

PROJECT ABSTRACT BOOK

BACHELOR OF COMPUTER ENGINEERING

PUBLISHED YEAR 2014-2026



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Research Management Cell (RMC)

Pokhara Engineering College (PEC)



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Special Thanks to:

Department of Computer Engineering

Pokhara Engineering College

Edited By: Er. Krishna Ghimire and Er. Shiva Kunwar

About the Abstract Booklet

The **Abstract Booklet** is a compilation of undergraduate major and minor project abstracts completed by the students of the **Department of Computer Engineering, Pokhara Engineering College (PEC), Pokhara University**. Published by the **Research Management Cell (RMC)**, this booklet compiles project abstracts published between **2014 and 2026**, highlighting the department's academic and research achievements across **fourteen graduating batches**.

The booklet presents a brief overview of each project, including its background, objectives, methodology, implementation, and key findings. The projects cover a wide range of fields, including artificial intelligence, machine learning, cybersecurity, networking, embedded systems, the Internet of Things (IoT), mobile and web application development, cloud computing, data science, software engineering, and e-commerce.

This publication serves as a valuable reference for students, faculty, researchers, and industry professionals. It preserves the department's research contributions, promotes knowledge sharing, and helps future students explore previous projects, develop innovative ideas, and undertake meaningful research. The Department of Computer Engineering and the Research Management Cell hope this booklet will strengthen the culture of project-based learning and inspire future generations to contribute to the advancement of engineering and information technology.

Acknowledgement

The **Research Management Cell (RMC)** sincerely expresses its heartfelt gratitude to College **Director, Amber Gurung sir**, for his continuous encouragement and unwavering support. We extend our sincere appreciation to **Principal, Asst. Prof. Er. Som Gurung sir**, for his valuable guidance and commitment to promoting academic excellence and research activities.

We are grateful to, **Asst. Prof. Er. Suraj Basant Tulachan** for his leadership, encouragement, and support throughout the preparation of this booklet. We also acknowledge all the faculty members of the Department of Computer Engineering for their dedicated guidance, mentorship, and invaluable contributions to the successful completion of the students' projects and this publication. Finally, we extend our sincere thanks to everyone who directly or indirectly contributed to the successful completion of this Abstract Booklet.

Message from Principal

I am delighted to introduce the Project Abstract Book of the Department of Computer Engineering, published by the Research Management Cell (RMC) of Pokhara Engineering College. This publication is a testament to our institution's commitment to academic excellence, innovation, and research-based learning. By compiling undergraduate major and minor project abstracts completed between 2014 and 2026, it showcases the intellectual achievements of fourteen graduating batches and reflects the dedication of our students and faculty in addressing real-world engineering and technological challenges.

The projects presented in this volume span a broad spectrum of emerging fields, including Artificial Intelligence, Machine Learning, Cybersecurity, Internet of Things (IoT), Embedded Systems, Cloud Computing, Data Science, Software Engineering, Mobile and Web Applications, and E-commerce. As a valuable academic resource, this booklet preserves the department's research legacy, promotes knowledge sharing, and provides inspiration and guidance for future students, researchers, and industry professionals seeking to build upon previous innovations.

I extend my heartfelt congratulations to the Department of Computer Engineering and the Research Management Cell for their commendable initiative in publishing this comprehensive compilation. I also congratulate all the students, faculty supervisors, and contributors whose hard work and commitment have made this publication possible. I am confident that this Project Abstract Book will continue to inspire excellence in research, foster innovation, and strengthen the culture of project-based learning at Pokhara Engineering College.

Asst. Prof. Er. Som Gurung

Principal

Pokhara Engineering College (PEC)

Message from the Research Management Cell

It is our pleasure to present the Abstract Booklet of Undergraduate Major and Minor Projects of the Department of Computer Engineering, Pokhara Engineering College (PEC), Pokhara University. Published by the Research Management Cell (RMC), this booklet compiles project abstracts published between 2014 and 2026, showcasing the department's academic and research achievements across fourteen graduating batches.

The abstracts included in this booklet represent a wide range of emerging fields, including artificial intelligence, machine learning, cybersecurity, networking, embedded systems, the Internet of Things (IoT), cloud computing, data science, mobile and web application development, software engineering, and e-commerce, reflecting the department's commitment to innovation and academic excellence. This booklet aims to preserve the academic contributions of our graduates while serving as a valuable reference for students, faculty members, researchers, and industry professionals. It is particularly intended to help future students explore previously completed projects, understand different research domains, generate innovative ideas, and develop concepts for their own major and minor projects. We hope this publication will inspire students, especially those who are uncertain about selecting a project topic, to undertake meaningful and impactful research.

The Research Management Cell expresses its sincere appreciation to the college management, the Department of Computer Engineering, faculty members, project supervisors, and students whose dedication and support made this publication possible. We believe this booklet will continue to strengthen the department's research culture, promote project-based learning, and encourage excellence in engineering education.

Asst. Prof. Er. Krishna Ghimire

Coordinator

Research Management Cell (RMC)

Pokhara Engineering College (PEC)

Message from the Deputy Head of Department

Behind every project in this booklet are weeks of discussions, failed attempts, revisions, and moments when ideas finally came together. As teachers, we often see only the final presentation, but we also know the effort and determination that brought each project to this stage.

This booklet is not simply a collection of abstracts. It is a record of what our students have achieved during their undergraduate journey. Rather than remaining on a shelf, these projects deserve to be read, shared, and appreciated by fellow students, faculty members, industry professionals, and anyone interested in the ideas our students have developed.

I congratulate every student whose work appears in this booklet and thank our faculty members for their guidance and support. I hope this publication becomes a source of pride for its contributors and an inspiration for future batches to continue building solutions that create a meaningful impact.

Er. Shiva Kunwar

Deputy Head of Department

Department of Computer Engineering

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ABSTRACTS

Published Year 2014

ONLINE TECH SHOPPING

Online Tech Shopping is an online shopping site for purchasing all types of digital accessories including laptops, smartphones, digital cameras and so on. The traditional way of shopping by going into the big fancy shopping mall is time consuming, expensive, inefficient in searching a desired product with desired features and thus, regarding these problems, we have proposed this project. This will minimize all the difficulties and prove to be simple, systematic, user friendly and inexpensive. We are so much grateful to the teachers who have helped us to develop this website by providing the basic guidelines, tools and environment and without them the development of this project would no longer have taken place. We are also thankful to the friends who have helped us with their knowledge on the related field.

PEC INFO

The project "PEC INFO" has been done within the scope of the course Major Project in Computer Engineering that culminates in a Bachelor's degree from Pokhara University. It has been submitted to Computer and Electronics department of Pokhara Engineering College. During the preparation for this report we have tried to reflect the reader about the experience and the programming knowledge that we gained from Programming experts working in this field. Our report is an attempt to give overview knowledge of languages on java,xml and php and also database using mysql. This project is a mobile based application which is mainly deployed in an android-smart phone and is used as a information providing system. The application focuses on presenting users with specific news and events of Pokhara Engineering College. It is also suitable for providing resources regarding studies and facilities of the college. This project replaces the traditional way of information providing system

Cinema Update

Since Pokhara University has registered a course on minor project as a syllabus for Bachelor of Computer Engineering, we have decided to make application for Cinema update to fulfill the requirement and submit it to the Cinema Hall.

This is a time when the entire world is captured and fascinated by the progress of computer. Each page of this report gradually unfolds a proposed full continuity and gives the concept of Cinema Update Apps. Having large queue of movie to be released and continuous changes in cinema hall it has been creating confusion to the viewers and hence, the main aim of this software is to make updated about the movie. We are extremely gratified to respective teachers for their guidance in writing this report which has been an awesome experience for us and we all hope that the viewers and users will experience the same.

Global Job. Com

This project has been developed to fulfill the registered course, "Minor Project" for the Bachelor degree of computer engineering in Pokhara University. It has been submitted to Computer and Electronics department of Pokhara Engineering College. During the preparation for this report we have tried to reflect the reader about the experience and the programming knowledge that we gained as well as help us had from Programing experts working in this field. Our report is an attempt to give overview knowledge of scripting language on php and database using mysql.

Global Job is web based application that automates the process of recruitment. The kinds of emplacement tracked with Global Job can include almost any type of quantified job seeker, may include any kind of requirement that a company (employer) want. Global Job may directly used by Job seekers to find job and by companies (employers) to find right candidates. Global Job may also be used by any job placement agencies

Hospital Management System

Since Pokhara University has registered a course on Major Project as a syllabus for Bachelor of Computer Engineering, VIII Semester, we the team member decided to develop Software Hospital Management System to fulfill the requirement and submit it to the Computer Department of Pokhara Engineering College. This is age of computers; every page of this report gradually unfolds the concept of Hospital Management System. This project intends to provide the comprehensive approach in a Windows based Hospital Management process. We the group members are extremely gratified to respective teachers for their guidance in writing this report which has been an awesome experience for us and we hope that our viewers and users will experience the same.

LinkedIn Bot - Web Automation

LinkedIn BOT is the Web Automation Interaction BOT that helps us to visit the individuals' connections in linkedin.com and view them. As a best result, individual of visited profile will be notified about our views on their profile. In traditional individual have to visit other profile one by one at a time. With this BOT user can directly run the BOT and user directly logged into the LinkedIn site and BOT started to visit the millions profile at a time. The main benefit of this project is that the visited one get notification about the visitor which helps in highlighting owns profile.

Mobile Ad

This project has been developed to fulfill the registered course, "Minor Project³ for bachelor degree of Computer Engineering in Pokhara University. It has been submitted to computer department of Pokhara Engineering College.

During the preparation of this report, we have tried to reflect the experience, knowledge and the programmers help that we have gained in completing the project not forgetting the hard work of our project members who have worked so hard in order to achieve success. This application is designed to view information of newly branded mobile with detail specification and price.

We have tried our best to put all our knowledge that we have gained in a simple and sequential order so that a glimpse of this may give a good knowledge and develop a good concept on web development field more precisely and practically. This report includes the information about the objectives, the basic code, model diagrams and its limitations.

HamroGalkot.com

HamroGalkot.com is the website. Contains news, information, tourism as well as the hotel booking system and custom login for user. Which can revolutionize in Galkot throughout the sector. People can know about the Galkot, and what is happening in Galkot in one click.

In Galkot Due to the lack of site or project related to the providing information, news, tourism etc. people of the area as well as from Galkot are in problem. They spend much more time and cost to know about the Galkot.

Thus, regarding these problems, we have proposed this project. This will minimize all the difficulties and prove to be simple, systematic, scientific, user-friendly, and expensive. I am extremely gratified to respective teachers for their guidance in writing this report which has been an awesome experience for me and I hope that the viewers and users will experience the same.

Web-Based Ticket Reservation

The "Web Based Ticket Reservation" is developed as a major project for the partial fulfillment of the degree of Bachelor of Engineering in Computer Engineering of Pokhara University. The project has been developed by us with a great support of our college administration, faculties and friends and is liable to be submitted to the Department of Computer Engineering, Pokhara Engineering College, Phirke - 8, Pokhara, Nepal.

The entire world today is captured and fascinated by the progress in the field of Computers. The project and the report aim in unfolding the fact of growing attractiveness towards the cyber world, presenting the concept of Online Ticket Reservation i.e. the reservation of tickets through the internet. This project intends to provide the creative institutional approach on an internet-based platform where computational knowledge is effectively required. We, the software development team, are extremely gratified towards our supervisor, teacher and friends for their coordination and valuable support in bringing up this project. It has been an awesome experience developing this project and we wish our users would also experience the same.

Online Handwritten Character Recognition System

We have taken the task of developing an application for android that uses handwriting character recognition to input texts. Online Handwriting Recognition can be a user-friendly option for inputting texts to mobile phones and other touchscreen based handheld devices. The development of better sensors on screen makes it possible for handwriting input to be a feasible option. The project we have developed takes input from user, applies necessary preprocessing techniques, extracts necessary features, recognizes character and allows users to input text. The application is recognized by android system as an input method. Simple preprocessing like cropping, shifting, and downsampling is performed. Recognition is implemented using three layered Artificial Neural Network with back propagation algorithm.

Find Workers

The project is aimed to create a tool to get quick information of data of workers and works with the use Google map. An android application is created which will then be applied to retrieve workers information and work information. Further, it aims to provide messaging facility for communication even during Offline.

The project as a whole is divided into three phases - Account and profile creation, Location retrieval and Visualization. Scripts written in Java extract location from Google map and display it instantaneously. The data is then visualized using Maps and descriptive information. The project is a descriptive android application which presents the data in an informative and interesting way. It is a user friendly system which helps to provide information in an interactive form and also allows the user for posting and searching works and workers. This report uses very simple language and helps the researchers and the students of Computer Engineering to research and develop further.

Jageer

Jageer is the mobile application for simplifying the website of a different online job web pages and searching of newspaper articles. The traditional way of visiting the website is through web browsers such as Internet Explorer, Firefox, and Chrome etc. However, while doing, SO extra unnecessary data is also loaded as well as unwanted content/pages also has to be visited. So, it is recommended to have an application where we can visit our pages without any extra data usage.

Thus, regarding these problems, we have proposed this project. This will minimize all the difficulties and prove to be simple, systematic, scientific, user-friendly, and expensive. This project helps to search the required job very fast and effectively. The GUI of the project is very simple which can easily be understood by anyone mobile user. So it can easily be handled. We are extremely gratified to respective teachers for their guidance in writing this report that has been an awesome experience for us and we all hope that the viewers and users will experience the same.

Mero Paisa

Financial system occupies an important place in or economy and nation's economy as well. The developed application is a micro financing apr mobile payment app which provides the functionality like easy payment fund transaction on same and different network and easy accoun recharge than traditional one. The first factor distinguishing mobile payment from the

traditional payment is the complexity of the problem Making android-based app and most of the people now a days uses smartphones, it helps online admission form for user, it helps in quicker and easier communication, the automatic process provides increased hours of operation, access and easy for the payment process and opportunities to adopt the new business models and the customers.

Ticket Reservation System

This project intends to establish a ticketing solution which envisions the capability of the solution to sell and book tickets online. The ticketing service also helps to deal with the transactions saved for the future reference. This system provides the information about cinema halls located in any place. Here details about playing movies and number of tickets available in a particular theatre for particular movie, movie details, ticket cost for registered users can be viewed. The main aim of this project is booking tickets online for various movies in registered theatres by the users. The admin can also validate the tickets as they can be viewed from the database. This system helps to keep records systematically and with ease. The viewers know information about their seats and shows while booking tickets.

Water Supply Automation System

As the world advances to the modern information age lot of automation solutions has been introduced in various field in order to maintain on time. secured and low cost services to meet the needs of the fast moving society In light of importance of science and technology in the world today, there is a need for scholarly works in its social dimension. Now a day's every system is intelligent and effective to face the challenges in the easy way by considering the flexibility, reliability and high accuracy. More electronics development is obtained in the field of commercialization rather than the social sophistication. So here is the project called "Water Supply Automation System" which deals with the supporting of the water supply mechanism in personal homes and public field of our society. The endeavors and researchers have spend the lots of time to develop the automaton system for the modern home and lifestyle followed by the modern peoples. these paper provides the new method and ideas to automate the lifestyle of the people by developed the appropriate solution.

Band of Travelers

Since Pokhara University has registered a course on minor project as a syllabus for bachelor of computer engineering, VI semester, we (group members have decided to make a project on

BAND OF TRAVELLERS to fulfil the requirement and submitted to the computer department of Pokhara Engineering College, Phirke -8. Pokhara. Nepal.

There is no proper websites in Nepal where user can buy and sell photos, where users can read about the travel experience of the fellow travelers. know about the place they intend to visit soon. Keeping it in mind, each page of this project gradually unfolds a proposed full continuity and gives the concept of BAND OF TRAVELERS. We are specially thankful to respective teachers for their valuable suggestion in writing this proposal that has been a thrilling experience for us, the project members and we hope that all the views and user will share the experience with us.

Detecting Rover

An open-source platform Android has been widely used in smart phones. Android has complete software package consisting of an operating system, middleware layer and core applications. Android application, Smart phones are becoming each time more powerful and equipped with several accessories that are useful for Robots. The purpose of our project is to provide powerful computational android platforms with simpler robot's hardware architecture. We present a review of robots controlled by mobile phone via moving the robot upward, backward, left and right side by the android application such as Arduino, Bluetooth. Arduino is an open-source computer hardware and software company, project and user community that designs and manufactures microcontroller-based kits for building digital devices and interactive objects that can sense and control objects in the physical world, The project is based on microcontroller board designs, manufactured by several vendors, using various microcontrollers. These systems provide sets of digital and analog IO pins that can be interfaced to various expansion boards ("shields") and other circuits.

Point of Sale (POS)

Today's world is fully based on scientific, electronic and computerized system, One who lacks computer knowledge feels guilty for himself As a matter of fact, computer concept has become a subject of interest

In case of our project, it is completely based on Visual C# Programming an overview of computer languages and is also associated with Database Management System. This project, Point of Sale (POS) System, has been desionned for a small restaurant scenario where there is a single cashier who takes customer orders and processes the transactions using a single isolated computer. All the records are saved within the cashier's computer. While preparing this project,

we have tried to reflect the experience. knowledge and programmers help that we have gained for the completion of the project not forgetting the hard work of our project members who worked day and night for the success of the project Lastly, we have tried our best to put all our knowledge that we have gained in a simple and sequential order.

Online Bus Ticket Booking System

The Online Bus Ticket Booking System" is developed as a major project for the partial fulfillment of the degree of bachelor of engineering in computer engineering of Pokhara University. The project has been developed by us with a great support of our college administration, faculties and friends and is liable to be submitted to the Department of Computer Engineering, Pokhara Engineering College, Phirke-8, Pokhara, Nepal,.

The use of bus traveling is a large growing business in Nepal and other countries but the manual ticket booking system is very strenuous and also wastes a lot of time by having to stay on a long queue. For this reason, an efficient system is proposed in this paper to ease the issue of bus reservation within the country. The system is a web based application that allows visitors to check bus availability, reserve bus ticket online. In this paper, the proposed bus reservation system was developed using Hypertext Markup Language (HTML), Hypertext Preprocessor (PHP), Structure Query Language (SQL),. Cascading Style Sheet (CSS). All the task was done using Adobe Dreamweaver and XAMPP. The report consists of 8 chapters followed by bibliography and appendices.

PowerHEX v1.0

In recent years, with the advancement of electronic and control technologies, robots are being designed not only to perform dangerous automated tasks, but also to Or serve in other fields such as education, entertainment, cleaning, security, tour guiding, and environmental exploration. Among the yarious types of robots, walking robots Hexapod walking robots have attracted considerable attention for several decades Many studies have been carried out in research centers, universities and industries However, only in the recent past have efficient walking machines been conceived designed and built with performances that can be suitable for practical applications, This study aims to develop a low-cost walking robot that is capable of exploring the environment in a walking manner and transmitting environmental information to the computer end through a Bluetooth module. A design procedure is outlined in order to systematically design a hexapod walking robot. In particular, the proposed design procedure takes into account the main features, such as mechanical structure and leg configuration, actuating and driving systems, payload, motion conditions, and walking gait. A case study is described in order to show the effectiveness and feasibility of the proposed design procedure.

The purpose of this project is to provide powerful computational android platforms with robotics hardware architecture. Arduino is an open-source computer hardware and software company, project and user community that designs and manufactures microcontroller-based kits for building digital devices and interactive objects that can sense and control objects in the physical world. The project is based on microcontroller board that provide sets of digital and analog I/O pins that can be interfaced to various expansion boards ("shields") and other circuits.

Notiffee

As far as we all know that the computer concept is desired from the human being knowledge, the subject of the interest will be aiming for a future where the computers will be able to learn and contribute in their own knowledge base. This has also become a subject of interest in this modern world as they say that the 21st century belongs to the technology. In case of this report, this has been prepared to give an overview of computer programming on web based as well as to work with database management system. During the preparation of this report, we have tried to reflect the experience, knowledge and the programmers help that we have gained in completing the project not forgetting the hard work of our project members who have worked so hard in order to achieve success. Lastly, we have tried our best to put all our knowledge that we have gained in a simple and sequential order so that a glimpse of this may give a good knowledge and develop a good concept on web development field more precisely and practically.

Agriculture Drone with Raspberry Pi

In Nepal, agriculture is the part of Nepalese life style. It is a main source of agriculture product. Due to the lack of proper technology producing goods is hard for farmer. To make it easier many technologies used day by day, one of them is a drone. The developed system is an agriculture drone, which helps to capture aerial view this makes easier to identify either crops are growing or not, either pesticides are working properly Or not, or simply monitoring field etc. It is an unmanned aerial vehicle where people can manipulate it from remote system. This is a nice feature in drone because it helps to manipulate system wirelessly and can take aerial imagery. Aerial imagery features helps to monitor field easily and can be used for to detect different kinds of disease and also help to map the field. This process of monitoring and analyzing helps farmer to take better decision in farming.

Students' Performance Analyzing and Reporting Software Application

In present context, the use of technology in educational sector is very limited. The educational system can be more effective by the use of technology. Storage of large amount of data can be done in computer system efficiently. Those data can be effectively accessed by authorized personnel. Information can be accessed by parents to establish effective communication with school. Student Performance Analyzing and Reporting Software Applications is a suite of applications through which the guardians of students enrolled in a particular school can check the academic records and remarks made by teachers about their children. The school administration can also use the app to keep track information about all the students enrolled in their academic institution. Through the application, students can also review notices and announcement related to their class and school such as but not limited to assignment deadlines, holidays etc. It will be useful for all three parties; students, teachers and guardians.

Airline Ticket Reservation System

The Web Based Ticket Reservation System" is developed as a major project for the partial fulfillment of the degree of bachelor of engineering in computer engineering of Pokhara University. The project has been developed with a great support of our college administration, faculties and friends and is liable to be submitted to the Department of Computer Engineering, Pokhara Engineering College, Phirke-8. Pokhara, Nepal.

The entire world today is captured and fascinated by the progress in the field of computers. The project and the report aims in unfolding the fact of growing attractiveness towards the cyber world, presenting the concept of Online Ticket Reservation i.e. the reservation of tickets through the internet. This project intends to provide the creative institutional approach on an internet-based platform where computational knowledge is effectively required. We are extremely gratified towards our supervisor, teacher and friends for their coordination and valuable support in bringing up this project. It has been an awesome experience developing this project and we wish our users also experience the same.

Card Teen

We know that 21st century belongs to the technology. It's a huge subject of interest. So as to bring the change in traditional payment system, we came forward with Card-teen.

In this case of report, this has been prepared to give an overview of smart card basically built for canteen of schools, colleges and other educational institutions. Major aim of the Card-Teen is the smart payment system. We are thankful to respective teachers for their valuable

suggestion in writing this report that has been a thrilling experience for us, the project members and we hope that all the views and user will share the experience with us.

Nepal Guide

NEPAL GUIDE is android based program in which person gets the location of the placer in easy and convenient way. This project provides the location and route of the college, hotel, and book stores etc. and gives all the information about it. Due to help of this, users can reach their destination in short time.

This apps calculate the time to reach at our destination (like walking distance, bicycle distance and car distance and measured in time). After applying this, Nepal-Guide reduces path and gives location of nearer office or hotel so that user can save time. Thus, this apps not only gives the information and direction but also removes the user's dilemma by giving the nearest locations of user need.

Student ID Card Validation System

Educational institution is a vast sector and it is expanding rapidly. With the rapid growth of technologies, educational institutions areas till lagging behind. For identification of students they still lie on manual handwritten ID card. If proper ID card system is introduced then it would be much easier to identify a student. Therefore, in this software, we have implemented advanced using of QR code with student ID generation. As well as we tried level best to make right implementation of QR code with student ID card and smart card payment system. College or school administration register, user device has image capturing facility, QR code is attached into ID card and student personal details can be found by scanning the QR code with smart phones (downloaded & installed QR reader software), validate student can pay distance charges with linked payment option in the system if he/she has account on it. QR code is said to be the next generation of bar code and using QR code with ID card brought positive outcomes. While using software tools, identity cards works fine and suitable for an educational institution as it is free. Thus, ID card will be a perfect use of modern technology in throughout different countries.

Optical Character Recognition

Our moto is to build the ability of a computer to receive and interpret intelligible pattern input from sources such as paper documents, photographs, touch-screens and other devices. The

image of the written text may be sensed "off line" from a piece of paper by optical scanning (optical character recognition).

Off-line character recognition often involves scanning a form or document written sometime in the past. This means the individual characters contained in the scanned image will need to be extracted. Tools exist that are capable of performing this step. However, there are several common imperfections in this step. The most common is that the patterns that has not been already trained cannot be detected. This causes a major problem in the recognition stage. Yet many algorithms has been developing for similar character recognition.

we are trying our best to broaden the knowledge of how neural network can be used for training our computer to detect the pattern that has been trained already to detect and how it can be implemented (such as it can be trained to detect signature of a person if the signature has been already been trained).

Property Dealing Information System

This project has been developed to fulfill the registered course "Major Project" for the Bachelor degree of Computer Engineering in Pokhara University. It has been submitted to Computer and Electronics department of Pokhara Engineering College.

This project intends to establish a buying and selling of properties which envisions the capability of the solution to sell and buy properties through online information system. The property dealing service also helps to minimize the hurdles to buy and sell the properties. This system provides the information about desired properties located in any places. Here details about properties is available which helps to contact the owner or seller directly without dealing with the main aim of this project agents. is to deal with the properties online. The admin can also validate the properties as they can be viewed from the database, This system helps to keep records systematically and with ease, The viewers know the information about the different properties which are updated by various users.

APPEC

The world has been improving in the development of software and Mobile application and remarkable growth and success over Mobile banking. Educational institution in developing countries is a vast sector and it is expanding rapidly with rapid growth of technologies, educational institutions are lagging behind for the use of those technologies. Every information about schools and colleges can be provided by direct queries or via online websites, offline via SMS, etc. to the respective users. Providing information for each and every student about their

respective Fee structure or any account related information by accountant is time consuming task. Now-a-days, countable number of schools and colleges provides few student's account related information are provided on Users handheld devices as well. This application is developed to provide those fee related information to the respective users (students& parents) devices. As well as, we have tried our level best to implement the easy fee payment system through the "Mero Paisa" application account.

Scrolling LED Text

Scrolling LED text is a fun an applicable project, It displays LEDs text and characters which can be applicable in school, offices, banks and many civilians' area where certain information has to be given such as in bus station, train station and many commercial areas. With simple animations the information can be shown effectively during advertisement.

A microcontroller is used as core unit to operate the system. Different methods and suggestions are implemented for the completion of the project. To display the output., a LED matrix display is prepared. The values of each rows and columns are used to turn ON and OFF the required LED and fast scanning it to display a text and characters. A shift register is used to shift different bits of data along the columns. The shift of bits across each column will make the flow of text and characters. This project is applicable for sharing information, simple animations and messages.

Multi-Document Summarization

We present an extractive multi document summarizer that is going to summarize all the news articles related to a single topic from different sources extracted by a web crawler. We have employed two techniques- centroid based method and graph based method. We have compared the results coming after applying the above methods individually as well as a combination of these methods. The optimum combination has been used for summarization.

Keywords: Multi document summarization, Centroid based method, Graph based method.

Billing System for Dental

Today in this world of digital era, almost everything has been taken by the technology which is still in development process. And people are developing such systems which is easier, reliable and faster to work with. Making the bills and recording the data of any sectors is one of them. To cope up with this world of digitization, we would like to introduce billing system for dental that can record the data of all the patients, dentists, other staffs and work schedules and the services it provides. This project has been created to eliminate the traditional way of making the bills on the paper pad hence to eliminate the messiness.

Job Portal System

Online Job Portal System is a project which aims in developing a computerized system to bridge the gap between recruiter and job seeker. This project has many features that are rarely available in present system like facility of recruiter and seeker register and login. It has also facility where student after logging in their accounts can post resume that can be accessed by the recruiters. This system also has the facility of posting job and filtering resumes according to the faculty. So to make it easier for students and graduates to find employment and company to appoint suitable candidates we created this web application. This application will provide an easy and efficient way for students to find the job of their choice and the company in which they want to work.

Overall this project of ours is being developed to benefit both the company as well as the students and graduates.

Chalchitra E-Ticket

We are in the world where the time is something which is very expensive and watching movies with family friends and relatives in the cinema is one of the best way to entertain after a hectic schedule. But all of these excitement and precious time vanishes after standing for long hours waiting in line to get the tickets and unfortunately the tickets run out. So, CHALCHITRA E-TICKET is a web application where any user can access it and book ticket of the movie of the choice from anywhere at any time All user have to do is login the system, select the movie and book it Admin can delete, add and update the movies. The website also provide the complete information about currently running movies and the user can also give their review of the movie.

Medigeon

This project report entitled to "Medigeon. The project is aimed to be beneficial for the registered clinic and its corresponding patient visitors The main theme of the project is to provide easy and the techno friendly environment in order to maintain the mutual understanding, good relation and safety supporting better treatment environment. The details regarding problem of the clinic and their corresponding visitors were collected through several field visits and survey. The main tool used for the study is field visit. The entitled project works in two different corresponding platform; Admin page as server side and the popular android application. In Admin page there need to be registration for each clinic where corresponding visitors general info will be taken along with their medicine lists, intake time, illness remarks and so on. Similarly in android there will be medicines functions info, BMI, hospitals numbers, alarm manager and so on. Over all management will be carried out from the admin where android application for user hands free. Thus this project will be beneficial for the clinic for proper management of patient's records where all the patients along with patients in taking regular medicines will be highly benefitted.

Accelerometer-Based Gesture-Controlled Robot

This paper presents a model for gesture controlled user interface (GCUD and identifies trends in technology, application and usability. We present an integrated approach is real time detections, gesture based data which control vehicle movement and manipulation on gesture of the user using hand movements. A three axis accelerometer is adaption. As the person moves their hand, the accelerometer also moves accordingly. The gesture is capture by accelerometer and processed by gesture Today human machine interactions is moving away from mouse and

pen and is becoming pervasive and much more compatible with the physical world. With each passing day the gap between machines and human is being reduced with the introduction of new technology is easy the standard of living. Its having future scope of advanced robotic arms that are designed like the human hand itself can be easily controlled using hand gesture only. It also have proposed utility in field of construction, medical science, hazardous waste disposal etc. In today's era human machine interaction is becoming widespread. So, with the introduction of new technologies the gap between machines and humans is being reduced to ease the standard of living. Gestures have played a crucial role in diminishing this gap. This paper deals with design and implementation of an accelerometer-based hand gesture-controlled robot controlled wirelessly using a small low cost, 3-axis accelerometer. A novel algorithm for gesture identification has been developed to replace the approach of conventional controlling mechanism of robots via buttons etc. by an innovative hand gesture-based controlling. Using a microcontroller system the program has been written & executed.

Hamro Awaaz

Hamro Aawaaz is a mobile application developed for being the voice of every citizen who faced the different problems in governmental offices or the problem of their daily life. This application gives guarantee of keeping record in safe and in an easy way that a normal people can run this application because it is more user friendly. The main aim of this project is to analyze evaluate the system of any governmental or private matters. Here by user they can post their problem during any work with the proof if they have which make the problem to be solved in easy and fast way. The project is accomplished through Android Studio, while the database used is firebase

Hamro Aawaaz aims to simplify the traditional complaints and grievances issuing techniques. Withl the increasing market of smartphones and Internet, Hamro Aawaaz will be easily accessible for every user.

Lama (www.maalopot.com)

The project has been developed to fulfill the developed course, "Minor Project for the Bachelor Degree in Computer Engineering in Pokhara University. It has been submitted to Computer and Electronics department of Pokhara Engineering College

Our website uses php and MYSQL database. It IS a complete website for Pokhara Engineering College "Maalpoot.com³ aims to provide service that anyone who need homeland can find the homeland in easiest way through our site and organization Selling is made offline and online both. Our main aim is to provide the land and homes to the seeker. It is an easy way to find out the new places for the people who want to settle in the new places. All the detail information's about the land and the home can be seen in the site. The information like electricity, road, water supply, etc can be easily viewed in our website.

PU Assist

It is a companion mobile application for students under Pokhara university. It helps student with all the assets, their exam results. notices throughout their journey to the graduation. It comprises an intelligent system to provide notification to the individuals whom it matters only. It doesn't end up with a mobile application this project provides a whole new web system to push notification to the ones whom it matters.

Previously getting result from web site was very difficult due to very unresponsive website which cannot bear traffic of all students at once. Student couldn't get there result even after hours of being released. It keeps minimal design and provide all the needed information and notes to the students at glance.

This project can further be extended with system such as community forum which helps students by providing a mechanism of asking and answering questions remotely through a mobile application.

Aawaz

This project report entitled to " Aawaz" This project is aimed to be beneficial for those people who need Nepali typing. The main theme of the project is to provide easy and friendly platform to convert Nepali speech to text. The idea behind this project emerged due to the complexity in Nepali typing. This project is based on console application which recognizes Nepali Speech and then converts to text. This console application can be used as API 1n different application and software. The project eases writing Nepali text and uses it 1n different fields. So the application converts the spoken language 1nto its Nepali textual form. It makes it easier and faster in any kind of related works. The converted text could further be used in many different important tasks such as newspaper writings, printings and many.

Share Trip

No wonder thousands of solo travelers amongst Nepal are either raped robbed Or killed during trekking and hiking Safety measures are being researched but no any plans are currently implemented. We provide a "Friend in Need."

ShareTrip is a digital travel mate that empowers the user to find the travel- partner for every specific destination you're travelling. Moreover, our system (mobile application) provides the suggestions for planning the journey based on the user reviews. The ongoing solo travel threats for the tourists in different areas of Nepal is what encouraged us to build the system. ShareTrip offers the number of travelers in the specific destination, and you can choose any one of them to hit the road off. You can make your friends yourself now through our system. Also, the recommendations from the other users for a great hike or travel is what we're trying to provide for a better journey. We are making travel easier and safe.

This application will also help the travelers to share their experience through the travel journal that in embedded in the application itself. We will also be giving the travel packages for the locations inside Nepal and sharing the information regarding the travel reviews according to

the experience you had. The great thing about the system we're building is that you can find people who live anywhere in the world, and have the same destinations as you.

Command Center

This project has been developed to fulfill the registered course, "Minor Project" for Bachelor degree of Computer Engineering of Pokhara University. It has been submitted to Computer Department of Pokhara Engineering College.

This project has been developed for efficient control of computer system using voice commands which can be used by any person owning Windows Operating System. The use of "Command Center" enables user to get quick access to any of the files/folders in their computer. In addition, it can also provide efficiency for the user by providing many features such as navigation, format helper, developer mode and so on. So "Command Center" will stand as a pillar for the voice control system.

This report includes the information about the objectives, the basic codes used and its limitations.

Blood Bank App

This is a project report on "Blood Bank App". It is an android application, designed considering the problems faced by the people while searching for blood during their emergencies.

This project is the output of our planning schedule, programming skill and hard work. And this report reflects our steps taken at various levels of programming skills, planning and schedule, We have learnt a lot during this project and improved in our testing skills and the concept related to this kind of project.

Blood bank app is a medium in which user can register themselves as a donor using this app and they can donate their blood to the needy people. Users can search for the registered donors using their blood group and district. They can also add a blood request to get blood from the interested donors.

Express Food

This project has been developed to fulfill the registered course, "Minor Project" for Bachelor degree of Computer engineering University. It has been submitted to computer Department of Pokhara Engineering College.

This project has been developed for efficient food ordering system that can be used in the restaurants which can help the restaurants to quickly and easily manage daily operational task.

The use of "EXPRESS FOOD" make customer to get easy access to the restaurant and creates restaurant environment in home. In addition, it can also provide efficiency for the restaurant by reducing time consuming, minimize human errors and providing good quality customer service. So "EXPRESSFOOD" will stand as a pillar for the food ordering system.

As the use of mobile app for ordering food is very low or we can say there is no any such use. So it will be a initiative to the digital world of food ordering system. We designed a user friendly app which will easily help customer and restaurant owner to use and also help in quick and efficient functioning of restaurant. This report includes the information about the objectives, the basic codes used and its limitations.

Furniture Showroom

A furniture showroom provides a way to for any users to choose, select and order according to their needs from anywhere they want. It gives users the facility to register and login so as to take the record of their own like name, address, contacts and email so that for the next time when they visit the site it must be easy for them. Also, provides a admin login system so that the admin can control, delete and update or modify the whole database of the furniture showroom. He/she has also privilege to update his authorization status that is his username and password. After doing such operations he may logout from the website.

Able World

More than one billion people in the world live with some form of disability, of whom nearly 200 million experience considerable difficulties in functioning. In the years ahead, disability will be an even greater concern because its prevalence is on the rise. This is due to ageing populations and the higher risk of disability in older people as well as the global increase in chronic health conditions such as diabetes, cardiovascular disease, cancer and mental health disorders. Across the world, people with disabilities have poorer health outcomes, lower education achievements, less economic participation and higher rates of poverty than people without disabilities This is partly because people with disabilities experience barriers in accessing services that many of us have long taken for granted, including health, education employment, and transport as well as information. These difficulties are exacerbated in less advantaged communities

This project has been developed to fulfill the problems of disabled society. It includes employment opportunities, government notification and information. Also our system will have SMS rescue system. It also includes the features like disable friendly hotel booking, disable

friendly location, disable friendly government offices. Thus Able World will be a perfect use of modern technology in throughout different countries.

Ghar Jagga

In this paper, we explore how e-commerce can affect and be applied on real estate business. Real estate is a business related to buying and selling of properties like houses and lands. Here, we explore about the implementation of ecommerce in real estate business via our web based application "GHAR JAGGA". Ghar Jagga is a web based application through which a user can perform the activities like buying and selling of land and houses. In this web application, the user can access information and advertise their real estate properties. The admin user can change_and update the information regarding the property selling and buying. The main objective of this web application is to provide the user a convenient and flexible procedure to advertise a list of real estate properties online and help them choose a best one to buy from a list of properties. Also, this web application has the feature via which user can find authentic Agents. "Ghar Jagga is very useful for individuals as well as agents who can advertise their property. This is also useful for companies who develop apartments, hotels, residential properties and commercial properties. This website is designed to attend to all user's needs- from buying property to selling property Different tools and methodology are used to build this web application so that it can function smoothly and securely with several interactive features

Courier Management System

"Courier Management System" is the simplest solution for Courier. This Courier Management System project will have different modules. The login section will have login facility for the admin who will operate this system and online tracking system of consignment and shipping detail for domestic shipping. While taking orders from its customers, it will take all the details of its customers who is placing the orders and all the details for the recipient such as its address, name mobile number.

During billing process, system generates a consignment number for their products. Through this consignment No. Customers or its recipient will able to track their products from any location using Internet. It will provide status of the product after placing orders. This Courier Management System project will provide information recipient with following detail - where the current consignment is, till when it will reached its final destination, date of placing consignment, final date to reach its destination etc.

Consultancy Guider

Creativity meaning become in the use of optimal technology as solution of human life problems, and in recent years technology is available and developed to facilitate human beings needs; that not stopped. People are always seeking to have a strong security need towards the action they do and need to motivate them to go on. So we believe that our application is to solve the problem for users who are trying to move abroad and are confused in the process due to lack of appropriate information and knowledge. The project displays a platform where all of the confused peoples to select good source or backup for them which can help them to reach their destination through the application and they can be aware from different fraud institutes and illegal organizations. Project used Android system to spread it dramatically in the world thus access to a large number of people. In the future we aim to release our application on different platform and serve other users too.

Keywords: Android, Java, database.

Attendance System

This project report entitled to "Attendance System" is a mobile application. The project is aimed to mobilize the attendance system & reduce the time consumption. It comprises of a convenient system for taking the attendance which reduces the time consumption and promotes an error free system. It reduces the error scope and the paperwork as we need not maintain registers. It's convenient as it eliminates the difficulty of going through the files and registers to search and collect the data on a student and makes it easy to search and access the data on attendance of any student of any faculty.

Vital Registration System

This project has been developed to fulfill the online vital registration system, "Mid Project for the Bachelor degree of Computer engineering in Pokhara University. It has been submitted to Computer department of Pokhara Engineering College.

Our web page use PHP, HTML, CSS, and JS for developing the vital registration forms and MYSQL for storing the data. It is a complete web page of vital registration system.

Many people face different problems due to the paper registration system, So, keeping these problems in mind we as computer engineering student decided to develop a vital registration form which can be filled through online

For our project, we aim to develop vital registration system, which a government records the vital events of its citizens and residents. It is an important source to generate and update population data regularly on vital registration. As we know that it is a compulsory, continuous and legal regarding of vital events. Till the date we had to visit the municipality to fill up the required form. Now, with the help of this website we no longer have to visit a municipality in order to fill the form. This website helps to fill the form easily in less time and to reduce the mistakes in the vital registration form.

Ghar Ghar Sewa

In present scenario, people are buried up in a heavy work culture as everyone is engaged in a busy work-schedules. If any issues encounter unexpectedly, it distracts them and makes them choose over the work they have to accomplish primarily. So, it is important to manage their

professional life and household life. In such situation, E- commerce plays a vital role as it has SO many advantages in our life and makes our life more convenient daily Ghar Ghar Sewa is a web application that will allow its user to hire staff/service-man for home. The staff will be available for the services such as babysitter, maid electrician and SO On. It is a system that provides many services at your doorstep in just one click. In this web application, there will be three types of user, client, service- provider and admin. Client will be able to hire a service provider through this web application. A very simple process is carried out to book a service(s). Service provider will be able to provide his/her availability in terms of days and time. Service provider will also be able to accept/reject client. Admin will be able to remove the client and service provider manually. Admin will also be able to mail client and service provider.

PolyWordNet

We have developed the web application for Word Sense Disambiguation using PolyWordNet. The desktop version of Word Sense Disambiguation using PolyWordNet was already developed by Er Udaya Raj Dhungana, 2016. It was a desktop application thus there was difficulty in reaching large number of audience. We followed the original desktop application's concept and implemented it in Web. This made it easier reach large number of audience and made it easier for us to improve the web application by considering suggestions and criticism. We have also added a feature called Dictionary which has used same database that was used for disambiguation of the words.

PEC Notes

Pec Notes is a web based notes sharing and management system which helps students to share their notes online effectively. It reduces the wasting of time in manually distributing notes to each individual. It greatly overcomes the lack of availability and converts the manual college paperwork to a fully automated and managed online system.

Pec notes allows its users to securely register and log in to their individual accounts and create, read, update, delete, download notes according to their needs. It provides notes to everyone in a very secure manner. Multiple users can work in this system at the same time under centralized supervision by administrator. It is a very useful notes management system for colleges to manage and share their notes in an secure, efficient and effective manner.

ShopG

Busy routine, rush-hours and restless markets are unsettling people from trouble-free reach to hygienic and fresh foods. Absence of any reliable market is increasing the inconvenience of shopping. We came with idea of "Shop Green, Shop Healthy." ShopG is an online platform that provide reliable and trouble-free online market where you can get fresh items be it vegetables, fruits, dairy products, Sprouts or any other food you name within your clicks. We are one stop place to your need of fresh foods delivered to you with prope quality in desired time frame adding value to your foodstuff, supplying the best out of fresh items and mouth-watering organic product.

Despite having the status of being an agricultural country, the import of agricultural products in the country has been increasing every year. Of several agricultural products that are being imported vegetables is the most imported product in the country. As per data of the Department of Customs (DoC), vegetables worth Rs 14.77 billion were imported in the first half of this fiscal as compared to imports worth Rs 11.36 billion in the same period of fiscal 2017-18. ShopG provides the proper price value to farmers and better facility for consumers tO search, compare, buy, sell and deal various agro products in lesser time. It has provided with the feature of a user-friendly interface and proper product management.

OrderUp Suppliers

The project has been developed to fulfill the developed course, "Major Project" for the Bachelor Degree in Computer Engineering in Pokhara University. It has been submitted to Computer and Electronics department of Pokhara Engineering College,

Our program uses PHP programming language and mysql for database Our program also uses Notepad++ as an IDE. It is a website for the suppliers. It gives useful features to the suppliers and shopkeepers.

This work deals with development of PHP based website, namely: Order Up Suppliers. This website is developed for suppliers and shopkeepers where they can foods and drinks packets from supplier hrough web. It gives users the order the facility to register and login so as to take the record of their own like name, address, contacts and email so that for the next time when they visit the site it must be easy for them.

Vehicle Parking Management System

The main aim of this project is to reduce the traffic in the parking place. Normally we can sec in the multiplexes, cinema halls, large industries, and function halls there is problem they have

to go and search which slot is empty and which slot having place to park the vehicle, for parking then they need workers for parking in correct position it is the money consumed process. So to avoid this problem Vehicles Parking Management System project is implemented. Admin will keep record of all the customers, name, vehicles numbers. It can also control and update or modify the whole database of the system.

Android based Digital Signage

The traditional signage is widely used in Nepal. The non-reusable and non-dynamic aspects of traditional signage are overcome by the project. The project digitizes the existing signage systems with the use of the Internet and display devices. The widely used operating system, Android is used to develop the project which enables the user to familiarize them with our system easily. The project ensures the use of a single device to display multiple contents at different dates and times. The project encapsulates the security features for the display devices located remotely through their activity tracking, location tracking, and movement detection. The goal of the project is to provide the users, the aesthetic, cost-effective and dynamic significance of the digital signage system.

PolyWordNet

This project provides a machine translation technique from English to Nepali language and vice versa using PolyWordNet. The algorithm used to develop the program is word based statistical machine translation. We are using various polysemy words, their part of speech, sentences, senses and related words. Many translators are used currently but very few can distinguish polysemy words. In order to remove that limitation we are developing this program. As of now we are using only two senses of polysemy words and developed the program with limited sentence translation.

Kinmel Nepal

A Kinmel Nepal system that permits a customer to submit online order for items and/or service from a store that serve both walk-in customer and online customer. The Kinmel Nepal system presents an online display of an order cut off time and an associated delivery window for items selected by the customer. The system accepts the customer's submission of a purchase order for the item in response to a time of submission being before the order cut off time. The online shopping system does not settle with a credit supplier of the customer until the item selected by the customer is picked from inventory but before it is delivered. Therefore, the customer

can go online and make changes to the order. In addition, available service Windows are presented to the customer as a function of customer selected order and service types and further, the order picking is assigned in accordance with a picker's preference. When ordering goods, many shopping systems provide a virtual shopping cart for holding items selected for purchase. Successive items selected for purchase are placed into the virtual shopping cart until a customer completes their shopping trip. Virtual shopping carts may be examined at any time, and their contents can edit or deleted at the option of the customer. Once customer decides to submit a purchase order, the customer may print the contents of the virtual shopping basket in order to obtain a hard copy record of the transaction.

Sawari Bhadama

Nowadays, there are online Vehicle(car/bike) reservations which give much benefit to user. A rental service is a service in which customer arrive to request the hire of a rental unit. It is more convenient than carrying the cost of owning and maintaining the unit. The vehicle rental company that rents cars or bikes for short period of time for a fee whether in a few hours or a few days or week.

In short, it is a system design specially for large, premium and small or bike rental car business. The vehicle rental system provides complete functionality of listing and booking car or bike.

Treks

Trekking is a part of tourism. It is form of formal organized walking with the purpose of exploring and enjoying the scenery. Trekking can trail at any time of the year. Traditionally, people would visit the agency and make the booking of the trek they wanted to make. Our project "Treks" is a web application that provides visitors to find the interest and make the selection. It helps to the best trekking route according to overcome complexities regarding sure book of the trip, tools needed during the trip and the update about health condition of trekkers when they are on their trek. The length of the difficulty and timing of the treks vary greatly and add to that once outside o the main trekking areas transport becomes more problematic and often domestic scheduled flights. Many treks in involves at least two journeys made on Nepal begin with a domestic flight to the starting point and many are in remote areas with no road access. Several days of trekking is required to reach the higher mountains areas from the local centers of population and administration. This application provides the facility to know the information about the route of each day of the whole trek. Users can share their views and can

recommend for improvement. Also it helps to influence the environmental profile of guides and international trekkers.

Attendance System

The project has been developed to fulfill the developed course, "Major Project for the Bachelor Degree in Computer Engineering in Pokhara University. It has been submitted to Computer and Electronics department of Pokhara Engineering College.

Our program uses Android programming language and firebase for database. It is an application for the teachers to take the attendance of their students.

This work deals with development of Android application, namely: Application System. This application is developed for teachers where they can take attendance of their students and store them. Now the teachers should not carry any kind of registers and pens. It gives teachers and students to register their account and login.

Smart Home Automation

This project presents the overall design of Smart Home Automation System (HAS) with low cost and wireless system. This system is designed to assist and provide support in order to fulfill the needs of elderly and disabled in home. Also the smart home concept in the system improves the standard living at home. With the advancement of technology, the need for efficient controlling is more as it optimizes performance and saves unnecessary wastage of power.

The basic home appliances are fan, light and water pump which consume maximum power. Unnecessary wastage of power and resources by turning on lights during day time or high speed fans in winter season or water pump during overflow of water from tank can be avoided in this way. A system has been proposed to control home appliances wirelessly and efficiently utilize power by controlling appliances properly. Home automation app has been used to read data from sensors located in home environment and user controls home appliances based on these data. This paper presents a low cost and flexible home control and environmental monitoring system. It employs an embedded system for accessing and controlling devices and appliances remotely. These devices can be controlled through a Bluetooth Android based Smart phone app. To demonstrate the feasibility and effectiveness of this system, devices such as light switches, power plug, temperature sensor, humidity sensor and motion sensors have been integrated with the proposed home control system. Therefore this system has been successfully designed and implemented in real time,

iRestro

The project has been developed to fulfill the developed course, "Major Project for the Bachelor Degree in Computer Engineering in Pokhara University. It has been submitted to Computer and Electronics department of Pokhara Engineering College.

Our program uses C# programming language and use Microsoft Visual Studio as an IDE. It is a combination of web and desktop applications. The desktop application helps with the billing and orders in the restaurant whereas the second desktop application is owner exclusive only and used to review the report provided by the manager. The web application helps with the promotion and online order of the restaurant. The project iRestro deals with the problem in management of large scale restaurants having different branches over different cities. It includes ordering, billing and reporting as its key features. There are a lot of reasons that led to the development of this project; mainly being poor management of restaurants.

Student Tracking System

This project "Student Tracking System" provides us a simple interface for maintenance of student information. It can be used by educational institutes or colleges to maintain the records of students easily. Achieving this objective is difficult using a manual system as the information is scattered, can be redundant and collecting relevant information may be very time consuming. All these problems are solved using this project. Throughout the project the focus has been on presenting information in an easy and intelligible manner. The project is very useful for those who want to know about Student Information Management Systems and want to develop software/websites based on the same concept.

The project provides facilities like online registration and profile creation of students thus reducing paperwork and automating the record generation process in an educational institution. Further this project can take attendance of students in the classroom whether they are absent or present. And if student is found absent direct message is sent to their parents saying your son/daughter is absent in class.

Nonstop Red

Busy routine, rush-hours and restless markets are unsettling people from peaceful mind and thoughts. Absence of joy and happiness is hardly found. Since the devastating earthquake we feel like we forgot to laugh. So I came with idea of "Nonstop Red."

My project "Nonstop Red" is a simple 2d game with amazing graphics and user interface, It has a one bird character with flying mechanism and enemy obstacles which spawn at random. The basic idea is that user can play this game for fun.

Ghar Ghar Sewa

The project has been developed to fulfill the developed course, "Major Project" for the Bachelor Degree in Computer Engineering in Pokhara University. It has been submitted to Computer and Electronics department of Pokhara Engineering College.

Our project "Ghar Ghar Sewa" is an android platform for creating and sharing essential home services among the service provider and customer recording the activities of the events. Mobile application is built using java. It brings customer and service provider to one platform and

connects each other. Several home service activities like electrician, plumbing, etc. are being organized day to day. But these events do not reach to the people i.e. we do not have specific platform to get to know about these service providers and service providers do not have specific platform to connect with consumers. So "Ghar Ghar Sewa" overcomes this situation by providing social media platform for boosting up the services category to reach out the service provider

Rent Seeker

We are stuck with technology when what we really want is just stuff that works. With the current paradigm shift in technological field, there is an urgent need to embrace and appreciate the power of technology. Housing sector remains vigilant to face the challenges of change by employing a new strategy that facilitates easy management of rental houses. Hence there is need to develop a real estate management system that can simplify work for the rental managers so that all their work can be efficient and effective. Rent Seeker is an Android app that aims to provide easy search system for houses, flats and lands by their details, price and location. Two roles in it are agents and the customers. The agent adds or updates the property details. The customer views desired property and contacts the agent. It is best suitable for the owners as well as the customers to time save. This project is written in Java, developed using Android Studio and the MySQL database. Hence this system is best applicable for the above reasons making real estate search an an easy process through an online system.

Khoj Yantra

The project has been developed to fulfill the course, "Minor Project for Bachelor Degree in computer engineering in Pokhara University. It has been submitted to Computer and Electronics department of Pokhara Engineering College

This is a web application named Khoj Yantra", built with the motive of tracking as many as lost devices we can. Our application uses python, C++, JavaScript programming language and uses PyQt5 for UI design. Our application uses SQLite3 as a database. Our application also uses Arduino, GSM Module and GPS module for vehicle tracking.

From project "KhojYantra" our motive is to develop a location tracking system KhojYantra, which provides the public an online device location tracking interface. This will be the boon for tracking down stolen vehicles and lost gadgets. Police can make great of this app while searching for those lost essentials. Instead of using traditional use interrogation methods, this way of searching will definitely ease the search and optimize the time.

War Lord

In today's world, the trend of playing mobile games is increasing making it part of our daily activity. People spend their leisure time playing games which adds fun and enjoyment as well as acts as stress buster to one's life. Gaming helps in development of more creative mind, boosts problem solving skills, improves morale and team building.

Our project, Ward Lord is a 3D role playing mobile and desktop game. The game is an action game consisting of a player character and enemy characters, packed with stunning graphics and animation to add life to the project. It has Sword weapon with attack techniques and computer controlled intelligent enemies. A game is much more than just its software, it has to provide content to become enjoyable. The software part of the project is not the only one, and it must be considered in connection to all other parts: The environment of the game, the story, characters game play, the artwork and so on.

Guidy

The project has been developed for the fulfilment of developed course, "Major Project for Bachelor Degree in Computer Engineering in Pokhara University. It has been submitted to the department of Computer and Electronics Engineering at Pokhara Engineering College

The era of mobile technology opens the windows to the android app. The websites are vanishing and the mobile phones are emerging. It's the time to change from conventional websites to apps, which has become the part of our daily routine, we are introducing "Guidy" the android application software which allows user to find guide based on location and events occurring in different places.

The project 'Guidy'" deals with the problem in searching suitable guide and events occurring over different cities. It includes searching guide, communicating with them hosting events and searching other's events as its key features. There are a lot of reasons that led to the development of this project; mainly to make user ease to search guide and events

PECAApp

The main objective of this project is to add mobility and automation to the process of managing student information in an institute. In a real world scenario. such as college campus, the information is in the form of notice. hand-written manual, verbal message, is being spread among the students. Today it is of the essence to not only use the predictable forms of statement, but also new forms such as cell phone technology, for faster and easier communication among the students. The approach of communication is Android. The core idea of this project is to

implement android based Mobile Campus application for advancement of institution and educational system .The application will be used by students, teachers and college administration. In the previous system, all the information has to view in a hard file, or in website. At the same time while searching any information it is too difficult to access and takes a lot of time to search the particular website. Hence, in order to overcome this problem a smart phone based application using Android can be used to make this process easier ,secure and less error prone. More efficient information's will be achieved through this system. When sensitive data is stored on the device, apps can ensure that they are stored securely using encryption. Apps also exchange sensitive information with remote servers. The Android platform provides a number of algorithms for encrypting sensitive information .Some of these algorithms provide stronger cryptographic guarantees in protecting data han others. Cryptographic algorithms are harder to break when there 1S more unpredictability in the random numbers generated for use in encryption. A way of introducing unpredictability in Android is to use the Secure Random class. The need for encryption is twofold. Firstly, encryption makes it difficult to read and use any sensitive information that an app stores on a device.Secondly, encryption adds an additional layer of security to sensitive information that is exchanged between apps and remote servers.

Restaurant Website

This project has been developed to fulfill the developed course,"project II" for Bachelor degree in Computer Engineering in Pokhara University.It has been submitted to computer department of Pokhara Engineering College. This "Restaurant Website" project is a system that has been developed to manage all the cuisines ordering, booking the table via an online platform for a particular restaurant.

Customers can order the food item through our online platform with just one click, which can make their life easy and faster. Presently the customers spend an average of one hour per day going to restaurant, selecting their food and paying. Our system helps in minimizing the time for going to the restaurant and customers don't need to call the restaurant asking for food menus.

PomoDoo

"Minor project" for the bachelor's degree of computer engineering in Pokhara University. It has been submitted to Computer. This project has been developed to fulfill the registered course and Electronics department of Pokhara Engineering College.

In this project, we used Pomodoro Technique to create a Time management app. PomoDoo is a web application which aims to help user focus on anv tasks they are working on. This website

is inspired by Pomodoro Technique. The Pomodoro Technique is a time- management method where you break your work into 25-min chunks separated by 5 min breaks. These intervals are referred to as pomodoros. After about 4 pomodoros, you take a longer break of about 15 to 20 minutes. we have developed this online application by using HTML, CSS, JavaScript, Local storage and node.js. We did some research on pomodoro technique and started our project. Different tools and methodology are used to build this smoothly and securely with several interactive web application so that it can function features. Putting entire matter concisely. to solve the problem faced by users being distracted and not being able to finish task in the given time we have developed this project.

Krishi Sanzaal

This project has been developed to fulfill the registered course, "Major Project for the Bachelor degree of Computer engineering in Pokhara University. It has been submitted to Computer and Electronics department of Pokhara Engineering College,

Agriculture is one main occupation in Nepal. More than 66% of the total population of Nepal are engaged in agriculture. Development of technology can provide good services and facilities to the farmer and help to promote the development of agriculture in Nepal

Krishi Sanzaal is a mobile based application, developed with the aim of providing services and information to the farmer. Information related to crops, diseases in crops and its prevention, calculation of fertilizer and manure, weather forecasting, cultivating plants according to the geographical area, expert suggestion etc. are the features added in our application. We use Java for android app development and PHP for back end and HTML, CSS and JQUERY for front-end in admin panel. With the help of this project, farmer can get information about the cultivation of the crops and vegetables according to the season, get the market values, can consult with the experts and get their problem solved.

Gantabya

"Gantabya" is a mobile application for Vehicle (Four wheelers) booking that also engaged ride sharing focusing on long route. Ridesharing is participation in an arrangement in which a passenger travels in a private vehicle driven by its owner, for free or for a fee, especially as arranged by means of a website or app. It can include various forms of transportation such as car-sharing, bike-sharing, carpooling and platform-based ride services (e.g., Uber, Lyft, BlaBlaCar)

The project introduces ridesharing application as a great way to overcome the problem of traditional transportation methods. Our "Gantabya", platform provides ease, secure, time and cost saving for transportation facility. User can view all the available trips, compare trips and make decision feasible for them with our application system. People will have broad options for ride both for rider and passenger with our online application. This study mainly highlights the problems and limitations associated with some renowned Ride-sharing applications of Nepal and determine some effective solutions to minimize it and make the ride-sharing available for a long-distance travel and make it more exciting with the facility of carpooling.

PECHUB

The project has been developed to fulfill the developed course, "Major Project" for Bachelor's Degree in Computer Engineering in Pokhara University (PU). It has been submitted to Computer and Electronics Department of Pokhara Engineering College (PEC).

We used React JS, a JavaScript library for users building User Interface (UI), Express.js, a flexible Node.js web development framework, Node.js, a server environment and MongoDB, a document-oriented database for building our web application. In contrast, we used a full stack web development tools named 'MERN'. The main objective of developing this web application is to provides a platform to all the students of his college to join, collaborate, discuss and share among themselves and respective department's teachers or supervisors to seek help and provide help in their academic advancement.

Umanga

Umanga-Event Planner is an online event management system software project that serves the functionality of an event manager. The system allow registered user login and new user are

allowed to register on the application. The system helps in the management of events, users and the aspects related to them. This proposed to be a web application. The project provides most of the basic functionality required for an event type e.g. [Marriage, dance show, birthday party, college festival, etc], the system then allows the user to select date and time of event, place and the event equipment. All the data is logged in the database and the user is given a receipt number for his booking. The data is then send to administrator (website owner) and they may interact with the client per his/her requirement. Events create opportunities for people to connect with an area, spend time together, celebrate and experience the diversity of cultures and foster creativity and innovation.

WeCare

Our project is accomplished using PHP, JAVA programming language and Android Studio and Microsoft Visual Studio as an IDE. It is a smart user interactive application. This is android application that provides the platform for user to book the appointment of doctor.

From project "E CARE" we want to provide a platform where user can search doctors and book an appointment online. There is lots of reason that led to the development of this project; mainly being poor management of patient in hospital where patient has to wait in a long queue to get the appointment of the doctor.

Sugar Tracker

Diabetes is an illness caused because of high glucose level in a human body. Diabetes should not be ignored if it is untreated then Diabetes may cause some major issues in a person like: heart related problems, kidney problem, blood pressure, eye damage and it can also affect other organs of human body. Diabetes can be controlled if it is predicted earlier. Early detection of diabetes is very essential to have a healthy life. The recent development of Machine Learning approaches solves this kind of critical problems. To achieve this goal, in this project work We will do early prediction of Diabetes in a human body or a patient for a higher accuracy through applying. Machine Learning Techniques. Machine learning techniques provide better result for prediction by constructing models from datasets. Prediction is done on the basis of the food's intake by the users and the personal details of the patients like age, sex, weight, exercises amount. etc. This project also focuses on managing diabetes by reminding patients for their medicines, tracking their activities, careful supervision of the food's intake, and establishing communication with the doctors through emails and real time chat. The overall development process can be categorized into four major development phases namely data collection and pre-

processing, statistical analysis, development of machine learning model and development of front-end. Decision Tree, Random Forest (RF), KNN and Support Vector Machine (SVM) classification techniques were implemented for building the model for diabetes prediction. The KNN provided a best accuracy of 98.5% and may be useful to predict diabetes with good accuracy.

KhojYantra2.0

The project has been developed to fulfill the course, "Major Project for Bachelor Degree in computer engineering in Pokhara University. submitted It has been to Computer and Electronics department of Pokhara Engineering College

This is a web application named "Khoj Yantra 2.0", built with the motive of tracking as many as lost devices as we can. Our application uses

python, C++, JavaScript programming language and uses PyQt5 for UI design. Our application uses SQLite3 as a database. Our application also uses Arduino, Gsm Module and Gps module for vehicle tracking.

From project KhojYantra 2.0" our motive is to develop a location tracking system KhojYantra, which provides the public an online device location tracking interface. This will be the boon for tracking down stolen vehicles and lost gadgets. Police can make great use of this app while searching for those lost essentials. Instead of using traditional interrogation methods, this way of searching will definitely ease the search and optimize the time.

AHJIN

AHJIN is an e-commerce website for business to help manage multiple activities like listing and selling of products and expose their brand and to provide customers an alternative way of exploring and selecting best alternatives as well as provide transparent transaction. The project is accomplished using Python, Solidity, JavaScript programming language and its high level framework Django for the backend and React.js for frontend along with use of Docker for delivering our system in containers and our system is based on blockchain technology that provides digital ledger of transactions

AHJIN aims to provide an easier and alternative way to perform business activities along with providing customers a unique experience with the introduction of Ahjin coin, a type of crypto-reward based on Ether that would be given to customers on the basis of their purchase they make in the website.. The project allows users to find the best alternative for a product quickly and easily. It is a prototype project that will be accessible for users.

Surveillance Car

This project has been developed to fulfill the registered course, "Major Project" for Bachelor degree in Computer Engineering in Pokhara University. It has been submitted to Computer Department of Pokhara Engineering College.

Crime is a social evil activities or illegal deeds which is caused by the various circumstances in society. If it is not deterred by the root level then it can cause some major issues in society. Not only the society but in the whole nation it will bring ad verse effects on human beings. It can be controlled if it is detected earlier and it should be eradicated from the society because these kinds of anti-social activities must be boy-cot from the human's peaceful environment. The recent development of cameras can also control these anti-social activities. Not only in the context of crime control but it can also help in rescuing and researching the particular things by observing the situations. It can also be used in the congested areas and lethal areas which is almost impossible for normal human beings to reach out there. To achieve these goals, we intended to send the surveillance car for observing the situations. Basically, this project is Arduino-based project. We Observation is done by sending our surveillance car which gives us the live footage of the scenario/environment on our mobile phones through app. The overall development process can be categorized into three major development phases namely assembling the hard ware parts of car, code uploading, and app for navigating the car for live broadcasting of the particular areas.

Blockchain-based e-Voting System

The main objective of this project is to provide the voting system digitally. In a real-world scenario, the ballot is in the form of paper and can be the mistake on the stamping the gammadion cross. Today it is of the essence to not only use the predictable forms of statements, but also new forms such as cell phone technology, for easier and secure voting process. The approach of communication is the Android system. The core idea of this project is to implement the blockchain based voting system. The application will be used by the voters for finding the right appropriate candidate. In the previous system, all the paper ballots were viewed respectively one by one. At the same time while counting the votes, it is too difficult to access and takes a lot of time to count the votes. Hence, in order to overcome this problem a smart phone-based application using blockchain technology can be used to make this process easier, secure and less error prone. More efficient information will be achieved through this system. When sensitive data is stored on the blockchain, apps can ensure that they are stored securely

using encryption. Apps also exchange sensitive information with remote nodes. The Blockchain technology provides a number of algorithms for encrypting sensitive information. Some of these algorithms provide stronger cryptographic guarantees in protecting data than others. Cryptographic algorithms are harder to break when there is more unpredictability in the random numbers generated for use in encryption. The combination of blockchain and smart contract technologies eliminates the need for central servers to manage trust by giving everyone on the network equal power.

E-Detect

Every day, people rely on a wide variety of sources to stay informed from news stories, to social media post to search result. Being able to develop a model that can be automatically develop accurate summarizes of longer text can be useful for digesting such large amounts of information in a compressed form. In this project, we make use of a deep learning model to tackle text summarization which involves generating a short summary for a long piece of text. This text summarization project uses abstractive summarization method and focuses on LSTM with attention-based encoder to solve the challenge of abstractive summarization On food reviews data and evaluates their effectiveness.

Email is the worldwide use of communication application. It is because of the ease of use and faster than other communication application. However, its inability to detect whether the mail content is either spam or ham degrade its performance. Nowadays, lot of cases have been reported regarding stealing of personal information or phishing activities via email from the user. This project will discuss how machine learning help in spam detection. Machine learning is an artificial intelligence application that provides the ability to automatically learn and improve data without being explicitly programmed. Natural Language Processing (NLP) is a subfield of artificial intelligence (AI). It helps machines process and understand the human language so that they can automatically perform repetitive tasks. Examples include machine translation, summarization, ticket classification, and spell check. We'll build a model using Naive Bayes Also to classify the text into two different categories; spam and ham. The algorithm will predict the score more accurately. The objective of developing this model is to detect and score word faster and accurately to classify the text into two different categories; spam and ham.

Student Management System

The project has been developed to fulfill the course "Major Project for Bachelor's Degree in Computer Engineering at Pokhara University. It has been submitted to the Computer and Electronics Department of Pokhara Engineering College. This is a web application named "Student Management System" built with the motive of providing student attendance taken by staff as a teacher and store them. Our application uses Django framework based on python programming language. This report contains the required project descriptions in the first chapter that is labeled as introduction.

The second chapter includes Literature Review that summarizes different researchers done and references taken during the research. Third chapter summarizes different analysis done for the system. It is divided into four sub analysis that includes technical feasibility, economic feasibility, schedule feasibility, and legal feasibility. Fourth chapter labeled as a system design with their system requirement specification and risk assessment. Fifth chapter is the system modeling which defines the structural model of the system. Sixth chapter summarizes coding of the system with platform, programming language used, tools and framework. Seventh chapter summarizes different test cases and their results done at the final step of the project. Eighth chapter includes the limitations of the current vision of the system. Ninth chapter includes the conclusion which summarizes the entire work of the system. This report also includes bibliography for all the citations and references used during the project and appendix that includes demos of the system and additional figures. To summarize everything, this report is a proof for achievements and experiences gained during the project done.

Sulabh Market

The "Sulabh Market" project presents a solution for facilitating the exchange of second-hand items through a user-friendly marketplace platform. This project, built using the Flutter framework and Dart programming language, aims to bridge the gap between buyers and sellers of second-hand items. In response to the growing demand for sustainable consumption and resource utilization, the "Sulabh Market" provides a structured marketplace where users easily connect, explore, and transact, reducing waste and can maximizing the value of unused items. This report comprehensively outlines the project's background, problem definition, objectives, and methodology. It delves into the project's feasibility analysis, design considerations, system

modeling, coding frameworks, and database integration. The utilization of Firebase for database management further enhances the project's functionality and data storage capabilities. Through careful analysis, testing, and implementation, the project successfully enables users to create accounts, post items for sale, search for desired products, and interact with other users. The incorporation of features such as categorization, recommendations, and secure messaging ensures a better user experience, enhancing the platform's practicality and appeal. While the project has demonstrated substantial achievements, certain limitations have been identified, such as sorting options and refresh issues, which present opportunities for future improvements. Overall, the "Sulabh Market" project represents a significant step towards fostering sustainable consumption habits and offering a valuable platform for both sellers and buyers of second-hand items.

PEC Assist

This document records the firsthand journey during the Final Project, aligned with the curriculum of Bachelor in Computer Engineering, VII semester under the Faculty of Science and Technology, P. U. The main goal of this Project is to immerse students in the field of the professionalism, giving authentic and immersive exposure. At its core, the final project, helps students to step into the fold of computer engineering firms, an opportunity that opens the curtain to the field of professional practice. Here, they are not just observers but active participants, navigating a world where diverse tools and techniques come to life. Alongside professional requirements in an engineering project, the sculpt their knowledge and experience with real-world projects This report contains the required project descriptions in the first chapter that is labeled as introduction. Second chapter includes literature review that summarize different researches done and the references taken during the research. Third chapter summarizes different analysis done for the system. It divided into four sub chapters that includes technical feasibility, economic feasibility, schedule feasibility, and legal feasibility. Fourth chapter labelled as methodology includes different methods and models used for the system deslgn. Fifth chapter is the system modeling which defines the structural model of the system Sixth chapter summarizes different test cases and their results done at the final step of project. Seventh chapter includes the limitations of the current version of the system. This report also includes bibliography for all the citations and references used during the project and appendix that includes demoes of the system and additional figures. To summarize everything, this report is a proof for achievements and experiences gained during the project done on software development process for PEC ASSIST.

Easy Lab: An Easy Tool for Civil Engineering labs

Civil Engineers perform various tests and paper-based files and graphs are the traditional tools used for analysis of test outputs. This system brings certain amount of error due to involvement of human error during calculations and graph plotting. The expenditure is really high to print the observation files, graph charts and to employ human resources to calculate and analyze the test data. Moreover, storing and backing up data for future uses is very difficult and risky due to lack of digitization of test data. So, we propose “Easy Lab” to reduce the expense and time required to successfully analyze different test samples and to provide error free backup of tests. So, to disentangle the problem being faced by different labs we have come up with an idea of “Easy Lab”, which is a setup of web-based portal with a database entry that allows for secure and convenient calculations with accurate analytical graphs for different tests.

Keywords: Soil Analysis, Civil Engineering Labs, Software for Civil Engineering Labs

Sell Buy

In today's complex real estate landscape, "Sellbuy" emerges as an innovative solution aimed at streamlining property transactions in Nepal. The traditional market faces significant barriers such as a lack of accessible information, reliance on expensive intermediaries, and the impact of a financial liquidity crisis that limits access to loans. Sellbuy offers a comprehensive web application designed to address these challenges by simplifying the property buying and selling process. With its user-friendly interface, Sellbuy allows individuals to effortlessly browse available properties, access detailed and verified property information, and connect directly with sellers, bypassing the need for high-commission real estate agents. This direct communication fosters transparency and builds trust between buyers and sellers, helping to minimize delays and miscommunication. In conclusion, Sellbuy revolutionizes real estate transactions by offering a transparent, cost-effective, and user-friendly platform that empowers both buyers and sellers, making property ownership more accessible and efficient in Nepal

Melanoma Detection using CNN

Melanoma, a severe form of skin cancer, has witnessed rising incidence rates globally, necessitating early and accurate detection methods. This project presents an innovative approach to melanoma detection leveraging Convolutional Neural Networks (CNNs), a class of deep learning models renowned for their efficacy in image classification tasks. Our methodology involves the collection of a comprehensive dataset of dermoscopic images, encompassing both melanoma and benign lesions. The CNN model is meticulously trained on this dataset. Activation functions such as Rectified Linear Unit (ReLU) and Softmax are employed within the network architecture to enhance learning and classification performance. The model's efficacy is primarily evaluated using accuracy as the key metric. Preliminary results demonstrate a high degree of accuracy in distinguishing melanoma from non-malignant skin lesions, highlighting the potential of CNN-based systems in aiding dermatologists with diagnostic processes. Implementing this model in clinical settings could significantly improve early detection rates, thereby enhancing patient prognosis and reducing melanoma-related mortality.

Co-Act

This document records the firsthand journey during the Final Project, aligned with the curriculum of the Bachelor's in Computer Engineering, VIII semester under the Faculty of Science and Technology, P.U.

Project Management and effective communication between team members are one of the most important factors in developing a project. Co-Act is an innovative online collaborative workspace designed to enhance remote collaboration and teamwork. In today's digital age, remote work has become increasingly prevalent, and effective collaboration has become a critical factor for success in various domains such as business, education, research, and creative projects. Co-Act aims to bridge the gap between physical and virtual collaboration by providing a dynamic, intuitive, and feature-rich online workspace that facilitates seamless collaboration among team members, regardless of their geographic location. Hence, to make this thing more convenient, we are developing a platform where a group of people can manage their project and save their workflow while also being able to communicate with the team effectively.

Ruins of Eldora

The Ruins of Eldoria project focuses on developing an immersive 3D game that delivers optimized performance and seamless gameplay. Leveraging advanced game development techniques and cutting-edge optimization strategies, the game aims to provide players with a visually stunning and fluid gaming environment.

Key components include state-of-the-art game engines and graphics technologies to ensure high frame rates and minimal latency. The project features a robust back-end architecture for efficient data management and real-time processing of game events.

Through extensive testing and iterative refinements, Ruins of Eldoria demonstrates superior performance in rendering complex environments and handling interactive elements with precision. This project showcases the potential of AI-driven solutions in enhancing gaming experiences by automating resource management, optimizing graphics rendering, and ensuring a responsive gaming environment.

Ruins of Eldoria sets a new standard for graphical fidelity and performance in contemporary 3D gaming, aiming to elevate player immersion through optimized gameplay mechanics and cutting-edge technology.

Sign Language Recognition

As mentioned by Pokhara University syllabus, "Computer Engineering Project " in the eighth semester serves as an effective tool to get acquainted with practical problems that one has to face as an application of various theoretical knowledge gained during a four-year course. To get optimum good results a more realistic approach has been adopted taking in account the various consequences that may arise during the real practice. This project focuses on developing a robust system capable of recognizing and interpreting sign language gestures into text or speech, facilitating easier and more effective communication.

The Sign Language Recognition Project aims to develop an efficient and accurate system for translating sign language into text or speech, facilitating communication between the hearing-impaired community and those who do not understand sign language. Leveraging advancements in machine learning and computer vision, our system uses a convolutional neural network (CNN) to interpret hand gestures captured via a camera in real-time. The project involves the creation of a comprehensive dataset of sign language gestures, pre-processing of image data, and the training of the CNN model. By integrating natural language processing techniques, the system ensures contextual understanding and accurate translation of gestures. The ultimate goal is to enhance accessibility and inclusivity, providing a practical tool for seamless communication across different communities.

PEC Note

In today's interconnected world, effective communication and collaboration are essential for success in various endeavors. "PEC NOTE" emerges as a comprehensive solution, offering a platform where individuals and teams can seamlessly share, and collaborate in real-time. This innovative website features an intuitive interface, facilitating effortless creation, organization, and sharing of notes across multiple devices. Security and privacy are paramount, with PEC NOTE implementing robust measures to safeguard user data during sharing and storage. PEC NOTE serves as a catalyst for enhanced productivity and innovation. In summary, PEC NOTE redefines the landscape of note-sharing websites, offering a seamless and secure platform where individuals and teams can collaborate effectively, thereby unlocking their full potential in various endeavors.

QA Bot

The QA Bot project focuses on the development and implementation of an intelligent Question-Answering (QA) system designed to streamline information retrieval and enhance user

interaction. Leveraging advanced natural language processing (NLP) techniques and machine learning models, this system is capable of understanding and responding to a wide range of queries in a human-like manner. The QA Bot is trained on diverse datasets to ensure accuracy, relevance, and contextual understanding, enabling it to provide precise answers across various domains.

Key components of the project include the integration of state-of-the-art language models, such as OpenAI's GPT-4, which underpins the bot's conversational abilities. The system also features a robust backend architecture for efficient data handling, real-time processing, and seamless scalability. Through rigorous testing and iterative improvements, the QA Bot demonstrates high performance in both accuracy and response time. This project showcases the potential of AI-driven solutions in automating customer support, educational assistance, and information dissemination. The QA Bot not only improves user experience by providing instant, accurate responses but also reduces the workload on human operators, highlighting the transformative impact of artificial intelligence in contemporary digital ecosystems.

Medication Box

Medication non-adherence is a widespread challenge that significantly affects health outcomes and places a substantial burden on healthcare systems around the world. One of the major causes of non-adherence is polypharmacy, where patients are required to manage multiple medications daily. In developing countries like Nepal, this issue is further complicated by limited awareness about proper medication practices and the absence of clearly marked dosage instructions on medicine strips. As a result, many patients forget to take their medicines on time or miss doses entirely, leading to poor treatment outcomes and increased health risks.

To address this issue, our study focused on the development of a smart pill box that assists patients in managing their medications efficiently. The smart pill box is designed to sort and store medications for seven days, ensuring timely reminders are given to patients. It integrates both hardware and software components: the hardware comprises a physically assembled circuit and electronic components, while the software includes a mobile and web application that communicates essential information such as drug name, date, day, and the exact time of medication intake. This interconnected system ensures that users or their caregivers are well-informed and reminded at every scheduled medication time.

The final prototype of the smart pill box includes seven individual compartments, each equipped with a motor that automatically opens the lid at the designated time. A buzzer is activated to alert the user when it is time to take the medication. Once the medicine is retrieved, the buzzer turns off, and the lid closes, preparing the device for the next scheduled dose. This automated process ensures that patients receive timely prompts to take their medications and provides caregivers with peace of mind. In conclusion, the Medication Box project presents an innovative and user-friendly solution to combat medication non-adherence, particularly in resource-limited settings, promoting better healthcare management and patient compliance.

Class Plus: Class Management System

ClassPlus is an intelligent and comprehensive web-based solution designed to assist schools and colleges in managing classroom activities in both online and offline modes. The system offers attendance marking through QR code with fallback mechanisms such as OTP verification to minimize proxy attendance. For online learning, the system integrates Jitsi Meet

to facilitate live video classes with features including chat, screen sharing, and whiteboard support.

Instructors can manage course delivery by posting notes, uploading assignments and tracking student submissions through a unified dashboard. Students can access all course content, submit assignments, and receive timely notifications via email or SMS regarding upcoming classes, approaching deadlines, and new learning materials.

Additionally, ClassPlus includes tools for routine management and notice circulation, enabling both students and teachers to stay informed about daily schedules and academic or extracurricular announcements.

The platform ensures a secure, user-friendly, and systematic learning environment, enhancing the overall effectiveness and accessibility of classroom engagement.

Keywords: Class management system, QR attendance, Jitsi Meet, web-based LMS, online learning, virtual classroom, routine management, OTP verification

Online Voting System (using Blockchain)

Decentralized voting using Ethereum blockchain is a secure, transparent and tamper-proof way of conducting online voting. It is a decentralized application built on the Ethereum blockchain network, which allows participants to cast their votes and view the voting results without the need for intermediaries. In this system, votes are recorded on the blockchain, making it impossible for anyone to manipulate or alter the results. The use of smart contracts ensures that the voting process is automated, transparent, and secure. The use of blockchain technology and the implementation of a decentralized system provide a reliable and cost-effective solution for conducting trustworthy and fair elections.

anonymity, prevents double voting, and provides real-time This approach ensures voter vote count updates. Additionally, the integration of cryptographic techniques guarantees data confidentiality and voter privacy. By providing a secure, decentralized, and transparent voting mechanism, this system holds the potential to revolutionize democratic processes in both governmental and organizational settings.

Keywords: Blockchain, Online Voting System, Smart Contracts, Ethereum, Decentralization, Transparency, Voter Authentication, E-Voting, Security, Immutability.

Online Auction

The project report entitled "Online Auction" presents a comprehensive solution for facilitating the buying and selling of goods through an online bidding platform. This system provides a

dynamic and scalable approach to e-commerce, offering users a transparent and competitive marketplace. The platform is designed to cater to a wide range of products, ensuring efficiency, user satisfaction, and accessibility. Key features include user registration, item listing, bidding, feedback systems, and secure payment integration. This project aims to address common challenges in online auction systems, such as technical issues, lack of competitive atmosphere, and delayed delivery, by leveraging modern technologies and user-centric design. Additional modules like a Chatbot for user assistance and a Recommendation System for personalized suggestions have been integrated to enhance user engagement.

Keywords: Online Auction, E-commerce, Bidding System, User Registration, Item Listing, Feedback System, Secure Payment, Technical Feasibility, Economic Feasibility, Schedule Feasibility.

Swastha Sewa

The project report entitled "SwasthaSewa" presents a web-based healthcare platform developed to improve access to healthcare services through digital technology. With the rapid advancement of information and communication technology, healthcare systems are increasingly adopting online platforms to enhance service delivery, efficiency, and patient convenience. This paper explores the key features, challenges, and emerging trends in digital healthcare systems. It examines factors influencing user satisfaction, such as ease of appointment booking, accessibility of medical records, secure communication with healthcare providers, and overall user experience. The report conclude by identifying future opportunities and potential challenges in the healthcare technology sector, including data privacy concerns, technological barriers, and increasing demand for accessible and affordable healthcare services.

Keywords: Healthcare platform, e-health system, telemedicine, electronic health records, patient engagement, healthcare management, data security, digital health technology, appointment system, healthcare accessibility.

Digital Khata

In the current digital era, small and medium-sized retail businesses are increasingly seeking simple and reliable solutions to manage their daily operations efficiently. However, many shopkeepers in Nepal still rely on traditional paper-based record keeping for inventory, sales, expenses, and customer credit, which often leads to data loss, inaccuracies, and poor business insights. To address these challenges, Digital Khata is proposed as a web-based inventory management system designed specifically for small and medium sized businesses. This system enables shopkeepers to record sales, manage inventory, track customer credit (khata), and record business expenses through a user-friendly interface. The system also provides basic reports and visual dashboards to help shop owners understand sales performance and stock status. It is developed using modern web technologies including the MERN stack (MongoDB, Express.js, React.js, and Node.js). Digital Khata aims to simplify business management, reduce manual errors, and improve decision-making for non-technical shopkeepers. The system offers an affordable, intuitive, and reliable digital alternative to traditional manual methods.

Keywords: Digital Khata, Inventory Management System, Customer Credit Management, Small Retail Businesses, MERN Stack, ERP System, AI Analytics, Business Dashboard, Sales Management, Expense Tracking.

Beauty and Skin Care

The project report entitled 'Beauty and Skin Care' presents a comprehensive solution for providing detailed information about protecting the skin from damage, delaying signs of aging, and addressing common skin concerns such as acne, dryness, pigmentation, and sensitivity. With increasing awareness of hygiene, lifestyle choices, and environmental effects, proper skin care has become an essential part of daily health routines. This report highlights the importance of skincare, common beauty practices, and the role of modern cosmetics technologies in promoting overall well-being and self-care. SKIN AI integrates multiple intelligent modules to ensure accurate and reliable skin analysis. The system incorporates: Real-time face detection using facial landmark tracking, Lighting validation to ensure optimal brightness conditions, Face alignment and positioning verification, Stability-based auto capture mechanism, multi-angle facial scanning, Client-side pixel-based texture and color analysis, AI-driven personalized product recommendation system

In conclusion, SKIN AI demonstrates a practical and scalable implementation of browser-based AI for personalized skincare analysis. The project highlights how real-time computer vision, client-side processing, and intelligent recommendation systems can be integrated to create an efficient, secure, and user-friendly application suitable for academic and commercial deployment.

Keywords: Beauty, Skincare, Skin health, Cosmetics, Personal Grooming, Self-Care, Anti-Aging, Skincare product, Aesthetic care.

Periods Tracker

The project report entitled 'Period Tracker' presents a comprehensive web-based solution designed to help users monitor, manage, and better understand their menstrual health through a secure and user-friendly application. In the modern digital healthcare environment, menstrual health tracking applications play a vital role in promoting awareness, early health insights, and informed lifestyle decisions. This system addresses the growing need for a reliable and intelligent platform that supports personalized menstrual health management.

The system allows log menstrual cycle details, track symptoms and moods, users to predict upcoming periods and ovulation phases. By analyzing historical data, the application provides

accurate predictions and personalized health insights that help users identify patterns and irregularities over time.

An integrated AI-based chatbot enhances user engagement by offering instant responses to menstrual health-related questions, self-care tips, and general reproductive health information while ensuring privacy. The platform prioritizes accessibility, data security, and ease of use, making it suitable for users of all age groups.

Keywords: Period Tracker, menstrual health, menstrual cycle tracking, period prediction, ovulation tracking, symptom tracking, chatbot, health insights, user- friendly interface, profile management.

Sports Board: All Sports, One Board

The project report entitled "SportsBoard: All Sports, One Board" is designed to provide a centralized digital platform for managing sports-related information, events, news, and user interactions. This system aims to overcome the limitations of traditional manual and scattered sports information systems by offering an efficient web-based solution

Sports Board enables users to view upcoming sports events, schedules, match details, and sports news in real time. It also allows organizers and administrators to manage events, publish announcements, handle player selection applications, and manage ticket sales through a structured database system. By using modern web technologies. Sports Board improves accessibility, accuracy, and efficiency in sports event management.

Keywords: Sports Board, Sports Event Management, Web Application, Ticket Booking, Player Selection, Online Platform

Skill Fuel

SkillFuel is a comprehensive peer-to-peer skill-sharing and e-learning platform that enables users to both learn new skills and teach what they know, Built with a modern tech stack comprising Django (backend) and React with TypeScript (frontend), the platform creates a vibrant educational ecosystem where knowledge flows bidirectionally. Core Features: User Roles & Profiles: Users can register as learners, teachers, or both, enabling a flexible learning community. Profiles include skill categorization, hobbies, avatars, and real-time presence tracking via Clerk authentication Course Management: Teachers can create and publish comprehensive courses with: Video lessons hosted via Cloudinary, Category-based organization, Monthly subscription pricing (supporting free and paid content), Ratings, comments, and engagement metrics, Channel System: Creators operate personalized channels

with subscriber management, notifications for new content, and detailed analytics- similar to modern content platforms

Skill Matching: The platform features a categorized skill catalog where users indicate skills they want to learn and skills they can teach, facilitating peer connections.

Communication Tools: Direct messaging with message requests, media sharing (images/videos), and community posts within skill categories foster collaboration and knowledge exchange.

Subscription Model: Monthly course subscriptions with Khalti payment integration support sustainable creator monetization.

Admin Dashboard: A modern, responsive admin panel provides platform oversight including user management, course moderation, channel monitoring, and contact message handling.

Technology Stack: Backend: Django REST Framework with SQLite, Cloudinary for media, Frontend: React, TypeScript, Vite, Tailwind CSS, Authentication: Clerk, Payments: Khalti (NPR currency), SkillFuel democratizes education by transforming every user into a potential teacher, making skill acquisition accessible, affordable, and community-driven.

Room Siftay

In recent years, rapid urbanization and increased educational migration have significantly raised the demand for rental rooms and shared accommodations. Traditional room-finding methods are often time-consuming, inefficient, and unreliable. To address these challenges.

RoomSiftay is proposed as a web-based room-finding platform that connects room owners and seekers through a centralized, secure, and user-friendly system

Room Siftay enables room owners to list available rooms with details such as location, rent, facilities, and images, while users can search, filter, and contact owners based on their preferences. An admin panel is included to monitor the system, verify listings, and handle user issues. The system aims to simplify the room-search process, reduce fraudulent activities, and provide a transparent and reliable platform for all stakeholders.

Keywords: Room Finding System, Web Application, Rental Platform, Online Accommodation.

Study Hive

In the modern digital learning environment, students often struggle with maintaining focus, organizing study resources. and staying consistent with their learning goals due to distractions and the use of fragmented productivity tools. Many existing platforms focus either on content delivery or communication, but lack an integrated environment that promotes focused and efficient self-study. To address these challenges. StudyHive is proposed as a web-based study

management and collaborative learning platform designed for students of all academic levels. StudyHive provides a focused learning workspace by integrating essential productivity features such as a Pomodoro timer, background music for concentration, and to-do lists for goal tracking, and structured access to personal study notes within a single interface. In addition to individual productivity tools, the platform includes group-based chat functionality that allows students to interact, collaborate, and study together in a shared environment. This combination encourages both focused individual learning and peer collaboration. The system is developed using the PERN stack, incorporating PostgreSQL as the database with Prisma ORM, Express.js and Node.js for backend services, and React.js for the frontend. StudyHive aims to improve study efficiency, reduce distractions, and foster collaborative learning habits by providing a simple, intuitive, and centralized digital solution for students

Keywords: StudyHive, Learning Environment, PERN Stack, Pomodoro Timer, Peer Collaboration, Background Music, Study Notes, Todo List.

Sweep Pokhara

Sweep Pokhara is a project which is based on the sensor technology. It is mostly applicable among the people who gets busy for their other works. The basic function of this project is to notify the user that the state of the dustbin through the means of wireless communication channel over the internet. It consists of a general-purpose dustbin embedded with a microcontroller with a Wi-Fi module and Ultra Sonic sensor. The website is the core unit to operate the system. The functional programming of microcontroller to operate the peripherals is done in the Arduino IDE to get the appropriate output of the system.

Hamro Result

The project entitled "Hamro Result" is a web-based application developed to streamline the academic result processing of educational institutions. This system simplifies the task of entering, managing, and retrieving student result data, ensuring efficiency, accuracy, and security. It allows administrators and teachers to input and update student marks, while students can view their results online in a secure manner. The system reduces the manual workload, minimizes human error, and provides real-time access to academic performance data.

Keywords: Hamro result, student performance, academic results, web application, PHP, MYSQL, education system, automation.

Sajilo Fix

SaiiloFix is a web-based service platform designed to connect users with skilled local technicians such as electricians, plumbers, carpenters, and other home service providers in a quick and reliable way. This project is to simplify the process of finding, booking, and managing household repair and maintenance services through a single digital platform. Traditional methods of searching for technicians are often time-consuming, unreliable, and lack transparency. This platform addresses these problems by providing a user-friendly interface where customers can request services, view technician details, and track service status in real time. The system allows technicians to register, manage their profiles, and receive service requests based on location and availability. An admin panel is included to manage users, services, and overall system operations.

Keywords: Technician Booking System, Home Maintenance Services, Web-Based Application, Django Framework, React Frontend, Service Provider Management, Digital Service Platform.

E-Speak

E-Speak is an intelligent civic issue reporting platform enabling citizens to report public service problems with real-time AI guidance. It combines Retrieval-Augmented Generation (RAG) using Sentence Transformers for semantic embeddings and FAISS for similarity search, providing AI-driven suggestions for issue categorization, priority levels, and photo documentation. A civic analytics chatbot delivers data-driven insights from historical NYC 311 patterns. Built with React (Vite) frontend, Django REST backend, Supabase PostgreSQL database, and Clerk authentication.

The platform integrates Socrata OpenData API for NYC 311 data ingestion, Leaflet maps for location-based visualization, and duplicate detection to reduce redundant reports, creating a comprehensive solution for democratic participation and data-driven civic governance.

Keywords: Civic Issue Reporting, AI, RAG, Sentence Transformers, Vector Embeddings, FAISS, Duplicate Detection, Location-Based Mapping, Socrata API, Supabase, Clerk Authentication.

Rakta Daan

Blood donation is a vital healthcare service that helps save lives during emergencies. However, finding compatible blood donors quickly remains a major challenge due to the lack of an efficient donor management system. Traditional methods of searching for blood donors are

often slow and depend on personal contacts or social media, which may delay emergency response. To overcome these limitations, this project proposes RaktaDaan, a mobile application for blood donor management. The application enables users to register as blood donors, manage their profiles, search for nearby donors based on blood group and current location, send emergency blood requests, and receive real-time notifications. It also provides information about upcoming blood donation events to encourage voluntary blood donation. The application is developed using Flutter for the frontend and Firebase for authentication and database management, ensuring secure, reliable, and efficient data handling.

The proposed system aims to reduce the time required to locate compatible blood donors, improve communication between donors and recipients, and support faster emergency response. By integrating location-based search, emergency notifications, and event management into a single mobile application, RaktaDaan provides a more efficient and user-friendly solution for blood donor management.

Keywords: Blood Donor Management, Mobile Application, Flutter, Firebase, Blood Donation, Emergency Blood Request, Location-Based Search, Healthcare.

CertifyED

CertifyED is a blockchain-backed digital certificate management and verification platform designed for educational institutions. It offers features such as single and bulk certificate generation, certificate verification using a certificate code or PDF upload, signing and verifying external certificates, searching for certificates by email, revoking and restoring certificates, and maintaining audit logs.

HomeGuard-An Intelligent Home Surveillance System

Residential security has become an increasing concern as homeowners spend more time away from their homes, while traditional CCTV systems remain passive, generating large volumes of footage and frequent false alerts triggered by pets, lighting changes, or routine movement. The emergence of AI-driven computer vision has opened the way for more intelligent, responsive home security solutions.

This study proposes HomeGuard, an intelligent home surveillance system that combines a Django REST backend (built using Clean Architecture principles), a Python/FastAPI AI engine performing real-time face detection and recognition using InsightFace, and a web-based dashboard for monitoring and managing household security. The system organizes users around a home-centric hierarchy, in which each Home has an owner and multiple members with

distinct roles (OWNER, ADMIN, MEMBER, GUEST, SECURITY), and permissions such as door-unlock rights are attached to roles rather than individual users.

The goal of the system is to automatically distinguish known household members from unknown individuals, simulate a smart-lock door access system, and reduce false alerts by generating events only for meaningful detections. Based on the current implementation and testing of the recognition pipeline, the system demonstrates strong potential for completing the remaining integration work and contributing a low-cost, AI-driven alternative to passive CCTV monitoring.

InvestLink

InvestLink is a web-based platform designed to bridge the gap between startups and investors by providing a secure, intelligent, and efficient environment for discovering investment opportunities and building professional connections. The platform enables startups to create detailed business profiles, showcase their products, business models, funding requirements, and growth potential, making it easier for investors to evaluate promising ventures. Investors can create verified profiles, specify their preferred industries, investment interests, funding range, and investment history to receive personalized startup recommendations. Through an intelligent matching system, InvestLink connects startups with investors based on industry, business stage, investment preferences, and funding goals, increasing the chances of successful partnerships. The platform includes secure real-time messaging, allowing both parties to communicate directly while maintaining privacy and data security. A profile verification system improves trust by verifying the identity and credibility of users, helping reduce fraudulent activities. Additionally, users can manage funding history, track previous investments, monitor ongoing funding rounds, and maintain transparent records of investment activities.

InvestLink also provides features for promoting startup profiles, discovering potential investment opportunities, receiving notifications about relevant matches, and building long-term professional networks. By simplifying the fundraising process and improving investor discovery, the platform reduces the time and effort required for startups to secure funding while enabling investors to identify high-potential businesses more efficiently. Overall, InvestLink aims to strengthen the startup ecosystem by fostering meaningful connections between entrepreneurs and investors, promoting transparency, trust, and collaboration through a modern, secure, and user-friendly digital platform.

Pahichan AI

Agriculture is one of the most important sectors in Nepal, but identifying plant diseases at an early stage remains a challenge for many farmers due to limited access to agricultural experts. Delayed or incorrect disease identification can reduce crop quality, lower productivity, and increase economic losses. To address this problem, we developed **Pahichan AI**, an artificial intelligence-based plant disease detection system that identifies diseases from images of plant leaves. Pahichan AI uses a deep learning image classification model trained on a multiclass dataset containing **15 different classes**, including both healthy and diseased plant leaves. The system analyzes an uploaded leaf image and predicts the corresponding disease category with high accuracy. By automating the disease identification process, the application provides users with a fast, simple, and accessible way to detect plant diseases without requiring specialized agricultural knowledge.

The project combines computer vision and machine learning techniques to classify plant leaf images after appropriate preprocessing and model training. The trained model is integrated into a user-friendly application that enables users to upload leaf images and receive instant predictions. This approach supports early disease detection, allowing timely intervention that can help reduce crop losses and improve agricultural productivity. Pahichan AI demonstrates how artificial intelligence can be applied to solve real-world agricultural problems by making disease diagnosis more efficient and accessible. The system has the potential to assist farmers, agricultural students, researchers, and extension workers in monitoring crop health and promoting sustainable farming practices. Future enhancements may include support for additional crop species, more disease categories, treatment recommendations, and mobile deployment for wider accessibility in rural areas.

KeyDash: Typing Speed and Accuracy Tester

In today's digital age, typing speed and accuracy are essential skills for students, professionals, and developers alike, yet most existing typing test platforms remain limited to basic words-per-minute measurement with outdated designs and little engagement. KeyDash is a web-based typing platform developed to address these gaps by combining performance tracking with an interactive, feature-rich experience. The application supports multiple languages, coding practice modes for languages such as Python and C++, real-time multiplayer typing races, AI-based typing battles, symbol mastery training, and gamification elements such as streaks, achievements, and leaderboards, along with social media sharing of results.



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