MINI PROJECT REPORT
On the title

"IKSHANA"

Report submitted in partial fulfillment of the Requirements for the Award of the Degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

By

ANIRUDH SHAJI (SNC20CS014)

PARTHIP K ANISH (SNC20CS035)

ANURAG MT (SNC20CS016)

AKASH SUNILKUMAR (SNC20CS008)

Under the guidance of

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ACKNOWLEDGEMENT

First of all, I would like to thank God for giving strength, courage and blessings to complete this work. I would like to extend my gratitude to everyone who helped me in the completion of this mini project. I express my sincere gratitude to our Management **SREE BHAKTHI SAMVARDHINI YOGAM, TALAP, KANNUR** for having me provided with all the facilities required for the success of this presentation.

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Thanking you

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ANURAG MT

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MINI PROJECT OBJECTIVE

The main objectives of this project are :

- Stay Informed: Access and classify the latest news related to disaster management, empowering users with up-to-date information on ongoing events.
- Receive Timely Help: Receive immediate and targeted emergency assistance during disaster events, ensuring critical needs are addressed promptly.
- Visualize Impact: Utilize live maps with satellite and radar images to visualize disaster-affected areas, aiding in understanding the extent of the event.
- Plan and Respond: Utilize live weather forecasting to make informed decisions and adapt disaster response strategies based on real-time meteorological data.
- Access Critical Contacts: Quickly access essential contact information for local authorities, emergency services, and aid organizations.
- Instant Guidance: Interact with a quick assistance bot for rapid responses and guidance during emergencies, enhancing user confidence and preparedness.
- Assess Health Risks: Monitor air quality indices to assess potential health risks associated with air quality, ensuring safety during and after disasters.
- Engage and Contribute: Participate in disaster relief efforts by volunteering, exploring partnership opportunities, and supporting disaster management initiatives through donations.

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ABSTRACT

web application designed to transform the landscape of disaster management. By harnessing the capabilities of modern web technologies, the application delivers a dynamic platform for real-time incident reporting, efficient resource allocation, streamlined communication, and insightful data visualization. It caters to a diverse range of stakeholders including governmental bodies, first responders, non-governmental organizations, and the general public. With features that encompass instantaneous incident updates, intelligent resource deployment, integrated communication channels, interactive geospatial mapping, and seamless cross-device access, this application stands as a beacon of innovation in the realm of disaster response. Through the implementation of role-based user permissions and the ability to analyze historical data, the platform fosters collaborative efforts, empowers informed decision-making, and significantly bolsters the efficiency of disaster management protocols, resulting in the reduction of casualties and mitigation of damages on a larger scale.

MINI PROJECT REPORT
On the title

WEB BASED PLACEMENT MANAGEMENT SYSTEM

Report submitted in partial fulfillment of the Requirements for the Award of the Degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

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MINI PROJECT OBJECTIVE

The main objectives of this project are :

1. Efficient Job Placement: Facilitate seamless job placement for students by connecting them with potential employers through an online platform.
2. Automated Process: Streamline and automate various placement processes, including job posting, student applications, employer selection, and interview scheduling.
3. Centralized Database: Create a centralized database of student profiles, employer information, job listings, and placement history for easy access and management.
4. Enhanced Communication: Improve communication between students, employers, and placement coordinators by providing a platform for messaging, notifications, and updates.
5. User-Friendly Interface: Develop an intuitive and user-friendly web interface for both students and employers to navigate the system with ease.
6. Secure Platform: Implement robust security measures to protect sensitive student and employer data, ensuring privacy and confidentiality.

MINI PROJECT OUTCOME

The outcome of a web-based placement management system project would likely include features such as
student registration, job postings, application tracking, interview scheduling, and communication between students and recruiters. Its success would be measured by improved efficiency in managing placements and
enhancing the overall placement process for both students and recruiters.
The project outcome of a web-based placement management system would typically include features such as:

- Student Registration and Profile Management: Students can create accounts, update their personal and academic information, and maintain a profile.
- Job Listings: Employers can post job opportunities, including details about the roles, requirements, and application deadlines.
- Application and Selection Process: Students can apply for jobs online, and employers can review and select candidates based on their qualifications and profiles.
- Interview Scheduling: The system could facilitate interview scheduling, allowing employer s and candidates to coordinate interview times.
- Communication: Notifications, emails, or messages could be sent to inform students and employers about application statuses, interview invitations, and other updates.
- Analytics and Reporting: The system might offer data insights, such as the number of applications, placement success rates, and trends over time.
- Admin Dashboard: Administrators could manage user accounts, job listings, and oversee the overall system functionality.
- Feedback and Ratings: Students and employers might be able to provide feedback and ratings for each other after the placement process.
- Document Management: Students could upload resumes, cover letters, and other necessary documents for job applications.

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ABSTRACT

The web-based placement management system involves creating an online platform to streamline and enhance the process of managing student placements within an educational institution. This system aims to automate various tasks such as job posting, application submission, interview scheduling, and result notifications.

By utilizing web technologies, the system provides real-time access for students, recruiters, and administrators, improving communication and efficiency throughout the placement process. Additionally, features like resume uploading, skill matching, and feedback collection contribute to a more effective and organized placement experience for all stakeholders.

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MINI PROJECT REPORT
On the title

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Report submitted in partial fulfilment of the Requirements for the Award of the Degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

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MINI PROJECT OBJECTIVE

A medication reminder app is designed to help people manage their medications more effectively. It should have features such as setting reminders ,tracking a medication history ,and providing information about the medications. The goal is to help users stay on track with their medications, reduce the risk of missed doses or incorrect dosing ,and ultimately improve health outcomes. The app also provide peace of mind to family members or caregivers who are concerned about their loved ones medication management. The app should be designed to be easy to use and accessible to all users. The app will offer timely reminders for medication intake, ensuring adherence to prescribed dosages and improving overall health outcomes. The project report aims to document the entire development process, including requirements analysis, design, implementation, testing, and evaluation, while highlighting the app's features, usability, and potential impact on user health and medication compliance.

Additionally, the report will explore the challenges faced during development
and the strategies employed to overcome them, thus providing valuable insights for future app development endeavours .Overall ,the medication reminder app is an essential tool for anyone who wants to manage their medications more effectively and improve their health outcomes.

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MINI PROJECT OUTCOME

The mini project outcome could be a prototype of the app that includes a core features such as setting reminders ,tracking medication history and providing information about the medications. The prototype should be designed to be user-friendly and accessible to all users ,regardless of their level of technology experience. It should also be customizable to meet the specific needs of each users such as the frequency and timing of reminders. The goal is to help users stay on track with their medications reduce the risk of missed doses or incorrect dosing, an ultimately improve health outcomes.

The prototype should have a simple and intuitive user interface that allows users to easily navigate through the app. The app should have a home screen that displays the users medication schedule, including the name of the medication, the dosage, and the the time of day it should be taken.Users should be able to add or remove medications from their schedule,as well as adjust the dosage and timing of their reminders.

Overall, the mini project outcome should be a functional prototype of a medication reminder app that help users manage their medications more effectively.The app should be designed to be user-friendly,customizable,and reliable and should ultimately improve health outcomes for users.

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ABSTRACT

This is an Android-based application in which an automatic alarm ringing system is implemented.Patients need not remember their medicine dosage timings as

they can set an alarm on their dosage timings. The alarm can be set for multiple medicines and timings including date, time and medicine description. A notification will be sent to them through message inside the system preferably chosen by the patients. They can search doctor disease wise. The patients will

get the contact details of doctors as per their availability. The system focuses on easy navigation and good user interface. Many such Medical Reminder Systems have been developed where a new hardware is required but in our work we have made an attempt to develop a system which is economical, time-saving and supports medication adherence. Overall, the medication reminder app is a functional prototype that can help users manage their medications more effectively and improve their health outcomes.

MINI PROJECT REPORT

"FUDDOCO"

Work done by,

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NANDANA M V (SNC20CS033)

SNEHA E (SNC20CS040)

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MINI PROJECT REPORT
On the title

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Report submitted in partial fulfillment of the Requirements for the Award of the Degree of

BACHELOR OF TECHNOLOGY

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MINI PROJECT OBJECTIVE

The project outcome for an online train food and medicine ordering system would be a functional platform that allows train passengers to easily place orders for food and medicine during their journey. The system should provide a user-friendly interface for browsing menus, selecting items, making payments, and receiving timely deliveries on the train. It should also have a back-end system for managing orders, coordinating with vendors, and ensuring smooth operations. The ultimate goal is to enhance the travel experience by offering convenient and reliable services to passengers.

MINI PROJECT OUTCOME

The project outcome for an online train food and medicine ordering system would be a functional platform that allows train passengers to easily place orders for food and medicine during their journey. The system should provide a user-friendly interface for browsing menus, selecting items, making payments, and receiving timely deliveries on the train. It should also have a back-end system for managing orders, coordinating with vendors, and ensuring smooth operations. The ultimate goal is to enhance the travel experience by offering convenient and reliable services to passengers.

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ABSTRACT

The website for the train food and medicine ordering system follows a series of steps to facilitate a smooth user experience. Users can either log in with their existing credentials or sign up to create a new account. Once logged in, they are prompted to enter the train details, including the platform number, coach number, and train number. After that, users have the option to choose between food or medicine. Based on their selection, they can browse and select their desired food items or medicine items. The selected items are then added to the cart for ordering. Users can review their cart and make any necessary changes before proceeding to the payment stage. They provide the required payment details and complete the transaction. Upon successful payment, the system places the order and generates an order ID for reference. An order confirmation is displayed, providing users with the necessary details. Additionally, users have the opportunity to provide feedback on their experience with the ordering system. If the user is a delivery boy, they can access order details to fulfill the delivery requirements. The website aims to streamline the process of ordering food and medicine while traveling by train, ensuring convenience and customer satisfaction.

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MINI PROJECT REPORT

On the title

"SMART ENERGY MANAGEMENT USING IoT IN CLASSROOM"

Report submitted in partial fulfillment of the Requirements for the Award of the Degree of

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This is to certify that the Mini Project report entitled **SMART ENERGY MANAGEMENT USING IoT IN CLASS ROOM** submitted by **FATHIMATHUL FAMEENABI PV (SNC20CS02)** in the partial fulfillment for the award of the Degree of Bachelor of Technology in Computer Science and Engineering to **A P J ABDUL KALAM TECHNOLOGICAL UNIVERSITY, KERALA**, is a record of Bonafede work carried out under my guidance and supervision.

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MINI PROJECT OBJECTIVE

On Earth, life could not exist without electricity. The world is confronted with such difficult circumstances. The energy challenge is the most pressing issue facing our society. Therefore, it is vital to quantify the amount of power consumed. It is measured by the wattmeter; however a KSEB employee must visit each home to compute the electricity use and bill amount. This still creates a risk of human error and uncontrolled energy consumption. A system to regulate and monitor energy consumption is one solution to this problem. It is vital to utilize a smart meter system capable of analyzing a variety of household equipment and collecting information on voltage, current, and power. The device can connect to a central gateway through wired or wireless connection, and the collected data can be uploaded and analyzed by the gateway administration system. The energy consumption can also be minimized by supplying the appliance with only as much power as is necessary by the environmental circumstances. The information can then be displayed on the graphical interface of Thing Speak. In addition, the gadget should alert the user to pay the bill, reduce energy consumption, and protect itself from potential dangers. The connected display makes it simple for the user to view all collected data. These aims eliminate human intervention, hence minimizing the potential for error. Effectively measuring and optimizing energy consumption without requiring the user to complete additional tasks. The following specific objectives support the main goal of this research study, which is to design a freestanding ESP32 electric energy consumption meter.

- To calculate Root Mean Square (RMS) voltage
- To calculate Root Mean Square (RMS) Current
- To calculate the power and energy consumption of a user Load

MINI PROJECT OUTCOME

We introduced an automated system using IoT technology, which can replace the manual switching system in the classroom. This system can control the light bulbs and fans of a classroom considering the availability of humans and through the access to environmental conditions. Thus, the system can be used to reduce power wastage and it would be a solution to reduce excessive electricity demand that would occur in the future. In addition, this system can be installed easily with the existing manual switching system. According to the estimated value, the system can reduce electricity consumption by more than 33%.

BUSINESS BENEFITS

The business benefits of employing smart energy meters to the homes and businesses are quite vast. Esp32 electric energy consumption meters are connected to the blynk cloud system and take automatic readings of your company's energy consumption. This eliminates the need to manually take and submit readings. The electric energy consumption process is fully automated, which saves time for households as well as industrial processes.

Households, factories and business entities may have a better understanding of their energy usage and track usage patterns with ESP32 electric energy consumption meters. This enables users to gain a better understanding of their electric energy usage and take the appropriate actions to achieve their objectives and also be able to connect whether those objectives are related to boosting energy efficiency or lowering corporate costs which in turn adds business benefits.

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ABSTRACT

Energy is a component that is essential for any household, commercial enterprise, or agricultural business. It is crucial to properly regulate energy use and smartly conserve it for appliances. Because it serves as the foundation for modern industry, energy is a resource that is of the utmost importance. In the absence of adequate management of energy, a variety of detrimental effects will be incurred. These include higher temperatures, heat waves, droughts, higher sea levels, anomalous weather patterns, and an increase in the intensity of natural disasters. Smog and acid rain are also included in this category. The consequences of such actions are harmful to every living thing on the planet. A decrease in energy consumption results in a decreased demand for electricity from power plants, which in turn results in a decrease in the daily quantity of fossil fuels that are burned. Even a seemingly insignificant change might have a significant effect. The issue of water or high humidity causing damage to the energy meter, which in turn leads to moisture being present in the meter, is a typical one in households but is still underestimated. Wiring that has been damaged may cause an arc or power surges, both of which have the potential to damage equipment that is permanently plugged in. Because of this, there is an increased risk not just to people's lives but also to their property. As a result, it is essential to provide the user with information regarding the excessive level of humidity, so that appropriate preventative measures can be taken in a timely manner. A significant number of research projects have been carried out in this area with the goal of developing energy-efficient, intelligent lighting solutions for rooms. An Internet of Things (IoT)-based smart housing system has been developed by researchers to monitor energy use and avoid any type of irregularity. In none of the experiments have the researchers attempted to automate the control of the appliances to reduce energy use. They are concentrating their efforts, for the most part, on using Android-based devices to control home appliances. As a result, with the advent of machine-to-machine communication, in which devices can be wirelessly connected, leading to IOT, we have developed an IOT-based Smart Energy Meter system that enables appliances, such as light bulbs, to be remotely controlled based on data relating to humidity and light intensity. This system was made possible by the advent of machine-to-machine communication, in which devices can be wirelessly connected. As opposed to just flipping the on/off switch on or off, these inputs are used to provide more control over the appliances.

MINI PROJECT REPORT

"DORM DASH"

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SANDRA B (SNC20CS039)

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MINI PROJECT REPORT
On the title

"DORM DASH"

Report submitted in partial fulfillment of the Requirements for the Award of the Degree of

BACHELOR OF TECHNOLOGY

in

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MINI PROJECT OBJECTIVE

Dorm Dash, a purpose-built hostel management software, is dedicated to optimizing operational efficiency and fostering effective communication. Its multifaceted objectives encompass streamlining administrative tasks through digital automation, enhancing transparency, and promoting proactive engagement among students, wardens, administrators, and guardians. By offering distinct modules tailored to each role, Dorm Dash empowers students to seamlessly manage attendance, fees, complaints, and other vital aspects of hostel life. This platform not only simplifies complex processes but also cultivates a collaborative ecosystem where administrators exercise comprehensive control, guardians stay connected with student activities, and users benefit from a centralized hub of information and seamless communication channels. Through ongoing enhancements and adaptable features, Dorm Dash remains committed to advancing hostel management by delivering a user-centric, efficient, and interconnected experience.

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MINI PROJECT OUTCOME

The outcome of the project is the creation of a comprehensive and user-centric hostel management solution that effectively transforms and modernizes the way hostels are operated and managed. By successfully implementing the Student, Warden, Admin, and Guardian modules, the software streamlines administrative processes, enhances communication, and increases overall efficiency within hostels. Students benefit from simplified registration, attendance tracking, leave requests, fee management, and complaint resolution, promoting an engaged and informed hostel experience. Wardens are empowered to efficiently manage facilities, attendance, requests, and complaints, fostering a well-maintained and responsive environment. Administrators gain full control and oversight, ensuring seamless user account management, feedback verification, news dissemination, and departure alerts. Guardians can actively participate in their wards' hostel journey by accessing attendance records, room details, and providing feedback. In essence, the Dorm Dash project yields a dynamic and adaptable software application that fosters collaboration, transparency, and convenience among students, wardens, administrators, and guardians, leading to an optimized and modernized hostel management ecosystem.

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ABSTRACT

Dorm Dash is a software application specifically designed to efficiently manage and streamline operations of hostel. It aims to simply administrative tasks, enhance communication, and improve the overall efficiency of hostel management. Student, Warden, Admin and Guardian modules serves a specific role and has distinct functionalities.

The student module is primarily used by the students residing in the hostel. They have to register for accommodating hostel. They can view attendance, submit leave request, can view the room details. The students can view their fee details, make payment and can view the transaction details. They can register the complaints, can view the status of updation of the complaints and can view notifications from the administration. They can participate in weekly mess polling given by the warden. Warden have access to manage hostel facilities and students records, maintain the attendance of the students, handle students request and complaints. Notifies student about the status and resolution of complaints and alert them, the give students weekly mess polling, calculation of mess bill and hostel fee and notify the students.

Administrator has full control over the system, manages user accounts including student, warden, and guardian account. Can verify the feedback given by the parents and complaints given by the students, upload news and events in the notification, alert when students leave the hostel. Guardian can view the student records, attendance and room details. Can give the feedback and alert when students leave the hostel.

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MINI PROJECT REPORT

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MINI PROJECT OBJECTIVE

The core objective of this project is to design, develop, and implement a comprehensive online rental management website catering to a diverse range of rental needs. The primary focus is on creating a user-centric platform that facilitates seamless interactions between renters and rental providers. The website aims to empower sellers by allowing them to efficiently list, update, and manage their rental items. Simultaneously, it enables customers to easily search for available rentals, make bookings, manage reservations, and complete secure online payments. The project seeks to address the challenges often associated with traditional rental processes by leveraging the power of web technologies. It aims to provide a centralized hub that not only enhances the convenience and accessibility of rentals but also ensures transparency, credibility, and security. The platform's features encompass user-friendly interfaces, advanced search capabilities, secure authentication mechanisms, real-time booking management, and a reliable payment gateway. Ultimately, the goal is to establish a trustworthy and scalable online rental marketplace that optimizes resource utilization, enhances user satisfaction, and contributes to the evolution of modern rental practices.

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MINI PROJECT OUTCOME

The successful culmination of this project is a robust online rental management website. This outcome empowers rental providers to seamlessly manage their inventory through features like adding, editing, and deleting items for rent. Customers experience enhanced convenience with simplified search, booking, and secure online payment options. The website's integrated systems streamline operations, reducing manual efforts and errors. The platform's digital presence extends the rental providers' reach, enabling them to tap into a wider customer base. Transparent booking and payment systems foster trust, while the improved user experience contributes to business growth and operational efficiency.

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ABSTRACT

This project aims to develop a comprehensive online rental management website that caters to the diverse needs of users seeking to rent day-to-day utilities such as cars, homes, tools, and more. The website serves as a centralized platform, connecting renters and rental providers in a user-friendly and efficient manner. This website offers a range of features to facilitate seamless interactions and transactions. Users can create accounts and profiles, providing necessary information and preferences to enhance the rental experience. The website incorporates a search functionality that allows users to browse through available rental listings based on their desired criteria, such as location, price range, and specific item features. Renters can make bookings directly through the website, selecting their desired rental period and providing necessary details for rental agreements. Rental providers have the ability to manage and update their listings, setting availability periods andrental terms. The website also includes administrative functionalities to facilitate smooth operations. An intuitive dashboard provides rental providers with insights into their rental activity, including booking requests, earnings, and customer feedback. The website may also feature rating and review systems, enabling renters to share their experiences and help other users make informed decisions.

Through this project, the goal is to create an intuitive, secure, and efficient rental management website that caters to the needs of both renters and rental providers. By leveraging the power of web technologies and implementing robust features, the website aims to simplify the rental process, enhance user experiences, and foster a trusted online rental marketplace.

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MINI PROJECT REPORT

"ARTIFICIAL INTELLIGENCE BASED DETECTION SYSTEM FOR HAZARDOUS LIQUID METAL FIRE"

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Report submitted in partial fulfilment of the Requirements for the Award of the Degree of

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MINI PROJECT OBJECTIVE

The objective of this mini project is to enhance the current fire detection systems employed in chemical and nuclear industries. By integrating AI and IoT technologies, the project aims to significantly improve industrial safety by continuously monitoring the work environment for potential fire hazards. This system will have the capability to detect both indoor and open-fire situations, reducing false positives and enabling the identification of risks earlier than existing safety systems. The project addresses the challenges posed by liquid metals in these industries, which can be hazardous. Existing systems often suffer from late detection and false alarms, hindering effective risk mitigation. Through the utilization of AI, particularly TensorFlow, and IoT technologies including temperature and humidity sensors, a microcontroller board (ESP8266), camera module, network devices, display unit, and alarm system, the system will provide real-time alerts about potential fires. By utilizing Python, OpenCV for image processing, Firebase for IoT communication, and a cloud platform for data storage and analysis, this project strives to create a robust and proactive fire detection system that contributes to safer industrial environments.

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MINI PROJECT OUTCOME

The outcome of this mini project is the successful development and implementation of an advanced fire detection system tailored for chemical and nuclear industries. By incorporating AI and IoT technologies, the project aims to revolutionize industrial safety practices by providing continuous and accurate monitoring of the work environment. The system's ability to detect both indoor and open-fire situations, coupled with its capability to reduce false alarms, is expected to greatly enhance risk assessment and mitigation efforts. The integration of a camera module, temperature and humidity sensors, microcontroller board (ESP8266), network devices, display unit, and alarm system, all managed by Python programming and TensorFlow for AI modelling, will empower the system to deliver timely alerts about potential fire hazards. Through seamless IoT communication using Firebase and data analysis on a cloud platform, the project envisions efficient data storage, real-time reporting, and the potential for insights that can further refine industrial safety protocols. Ultimately, the mini project aspires to contribute to a safer and more secure working environment within chemical and nuclear industries.

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ABSTRACT

The use of liquid metals in chemical industries and nuclear reactors poses significant hazards that require careful handling. Neglecting proper handling procedures could have catastrophic consequences, including ecological disasters and humanitarian crises. Corrosion and pressure can also damage the infrastructure that contains liquid metals. Effective monitoring systems that encompass early warning, accident detection, and prompt action are crucial to minimize the impact of potential liquid metal leaks. Currently, industries use sensors-based detection, but this paper proposes an enhanced system that integrates IoT and AI technologies to improve continuous monitoring and detect indoor and open-air fire situations. The proposed methodology reduces false-positive results by analysing data from videos, sensors, and other monitoring systems.

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MINI PROJECT REPORT
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MINI PROJECT OBJECTIVE

The objective for the Travelian, travel guide project is to create a comprehensive and user-friendly web-based platform that offers travelers valuable information, tips, and recommendations for various destinations worldwide, facilitating their travel planning and enhancing their overall travel experiences.

Provide accurate and up-to-date information: Ensure that all content, including travel destinations, accommodations, attractions, and activities, is regularly updated to provide users with reliable and current information.

Seamless user experience: Prioritize intuitive navigation, visually appealing design, and efficient search functionality to enhance the overall user experience and keep users engaged with the platform.The web-based application is also integrated with google maps.

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MINI PROJECT OUTCOME

The successful outcome of the Travelian travel guide project would result in several positive impacts and benefits for both the project itself and its users:

Comprehensive travel resource: Travelian would become a go-to platform for travelers seeking in-depth information about various destinations, ensuring they have all the necessary details to plan their trips effectively.

Enhanced user experience: With its user-friendly interface

Empowered travelers: By offering accurate and up-to-date information, safety tips, and sustainable travel practices, Travelian would empower travelers to make informed decisions and have enriching and responsible travel experiences.

Responsible tourism promotion: Travelian's emphasis on sustainable travel practices would contribute to promoting responsible tourism and minimizing the environmental impact of travel.

Growth and recognition: A successful Travelian travel guide project would likely gain recognition within the travel industry and among travelers, leading to potential growth opportunities and partnerships.

Ultimately, the successful outcome of the Travelian travel guide project would be measured by its ability to meet the needs of travelers, inspire exploration, and contribute positively to the global travel community.

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ABSTRACT

The development of technology experienced very rapid growth, tourism is currently considered one of the fastest-growing socio-economic phenomenon of the world, in the present situation there isn't any web-based application that would help a vacationer to get data about the place they are as of now going by in their versatile phone. The web application aims to enhance the user experience by providing a user-friendly interface such as map based interface. The ultimate goal of the application is to provide travelers with a one-stop-shop for all their travel need and help them to plan their trips. With user-friendly navigation, customizable itineraries, and real time updates, this will be a perfect tool for any traveler looking to make the most out of their journey. This will be an ultimate companion for exploring new destinations.

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MINI PROJECT REPORT

"IDENTIFICATION OF HERBAL LEAVES USING CNN ALGORITHM''

Work done by,

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2022-2023

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MINI PROJECT REPORT
On the title

"IDENTIFICATION OF HERBAL LEAVES USING CNN ALGORITHM"

Report submitted in partial fulfillment of the Requirements for the Award of the Degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

By

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CERTIFICATE

This is to certify that the Mini Project report entitled **IDENTIFICATION OF HERBAL LEAVES USING CNN ALGORITHM** submitted by **G P THRISHNA (SNC20CS023)** in the partial fulfillment for the award of the Degree of Bachelor of Technology in Computer Science and Engineering to **A P J ABDUL KALAM TECHNOLOGICAL UNIVERSITY**, KERALA, is a record of bonafide work carriedout under my guidance and supervision.

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ACKNOWLEDGEMENT

First of all, I would like to thank God for giving strength, courage and blessings to complete this work. I would like to extend my gratitude to everyone who helped me in the completion of this mini project. I express my sincere gratitude to our Management **SREE BHAKTHI SAMVARDHINI YOGAM, TALAP, KANNUR** for having me provided with all the facilities required for the success of this presentation.

I would like to thank our Principal **DR. LEENA A V** for providing the necessary tools. I am greatly obliged to **Prof. SUNDER V**, Head of the Department of CSE for giving me this opportunity and encouragement throughout the presentation.

I express my deep sense of thankfulness to **Prof. VIJINA VIJAYAN** and **Prof. NIMISHA M K**, Assistant Professor, Department of CSE, for providing the guidelines and correcting me whenever I go wrong while carrying out the work of this mini project.

My special thanks and sincere gratitude to my guide, **Prof. HARITHA MV** , Assistant Professor, Department of CSE, her great support and guidance throughout my mini project. Without her constant support this work would not have become true. I, on this occasion, remember the valuable suggestions and constructive criticism from my teachers which were inevitable for the successful completion of my project. I express my thanks to all staff members and friends for the help and co-ordination extended to me in bringing out this mini project successfully in time. Last but not the least I am very much thankful to my parents who guided me in every step which I took.

Thanking you

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MINI PROJECT OBJECTIVE

Certainly, here are the possible objectives for designing a website for the identification of herbal leaves using Convolutional Neural Networks (CNN):

- Accurate Identification: The primary objective is to develop a CNN model that can accurately identify various species of herbal leaves based on user-uploaded images. The model's accuracy and reliability are crucial for providing valuable information to users.
- User-Friendly Interface: Create a user-friendly and intuitive interface that guides users through the process of uploading images and receiving identification results. The interface should be accessible and easy to navigate for users of all technical levels.
- Educational Resource: Design the website to not only identify herbal leaves but also serve as an educational platform. Provide users with detailed information about the identified leaves, including their uses, benefits, and potential risks.
- Mobile Responsiveness: Ensure the website is responsive and functional across various devices, including desktops, tablets, and smartphones. Mobile responsiveness enhances user accessibility and convenience.
- Data Privacy and Security: Implement robust data privacy and security measures to protect user-uploaded images and personal information. Users should feel confident in using the website without concerns about their data being misused.
- Continuous Improvement: Create a system that collects user feedback on identification accuracy and uses this feedback to continuously improve the CNN model's performance. Regular updates to the model based on user input can enhance its effectiveness over time.
- Community Engagement: Foster a sense of community by providing users with the ability to share their findings and experiences on social media platforms. Encourage users to participate in discussions related to herbal leaves and their identification.
- Promotion of Herbal Knowledge: Promote the understanding and appreciation of herbal plants by including educational content about different herbal species, their historical uses, cultural significance, and potential health benefits.
- User Support: Offer a user support system that allows users to ask questions, report issues, and receive assistance in using the identification tool effectively.
- Contribution to Research: Consider collaborating with botanical experts or researchers to validate the accuracy of the CNN model's identifications. This collaboration could enhance the credibility of the website's identification capabilities.
- Global Accessibility: Design the website to be accessible to a global audience, potentially supporting multiple languages and catering to users from various cultural background

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MINI PROJECT OUTCOME

This suggested method make it easier to classify medicinal plants by utilizing textural characteristics that are essential for recognizing and identifying leaves. Designing a website in which both the admin and user have a separate login page. In admin page, It contains leaf management (fetch the details of certain images and description of herbal leaves), it can view the registered users and also feedback given by the user. In user page, It contains login page in which the user have to give their mail-id, mobile number and they are able to create a new password. After signing in the user can view their profile and they can upload the image so that they can view the result and can give their feedback.

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ABSTRACT

The "Identification of Herbal Leaves using Convolutional Neural Networks (CNN)" project presents an innovative solution that merges modern image analysis techniques with botanical knowledge to enable accurate and rapid identification of herbal plant species through their leaf characteristics. Leveraging the power of deep learning, specifically CNNs, the project aims to create a user-friendly platform that caters to students, researchers, and enthusiasts interested in herbal plants.

This suggested method make it easier to classify medicinal plants by utilizing textural characteristics that are essential for recognizing and identifying leaves. Designing a website in which both the admin and user have a separate login page.

In admin page, It contains leaf management (fetch the details of certain images and description of herbal leaves), it can view the registered users and also feedback given by the user.

In user page, It contains login page in which the user have to give their mail-id ,mobile number and they are able to create a new password. After signing in the user can view their profile and they can upload the image so that they can view the result and can give their feedback.

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MINI PROJECT REPORT

On the title

" SiLingo"

Report submitted in partial fulfillment of the Requirements for the Award of the Degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

By

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DILNA P (SNC20CS019)

ABHISHEK (SNC20CS007)

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MINI PROJECT OBJECTIVE

Certainly, here are some potential project objectives related to the topic of sign language recognition:

1. Develop a Sign Language Recognition System:Create a robust and accurate sign language recognition system capable of interpreting a diverse set of sign gestures commonly used in the targeted sign language.

2. Achieve High Accuracy: Train machine learning models to achieve a high level of accuracy in recognizing sign gestures, ensuring that the system can effectively map hand movements and positions to their corresponding meanings.

3. Real-time Performance: Design the system to provide real-time recognition and translation of sign gestures, minimizing latency to facilitate seamless communication between users.

4.Curate a Comprehensive Dataset:Collect and preprocess a comprehensive dataset of sign language gestures, including various signs, facial expressions, and body movements, to train and evaluate the recognition models.

5. Explore Different Machine Learning Models:Investigate the effectiveness of different machine learning models, such as Convolutional Neural Networks (CNNs) for image-based recognition and Recurrent Neural Networks (RNNs) for video-based recognition.

6. User Interface Design: Create a user-friendly interface that allows users to easily input sign gestures through video streams and receive instant translations or speech outputs, enhancing the user experience.

7. Define Evaluation Metrics: Establish clear evaluation metrics, such as accuracy, precision, recall, and F1-score, to quantitatively measure the performance of the recognition system.

8. Incorporate Accessibility Features: Ensure the system is inclusive by incorporating accessibility features, such as adjustable font sizes, color contrasts, and voice outputs, to cater to users with varying degrees of hearing impairment.

MINI PROJECT OUTCOME

Certainly, here are some potential project outcomes related to the topic of sign language recognition:

1. Accurate Gesture Recognition:The primary outcome is the development of a sign language recognition system that achieves high accuracy in recognizing a wide range of sign gestures. The system can accurately map hand movements and positions to their corresponding sign language meanings.
2. Real-time Performance: The system demonstrates real-time performance, allowing for instant recognition and translation of sign gestures into text or speech. Low latency ensures smooth and seamless communication between users.
3. Diverse Dataset: A well-curated and diverse dataset of sign language gestures is created for training and testing the machine learning models. This dataset represents a variety of gestures, facial expressions, and body movements commonly used in the targeted sign language.
4. **Machine Learning Models:** The project may involve the exploration and implementation of different machine learning models such as Convolutional Neural Networks (CNNs) for image-based recognition and Recurrent Neural Networks (RNNs) for video-based recognition. The outcome showcases the effectiveness of these models in interpreting sign gestures.
5. User-friendly Interface:The development of a user interface that allows users to interact with the system easily, enabling them to input sign gestures through video streams and receive instant translations or speech outputs.
6. Evaluation Metrics: Clearly defined evaluation metrics are established to measure the performance of the system accurately. Metrics such as accuracy, precision, recall, and F1-score provide insights into the effectiveness of the recognition system.

7. Error Analysis and Refinement: Through the project, the team may conduct error analysis to identify common recognition errors and refine the system to minimize these errors. This iterative process contributes to enhancing the accuracy and robustness of the system.

8. Deployment and Practical Use: The project outcome involves deploying the sign language recognition system on real-world platforms, such as mobile devices, web applications, or dedicated hardware. This outcome demonstrates the feasibility of using the technology in real-life scenarios

9. Inclusivity and Accessibility:An important outcome is the incorporation of accessibility features within the system, making it usable for people with different levels of hearing impairment. This promotes inclusivity and ensures that the technology benefits a wide range of users.

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ABSTRACT

People communicate using sign language by visually conveying sign patterns to portray purpose. One method of communicating with deaf-mute people is to use sign language mechanisms.

One of the nonverbal communication strategies used in sign language is the hand gesture. Many manufacturers all over the world have created various sign language systems, but they are neither adaptable nor cost-effective for end users. We present a design that can recognize various **ASL** static hand motions in real-time using **transfer learning**, **Python**, and **OpenCV** in this paper.

The following are the key steps in system design:

We created our own dataset taking prominent gestures of the **ASL**, captured images with **OpenCV** and webcam, the images were then labelled for object detection, training and testing of dataset was done with transfer learning using **SSD MobileNet,** and eventually the gestures were successfully determined in real-time.

Keywords: **Sign Language, Python, OpenCV, Transfer Learning**

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