of fraudulent behaviors. This can be achieved by making the system transparent such that voters and candidates can accept and trust the results of an election. Earlier voting was performed using ballot paper and the counting was done manually, hence it consumed a lot of time. There could be possibility of invalid votes. All these makes election a tedious task and the chances of error in counting the number of votes could be high. In mechanical voting systems, when a user casts a vote for a candidate, the vote is not kept confidential (hidden from other people), because of which there is an issue of user's safety being compromised. In order to overcome with problems online voting system is proposed. In online voting system, people can cast their vote through the internet. In order to prevent voter frauds use two levels of security. In first level of security, the concept of steganography is being used where the face image of a person is used to hide unique id of a person using embedding algorithm generating stego image at the time of registration phase. At the time of voting phase, this stego image is decrypted using authentication algorithm where the face image and the unique id are verified from the database. Face recognition is second level of security where the face present in the database is validated using eigen face algorithm. Online voting technique helps to avoid duplication of votes and it is more secure and generates fast result.

**Acc.No:PR1126/319CMPN**



**24. Title:** Wearable device for visually impaired

**Author:** Loreta Lobo, Mandumpal Nimisha Willaim, Sweedal Lopes

**Guide:** Dr.Kavita Sonawane

**Abstract:** This project presents a novel wearable navigation system for the blind and visually impaired in unknown dynamic environments. Offering an alternative mode of interaction with the surrounding 3-D space to the visually impaired for collision free navigation is a goal of great significance that includes several key challenges. Our Goal is to assist the blind and visually impaired towards their independent mobility. The first part of the project involves acquiring the video input from a camera and a motion sensor and preprocessing these inputs. The second part involves processing these inputs using various algorithms in order to identify the obstacles. Finally, the information obtained is informed to the visually blind person using sound through which the person becomes aware of the obstacle.

**Acc.No:PR1127/320CMPN**

**25. Title:** Content Retrieval From Video

**Author:** Lionel Graias, Radhakrishnan Iyer, Salwin Lopes

**Guide:** Dr. Kavita Sonawane

**Abstract:** There are many images and videos which are uploaded on the internet every day and they are also watched at a large amount. But the main problem is that the contents of the videos are accessible only after watching them online or downloading them. This costs an enormous amount of bytes to get wasted and also may lead to buffering when these videos are watched. Also these videos contain subtitles from which we can get suitable idea of the contents of the videos and images. Hence we have come up with a technique from where we are going to extract information from the videos and images in the form of text without watching the video. We propose converting the video into a text format using OCR (optical character recognition).The demand has increased because people, especially in developing countries are finding it very difficult to access a particular portion from the videos because the internet speed provided is not sufficient and buffering occurs very often. Hence we will first divide the video into frames, and also convert into OCR text.

**Acc.No:PR1128/321CMPN**

**26. Title:** Video summarization using clustering

**Author:** Aditya Hegde, Srinidhi Raghavan, Gaurav Dudwadkar

**Guide:** Dr.Kavita Sonawane

**Abstract:** The development in the digital multimedia resulted in the production of enormous videos. These videos require large space for storage and are time consuming to watch. Video Summarization techniques aim at removing these drawbacks of large videos. They provide a highlighted segment of the video containing important events. Most video summarization techniques are based on key frame approaches. Such approaches are static and consume lots of time to be processed. The proposed work is dynamic in nature and processes the video on-the-fly. The proposed project is a principled way for generating summaries of highly unstructured videos in real time. Specifically, the system builds a dictionary while scanning the video. The dictionary contains the final summary contents. The existing contents of the dictionary are used to construct a video segment as and when a new video segment is encountered. If the reconstruction error between the reconstructed segment and the new segment is greater than the threshold, then the dictionary is updated. The choice of an appropriate threshold is very important for this process. It is believed that the processing time for this approach will be in par with the original video length.

**Acc.No:PR1129/322CMPN**

27. **Title:** Neuromorphic Text Recognition

**Author:** Chetan Rathod, Pritesh Parekh, Tejas Vora

**Guide:** Jayshree Mittal

**Abstract:** In the running world, there is growing demand for the software systems to recognize characters in computer system when information is scanned through paper documents as we know that we have number of newspapers and books which are in printed format related to different subjects. These days there is a huge demand in storing the information available in these paper documents in to a computer storage disk and then later reusing this information by searching process. One simple way to store information in these paper documents in to computer system is to first scan the documents and then store them as IMAGES. But to reuse this information it is very difficult to read the individual contents and searching the contents form these documents line-by-line and word-by-word. The reason for this difficulty is the font characteristics of the characters in paper documents are different to font of the characters in computer system. As a result, computer is unable to recognize the characters while reading them.

**Acc.No:PR1130/323CMPN**

28. **Title:** Image Forgery Detection

**Author:** Mervin D'souza, Dipesh Barsiwal, Sewell Andrades

**Guide:** Mrs. Jayashri Mittal

**Abstract:** Image forgery is the manipulation of digital images to conceal meaningful information or objects in the image. Due to rapid advances and availabilities of powerful image processing software, it is easy to manipulate and modify digital images. Region duplication is a commonly used tampering technique for digital images, in which a region is copied from an image and pasted to another region of the same image. So it is very difficult for a viewer to judge the authenticity of a given image. For digital photographs to be used as evidence in law issues or to be circulated in mass media, it is necessary to check the authenticity of the image. There are various techniques used to detect the copy paste forgery and wavelet-based approach is one of them. Here the image is divided into overlapped blocks with fixed size. The multilevel 2D discrete wavelet transform is then applied to each block. We extract the discriminative features from the wavelet coefficients of a block. The feature vectors of all blocks are lexicographically sorted and the block matching step is applied to find the duplicated blocks. This method can successfully detect duplicated regions even when the images are heavily distorted with noises.

**Acc.No:PR1131/324CMPN**

**29. Title:** Sentiment Analysis on Restaurant Reviews

**Author:** Kimberly D'souza, Vitasta Bhat

**Guide:** Ms. Jayashri Mittal

**Abstract:** In recent times, there has been a sharp rise in blogs and websites sharing information about various restaurants. People are always looking to spend their money wisely and hence use these blogs and websites to get to know what other people who have been there have to say. This helps them in making decisions regarding the restaurant of their interest. However, the aforementioned blogs and websites usually have a lot of content in terms of their customer reviews. So, a new user would have to scan through a number of customer reviews to finally make a decision. This becomes a very tedious task. Moreover, some websites use the concept of ratings to rate the restaurants. Though this may enable a new user to make a comparative study between two restaurants based on their overall ratings, he might still not be able to identify the features of the restaurants on which the rating is based. That means he would still have to read a number of reviews to arrive at a decision. To overcome these problems, this project will be performing sentiment analysis on various restaurant reviews by means of opinion extraction. The intent of this project is to extract the reviews available on various websites dealing with restaurants. By performing feature extraction, only the relevant and frequent features would be extracted from these reviews and accordingly their corresponding opinions will be recorded too. A sentiment analysis on this gathered data would help to present the reviews in the form of bar graphs dealing with only the required features. Thus, it would become easier for the managers of the restaurants to improve on the weaker features as well as the users to make quick decisions.



**Acc.No:PR1132/325CMPN**

**30. Title:** DSS For Food Processing Industry

**Author:** Dilipkumar Prajapati, Rupesh Surve

**Guide:** Bidisha Roy

**Abstract:** The Decision Support System (DSS) is one of the information system applications that can assist the decision making process of management by providing timely and efficient solutions. DSS provides a user friendly interface to the non-technical decision makers so they can construct management solutions in the shortest time frame. In the food warehouse, inventory information is needed throughout the whole duration of operations so as to minimize the inventory loss caused by Deterioration of Foods. The aim of this project is to provide an Integrative Food Handling System (IFHS) for managing inventory information in Food Warehouses. It is an Inventory Information Management System, which contains a Notification Mechanism, facilities allocation and stock picking decision support system. The notification mechanism can help to control the variations of the storage environment by informing staff when variations occur. The decision support system can help minimize loss of inventory caused by deterioration, contamination and expiry

**Acc.No:PR1133/326CMPN**

**31. Title:** Collaborative Learning through Mobile

**Author:** Isha Kambli, Ruchita Patil, Tejel Rumao

**Guide:** Mrs. Bidisha Roy

**Abstract:** Mobile technology has introduced new, novel environment that can be capitalized to further enrich the teaching and learning process in classrooms.

Findings showed that the respondents were very receptive to the interactivity, accessibility, and convenience of the system. Overall, the mobile learning system can be utilized as an inexpensive but potent learning tool that complements postgraduates learning process.

**Acc.No:PR1134/327CMPN**

**32. Title:** Data Hiding in Defense using Encryption

**Author:** Lovina Dmello, Shraddha Mandavkar, Erina Rodrigues

**Guide:** Varsha Nagpurkar

**Abstract:** The website is made for defense security which can be accessed only by the defense members. The new technique has been thought to have emerged in the need of

defense security is image based password protection. The method comprises of image encryption , consecutively followed by a technique to hide password into it and this image is then sent to the sub defense officer, which then can be, as per need or use decrypted and data i.e. password is de-hidden from it to have security goals achieved.

For image encryption and data hiding we have technique using which we can achieve encryption and later on as needed we can extract data correctly and after that original cover content can be perfectly recovered.

The next step of proposed system is to provide an encryption standard to encrypt any kind of file using an encryption program. We first upload a file and encrypt it. Then the verification code is generated. This code is then sending on desired defense members mobile. Then the encrypted image needs to be sent to desired defense member using fb/email/whatsapp. The desired defense member will authenticate itself with sent code. Then upload the encrypted file to decrypt.

**Acc.No:PR1135/328CMPN**

**33. Title:** Music Recommendation Engine Based on Facial Expressions

**Author:** Lisa Machado, Brinston Gonsalves, Swati Patil

**Guide:** Varsha Nagpurkar

**Abstract:** The face being the primary focus of attention in social interaction plays a major role in conveying identity and emotion. The activities that a person would like to do depend largely on the mood of the person. Facial expressions relates closely to the persons mood. Thus we propose to build a recommendation engine that will make suggestions depending upon the mood of the person. This application will be an interactive application that will continuously learn from user's usage pattern and thus will improve suggestions over time. The application will capture photos from the webcam and will predict the expression of the user. The application will also ask for users preferences if user is using the application for the first time. The users preferences are asked so that the suggestions made are preferable to users. The suggestions made by the applications will include music based on the recognized mood of the person. For example, in case of sad mood the application will recommend songs according to user's preferences as well as some pop songs will be suggested by application rather than emotional songs. So our application will take care of this by using different classification methods in machine learning.

**Acc.No:PR1136/329CMPN**

**34. Title:** Audio Home Automation

**Author:** Levin Vincent, Abhishek Pandey, Samantha Rodrigues

**Guide:** Ms. Varsha Nagpurkar

**Abstract:** We frequently see that people who are visually impaired and physically handicapped find it difficult to control home appliances. They need someone to be with them to perform their actions. This project is generally based on voice recognition where we are using the speech or voice of the person as an input and controlling the home appliances like light bulb and fan. The concept is based on converting the Analog voice signal into digital signal using micro controller which is then being processed by the appropriate algorithm and corresponding response is given out. The voice which is taken as an input will be compared with sample command in the database and appropriate actions will be performed. The software which we are using to perform this is JAVA where we process the voice and the commands stored in the database. Once this processing is done we pass the output to the micro controller which interprets the commands and action is performed. The algorithms which we are using to process the voice signal is Acoustic model using HMM.

**Acc.No:PR1137/330CMPN**

35. **Title:** Persuasive cued Click points

**Author:** Asher Dmello, Rohan Bagve, Victor Fernandes

**Guide:** Ms. Ankita Karia

**Abstract:** Persuasive Cued Click-Points (PCCP) is an integrated evaluation of the graphical password scheme, including usability and security evaluations, and implementation considerations. PCCP reinterprets and updates statistical analysis incorporating larger data sets, provides new evaluation of password distributions, extends security analysis including relevant recent attacks, and presents important implementation details. This systematic examination provides a comprehensive and integrated evaluation of PCCP covering both usability and security issues, to advance understanding as is prudent before practical deployment of new security mechanisms. An important usability goal for knowledge-based authentication systems is to support users in selecting passwords of higher security, in the sense of being from an expanded effective security space. We use persuasion to influence user's choice in click-based graphical passwords, encouraging users to select more random, and hence more difficult to guess, click-points.

**Acc.No:PR1138/331CMPN**

36. **Title:** Devanagari Character Recognition

**Author:** Reevon Rodrigues, Maitreya Save, Sonali Sharma

**Guide:** Ankita Karia



**Abstract:** Our project basically is based on OCR using matlab as the software. We are converting handwritten Devanagari into a scripted Devanagari script for online editing and government documentation. We are using a pen mouse to take in input from the user and this is converted to the desired output. The project uses neural network to recognize the characters. Samples are taken from the project people as training.

**Acc.No:PR1139/332CMPN**

**37. Title:** Traffic detection and management using visuals

**Author:** Alister Cabral, Aurick Chaudhari, Joywin D'Souza

**Guide:** Ms. Ankita Karia

**Abstract:** Traffic management is becoming one of the major issues in most of the developing countries. Due to bad traffic management a lot of man-hours is wasted. Traffic Detection and Management using Visuals is a self-automated system which will detect the traffic present on the road using visuals and accordingly set the time of a signal. Our application will detect the vehicles using image processing operations and accordingly simulate the timer for the signal. For detecting vehicles we perform background subtraction, edge detection and contour tracing. Finally the vehicles are counted and accordingly the time for green signal is adjusted.

**Acc.No:PR1140/333CMPN**

**38. Title:** Smart Prompting Technology

**Author:** Vinit Khanna, Deepti Menezes, Priyanka Nadkarni

**Guide:** Mr. Rupesh Mishra

**Abstract:** Smart prompting is an upcoming technology that enables independent living in one's own environment. Smart Prompting using Near Field Communication (NFC) is an alternative method to using complex sensors. With the help of NFC it has become possible for mobile phones to interact with the surroundings by simply touching them to an NFC tag. The NFC tag can contain information that is written by the caregiver of the user. An NFC reader is integrated into the user's handset device. The user on entering a room taps his device on the NFC tag, the reader reads the data written onto the tag, which then triggers the audio prompts for daily activities of the user to be performed in that room. An Android application acts as the interface for the user and the NFC reader acts as the initiator that triggers the application. This application is mainly to enable independent living of the mild cognitively impaired people and to reduce the burden on their caregivers.

**Acc.No:PR1141/334CMPN**

**39. Title:** 3D Tracking Interface

**Author:** Mitesh Puthran, Akshay Rane, Jash Pithadia

**Guide:** Rupesh Mishra

**Abstract:** The proposed system makes use of the concept of capacitive sensing which replaces the camera in the traditional 3D tracking. The proposed system uses a device Arduino Uno which configure a three dimensional cube as input for the reference of the coordinates, area of reference can be increase by using more number of Arduino Uno. The capacitive Sensor library turns two or more Arduino pins into a capacitive sensor, which can sense the electrical capacitance of the human body. There are papers which describe the design, implementation, and initial evaluation of anon-body sensing system. This system has large area sensors. The main challenge that the design had to deal with was noise resulting from shape changes of the flexible electrode and disturbances due the human body being close by. Also for gesture recognition there was the question of filtering out false positives resulting from the hand accidentally passing by the sensor. The more traditional way of 3D tracking which was using the camera as a tracking device this had its limitation. It was not able to detect the motion if it had a brighter surrounding, the limitation of the margin of reference for the gesture detection hindrances the detection process.

**Acc.No:PR1142/335CMPN**

40. **Title:** Multi Touch Screen Table

**Author:** Rishi Solanki, Raj Pandya

**Guide:** Mr. Rupesh Mishra

**Abstract:** We live in a world boosted tremendously by the inventions and the introduction of various new technologies. Of which, the one most noticeable technology which emerged, the Touch Screen, has drastically changed the conventional human-computer interaction. Right from its invention in 1973 in the CERN, the touch screen technology has grown leaps and bounds but at a very steady pace. As touch screen paved its way into the commercial market on a wide scale, it came to consumers in the form of mobile touch screens and at a relatively small size compared to what is available in the market today. At the time of introduction of touch screens in mobile market, consumers fancied a touch screen mobile because of its visual appeal and ease of use. The touch screens were based on various technologies, where every technology was better than its predecessor. Commercially, resistive touch screens were first introduced in the market in various forms for mobile, hospitals, factories, etc. These screens comprised of several layers. With time, capacitive touch screens were introduced, which used the concept of human as an electrical conductor.

**Acc.No:PR1143/336CMPN**

41. **Title:** Thought Controlled Robotic Glove

**Author:** Nikhil Shirsath, Sebastian Swamy, Bhavana wawre

**Guide:** Dr. Vikram Shete

**Abstract:** Often people suffering from motor disabilities like quadriplegic or partial paralysis have to struggle for doing any movement due to injury to the spinal cord. Brain Computer Interface (BCI) aims at providing communication and control capabilities to people with motor disabilities. It is a system that provides an output channel for the brain and does not depend on peripheral muscles and nerves. In other words, a BCI enabled system interprets a brain activity as simple commands and transforms brain activities into prescribed actions within its applications i.e. exoskeleton limb or control of a robotic glove. Electroencephalogram (EEG) is one of the non-invasive methods to record electrical activities generated by cerebral cortex nerve cells of human brain from the human scalp with electrodes. Using this technique along with Principal Component Analysis (PCA) and Artificial Neural Network (ANN) we will classify the patterns from the EEG readings and map it to the robotic glove which will help the paralyzed person perform activities such as handshakes, holding objects, moving fingers, etc. as per his/her thoughts.

**Acc.No:PR1144/337CMPN**

**42. Title:** 3D Reconstruction System

**Author:** Sphoorti Poojary, Praseedha Sudhakaran, Kinjal Rathod

**Guide:** Vikram V. Shete

**Abstract:** The use of 3D model constructing systems for acquiring the external shape features of arbitrary objects has many applications in industry, computer graphics and more recently for archaeological purposes. The potential exists to expand the use of 3D models even further by continuing to develop simpler and more cost efficient systems. A simple, low cost 3D model constructing system is presented which takes as input multiple view images of a scene. Feature extraction and matching algorithms are applied to these images. Then the output is passed to a triangulation algorithm which allows us to construct the 3D model. The efficiency and response time of the system will also be tested.

**Acc.No:PR1145/338CMPN**

**43. Title:** Refreshable Braille Display

**Author:** Ajay Thorve, Raveendra Tudangil, Roger Correia

**Guide:** Dr. Vikram Shette

**Abstract:** Shape Memory Alloys (SMA) based actuation is a potential low cost alternative to the commercially available displays 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 a mobile phone through USB will display the contents the user desires to read. Refreshable Braille displays can prove to be a very useful product for the visually impaired people if available at an affordable price and its use in that case cannot be underrated. In this work we present an extremely low cost prototype of a single character refreshable braille display. We also demonstrate the use speech recognition for a fast paced self-learning experience.

**Acc.No:PR1146/339CMPN**

**44. Title:** Web based Intelligent ERP System

**Author:** Silwon Dmello, Simi Foss, Ruth Dmonte

**Guide:** Miss Nidhi Gaur

**Abstract:** A Web-based ERP system developed for attacking business problems and managing real world business processes ranging from simple office automation procedures to complicated supply chain planning is presented. The system's Web-aspect provides significant advantages, as the system is distributed through interoperable, cross-platform and highly pluggable Web-service components. The system involves a powerful workflow engine that manages the entire process event flow within the enterprise increasing efficiency and control at the same time. Business processes, when needed, are controlled by the enterprise quality management system and consequently the ISO directives are accurately followed. The simple and effective heuristic algorithm is used which tackles idle resource time and the delays in project preparation time. The proposed system aims to effectively adapt and respond to immediate changes in user's preferences

**Acc.No:PR1147/340CMPN**

**45. Title:** Botnet Detection

**Author:** Nirant Carvalho, Jesleena Rodrigues, Lizel Pereira

**Guide:** Asst. Prof. Ms. Nidhi Gaur

**Abstract:** At present, the most serious demonstration of advanced malware is botnet. Botnet is widespread malware and it arises commonly in today's cybercrime, which results in serious threats to our network. It is a collection of compromised computer (bot), which is remotely controlled by bot master (Bot Herder) under a common command and control (C&C) infrastructure. They are used to distribute commands to the bot to perform malicious activity such as spam, Distributed Denial-of-service (DDOS) attacks etc ; therefore it is required to detect the botnet in order to provide secure network service.

**Acc.No:PR1148/341CMPN**

**46. Title:** Optical Character Recognition

**Author:** Dipak Chavan, Naresh Jain

**Guide:** Mrs. Nidhi Gaur

**Abstract:** In the running world, there is growing demand for the software systems to recognize characters in computer system when information is scanned through paper documents as we know that we have number of newspapers and books which are in printed format related to different subjects. These days there is a huge demand in storing the information available in these paper documents in to a computer storage disk and then later reusing this information by searching process. One simple way to store information in these paper documents in to computer system is to first scan the documents and then store them as IMAGES. But to reuse this information it is very difficult to read the individual contents and searching the contents form these documents line-by-line and word-by-word. Thus our need is to develop character recognition software system to perform Document Image Analysis which transforms documents in paper format to electronic format. For this process there are various techniques in the world. Among all those techniques we have chosen Optical Character Recognition as main fundamental technique to recognize characters.

**Acc.No:**PR1149/342CMPN

**47. Title:** Cloud Computing Security from Single to Multi Clouds

**Author:** Mandar Kadam, Stewyn Chaudhary, Chirag Modi.

**Guide:** Mr. Rajkumar Shende

**Abstract:** Now a days, rapidly increased use of cloud computing in the many organization and IT industries and provides new software with low cost. So the cloud computing give us lot of benefits with low cost and of data accessibility through Internet. The ensuring security risks of the cloud computing is the main factor in the cloud computing environment, for example sensitive information with cloud storage providers may be entrusted. But, single cloud providers are a less popular with customers due to risks service availability failure and possibly of malicious insiders in the 'single cloud'. A towards movement of 'multi clouds' or 'multiple clouds' or 'cloud-of-clouds' has emerged currently using Shamir's Secret Sharing Algorithm.

This project surveys to many running research related project to single cloud and multi clouds security using Shamir's Secret Sharing algorithm and addresses possible solutions and methodology. Main focus of this project is to use of multi clouds and provide data security and reduce security risks that affect the cloud computing user using Shamir's Secret sharing algorithm. It is a form of secret sharing, where a secret is divided into parts, which is giving each participant its own unique part, where some of the parts or all of them are required in

order to reconstruct the secret. If we are going to Count all participants to combine together the secret might be impractical, and therefore sometimes the threshold scheme is used where any 'k' of the parts are sufficient to reconstruct the original secret.

**Acc.No:PR1150/343CMPN**

**48. Title:** interactive blind reader

**Author:** Reena Shaw Muthali, Sanil Dias, Remy Payyenkeril

**Guide:** Mr. Rajkumar Shende

**Abstract:** This project report describes a software called 'Blind Reader' that could be of great use to libraries. If a visually impaired person wants to look up a document, he merely needs to utter the keyword that needs to be searched. The software would be capable of performing three functions: display necessary documents pertaining to the spoken keyword, convert the text into audio to help him understand it; and convert the text into a Braille document.

This software would prove to be a great help in making visually impaired individuals competent while performing local searches. Literature in Braille is not uncommon, but technical papers in Braille are a scarcity. This software could be employed to offset the aforementioned problem.

**Acc.No:PR1151/344CMPN**

**49. Title:** I-Wander: An Android Application for Dementia Patients

**Author:** Suraj Dubey, Tushar Daware, Keith Fernandes

**Guide:** Mr. Rajkumar Shende

**Abstract:** Management of dementia puts a burden on those who are taking care of a patient that suffer from this condition. Caregivers need to assist their patients with activities of daily living very frequently. However, they are also encouraged to promote functional independence. With the use of a discrete monitoring device, functional independence is increased among dementia patients while decreasing the stress put on caregivers. This paper describes a tool which improves the quality of treatment for dementia patients using mobile applications. Our application, iWander, runs on several Android based devices with GPS and communication capabilities. This allows for caregivers to cost effectively monitor their patients remotely. The data collected from the device is evaluated using Bayesian network techniques which estimate the probability of wandering behavior. These actions include issuing audible prompts to the patient, offering directions to navigate them home, sending notifications to the caregiver containing the location of the patient, establishing a line of communication between the patient caregiver and performing a party call between the



caregiver-patient and patient's local emergency number 911. As patients use this monitoring system more, it will better learn and identify normal behavioral patterns which increase the accuracy of the Bayesian network for all patients. Normal behavior classifications are also used to alert the caregiver or help patients navigate home if they begin to wander while driving allowing for functional independence.

**Acc.No:PR1152/345CMPN**

**50. Title:** Enhance Payment Gateway for E-Commerce Website

**Author:** Shravan Jaiswal, Praharsh Jha, Austin Lewis

**Guide:** Ms. Pradnya Rane

**Abstract:** In our daily lives, we use many E-commerce websites such as online shopping, online recharge, online booking websites etc. that perform monetary transactions over the internet.

In case of a transaction failure due to various reasons such as poorly maintained database, slow server or internet connection, the customer's money may get deducted from his account without actually the order being placed. Also, it may so happen that after placing an order, the customer would want to cancel the order.

In either of the cases, money once debited from the account has to go through bank procedure to be deposited back to the customer's account. This bank procedure generally requires 3 to 4 days. Thus causes poor user experience.

To avoid this, we propose a solution wherein in case of occurrence of such transaction failure, the amount of money mistakenly debited or the amount customer is liable to receive after cancellation of an order would be credited to the customer in form of E-cash immediately. This would remove any inconvenience the customer faces and betters user's online experience. Customer satisfaction is an important aspect for successful E-commerce. Also, since money is being credited to the customer in form of E-currency, it compels the user to reuse it in the same company's website thus causing higher customer retention.

In order to implement our project we will consider aspects such as E-currency & payment gateway in the field of E-commerce as well as Encryption for transactions. Also by using signcryption technique we avoid double spending which is highly rampant in e-cash transactions. A single protocol is used to update all databases which help to maintain consistencies.

**Acc.No:PR1153/346CMPN**

**51. Title:** Eye Controlled Wheelchair

**Author:** Ben Sequeira, Reona Cerejo, Gravel Gonsalves

**Guide:** Ms. Pradnya Rane

**Abstract:** Statistics suggests that there are 11,000 new cases of quadriplegia every year in United States of America. Great people like Stephen Hawking and Max Brito have been suffering from this crippling phenomenon. Our project is an attempt to make lives of the people suffering from this phenomenon simple and by simpler we mean self-reliant, which will thereby reinstate their confidence and their happiness. The idea is to create an Eye Monitored System which allows movement of the patient's wheelchair depending on the eye movements. We know that a person suffering from quadriplegia can partially move his eyes and tilt his head, thus presenting an opportunity for detecting those movements. We have created a device where a patient sitting on the Wheel Chair assembly looking directly at the camera, is able to move in a direction just by looking in that direction. The camera signals are monitored by a MATLAB script, which will then guide the motors wired to the Arduino over the Serial Interface to move in a particular direction. The system is cost effective and thus can be used by patients spread over a large economy range.

**Acc.No:PR1154/347CMPN**

**52. Title:** Attribute Based Data Sharing and System Security

**Author:** Christo Kulangara, Nishant Kotian, Aditya Ulman

**Guide:** Mrs. Pradnya Rane

**Abstract:** Over the past few years e-commerce has improved by leaps and bounds. Apart from buying and selling products over the Internet, tracking and managing finances has also gained importance and popularity by not only large institutions but also at a personal level as well. Our application addresses these needs. The application is helpful for all types of users.

Security becomes a major aspect of such a kind of system and like all other e-commerce systems; this application also employs heavy security measures. The scheme applied for security in the application is known as 'Cipher text-policy Attribute Based Encryption' (CP-ABE). It enables data owners to define their own access policies using user attributes and enforce the policies on the data to be distributed /shared. The formal model of CP-ABE algorithm can be used with a hierarchical structure to improve scalability and flexibility. This effectively eliminates the need to rely on the data storage server for preventing unauthorized data access and integrity.

The most prominent feature of this scheme is that it maintains security even if the central server is compromised. To make the system user friendly, the application mimics the distributed system used by CP-ABE on to a client-server based system. The server storage

system enables users to remotely store their data and utilize the on-demand superiority of remote storage applications without the burden of local hardware and software management.

**Acc.No:PR1155/348CMPN**

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