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3.2.1 Number of papers published per teacher in the Journals notified on UGC website during the last year 2023-24

Sr. No.	Particulars
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2	certificates




PRINCIPAL
Dr. J. J. Magdum College of
Engineering, Jaysingpur-416101

3.2.1 Number of papers published per teacher in the Journals notified on UGC website during the year 2023-24

Sr.No.	Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC	
							Link to website of the Journal	Link to article/paper/abstract of the article
1	Smart Video Number Plate Character Recognition using Hybrid Optimization-based YoloV3	Dr.S.B.Patil	ETC	XXVI International conference "Internet and Modern Society" (IMS-2023) 26-28 June 2023 St. Petersburg, Russia	2023	ISSN: 2307-8162	http://injoit.ru/index.php/11/article/view/1745	https://cyberleninka.ru/article/n/smart-video-number-plate-character-recognition-and-speed-measurement-using-hybrid-optimization-based-yolov3-viewer
3	Automatic Gate Control System.	Dr.S.B.Patil	ETC	International Journal of Research Publication and Reviews	Vol (5), Issue (3), March (2024)	ISSN 2582-7421		https://iiror.com/uploads/V5/ISSUE3/IJRP23853.pdf
								scopus yes



4	Automatic Video Traffic Surveillance System with Number Plate Character Recognition Using Hybrid Optimization-Based YOLOv3 and Improved CNN	Dr.S.B,Patil	ETC	International Journal of Image and Graphics 2550041 (38 pages) C World Scientific Publishing Company	April 2024 Scopus Q3	DOI: 10.1142/S021946782550041X X	https://www.worldscientific.com/doi/10.1142/S021946782550041X	https://discovery.researcher.life/article/automatic-video-traffic-surveillance-system-with-number-plate-character-recognition-using-hybrid-optimization-based-yolov3-and-improved-cnn/c969508641ad3e24902244e2835cfcc8	scopus
5	Design and operation of agriculture Based pesticide spraying and Grass Cutting Robot	Dr .S .R. Mahadik	ETC	IJIREEICE	Apr-24	ISSN (O) 2321-2004, ISSN (P) 2321-5526	https://ijireeice.org/wp-content/uploads/2024/04/IJIREEICE.2024.12408.pdf		Impact Factor 8.02 Peer-reviewed & Refereed journal Vol. 12, Issue 4, April 2024



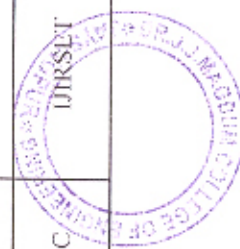
6	IOT Based Smart Door Lock System	Dr. S. R. Mahadik	ETC	International Journal of Research Publication and Reviews	Mar-24	ISSN 2582-7421	https://ijrpr.com/uploads/V5(ISSUE3/IJRPR24267.pdf	International Journal of Research Publication and Reviews, Vol 5, no 3, pp 6582-6584 March 2024
7	Arduino Based Smart Blind System With GSM	Dr. S. R. Mahadik	ETC	IJARIE	Vol-10 Issue-2 2024	ISSN(O)-2395-4396	https://ijarie.com/AdminUploadPdf/Arduino_Based_smart_blind_system_with_gsm_and_gsm_ijarie22876.pdf	yes
8	Performance Evaluation of S1& S2 refrigerant Azeotropes	Dr. Mohite T.H.	ETC	Journal of Xidian University	Vol-18 Issue-5 2024	ISSN 1001-2400	https://xazkjdxcn/index.php/volume-18-issue-5-may-24/	scopus
9	IOT based system for coal miners safety and health monitoring	Dr. Mohite T.H.	ETC		Apr-24	ISSN (O) 2321-2004, ISSN (P) 2321-5526	https://ijreece.com/wp-content/uploads/2024/04/IJREECE.2024.12407.pdf	Impact Factor 8.02 Peer-reviewed & Refereed journal Vol. 12, Issue 4, April 2024



10	Anti-Collision Vehicle System	V.T.Kamble	ETC	IJIREEICE	Apr-24	ISSN (O) 2321-2004, ISSN (P) 2321-5526	https://ijireeice.com/wp-content/uploads/2024/04/IJIREEICE.2024.12.411.pdf	Impact Factor 8.021 Peer-reviewed & Refereed journal Vol. 12, Issue 4, April 2024
11	IOT Based (LDAR) Level, Distance, Angle, RPM Meter using ESP8266 Controller	Prof.P.P.Belagali	ETC	International Journal of Research Publication and Reviews	Apr-24	ISSN 2582-7421	https://ijrpr.com/uploads/V51SSUE4/IJRPR25666.pdf	yes
12	IOT based Landsliding detection and monitoring	Prof.P.P.Belagali,	ETC	IJIREEICE	Apr-24	ISSN (O) 2321-2004, ISSN (P) 2321-5526	https://ijireeice.com/wp-content/uploads/2024/04/IJIREEICE.2024.12.314.pdf	Impact Factor 8.021 Peer-reviewed & Refereed journal Vol. 12, Issue 3, March 2024 DOI: 10.17148/IJIREEICE.2024.12314
13	Security system for Women using Jacket	Prof.M.U.Phutane	ETC	IJIREEICE	Mar-24	ISSN (O) 2321-2004, ISSN (P) 2321-5526	https://ijireeice.com/wp-content/uploads/2024/03/IJIREEICE.2024.12305.pdf	Impact Factor 8.021 Peer-reviewed & Refereed journal Vol. 12, Issue 3, March 2024 DOI: 10.17148/IJIREEICE.2024.12305



14	Automatic College Bell using Microcontroller	Prof.M.U.Phutane	ETC	IJIREEICE	Mar-24	ISSN (O) 2321-2004, ISSN (P) 2321-5526	https://ijireeice.com/papers/automatic-collage-bell-using-microcontroller/		vol. 13, no. 2, 2024, Crossref https://doi.org/10.17148/IJARCE.2024.13307
15	River Cleaning Machine	Prof.M.U.Phutane	ETC	IJIREEICE	Feb-24	ISSN (O) 2321-2004, ISSN (P) 2321-5526		https://ijireeice.com/papers/rivers-cleaning-machine/	vol. 12, no. 2, 2024, Crossref https://doi.org/10.17148/IJIREEICE.2024.12213
16	Debris Management System with IoT integration for efficient waste disposal	Prof.M.M.kolap	ETC	IJIREEICE	Mar-24	ISSN (O) 2321-2004, ISSN (P) 2321-5526		https://ijireeice.com/wp-content/uploads/2024/03/IJIREEICE.2024.12309.pdf	yes
17	Anti Drone System Robot	Prof.M.M.kolap	ETC	IJIREEICE	Apr-24	ISSN (O) 2321-2004, ISSN (P) 2321-5526		https://ijireeice.com/wp-content/uploads/2024/04/IJIREEICE.2024.12417.pdf	yes
18	Automatic Moisture Controller	Prof.M.M.kolap	ETC	IJIREEICE	Mar-24	ISSN (O) 2321-2004, ISSN (P) 2321-5526	https://ijireeice.com/wp-content/uploads/2024/03/IJIREEICE.2024.12319.pdf	https://ijireeice.com/papers/automatic-moisture-controller/	yes
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21	Stress Detection in Professionals by Face & Speech	Prof. R. D. Mane	CSE	IJSREM	Apr-24	2582-3930	https://ijsrem.com	https://ijsrem.com/download/stress-detection-in-it-professionals-by-face-speech/
22	Social Media Using Blockchain	Prof. P. V. Kothawale	CSE	IJRSET	Mar-24	2319-8753	https://www.ijrset.com	https://www.ijrset.com/upload/2024/april/160_Social.pdf
23	Social Media Using Blockchain	Prof. P. V. Kothawale	CSE	IJRSET	Apr-24	2582-7219	https://www.ijrset.com	https://www.ijrset.com/upload/98_Social.pdf

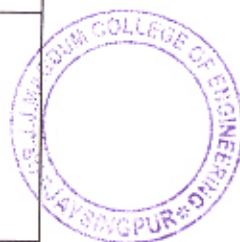


24	UPI Fraud Detection Using Machine Learning	Prof. P. V. Kothawale	CSE	IJSREM	Apr-24	2582-3936	https://ijsrem.com	https://ijsrem.com/download/upi-fraud-detection-using-machine-learning/	
25	Institutional Social Media Application (ConNet)	Prof. Archana V. Gundavade	CSE	IJIRCCCE	Apr-24	2320-9798	https://www.ijirccce.com	https://www.ijirccce.com/admin/main/storage/app/torag/pdf/uHhMbt5mnrzmBEXs3nG5B3MGo5kp4NN5A9rYHCd.pdf	UGC care
26	Image Separation and Sharing Application	Prof. Archana V. Gundavade	CSE	IJSREM	Apr-24	2321-9652	https://ijsrem.com	https://ijsrem.com/download/image-separation-and-sharing-application/	
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32	AI Resume Analyzer	Prof. Shruti A. Narde	CSE	IJSREM	Apr-24	2582-3930	https://ijsrem.com	https://ijsrem.com/download/ai-resume-analyzer	
33	Brain Tumor Detection Using Machine Learning with CNN Algorithm	Prof. Shruti A. Narde	CSE	IJRASET	Dec-23	2321-9653	https://www.ijraset.com	https://www.ijraset.com/research-paper/brain-tumor-detection-using-machine-learning	

34	Smart Agriculture Automation System using ML	Dr. D. A. Nikam	CSE	IJRASET	Apr-24	2321-9653	https://www.ijraset.com	https://www.ijraset.com/research-paper/smart-agriculture-automation-system-using-ml	
35	Brain Tumor Detection Using Machine Learning with CNN Algorithm	Dr. D. A. Nikam	CSE	IJRASET	Dec-23	2321-9653	https://www.ijraset.com	https://www.ijraset.com/research-paper/brain-tumor-detection-using-machine-learning	
36	Brain Tumor Detection Using Machine Learning with CNN Algorithm	Dr. D. A. Nikam	CSE	IJCSIT	Feb-24	0975-9646	https://ijcsit.com	https://ijcsit.com/docs/volume15/volume15issue2/ijcsit2	
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57	Smart Farming System	P.A. Tamgave	IT	JETIR	2024	2349-5162	www.jetir.org		yes
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59	LEAF DISEASE DETECTION SYSTEM USING FLASK	Prof. Mrs. S.B. Holkar	IT	IRJMETS	2024	ISSN: 2582-5200	www.ijrmets.com		yes



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63	Preparing design aids for Fe 550 & M 20 grade of concrete using SP-16	Prof.K.G.Ghodake	Civil	IJRASET	2024	2321-9653	https://www.ijraset.com/research-paper/preparing-design-aids-for-fe550-steel-for-m20-grade-of-concrete		yes
64	Preparing design aids for Fe 550 & M 25 grade of concrete using SP-16	Prof.K.G.Ghodake	Civil	IJRASET	2024	2321-9653	https://www.ijraset.com/research-paper/preparing-design-aids-for-fe550-steel-for-m25-grade		yes
65	Synthesis of Transportation tech & Multimodal Planning in smart city Transport Integration	Prof.A.P.Chougale	Civil	IJAR SCT	Dec 2023	2581-9429	https://ijarset.co.in/Paper144001.pdf		yes

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67	Traffic Analysis and Highway Capacity	Prof.A.P.Chougale	Civil	IRJET	Jun-24	2395-0056	https://www.irjet.net/archives/V11/i6/IRJET-V11i6188.pdf	yes
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69	Design and Development of Centering and Plunge Facing Machine	Prof.Y.R.Paril	Mech	International Journal of Modernisation in Engineering Technology and Science	Volume :6 /Issue:2/February y-2024	e-ISSN:2582-5208	www.ijmets.com	yes
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72	Review on reducing weight of Modern Bicycle	Prof.P.R.Kulkarni	Mech	International Journal of Research Publication and Reviews	Dec-23	ISSN 2582-7421	www.ijrpr.com	yes
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74	Quest for Identity in The Airhead Trilogy by Meg Cabot	Dr. Swalsha M. Attar	FY	IJPREMS	May, 2024	2583-1062	www.ijprems.com		yes
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Smart Video Number Plate Character Recognition and Speed measurement using Hybrid Optimization-based YoloV3

Manoj K. Bhosale, Shubhangi B. Patil, Babasaheb B. Patil, Dnyaneshwar S. Mantri

Abstract— In the present growing era of vehicular technology, number plate recognition is the prim in order to solve the multi-level problems of security. The Number Plate Recognition (NPR) using hybrid techniques (image processing + Optical Character Recognition (OCR)) is utmost important in design of security system, that automatically read and recognize the characters on a vehicle's number plate. The application areas considered are toll roads, parking areas, and other restricted zones. The parameters used for detection and validation are accuracy, precision recall and F1 score. The NPR system begins by capturing an image of the number plate using a camera or other imaging device. Then, the image is processed using image processing techniques to enhance the quality of the image and identify the number plate's location. Next, the OCR algorithm is applied to the image to read and recognize each character on the number plate accurately. The accuracy of the NPR system depends on the quality of the captured image and the efficiency of the OCR algorithm. According to the research papers, the NPR system's accuracy in recognizing Indian number plates is between 75-85%. For high speed vehicles Optimized YOLOV3 is used for detecting the number plates. Once the number plates are detected, character recognition can be performed using the Improved Convolutional Neural Network (ICNN). The NPR system has several practical applications in the transportation industry, law enforcement agencies, and parking management systems. The system can help automate toll collection, improve traffic flow, and enhance the security of restricted areas by identifying and tracking vehicles. Overall, the NPR system is an essential technology that can improve the efficiency and security of various transportation-related operations. Its effectiveness and accuracy make it a valuable tool for various industries and organizations.

Keywords— ICNN, NPR, OCR, YOLOV3.

1. INTRODUCTION

It seems that the advancements in information technologies have led to a demand for integrating vehicles into information systems. This can be accomplished by

researching significant data offered by vehicles for informational and factual purposes, either by a person or by a smart system that can recognize vehicles by their number plates in the real world and divert the data to a theoretical method. Furthermore, with the increasing number of vehicles on the roads, it seems that there is a need for automated systems that can manage and monitor car parks more efficiently, using advanced technologies such as sensors, cameras, and machine learning algorithms. Such systems can help in keeping track of the number of vehicles. In addition, the integration of vehicles into information systems can also help in providing useful data for traffic management, such as real-time traffic flow, congestion patterns, and accident detection. The optimized information can be used to rate traffic flow, improve road safety, and reduce travel time for commuters. Overall, the advancements in information technologies have opened up new opportunities for integrating vehicles into information systems, which can have a significant impact on various fields and areas of work.

Advance number plate recognition system is grown into vehicle detection and it mainly consists of detection of number plate are, finding out breakdown character with recognition. The detected license plate image is split from each individual character at the conclusion of the license plate identification procedure. By doing this, unnecessary information is discarded in favour of gathering only the pertinent data required for character identification.

Automatic license plate recognition (ALPR) systems have become increasingly popular and widely used in recent years, thanks to the advancements in computer vision and machine learning technologies. These systems take pictures of license plates, extract the characters, and turn them into machine-readable text using cameras and specialized software. The data can then be utilized to automate a variety of processes, such as tracking and identifying vehicles, enforcing traffic regulations, and keeping track of parking infractions.

The application areas considered are toll roads, parking areas, and other restricted zones. The parameters used for detection and validation are accuracy, precision recall and F1 score. The NPR system begins by capturing an image of the number plate using a camera or other imaging device. Then, the image is processed using image processing techniques to enhance the quality of the image and identify the number plate's location. Once the number plates are

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Automatic Gate Control System.

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B. Tech Electronics & Telecommunication, Dr. J. J. Magdum College of Engineering, Jaysingpur.
DOI: <https://doi.org/10.55248/gengpi.5.0324.0794>

ABSTRACT:

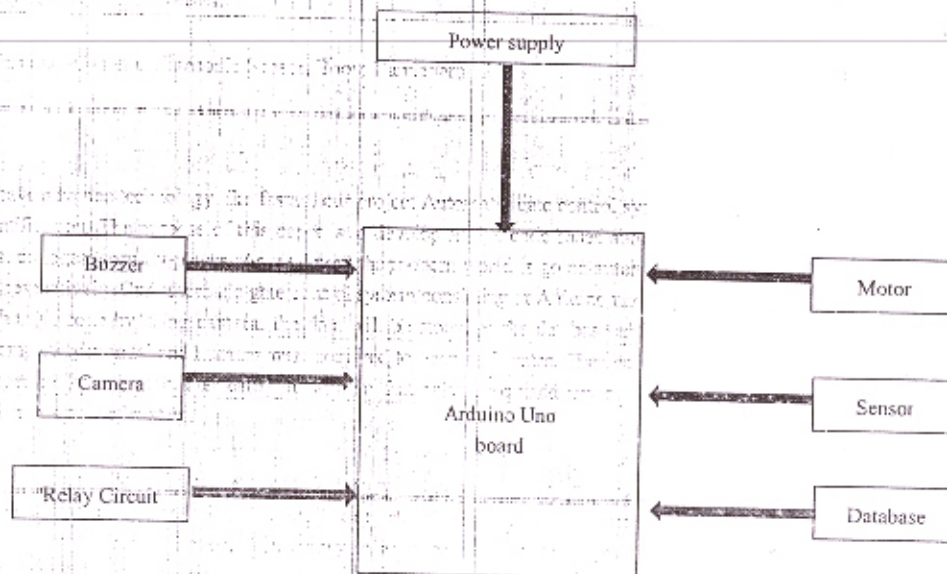
In today's digital era, the demand for efficient and secure access control systems is paramount. This abstract presents a QR code-based automatic gate control system designed to streamline access management processes while ensuring robust security measures. The proposed system harnesses the ubiquitous nature of QR codes and integrates them seamlessly into gate control mechanisms, offering convenience and reliability. The system operates by generating unique QR codes associated with each authorized user or entity. These QR codes contain encrypted access credentials and are dynamically generated and updated, enhancing security by preventing unauthorized replication. Users simply present their QR codes to a scanner installed at the gate entrance. Upon successful verification, the gate is automatically opened, granting access.

Keywords: Arduino uno, Camera, Ultrasonic Sensor, Boom Barrier arm, PC.

Introduction:

Now a days, we have advance technology like fastag, our project Automatic gate control system is related to same but here we are using QR code with number plate identification. The purpose of this paper is to develop an QR code based automatic gate control system. This technology can be used in various industries, colleges, security places. As we know the modern world is going automatic, so we build this project to control and monitored the gate and vehicles respectively. Our automatic gate control system consisting of Arduino uno, Camera, Ultrasonic Sensor, Boom Barrier Arm, PC. After the scanning of the QR code by using camera, the data will be stored to the database and the system will allow only authorized vehicle. First gate introduced was completely manual and humans were required to open such gates. Then came the next system on toll booths that opened the gate after the click of the operator over switch later came the system that only recognized any of moving vehicle and then opened gate using the system, IR detector was used in this type of systems.

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Automatic Video Traffic Surveillance System with Number Plate Character Recognition Using Hybrid Optimization-Based YOLOv3 and Improved CNN


Manoj Krishna Bhosale, Shubham S Pati • Show more

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“Design and operation of agriculture Based pesticide spraying and Grass Cutting Robot”

Prof. Dr .S .R. Mahadik¹, Krushnath Koli², Sakshi Kathale³,
Poonam wagharaalikar⁴

Department Of Electronics And Telecommunication Engineering, Dr.J.J.Magdum College Of Engineering Jaysingpur
416 101, Maharashtra, India¹⁻⁴

Abstract: In this design the source energy is ambitious from the sun radiation by using PV panels and it is stored in 12V rechargeable DC battery. The proposed proto-vehicle performs two operations that are controlled using a switch. The first operation is grass cutting, the grass cutting blade is connected a DC Motor. The second operation is the spreading of water/pesticide, here we use a water pump connected to the spreading nozzle by the means of hoses. The battery is connected to the RF Module with controls all the motors.

The RF session encompasses an RF transmission and reception. This Tx/Rx pair (RF module) functions at a frequency of 434 MHz. The data required for the RF transmitter is received from series of serial data and is transmitted in wireless manner using the RF antenna. The data that is transmitted is received by RF receiver in the RF module with same operating frequency of transmitter. The RF module has a pair of encoder/decoder and is used with the module itself. The encoder encodes the parallel data for the transmission system and the at the reception decoder unit is used for decoding the data. Input signals are transmitted through four channels and the outputs are observed with a set of four LED's with respect to corresponding switches

I. INTRODUCTION

Robotic technology has increased appreciably in past couple of years. Such innovations were only a dream for some people a couple of years back. But in this rapid moving world, now there is a need of robot such as “*pesticide spraying and Grass Cutting Robot*” that can interact and co-exist with them. The development of robot technology had increased significantly due to agriculture and home appliances. In various fields with hot environment such as , agri,garden, big lawns etc.

Farmers have to work under primitive protection, high temperature and humidity and poor ventilation condition for a long time. Compared to developed countries particularly Japan, the average age of grochhouse manager is more than 65 years old. Japanese greenhouse management has reached a high degree of automation and has been developing to a fully automated, unmanned direction.

They have established the most advanced level of greenhouse production model in the world, called “plant factory”. The cultivation is conducted by robots or robotic arms, so it is completely free from the binding of natural conditions.

Therefore, it is urgent to improve our green house production equipment automation level and develop agricultural technique equipment to meet the requirements of the new era. Nowadays smart phones are becoming more powerful with reinforced processors, larger storage capacities, richer entertainment function and more communication methods.

Wi-Fi technology add new features to smart phones. It has changed how people use digital device at home or office, and has transferred traditional wired digital devices into wireless devices. Using a Smartphone as the brain of a robot is already an active research field with several open opportunities and promising possibilities.

In this paper we present a review of current robots controlled by mobile phone. In our work, move the robot toward backward, left and right side by the android application



IOT Based Smart Door Lock System

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ABSTRACT

This paper presents the design and implementation of an Internet of Things (IoT) based smart door lock system equipped with keypad authentication. The system aims to enhance security and convenience by allowing users to remotely control access to their premises using a smartphone application. The architecture of the proposed system is detailed, highlighting the integration of hardware components, software modules, and communication protocols. Additionally, the paper discusses the authentication mechanism, security features, and potential applications of the smart door lock system. Experimental results demonstrate the effectiveness and reliability of the system in real-world scenarios.

Keywords: IOT, Smart Door Lock, Keypad, Authentication, Security, Remote access

1. Introduction

In the rapidly evolving landscape of home security and automation, Internet of Things (IoT) technology has become a cornerstone for enhancing safety and convenience. Traditional door locks, while effective to some extent, are increasingly vulnerable to sophisticated intrusion techniques. In response to these security challenges, IoT-based smart door lock systems have emerged as innovative solutions, offering users remote control and monitoring capabilities through smartphone applications. This paper introduces a novel approach to smart door locking, integrating IoT technology with keypad authentication to provide a secure and user-friendly access control system.

One of the key advantages of IoT-based smart door lock systems is their flexibility and scalability. Unlike traditional locks, which require physical keys or combinations, smart locks can be easily integrated into existing home automation ecosystems. This allows users to control multiple access points, such as front doors, garage doors, and even interior doors, from a single centralized platform. Additionally, smart door locks can be programmed to grant temporary access to guests, service providers, or family members, eliminating the need for physical keys or the risk of unauthorized key duplication.

Security is a paramount concern in any access control system, and IoT-based smart door locks are no exception. These systems employ robust encryption algorithms and authentication mechanisms to safeguard against unauthorized access and tampering. By leveraging techniques such as two-factor authentication and end-to-end encryption, smart door locks ensure that only authorized users can gain access to the premises. Furthermore, built-in sensors and alarms provide additional layers of security, alerting users to potential threats or intrusion attempts in real-time.

Moreover, the integration of machine learning algorithms into smart door lock systems holds promise for further enhancing security and functionality. By analyzing user behavior patterns and access logs, machine learning algorithms can identify anomalous activities and potential security threats. This proactive approach to security allows smart door lock systems to adapt and respond dynamically to changing threat landscapes, minimizing the risk of unauthorized access. Additionally, machine learning algorithms can optimize user experiences by predicting access patterns and adjusting authentication mechanisms accordingly. This predictive capability not only enhances convenience for users but also strengthens overall security by reducing the likelihood of false positives or unauthorized access attempts. As research and development in machine learning continue to advance, the incorporation of these technologies into smart door lock systems is poised to revolutionize the future of home security.

2. Literature Review

This section includes going through three different papers, published in Scopus indexed journal which have been summarized and presented in this table.

Arduino Based Smart Blind System With GSM and GPS

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Abstract

This paper presents a model of Arduino based blind stick using GPS and GSM system. Blind stick is an innovative stick designed for visually disabled people for improved navigation. Generally, blind people use a traditional cane or stick for moving from one place to another place. Blind smart stick help them to detect places and to avoid obstacles. In this paper, it consists of Arduino, GSM module, GPS module, ultrasonic sensor, Vibration sensor, and buzzer, etc. This system is intended to provide overall measures object detection and real time assistance via GPS. This project aims at the help blind people to find obstacle free path.

Keywords:- Arduino Uno, Ultrasonic sensor, Vibration sensor, GPS module and GSM module, Buzzer, Stick etc.

1. INTRODUCTION

At Presently, blind people use a white stick as a tool for direction, when they move or walk an unfamiliar surrounding blind person might get confused. The main problem of blind people is how to navigate their way to wherever they want to go. Such people need assistance from others with good eyesight. As described by World Health Organisation, 10% of the visually impaired have no functional eyesight at all to help them move around without assistance and safely[1]. This study proposes a new technique for designing a smart stick to help visually impaired people that will provide them navigation. Our approach modified this cane or stick with some electronics components and sensors, the electronic devices are designed to solve such issues. With the rapid advances of modern technology both in hardware and software it has become easier to provide intelligent navigation system to the visually impaired.

The visually impaired people has to completely depend on other people to reach destination. So here we develop a smart stick for blind people to detect a obstacle or object using ultrasonic sensor. This tool which we can serve as a blind stick being more efficient and helpful than the conventional one. However in compare with other technologies many blind system are uses ultrasonic sensor the reason behind is it has immunity to the environmental noise. Ultrasonic sensors have the capacity to detect any obstacle within the distance range of 2 cm-450 cm[2]. Therefore whenever there is an obstacle in this range it will alert the user.

The blind person can also send emergency message to relative through GSM module for emergency button. GPS module is used to know the current location where the blind person is present. GPS modules used to blind person to contact to mobile number that is store in the microcontroller(arduino) in case of any emergency. The model is aimed to be a cost effective and user friendly device.

After going to all the previous version of blind stick we have made so many extension and came to conclusion: The main working of project is detecting object or obstacle for blind person. Our stick is design to consist of 5v power supply to the entire circuit so we use ultrasonic sensor in circuit for detecting object. So basically we use three ultrasonic sensor one left, one is right and another is front at some range detection respectively. Buzzer and vibrator are also integrated for alert system. The working is like first when the object is detected through ultrasonic sensor because ultrasonic sensor can transmitting and receiving ultrasonic wave continuously so, when the object near ultrasonic wave it can transmit the wave to Arduino (microcontroller) and Arduino can pass signal to buzzer and buzzer can ring and parallelly vibration motor will start vibrating stick. Thus user will be alerted and then act accordingly.

Apart from these sensor, we have use GSM module and GPS module to make stick smart with the advancement in the feature. GPS is knowing the exact location of the user and these location can send as message if at any dangerous situation. GSM module send the message of the location to their family or guardian if at an hazardous case.

PERFORMANCE EVALUATION OF S1 AND S2 REFRIGERANT AZEOTROPES

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Abstract—This study aimed to create an azeotrope of refrigerant in vapour compression system that utilize the vapour compression system with the combination of two refrigerant S1(R22) and S2(R134a). To investigate the various type of refrigerant combination. We find out five the combination during the process R22(50%) and R134a (50%), R22(75%) and R134a (25%), R22(100%) and R134a (0%), R22(0%) and R134a (100%) from this we found out the best results and study that type of combination. A refrigerant is a working fluid used in the refrigeration cycle of air conditioning systems and heat pumps where in most cases they undergo a repeated phase transition from a liquid to a gas and back again. Many working fluids have been used for such purposes.

I) Proposed experimental set-up: Refrigerant is a compound typically found in either a fluid or gaseous state. It readily absorbs heat from the environment and can provide refrigeration or air conditioning when combined with other components such as compressors and evaporators many of refrigerant are contribute to global warming and ozone layer also for the refrigeration and air conditioning unit need high refrigeration effect and eco-friendly, so society always need to find good type of refrigerant. Our aim to find the new type of refrigerant and get the total information regarding the procedure for finding the new refrigerant.

II) Performance evaluation of R404A and R507A refrigerant mixtures in an experimental double-stage vapour compression plant. The refrigeration sector, and particularly the fluids used as refrigerants in vapour compression systems, had been involved in a process of change due to international agreements in favour of the environment. The Montreal Protocol (1987) and its subsequent

amendments meant the phase out of CFC substances used in refrigeration applications. From this historical point, HCFC and HFC refrigerants had been and are still used in these applications. Nonetheless, the use of HCFC will be banned by law (CEE 2037/ 2000) in European countries in 2015, being their practical utilization limit the year 2010, which corresponds to their manufacture deadline. In the commercial refrigeration sector, especially at medium and low temperatures, this change has been represented by the replacement of the CFC-502 by short-term substitutive blends such as the HCFC-402A, HCFC-402B, HCFC-403B, and HCFC-408A which will be forbidden in Europe in 2015 and long-term replacement mixtures, such as the HFC-404A and HFC-507A, which are non-ozone depleting substances.

Currently, the HFC-404A and HFC-507A are amongst the main used refrigerants in commercial refrigeration, food processing, cold storage and transport refrigeration. R507A is an azeotropic blend formed of R125 and R143a that

“IOT based system for coal miners safety and health Monitoring”

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Abstract: A smart helmet has been developed that is able to detect of hazardous events in the mines industry. In the development of helmet, we have considered the three main types of hazards such as air quality, helmet removal, and collision. The first is the concentration level of the hazardous gases such as CO, SO₂, NO₂, and particulate matter. The second hazardous event was classified as a miner removing the mining helmet off their head. IR sensor was then used to successfully determine when the helmet is on the miner's head. The third hazardous event is defined as an event where miners are struck by an object against the head with a force. An accelerometer was used to measure the acceleration of the head and the HIC was calculated in software. Tests were successfully done to calibrate the accelerometer. The experimental prototype consists of three sensors namely gas, infra-red and proximity sensor for their usage and the sensor data are monitored in pc via Node MCU transceiver unit.

Keywords: Arduino Uno, DTH Sensor, Gas Sensor etc.

I. INTRODUCTION

Accidents can happen in any line of work for various reasons, including carelessness or unfortunate circumstances. In the mining industry, the consequences of accidents can be extremely high, leading to loss of life, property damage, and disruption. Alerting miners in underground mines is challenging due to the dark and noisy working conditions. Traditional warning systems such as alarms, speakers, vibrations, or LED devices may not be effective as miners might not be able to hear or notice them.

Human error is a significant factor in mining incidents, and preventing such errors can greatly improve workplace safety. Miners face numerous hazards, including inadequate ventilation, flooding, explosions, collapses, haulage accidents, inrushes, inundations, spontaneous combustion, and insufficient evacuation routes. Unfortunately, there is no foolproof solution to predict and prevent these hazards before they occur.

To address these challenges, a wearable device with integrated sensors can be developed. This device would monitor a worker's physical health and the surrounding conditions, providing real-time data to managers for continuous monitoring and supervision. Additionally, an internet-based application can be created to allow administrators to access and analyze the collected data for better decision-making and proactive safety measures.

II. METHODOLOGY

1. Block diagram:

The Arduino Integrated Development atmosphere - or Arduino computer code (IDE) - contains a text editor for writing code, a message space, a text console, a toolbar with buttons for common functions and a series of menus. It connects to the Arduino and Genuino hardware to transfer programs and communicate with them. Programs written victimization Arduino computer code (IDE) area unit area-unit. These sketches area unit written within the text editor and area unit saved with the file extension .ino.

The editor has options for cutting/pasting and for searching/replacing text. The message space provides feedback whereas saving and commerce and conjointly displays errors. The console displays text output by the Arduino computer code (IDE), including complete error messages and other information. The bottom righthand corner of the window displays the configured board and serial port. The toolbar buttons allow you to verify and upload programs, create, open, and save sketches, and open the serial monitor.

Anti-collision Vehicle System

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Abstract: The Anti-Collision Vehicle System (ACVS) is an innovative technology designed to enhance road safety by preventing collisions between vehicles. This system utilizes a combination of sensors, communication protocols, and intelligent algorithms to detect potential collision risks and alert drivers in real-time. By integrating radar, lidar, and camera-based sensors, ACVS provides comprehensive coverage of the vehicle's surroundings, enabling early detection of obstacles, pedestrians, and other vehicles. The system employs advanced machine learning algorithms to analyze sensor data and predict potential collision scenarios, allowing for proactive intervention measures such as automatic braking or steering assistance. Additionally, ACVS facilitates vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communication, enabling collaborative collision avoidance strategies and enhancing overall traffic management efficiency. Through its proactive approach to collision prevention, the Anti-Collision Vehicle System aims to significantly reduce the incidence of accidents and improve road safety for all road users.

Keywords: Anti-Collision Vehicle System (ACVS), vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I)

I. INTRODUCTION

With the proliferation of vehicles on roads worldwide, the incidence of collisions remains a significant concern for public safety. Despite advancements in vehicle design and traffic management systems, accidents continue to occur due to human error, environmental factors, and unforeseen circumstances. These collisions result in tragic loss of life, property damage, and economic costs. Therefore, there is an urgent need for proactive measures to enhance road safety and minimize the impact of accidents. The Anti-Collision Vehicle System (ACVS) represents a ground-breaking approach to addressing this challenge by leveraging cutting-edge technology to detect, predict, and prevent collisions before they occur. By equipping vehicles with a network of sensors capable of monitoring the surrounding environment in real-time, ACVS enables early detection of potential hazards such as obstacles, pedestrians, and other vehicles. Moreover, through advanced data processing and analysis, the system can anticipate collision risks and initiate pre-emptive measures to avoid accidents.

In this introduction, we will explore the key components and functionalities of the Anti-Collision Vehicle System, its underlying principles, and its potential to revolutionize road safety. By harnessing the power of sensor fusion, artificial intelligence, and vehicle-to-vehicle communication, ACVS aims to usher in a new era of accident-free transportation, ultimately saving lives and improving the quality of life for all road users.

II. METHODOLOGY

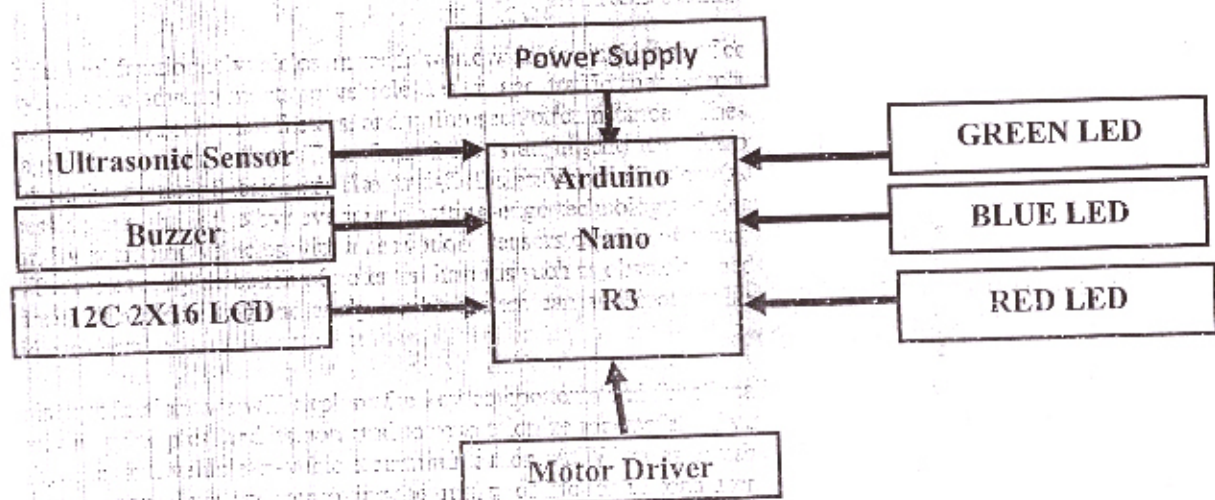


Fig. Block Diagram of Anti-collision Vehicle System.



IOT Based (LDAR) Level, Distance, Angle, RPM Meter using ESP8266 Controller

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ABSTRACT:

In this project we have merged a few sensors together to measure distance using infrared light sensors, measure length using a rotary encoder and a wheel, measure level with an MPU6050 module but also angles with that same module and finally measure RPMs with another kind of IR sensor. Everything is inside in acrylic case that we have designed and we have a battery and a charging module with USB Type-B as well. To control the modes and more we have 4 touchless buttons based on capacitance that could lie below the acrylic case. To print the value, we use an OLED display and the case also has a laser module pointer.

Introduction:

In this project we made one gadget for measure various units like RPM, Level, Angle, Distance that's called LDAR meter. Measurement is the process of assigning numerical values to physical quantities or properties of objects, phenomena, or systems. It involves comparing the quantity being measured with a standard unit of measurement to determine its magnitude. Measurement is essential for understanding, quantifying, and analyzing various aspects of the natural world and human-made systems. The need for measurement of parameters such as RPM (Rotations Per Minute), length, angle, and level is fundamental across various industries and applications. Measurement offers numerous benefits across various domains, including science, engineering, industry, and everyday life. In our LDAR Multi meter we use ESP8266. The ESP8266 is a system on a chip (SOC) Wi-Fi microchip for Internet of Things (IoT) applications produced by Espressos Systems. Given its low cost, small size and adaptability with embedded devices, the ESP8266 is now used extensively across IoT devices. Our system consists of 6 sensors with a separate microprocessor and control unit along with different 6 Nos of sensors and modules, i.e. Rotary Encoder, Infrared (IR) sensors, MPU6050 (gyroscope), SHARP GP2Y0A21, VL53LOX, ESP8266 (Node MCU) Wi-Fi module. We have selected 2 sensors and this is why. One has good range up to 80cm but the other sensor has better precision but only up to 20cm. So we have used the SHARP GP2Y0A21 to measure distance up to 80cm with a resolution of centimeters. Then we have used the VL53LOX sensor to measure distance up to 20cm with a millimetres precision. Both are using infrared light to measure distance but the VL53LOX is laser based and has better precision.

Methodology:

A systematic research methodology is adopted keeping in mind the ultimate goal of a fully functional and autonomous gadget Which Measure Unites like angle, length, distance, rpm, level. A decentralized top down approach is used for this project.

The project is divided into Six modules. Each module is independent from one another. Different phases were carried out step by step, starting from basic sensor testing and proceeding towards obstacle avoidance, object detection, object tracking and data transmission. Due to the decentralized approach, all modules and sensors act independently. Data obtained by different sensors and modules is collectively analysed and an intelligent decision based on information obtained is made that instruct the controller to show highly accurate value on display. Two separate units are used i.e. microprocessor and a controller. The processing is carried out by microprocessor and the information obtained by the sensors is controlled by a controller i.e. Arduino board. A serial communication between microprocessor and controller is established to exchange the various measurement information.

This approach was most suitable because if there is a fault in any one of the modules then it would not affect the entire system. Hence this provides the best possible results by maintaining accuracy.

Working:

1. Level & Angle:

IOT BASED LANDSLIDING DETECTION AND MONITORING

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Abstract: Landslides pose significant threats to lives, infrastructure, and the environment. Detecting and monitoring landslides in real-time is crucial for early warning and mitigation efforts. In recent years, advancements in Internet of Things (IoT) technology have paved the way for innovative solutions in disaster management. This project proposes an IoT-based Landslide Detection and Monitoring System designed to provide timely alerts and comprehensive data for effective response and risk reduction. The system integrates various sensors such as accelerometers, inclinometers, and moisture sensors deployed in landslide-prone areas to continuously monitor ground movement, slope stability, and soil conditions. These sensors are connected to a central IoT gateway, which collects, processes, and analyzes the data in real-time. Machine learning algorithms are employed to detect patterns indicative of potential landslide events, enhancing the system's predictive capabilities.

Keywords: IoT (Internet of Things), Landslide Detection, Landslide Monitoring, Real-time Data, Cloud-based Platform, Early Warning System, Risk Assessment, Emergency Response, Alert.

INTRODUCTION

The increasing frequency and severity of natural disasters, such as landslides, pose significant challenges to communities worldwide, necessitating innovative approaches to disaster risk reduction and management. Landslides, characterized by the sudden movement of rock, soil, and debris down a slope, not only result in loss of life and infrastructure damage but also have long-term socio-economic repercussions. Traditional methods of landslide detection and monitoring often rely on manual observations or stationary sensors, which may lack real-time capabilities and comprehensive coverage. Natural disasters, including landslides, represent a persistent threat to communities worldwide, with their devastating consequences often magnified by factors such as urbanization, deforestation, and climate change. Landslides, characterized by the rapid movement of rock, soil, and debris down a slope, can result in loss of life, destruction of infrastructure, and disruption of essential services, posing significant challenges to disaster response and recovery efforts. Conventional methods of landslide detection and monitoring, reliant on manual observations or stationary sensors, are often limited in their ability to provide timely and comprehensive data necessary for effective disaster management. These methods may suffer from issues such as sensor degradation, limited coverage, or delayed response times, hampering early warning systems and exacerbating the impact of landslides on vulnerable communities. In light of these challenges, this research endeavors to address the shortcomings of traditional landslide monitoring approaches by harnessing the transformative potential of IoT (Internet of Things) technology.

The proposed IoT-based Landslide Detection and Monitoring System represents a paradigm shift in disaster risk reduction strategies, offering a holistic and data-driven approach to landslide management. At its core, the system consists of a network of interconnected sensors deployed in landslide-prone areas, continuously monitoring key parameters such as ground movement, slope stability, and soil moisture content. These sensors, equipped with advanced data acquisition capabilities, transmit real-time data to a centralized IoT gateway for processing and analysis. What sets this research apart is its integration of state-of-the-art machine learning algorithms, which enable the detection of subtle precursors to landslide events and the prediction of potential landslide hazards. By leveraging historical data and patterns, these algorithms enhance the system's predictive capabilities, facilitating early warning and proactive intervention measures. Furthermore, the seamless integration of cloud-based infrastructure allows for the storage, visualization, and dissemination of monitoring data to stakeholders, including emergency responders, government agencies, and local communities. This enables informed decision-making, timely evacuation planning, and targeted resource allocation, thereby minimizing the impact of landslides on human lives and infrastructure. Through interdisciplinary collaboration and technological innovation, this research aims to advance the field of disaster management and contribute to the development of resilient and sustainable communities. By harnessing the power of IoT technology, this research offers a promising avenue for enhancing disaster preparedness, response, and recovery efforts in landslide-prone regions, ultimately fostering safer and more resilient societies.

Security System For Women Using Jacket

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Abstract: The Raspberry Pi-based Women's Safety Jacket is a smart solution designed to provide a comfortable and easy-to-use safety system for women in emergencies. Existing safety solutions such as separate garments, bulky belts and mobile apps are considered obsolete and abstract. This paper introduces an innovative electronic jacket specifically designed for women's safety. It is a response to the unfortunate reality that women frequently experience misbehavior, abduction, and harassment at the hands of men. Women have made significant contributions in various fields, including sports, dance, education, business, and politics, but their safety remains a pressing concern. Despite their accomplishments, women still face risks and vulnerabilities.

To address these challenges, we have developed an electronic system integrated into a jacket. This system utilizes cutting-edge technologies such as touch sensor, bluetooth, shock sensor, and a buzzer, all controlled by a Raspberry Pi board. By implementing this system, we aim to provide women with a tangible solution that enhances their personal safety and empowers them to navigate the world without feeling helpless. The electronic jacket acts as a protective shield, allowing women to assert their presence in society with greater confidence and peace of mind.

Keywords: Android GPS, Shock sensor, Touch sensor, Buzzer, ON OFF switch, Raspberry Pi Pico module, HC05 Bluetooth Module, 2 9V Battery, Relay switch.

I. INTRODUCTION

The Raspberry Pi-based Women's Safety Jacket is designed to be a portable device that can be downsized in the future and built into jewelry, mobile phones, bags, etc. for convenience.

The project focuses on women's safety, dealing with critical issues faced by women and helping with self-defense.

The purpose of the paper is to design an easy and portable device for women's safety. Components such as Push Buttons, module raspberry pi, GPS, and Lipo batteries are used in the design and development of the safety jacket.

II. METHODOLOGY

Hardware:

The paper of designing and developing a women's safety jacket with Raspberry Pi Technology is a crucial initiative that aims to provide women with an easy-to-use and comfortable safety solution. The paper was created by integrating the functions of all the hardware components used, resulting in a technically sound tool that enhances personal security.

The fig Shows that when we turn on the on and off switch then first touch sensor is activated then after that Touch Sensor Activated The Touch Sensor is manually

Automatic collage Bell using Microcontroller

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Abstract: The main objective of this paper is to implement an automatic collage bell using microcontroller. An automatic bell system for school or collage reduce the effort necessary to control an electric bell manually that gives alarm for certain intervals of time based on school r collage timing.

This paper helps to manage the schedule and works automatically according to it. You have to set the instructions at once and then it will work accordingly. You can see the entered data on the LCD screen. You can set many periods as you want. The timer represents in LCD is in seconds. Then confirm the time and a timer will start on the LCD. When the time is over the buzzer starts running. We used three major components which are Real Time Clock (RYCDS1307), 16*2 LCD module, and Arduino.

Keywords: Atmega32Microcontroller, Bluetooth module, RTCDS1307, LCD display , Relay, Buzzer.

I. INTRODUCTION

In schools and collages, ringing bells at the time is important for keeping everything running smoothly. But sometimes, manually ringing bells can be a hassle and cause disruption. To solve this problem, we've developed a system the uses a tiny computer called a microcontroller to ring bells automatically. This paper talks about how this system works, why it's helpful, and how it can make life easier for everyone in a collage setting. The Atmega32 microcontroller is backbone of the proposed bell system. To automate the ringing of bell in collages for class schedules. Atmega32microcontrller chosen for its versatility and ease of programming.

II. METHDOLOGY

A. Hardware:

I. Block diagram:

In this figure the block diagram of automatic collage bell using microcontroller, the real time clock (RTCDS1307) for time. When this time equal to the bell ringing time, the relay for the bell is switched on. The bell ringing time can be edited at any time, so that it can be used at normal class timing as well as exam time[2]. Here arduino used for reading from DS1307 and display it on LCD module.

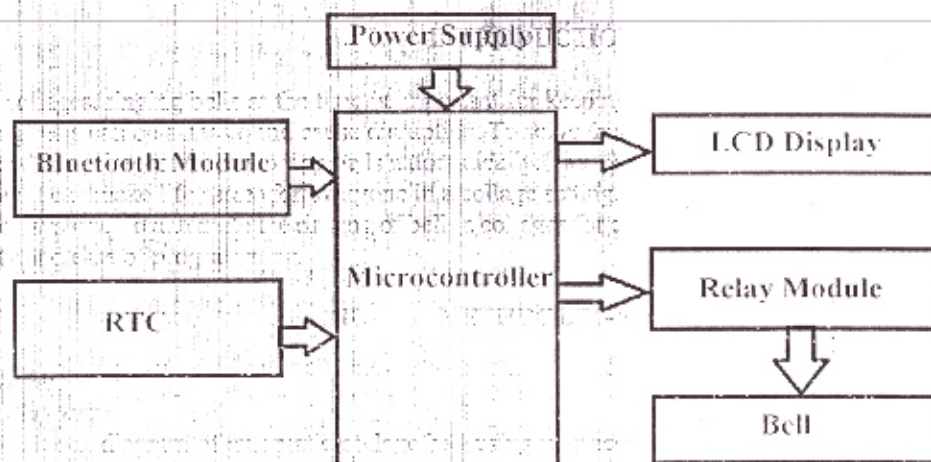


Fig.1. Block Diagram of Automatic collage bell using microcontroller

River Cleaning Machine

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Abstract: In this paper the aim of this machine is to lift waste debris from the water surface and dispose of it within the tray. The cleanliness and hygiene of water is important since it is a basic need for all living beings. Various traditional methods are used to clean the water which is polluted due to waste from industry, sewage waste, garbage waste etc. This problem should be considered as serious and technology should be implemented to reduce this severe problem. IOT technology which has the ability to track and control the entire process is utilized as part of the integrated system. The watercraft was developed in response to the need for cleaning contaminants in the rivers territory and to meet the requirement of working in locations other than the seaward zone, providing more options for the use of cleaning trash and waste from the aquatic environment.

Keywords: Arduino Uno, motor, Driver IC, Wheels, Remote control etc.

I. INTRODUCTION

The most objective of this paper is to develop a system to clean the thrash from surface of water bodies using arduino uno to ease the method for cleaning and also result in saving of time and work requirement. Status of machine is controlled by remote from a certain distance. Thus, it also reduces pollution due to garbage in water bodies. The river surface cleaner using machine can be designed by making use of hardware such as arduino, conveyor etc. This could connect with remote. Here we are focusing on less power consumption and more performance device. So, we are using arduino uno which is more suitable with our requirement. This machine is really advantageous for reducing the water pollution of river caused by human activities or waste disposed by other peoples.[1]

II. METHDOLOGY

A. *Hardware:*

I. *Block diagram:*

In this paper a simple River Cleaning machine could collect floating debris using a conveyor belt driven by a motor controlled by the Arduino uno. The machine movements like Forward, Reverse, Left and Right are controlled by the remote motor driver are used for Controlling DC motors for conveyor belt. DC motors Provide movement and power for the conveyor belt. Power source battery pack for sustainable operation. Arduino program is written to control motor movement and conveyor movements.

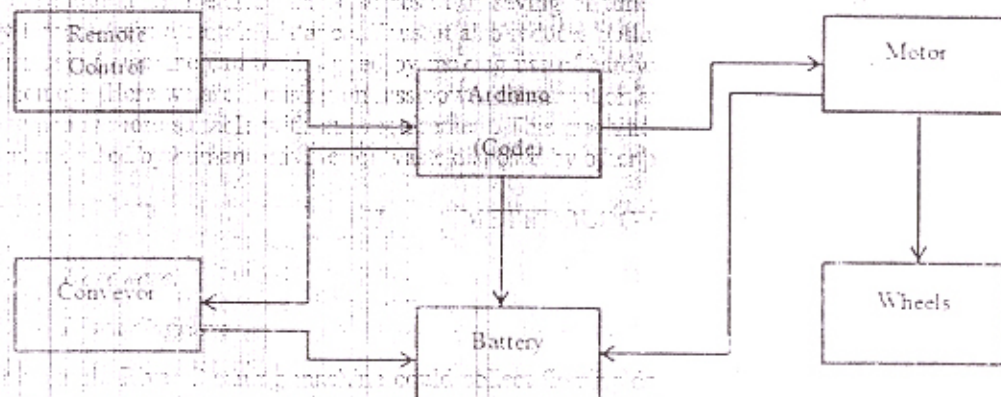


Fig 1. Block diagram.

Debris Management System with IoT Integration for Efficient Waste Disposal

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Abstract: The "Debris Management System with IoT Integration for Efficient Waste Disposal" project aims to revolutionize waste management practices by leveraging the power of Internet of Things (IoT) technology. Traditional waste disposal methods often lack efficiency and are prone to environmental hazards. This project proposes an innovative solution that combines IoT devices, data analytics, and a centralized management system to streamline debris management processes.

The smart dustbin system comprises a network of IoT-enabled bins strategically deployed in urban and public spaces. Each dustbin is equipped with sensors to detect fill levels, weight, and Hazardous Gas. These sensors transmit real-time data to a central server or cloud-based platform via wireless communication protocols such as Wi-Fi.

Keywords: ESP32, Ultrasonic Sensor, Weight Sensor, Gas Sensor, LCD display.

I. INTRODUCTION

Waste management is critical for sustainable, healthy towns, cities and communities in general, yet it is very often overlooked, more particularly in developing countries. There is a vast increase of waste in the world today which is a threat not only for the human race but also for the earth's environment.

As a result of this increase, the world is moving towards and looking into smart technology in order to have the most efficient way of dealing with the everyday waste as it comprises of a major chunk of waste material of cities and contributes heavily to environmental problems now and in the long term. In real life, very little attention or none in some regions of the world, is paid to waste management.

However, if you were to put yourself in the position of waste management companies and municipals/councils, you would see the inefficiencies a lot more succinctly especially with the collection of waste.

The current methods of waste management dictate that all waste bins have to be attended to whether they are full or not. This form of collection wastes time, money (manpower costs and transportation) plus energy as the collectors are attending to bins which do not need to be attended to.

Trivial as it may sound, imagine the costs that the company can save by being much more efficient. For you and I as the public, at any one time, we are most likely bound to encounter overflowing bins due to inefficient waste collection. If local authorities put a bin in a high traffic area, it fills up quickly, and starts to overflow onto the walkway.

By the time collectors come to empty it, the supposed public benefit has become a very unhygienic eyesore to say the least. If local authorities put a bin in a high traffic area, it fills up quickly, and starts to overflow onto the walkway. By the time collectors come to empty it, the supposed public benefit has become a very unhygienic eyesore to say the least.

Anti Drone System Robot

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Abstract: Anti drone system is a system in which we can detect and destroy drones. Anti Drone System is a Technology that helps the military to deal with aerial threats. In today's time, there is a lot of danger from drones. It can be proved that drones cause great harm. This system has been created to protect airports, large public areas, stadiums and military purposes. This device works with Arduino uno, ESP8266 wi-fi module for controlling the drone, in this system there is a radar to detect the drone and there is motion sensor to detect living things such as animal, birds, humans. As an outcome this anti-drone system is developed to protect public spaces from aerial threats.

Keywords: Arduino UNO, ESP8266 wi-fi module, Motor driver, 2000mW Laser, Motion sensor, L293DMotor shield.

I. INTRODUCTION

Anti drone system is such a technology by which we can foil the intentions of enemies. We have chosen this project inspired by KALI. "The KALI (Kilo Ampere Linear Injector) is a linear electron accelerator being developed in India by Defence Research and Development Organisation (DRDO) and Bhabha Atomic Research Centre (BARC). It is said by many organisations and institutes to have directed-energy weapon capabilities. This KALI weapon is said to be India's top-secret weapon". It's not exactly like it, but the idea is similar. Working is somewhat the same. It is exactly like a small robot which moves like a military tank. It has PIR sensor which will detect the motions of objects such as living things. The set up is developed to attack enemies with the help of a laser.

II. METHDOLOGY

The system is designed to counter mini unmanned aerial vehicles. The drones are destroyed by Laser. In recent years, drones have undergone tremendous development. Due to the low price and ease of use, drones have been widely utilized in many application scenarios, which potentially pose great threats to public security and personal privacy. To mitigate these threats, it is necessary to deploy anti-drone systems in sensitive areas to detect, localize, and defend against the intruding drones.

Anti-Drone Systems are largely dependent on radio-frequency technology to detect and track Unmanned Aerial Vehicles (UAVs) such as drones. These devices can also block enemy drones, making it impossible for them to retrieve information. In our project there is a solution to these problems. As such drone attacks have increased in frequency, it is a watershed moment in asymmetric warfare and underlines the need for the armed forces to build capabilities to deter, detect and neutralize such aerial threats.

The most threatening aspect is the use of swarm drones to target specific critical installations – military or non-military assets. Our system is an anti-drone system, in which we are able to attack enemies with the help of a laser, in which we are able to defeat the plans of enemies. In proposed system there is a radar to detect the drone and there is motion sensor to detect living things such as animal, birds, human. Small drones have been used to attack state actors.

Counter-drone technology will have to be deployed subsequently as countermeasures to tackle this threat and to make sure we are able to detect this risk. Usage of drone technology by non-state actors represents a very major shift in the modus operandi of terrorists. A new market of counter drone is constantly increasing given the rise of such threats. The proposed system shows the excellent sensitivity towards protecting critical infrastructure, events, and sensitive areas from unauthorized drone activity. Anti drone system is used to detect and intercept unwanted drone and unmanned aerial vehicles (UAVs).

Automatic Moisture Controller

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Abstract: The automatic moisture controller helps farmers water their crops just right. It uses special sensors, tiny computers, and devices that control water flow. By constantly checking the soil's moisture and making quick decisions, it only waters when needed, saving water and helping plants grow better. This system is good for farmers because it's affordable and eco-friendly. Tests show it works well, keeping the soil just moist enough for crops to thrive, which means better harvests and less wasted water.

The system integrates moisture sensors, microcontrollers, and actuators to achieve precise and efficient control over soil moisture levels. Through real-time monitoring and analysis of soil moisture data, the controller autonomously adjusts irrigation schedules to ensure optimal moisture conditions for plant growth while minimizing water usage. The proposed controller offers a cost-effective and sustainable solution to address the challenges of water scarcity and agricultural productivity.

Keywords: HC05 Bluetooth, Moisture Sensor, Arduino's Nano board, I2C Module, LCD display.

I. INTRODUCTION

In today's world, we have smart technology that makes everyday tasks easier. One cool invention is the Automatic Moisture Controller made with Arduino Nano, a tiny computer that can do lots of things.

This controller helps take care of plants by keeping the soil at the right moisture level. It's great for farms, gardens, or even indoor plants. Using Arduino Nano, it can do this job really well, making plants grow better and saving water.

The system has three main parts: a sensor to check soil moisture, devices to control water flow, and the Arduino Nano to run the show. Here's how it works:

- The soil moisture sensor checks how damp the soil is.
- Depending on what the sensor finds, devices like valves or pumps turn on to water the plants.
- The Arduino Nano controls everything, making sure plants get just the right amount of water.

There can also be a screen or a website where you can see what's going on and adjust settings.

This system is way better than watering plants by hand because:

- It's super accurate, so plants get just the right amount of water.
- It saves water by only watering when needed.
- Once set up, it works on its own, so you don't have to keep an eye on it all the time.
- It helps plants grow better by giving them the perfect amount of water.

Overall, this Automatic Moisture Controller with Arduino Nano is a big step forward in farming technology. It's good for the environment and makes growing plants easier and more efficient, whether you're a farmer or just gardening at home.

Human Following Robot Using Arduino

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ABSTRACT: Humanoid robotics is a rising studies discipline that has obtained vast interest through the years and could retain an essential position in robotics studies and plenty of applications of the 21st century and beyond. In this speedy shifting world, there may be a want of robotic such as "A Human Following Robot" that may interact and co-exist with them. Because of its human following capability.

These robots can paintings as assistants for people in numerous conditions and they can additionally collect or display positive statistics related to the human subject. In this paper, we present a prototype that makes use of Arduino Uno in combination with primary sensors together with ultrasonic and IR sensors. All the processing is finished through the microcontroller. The same time as the manipulation of the automobiles is finished through the controller. This robotic can similarly be changed with the aid of the use of many technologies along with Bluetooth, Proxy Camera, etc

KEYWORDS: Arduino Uno, Arduino L293D Motor Driver Shield, Ultrasonic Sensor, IR Sensor, Wheel, TT DC Motor, Servo Motor, 18650 Li-Ion Battery, Arduino/Micro Controller, Arduino Software

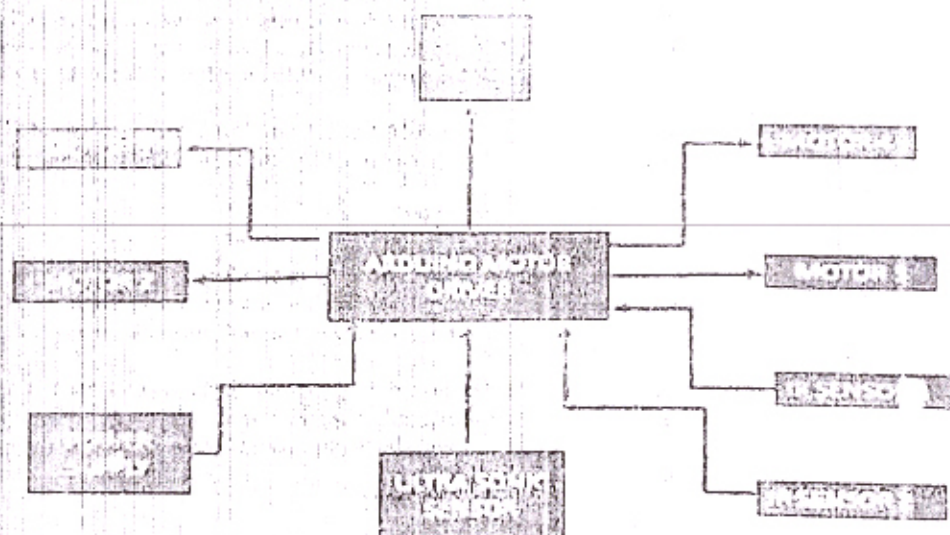
1. INTRODUCTION

In this excessive technology, a robotic ought to be capable of fitting upon and complying with humans. A robotic that could stumble upon and observe humans or imperfections inside a particular vicinity is called a "Human Following Robot". The robot needs a mechanism that can decide the need to take action accordingly so that the task can be performed correctly.

The wanted mechanism is a sensor that may stumble on barriers or items across the robotic itself.

In this project, an Ultrasonic sensor is used. An ultrasonic sensor is a tool that capable of degree the space to boundaries with the aid of using the usage of sound waves.

II. BLOCK DIAGRAM





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An Efficient Technique Using Discrete and Stationary Wavelet Transform for Image Resolution Enhancement

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Abstract - As the resolution is important factor of the image which holds the details of image. The term resolution is generally used for a pixel count in the imaging. The quality of the image is increased by preserving the edges. Therefore, this work proposes image resolution enhancement technique based on interpolation. Interpolation is widely used in many applications. By the discrete wavelet transform, high frequency components are obtained. Interpolation is done with the help of input image. Stationary wavelet transform used to enhance the image whereas, discrete wavelet transform used to decompose an input image into different subbands. After that high frequency subbands and input image are interpolated. Then Inverse discrete wavelet transform gives a new high resolution image. The proposed technique gives better results as compared to conventional technique. Instead of low frequency bands the proposed technique uses input image which increases quality of the super resolved image. Peak signal to noise ratio is used to measure image quality. The original and reconstructed images are indistinguishable by human observations when PSNR is greater than 40dB. The proposed technique will be compared with other enhancement techniques that are bi-linear interpolation and bi-cubic interpolation. Bi-linear interpolation uses the two grid points closest to the selected interpolation location and takes the weighted average to arrive at the interpolated value. In Bi-cubic interpolation, first the position of each pixel in the output map is determined, then the values of 16 surrounding pixels of the input map are used to calculate an interpolated value for each pixel in the output map. The test images used are Lena, Elaine, Baboon and Pepper.

KeyWords: Interpolation, discrete wavelet transform and stationary wavelet transform

1. INTRODUCTION

Most of the times high frequency components in interpolation are lost. So that discrete wavelet transform is done in order to preserve the high frequency components. Image resolution enhancement is new subject and there are many algorithms have been proposed. The coefficients of DWT are interpolable. Image is decomposed by discrete wavelet transform in three sub-bands. Here the interpolation used is Bi-cubic interpolation.

Sharper images are generated in proposed resolution technique. Discrete wavelet transform [1] is used to decompose a low resolution image into different sub-bands. Then bi-cubic interpolation is done on three high frequency

sub-bands which are obtained by Stationary wavelet decomposition. Input image is also interpolated here. Then interpolated high frequency sub-bands and interpolated input image are combined using Inverse Discrete Wavelet Decomposition (IDWT). Finally this technique is compared with bi-linear interpolation and bi-cubic interpolation.

Following are the various techniques that can be used for comparison purpose:

- regularly preserving image interpolation [2];
- new edge-directed interpolation [3];
- hidden markov model [4];
- DWT based super resolution [5].

2. IMAGE RESOLUTION ENHANCEMENT

The purpose of image resolution enhancement is to generate sharper high resolution images. There are four sub-bands namely low-low (LL), low-high (LH), high-low (HL), high-high (HH). These sub-bands are decomposed by discrete wavelet transform. The stationary wavelet transform (SWT) is also one of the widely used wavelet transform technique, which is same as discrete wavelet transform but down sampling is not used in SWT. One level DWT is for decomposition. The decomposed sub-bands (LH, HL, and HH) are having high frequency components of input image.

Bi-cubic interpolation is applied on the high frequency sub-bands. SWT gives minimum loss in respective bands. The low frequency sub-bands contains less information than original image, so that for the interpolation original image is used instead of low frequency sub-bands.

The block diagram of image resolution enhancement technique is illustrated in Fig.1. Inverse discrete wavelet transform is used after the interpolation of the input image by the factor $\alpha/2$, the output image will contain sharper edges than direct interpolation of input image.

Using the proposed technique, the resolution of test image Baboon is shown in fig. 2.

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Faculty Publications

Sr. No.	Title of paper	Name of the author/s	Department	Name of journal	Year of publication	ISSN number	Link to website of the Journal	Link to article/paper/abstract of the article	Is it listed in UGC Care list/Scopus/Web of Science/other, mention
2023-24									
1	Stress Detection in Professionals by Face & Speech	Prof. R. D. Mane	CSE	IJSREM	Apr-24	2582-3930	https://www.ijsrem.com	https://ijsrem.com/download/stress-detection-in-it-professionals-by-face-speech	No
2	Social Media Using Blockchain	Prof. P. V. Kothawale	CSE	IJRSET	Mar-24	2319-8753	https://www.ijrset.com	https://www.ijrset.com/upload/2024/april/160_Social.pdf	No
3	Social Media Using Blockchain	Prof. P. V. Kothawale	CSE	IJRSET	Apr-24	2582-7219	https://www.ijrset.com	https://www.ijrset.com/upload/98_Social.pdf	UGC Care
4	UPI Fraud Detection Using Machine Learning	Prof. P. V. Kothawale	CSE	IJSREM	Apr-24	2582-3930	https://ijsrem.com	https://ijsrem.com/download/upi-fraud-detection-using-machine-learning	No
5	Institutional Social Media Application (ConNet)	Prof. Archana V. Gundavade	CSE	IJRCEE	Apr-24	2320-9798	https://www.ijrcee.com	https://ijrcee.com/admin/main/storage/app/pdf/UJHMBtSmnrzmbEXs3nG5B3MG05kp4NN5A	UGC Care
6	Image Separation and Sharing Application	Prof. Archana V. Gundavade	CSE	IJSREM	Apr-24	2321-9653	https://ijsrem.com	https://ijsrem.com/download/image-separation-and-sharing-application	No
7	Load Distribution & Time Table Generation Software	Prof. Archana V. Gundavade	CSE	IJRASET	Apr-24	2582-7219	https://www.ijraset.com	https://www.ijraset.com/research-paper/load-distribution-and-time-table-generation-software	No
8	Network Lifetime and PDR Analysis of QoS Aware Routing Protocol for EH-WSN	Prof. KIRAN DOIPHODE	CSE	IJERA	Aug-23	2248-9622	https://www.ijera.com	https://www.ijera.com/papers/vol13-no8/13083039.pdf	No



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13	Brain Tumor Detection Using Machine Learning with CNN Algorithm	Prof. Shruti A. Narde	CSE	IJRASET	Dec-23	2321-9653	https://www.ijraset.com	https://www.ijraset.com/research-paper/brain-tumor-detection-using-machine-learning	No
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16	Brain Tumor Detection Using Machine Learning with CNN Algorithm	Dr. D. A. Nikam	CSE	IJCSIT	Feb-24	0975-9646	https://ijcsit.com	https://ijcsit.com/docs/volume15/volume15issue2/ijcsit2024150201.pdf	No
17	Mart Billing System	Dr. D. A. Nikam	CSE	IJSREM	Apr-24	2582-3930	https://ijsrem.com	https://ijsrem.com/download/mart-billing-system	No
18	Waste Food Management Using Flutter	Prof. P. S. Ambure	CSE	IISDR	Apr-24	2455-2631	https://www.iisdr.org	https://www.iisdr.org/papers/IISDR2404075.pdf	No
19	Poultry Farm Management and Assessment	Prof. S. S. Chougule	CSE		Apr-24	2582-7421	https://iiror.com	https://iiror.com/uploads/V5ISSUE4/IIRPR24560.pdf	No

[CSE Dept.]



FDC Coordinator



Stress Detection in IT Professionals by Face & Speech

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ABSTRACT

The main motive of our project is to address the pervasive issue of stress among IT professionals by developing an advanced Stress Detection System. Recognizing the detrimental impact of stress on both individual health and organizational performance, our project endeavors to create a solution that offers real-time monitoring and analysis of stress levels. Leveraging machine learning algorithms, particularly KNN classifiers, our system analyzes facial expressions and speech signals to accurately categorize stress indicators. This innovative approach enables proactive identification of stress among IT professionals, facilitating timely interventions and promoting overall mental health and well-being in the workplace. By providing personalized feedback and recommendations, our system aims to empower individuals to manage their stress effectively, ultimately fostering a healthier and more productive work environment.

I. INTRODUCTION:

In today's fast-paced and demanding work environments, stress among professionals, particularly in the information technology (IT) sector, has become a prevalent issue with significant implications for both individual well-being and organizational productivity. Despite efforts by many organizations to alleviate workplace stress through mental health initiatives, stress continues to be a pressing concern due to changing lifestyles and work cultures. This project, titled "Stress Detection in IT Professionals by Face and Speech," aims to address this critical challenge by leveraging modern technology to provide real-time monitoring, analysis, and management of stress levels among IT professionals. By utilizing advanced machine learning techniques, particularly focusing on facial

image analysis and speech signal processing, the project seeks to detect stress indicators and provide valuable insights into stress levels among IT professionals. The motivation for this project stems from the growing recognition of the detrimental effects of stress on employee well-being and productivity. Stress can lead to burnout, reduced job satisfaction, and even severe mental health disorders. Therefore, the ability to predict and proactively manage stress among employees is crucial for improving their overall quality of life and work performance. While existing applications and tools attempt to address workplace stress, this project stands out by offering a more comprehensive and data-driven approach. By analyzing a wide range of data, including personal and professional factors, and employing advanced machine learning models such as Logistic Regression, K-Nearest Neighbor, Decision Trees, Random Forest, Boosting, and Bagging, the project aims to provide more accurate predictions of stress levels among IT professionals. Additionally, the project offers an image-based stress detection system, enhancing versatility and providing a unique feature not commonly found in existing solutions.

Overall, this project seeks to revolutionize existing methodologies and contribute to the creation of a healthier and more conducive work environment for IT professionals. By proactively identifying individuals at risk of stress-related disorders and providing timely interventions, the project aims to enhance overall mental health support and employee well-being in the IT industry.

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Social Media Using Blockchain

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ABSTRACT: Blockchain innovation presents an imaginative arrangement to reshape social media elements. Our extend proposes Appreciation Tokens, encouraging money-related bolster for substance makers. Esteemed at 10 INR each, these tokens engage shoppers to express appreciation for makers, cultivating significant engagement. Additionally, these tokens work so also to offers, empowering buyer speculation in creators' victory. As creators' devotee bases develop, speculators get returns, making a commonly useful relationship. By saddling blockchain, our venture points to guarantee decency, straightforwardness, and productivity in social media intuitively. This activity not as it were gives smaller makers with successful monetization instruments but also permits customers to effectively take part in the victory of their favorite makers. By and large, our venture presents a promising vision for the future of social media, emphasizing evenhanded recompense and upgraded engagement between makers and buyers.

I. INTRODUCTION

The coming of blockchain innovation has revolutionized different businesses, advertising phenomenal levels of straightforwardness, security, and decentralization. One of the segments that stand to advantage altogether from blockchain integration is social media. With the expanding concerns encompassing information security, substance possession, and reasonable emolument for makers, there is a squeezing require for inventive arrangements that address these issues.

In reaction to this request, this paper presents the plan and improvement of an Android application titled "Social Media utilizing Blockchain." This application points to rethink the scene of social media stages by leveraging blockchain innovation to give a decentralized, straightforward, and evenhanded environment for substance makers and buyers alike.

II. LITERATURE REVIEW

Blockchain and Substance Monetization

- Blockchain innovation has picked up noteworthy consideration in different spaces for its potential to give straightforwardness, security, and decentralization. In the setting of content monetization, blockchain can offer a novel approach to guaranteeing reasonable stipend for content makers and shoppers [1].

Tokenization of Computerized Assets

- The concept of tokenizing advanced resources, counting substance, has been investigated in the blockchain space. Tokenization empowers the creation of one of a kind, tradable assets representing possession or get to rights to advanced substance, which adjusts with the tokenbased monetization demonstrate proposed in this extend [2].

Data Security and Security

- Blockchain's conveyed and scrambled nature upgrades information security and security in clearing frameworks. This is especially imperative when managing with touchy learner information and evaluation comes about [3].

Regulatory and Lawful Considerations

- Existing substance monetization models have impediments, particularly for littler content creators. Advertising-based income models frequently favor set up makers, leaving smaller ones battling for steady salary. Blockchain-based

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Social Media Using Blockchain

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ABSTRACT: Social media has transformed the mode of communication globally by providing an extensive system for exchanging ideas, initiating business contracts, and proposing new professional ideas. However, there are many limitations to the use of social media, such as misinformation, lack of effective content moderation, digital piracy, data breaches, identity fraud, and fake news. In order to address these limitations, several studies have introduced the application of Blockchain technology in social media. Blockchains can provide transparency, traceability, tamper-proofing, confidentiality, security, information control, and supervision. This paper is a systematic literature review of papers covering the application of Blockchain technology in social media. To the best of our knowledge, this is the first systematic literature review that elucidates the combination of Blockchain and social media. Using several electronic databases, 42 related papers were reviewed. Our findings show that previous studies on the applications of Blockchain in social media are focused mainly on blocking fake news and enhancing data privacy. Research in this domain began in 2017. This review additionally discusses several challenges in applying Blockchain technologies in social media contexts, and proposes alternative ideas for future implementation and research.

I. INTRODUCTION

In an era dominated by the relentless expansion of social media and the insatiable hunger for engaging content, a revolutionary fusion is on the horizon. The convergence of blockchain technology with traditional social media platforms promises to reshape the digital landscape as we know it. This groundbreaking synergy not only ensures fairness and transparency in content monetization but also unlocks novel avenues for content consumers to actively participate in and benefit from the success of their favourite creators^[1].

The traditional social media paradigm has long been plagued by issues of centralized control, opaque algorithms, and unequal distribution of rewards. However, the integration of blockchain technology heralds a new dawn of empowerment and equity. By leveraging the immutable and decentralized nature of blockchain, our platform endeavors to redefine the relationship between creators, consumers, and content.

In this exploration, delving into the immense potential and significance of the blockchain-based social media platform, this venture is not merely a technological innovation but a bold endeavor to revolutionize the very essence of content creation, appreciation, and financial reward. Join on this transformative journey as the way is paved for a more inclusive, transparent, and rewarding digital ecosystem.

Despite the potential benefits of blockchain in social media, there are also several challenges and limitations that need to be addressed. One of the main challenges is the scalability issue, which refers to the ability of a blockchain to handle many users and transactions. Another challenge is the issue of interoperability, which refers to the ability of different blockchains to communicate and exchange data with each other. In addition, there are also issues related to the legal and regulatory frameworks that need to be considered when deploying blockchain in a social media context. In conclusion, the use of blockchain technology in social media has the potential to address many of the challenges that plague existing platforms. By providing improved user privacy, combating disinformation, and enabling secure authentication, blockchain can provide a safer, more secure, and more.^[2]

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UPI fraud Detection Using Machine Learning

Sameer Kolekar, , Sourabh Panhale ,Dnyanendra Rengade ,Dipak Pawar

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Maharashtra, India

ABSTRACT

In recent years, banking through mobile banking and usage of debit and credit cards for transfer of money and purchases of goods has increased exponentially due to e-commerce and the introduction of Unified Payments Interface (UPI) by the government of India which allows user easy to use facility with minimal to no charges. To work this mechanism properly, a secure framework is required to avoid the risk of cyber fraud. there has been a great shortfall of security in banking applications in this type of transactions. This article presents a comprehensive study on banking security in e-banking by various techniques like blockchain, data encryption, voice recognition. This article explores the various security and technologies recommended by various researchers for safe and secure use of online banking.

Keywords—E-banking, Cyber fraud, Banking security, Voice recognition, Blockchain, Data encryption.

1. INTRODUCTION

1.1. Background:

A Bank is a key part of civilization. It is a financial institution which deposits money given from the public and stimulates loan. Banks play a important role in the economic stability and development of the country. It is a Centralized system which is regulated by the respective governments of the states. the present model of banking can be traced back from the 14th century . There are different types of banks which are used for different purposes like retail banking, investment banking, etc.

1.2. Online Banking:

With the rapid increase in the advancement of the technology in the past few decades now banking services become online and more convenient as offline banking services become more time consuming and proved costly while compared to online banking. Due to the cheap cost of internet and the increase in the use of smart phones people are a common combination by connecting to a

preferring to use the online banking rather than the traditional way for banking services. Government initiatives like introduction of unified payment interface system are also helped in increase in the use

of banking initiatives like this has encouraged a large number of clients to use remote banking.

1.3. Banking Security:

With the increase in the e-banking the security of banking has been subjected to various attacks and it has been proved that there is a great shortfall in the security of online banking. Most of the banking applications are using two factor authentication for verification now a day . For securing the banking and the banking services lots of research has been done so far. many researchers are recommending cryptography, biometric techniques, blockchain and secure transmission methods for the secure banking services.

2.EXPLORATION OF SECURED ONLINE BANKING METHODOLOGIES

One of the modes of communication that depends on wireless communication is the mobile, which utilizes a network of transmission towers that are spread out across a given area. The majority of these messaging services rely on Internet security and mobile network access security technology. The SMS's encryption using the Playfair Technique Instead than using single letters as in the simple substitution cypher and somewhat more complicated vigenère cypher systems then in use, the approach encrypts pairs of letters (digraphs). Only the portable devices and the cellular base channel's encapsulation terminal is used during transmission .

The new security primitive known as puzzle security and privacy issues which was created by using puzzle systems and is based on laborious ai riddles like sensory key systems this is a password system that combines a problem with graphics contrasting math



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Institutional Social Media Application. (ConNet Connecting Knowledge)

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ABSTRACT: In today's digital era, effective communication within educational institutions is paramount for fostering collaboration, sharing knowledge, and staying abreast of industry updates. This paper presents the development and implementation of an institutional social media application aimed at enhancing communication among students, alumni, faculty, and staff within an institutional network. The application provides a platform for users to connect, share valuable insights, opportunities, and updates pertinent to their academic and professional endeavors. Central to the functionality of the application is the role-based access control system, wherein administrators oversee user registrations, content moderation, and address any policy violations. Additionally, alumni play a crucial role in enriching the platform by sharing opportunities, skills, and suggestions with the community. Through the deployment of this institutional social media application, we aim to facilitate seamless communication and collaboration, thereby fostering a vibrant and engaged institutional community.

KEYWORDS: Social Media, Institutional App, Education post, Alumni Connect.

I. INTRODUCTION

In the contemporary educational landscape, the proliferation of digital technology has revolutionized the way institutions interact with their stakeholders. Traditional modes of communication have given way to more dynamic and interactive platforms, enabling seamless connectivity and collaboration among students, alumni, faculty, and staff. Recognizing the significance of effective communication in fostering a vibrant institutional community, this paper introduces an innovative solution in the form of an institutional social media application.

The project aims to address the growing need for a centralized platform that facilitates communication, knowledge sharing, and networking within educational institutions. Leveraging the ubiquity of smartphones and the prevalence of social media, the application serves as a dedicated space for members of the institutional community to connect, engage, and collaborate.

Through the lens of this project, we delve into the design, development, and implementation of an Android application tailored to meet the specific communication needs of educational institutions. Central to the application's functionality is its role-based access control system, which ensures that administrators have the necessary tools to manage user registrations, monitor content, and address any policy violations effectively.

Moreover, the application serves as a conduit for alumni to stay connected with their alma mater, share valuable insights, and contribute to the growth and development of current students. By harnessing the collective knowledge and experiences of alumni, the application fosters a sense of continuity and community within the institution.

II. RELATED WORK

Several notable studies have explored the development and optimization of social media applications tailored for educational institutions and college campuses, offering valuable insights and methodologies that inform our project's approach. These studies underscore the importance of efficient communication and network management in fostering a vibrant institutional community. Here, we review key contributions in this domain:

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Image Separation and Sharing Application

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Jaysingpur

Mr. Kundan Sudarshan Bhagat, Mr. Akash Vijay Kale, Mr. Tushar Shivaji Patil

Mr. Pranav Jaywant Garud, Mr. Dhiraj Suryakant Jadhav

Department of Computer Science and Engineering, J.J Magdum College of Engineering, Jaysingpur

Abstract - A state-of-the-art project created as part of a program is the Image Separation and Sharing Application, which aims to transform the way A cutting-edge project developed as part of a program is the Image Separation and Sharing Application. The users interact with their image collections. Image separation and sharing Applications help users leverage facial recognition and machine learning techniques to build a smooth and effective image separation system.

Key Words: image separation, image sharing, machine learning, user interface, Face net library, Face recognition

I. INTRODUCTION

Utilizing cutting-edge technologies like machine learning models and face recognition techniques, as well as database infrastructure, HTML, CSS, and JavaScript for the user interface for interaction, and Python and MySQL for the backend, our purpose is to provide users with a simple and efficient method of organizing and sharing their images. The flask framework helps connect the front and back. The Image Separation and Sharing Application is an innovative solution that combines Machine learning, web-based technology, and Face recognition Techniques. It aims to make interacting with image libraries more intelligent, efficient, and user-friendly. At the end of this project lies machine learning algorithms and models for image recognition and classification, which enable automatic separation and sharing. With these capabilities, manual sorting is no longer necessary, making the process seamless and effortless.

Overall, this project represents an innovative fusion of machine learning and face recognition technologies, offering a solution that simplifies the management and sharing of images. With its potential applications in personal photo collections, professional photography, and beyond, the Image Separation and Sharing Application helps to reshape the user's interaction with their Image set, making image organization and sharing an effortless and enjoyable experience.

II. LITERATURE REVIEW

- 208-213, 2019.: "The problem of face verification and recognition, which is a vital topic in computer vision and pattern recognition. The ultimate goal of this effort is to utilize support vector machines (SVMs) as a machine learning technique to improve the accuracy of face recognition systems.
- The paper addresses the problem of face recognition, which is a crucial task in computer vision and pattern recognition. Face recognition is a challenging problem due to variations in lighting conditions, facial expressions, and poses.
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Load Distribution and Time Table Generation Software

Prof. A. V. Gundavade, Mrs. Arati Khade, Mrs. Pranali Makote, Mrs. Vaishnavi Bhosale, Mrs. Harshada Patil.
Computer Science and Engineering, Dr. J.J. Magdum College of Engineering, Jaysingpur

Abstract: In institutions with a lot of students, the manual timetable preparation method takes a long time and frequently results in different classes conflicting in the same room or with the same teachers teaching multiple sessions at once. This is just the result of frequent human error, which is exceedingly challenging to avoid in procedures like this. People typically adapt the previous year's schedule to get around these issues, but it is still labour-intensive to implement such changes.

Our suggestion is to create an automated system in order to solve all of these issues. The system will receive multiple inputs, such as student, subject, class room, and teacher details; based on these inputs, it will produce a potential time.

Keywords: Timetable, Automatic, Academic, Load distribution.

I. INTRODUCTION

Humans have needed timetable scheduling ever since they learned how to efficiently manage their time. It is extensively utilized in universities, colleges, and other educational and professional settings, including training programs, coaching centres, and crash courses. Timetable scheduling used to be done manually by one person or by a group of people who took a lot of time and effort to schedule the timetable by hand. Even the smallest limitations can be difficult to schedule, and the situation gets worse when there are more constraints or data to process.

In these scenarios, a well-designed timetable is used for an entire generation without any modifications, which proves to be boring. Other situations that may give rise to issues include low employer and worker numbers, which may force a rescheduling of the schedule or the immediate requirement to fill open seats. Organizations such as schools, colleges, universities, and institutions frequently adopt these schedules. They must plan their course to accommodate the present length of time and the facilities at their disposal. They should, however, adjust their schedule to accommodate freshly enrolled students in new batches and new course additions. This might mean changing the entire timetable for all of the batches and scheduling it to begin as soon as feasible before the batches' courses begin.

An additional issue that arises while establishing exam schedules. Exam schedules for batches taking tests on the same day must be carefully planned, accounting for any issues pertaining to the facilities needed to administer the exams concurrently.

II. LITERATURE REVIEW

Trying to develop a software which helps to generate Timetable for an Institution automatically. By looking at the existing system we can understand that timetable generation is done manually. Manually adjust the timetable when any of the faculty is absent, and this is the big challenge for Automatic Timetable Generator that managing the timetable automatically when any of the faculty is absent.

It will not be difficult to manage and maintain these since, as we all know, each institution or organization has its own schedule. This scheduling will become more complicated as workload is taken into account. As previously stated, the maximum and minimum workload that is typical for a college should be taken into account while creating a schedule. In those situations, creating a schedule will become more difficult. It takes a lot of time to complete as well.

Mei Rui [1] In this paper, through the analysis and the summarization of the existing problems, a mathematical model for the course timetable system is proposed. At the same time, through the use of the pattern recognition technology in artificial intelligence, aiming at this mathematical model a new university course timetable system design program is proposed and realized. This program not only can well solve the shortages of the existing course timetable system, but also is simple and easy to operate, has strong versatility.

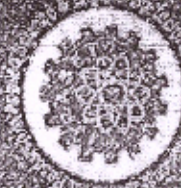
Bhaduri A [2] evolutionary techniques have been used to solve the time table scheduling problem. Methodologies like Genetic Algorithms (GAs), Evolutionary Algorithms (EAs) etc, have been used with mixed success. In this paper, we have reviewed the problem of educational time table scheduling and solving it with genetic algorithm.

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Network Lifetime and PDR Analysis of QoS Aware Routing Protocol for EH-WSN

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Abstract

Wireless Sensor Networks (WSNs) becomes more popular day by day which contains number of sensor nodes which monitors physical conditions of surrounding and transmit collected data to the Base Station or sink node for further process. Recently energy harvesting technology is integrated with WSN to power up sensor node due to limited capacity of primary battery of sensor node. In this paper we have proposed QoS aware routing protocol with solar energy harvesting technique. After simulation we analyzed the network lifetime and packet delivery ratio(PDR) of energy harvesting WSN by using proposed protocol with different number of nodes and compared results with existing LEACH protocol. We have used Network Simulator 3(NS-3) for simulation purpose. The simulation results shows that the proposed protocol has better performance in network lifetime and PDR as compared with existing protocol.

Key words: LEACH, network lifetime, PDR, solar energy harvesting, WSNs.

***Corresponding author**

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1. Introduction

Wireless sensor network(WSN) is a network in which number of sensor nodes are deployed in monitoring area to sense physical conditions like temperature, noise, humidity, vibrations, pressure, pollution etc., to process the data and transmit data to the base station or sink node wirelessly. Sensor node is small embedded device which consist of sensing, processing, communication and power unit. Recently WSNs are used in most of the fields like medical surveillance, industrial, home automation, environmental monitoring, military monitoring, underwater etc. WSN are low powered and self organizing network which has flexible installation in environment for various applications. Though applications of WSN are in various fields, still there are some issues like synchronization,

coverage, energy consumption, end to end communication delay, lifetime, security etc. [1]

As WSN are deployed mostly in remote area where human being cannot reach easily, in this situation after discharging of primary battery of sensor node replacement or recharging of battery is impossible. To overcome this issue the energy harvesting technique is best solution to recharge the sensor node battery. The energy harvesting nodes can harvest ambient energy from sources which are present in environment like wind, solar, mechanical, vibration, RF etc. and store the harvested energy in battery for current and future use. By using this technique sensor node uses harvested energy and network operates continuously, so EH-WSN has longer lifetime [2].



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Leaf Disease Detection System using Deep Learning

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India

Abstract-This study presents a mobile application that can be used to improve the identification and management of plant diseases. The app uses the best imaging technology to analyse leaf images captured by smartphones. Its main purpose is to help farmers and agriculturalists immediately detect and deal with threats to crop health.

The application has a user-friendly interface that makes it easy for people with low technical skills to save photos. Once a photo is uploaded, the app uses deep learning algorithms to analyse visual features and identify the presence of various leaf diseases. Provide users with immediate feedback and recommended actions to mitigate the impact of identified viruses.

The application aims to provide independent and reliable disease detection equipment, especially for small farmers with limited resources, using a widely used mobile device. The use of this technology is expected to improve early detection, reduce crop losses and aid permaculture practices.

Keywords: leaf disease detection, mobile applications, image processing, machine learning, sustainable agriculture.

1. INTRODUCTION

Getting a good crop requires careful management of the crop; this is a challenge caused by the persistent threat of diseases that cause crop damage and damage agriculture (Johnson et al., 2019) [1]. To directly address this problem, we created a smart disease detection app designed to help farmers identify and manage potentially serious diseases.

Taking advantage of the location of smartphones, the application expands the reach of farmers with different skills. By capturing images of leaves using smartphones, farmers can benefit from powerful systems that combine advanced technologies such as imaging and machine learning (Smith and Brown, 2020) [2].

In fact, the application is designed to provide fast and accurate diagnosis of leaf diseases. The timing of the

research proved to be important in preventing the spread of the disease and reducing crop yields. Through a convenient connection, the application can analyse the leaf image, make instant recommendations and take necessary actions to reduce the disease (Brown et al., 2021) [3].

The creation of this tool is specifically dedicated to supporting farmers who have limited resources but can make informed decisions about their crops. The overall goal is to advance permaculture by improving disease control, reducing losses, and improving the health of farmers and their communities (Jones and Smith, 2022) [4].

2. RESEARCH ARTICLES

Many studies using different methods and technologies have contributed to the research of leaf diseases. Abdi and Bannayan focused on the detection of late tomato using colour and texture for accurate identification [5]. Sladojevich et al. studied a deep neural network to identify plant diseases by classifying leaf images and demonstrated the potential of advanced machine learning [6]. Mohanty et al. investigated the application of deep learning in image-based plant disease diagnosis and proved the effectiveness of convolutional neural networks (CNN) in this regard [7]. Ferentinos examined the use of deep learning models for disease detection and diagnosis and emphasized the importance of using advanced computational techniques to increase accuracy [8]. Additionally, Rathore et al. A comprehensive review of tomato diseases was conducted focusing on identification, image analysis and hyperspectral imaging [9]. Sladojevic et al. investigated the effectiveness of adaptive learning in classifying plant diseases and demonstrated its potential to improve classification [10]. Sornage et al. provides an overview of the state-of-the-art methods by investigating various image processing methods for

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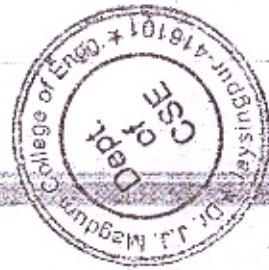
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Skin Disease Detection using Machine Learning

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Abstract - The project aims to develop a skin disease detection system using machine learning techniques. Leveraging image processing and classification algorithms, the system will analyze dermatological images to accurately identify various skin conditions. By employing convolutional neural networks (CNNs) trained on extensive datasets of labeled images, the system will learn to recognize patterns and features indicative of different diseases such as eczema, psoriasis, melanoma, and others. The proposed system seeks to provide a non-invasive, cost-effective, and efficient solution for early diagnosis and treatment recommendation, aiding healthcare professionals in timely intervention. Through the integration of machine learning algorithms with a user-friendly interface, the system will enable easy access for both medical practitioners and patients, potentially reducing the burden on dermatologists and improving healthcare outcomes. This project holds promise in revolutionizing dermatological diagnostics, contributing to better patient care and management of skin diseases.

Key Words: Dermatology, Skin Disease, Convolutional Neural Network

1. INTRODUCTION

Skin disease detection using machine learning represents a pivotal advancement in dermatological diagnostics. This project endeavors to leverage the power of machine learning algorithms to accurately identify and classify various skin diseases, thereby enhancing early detection and treatment. Skin diseases, ranging from common conditions like eczema and acne to more severe illnesses such as melanoma, pose significant health challenges worldwide. Traditional methods of diagnosis often rely on visual inspection by dermatologists, which can be subjective and prone to error. Moreover, access to specialized medical expertise and diagnostic facilities may be limited in certain regions, leading to delayed diagnosis and treatment. By harnessing machine learning techniques, this project aims to overcome these limitations by developing a

robust and automated system capable of accurately detecting and classifying skin diseases based on digital images of affected areas. The system will be trained on a comprehensive dataset comprising images of various skin conditions, allowing it to learn intricate patterns and features associated with different diseases. Through iterative training and optimization, the machine learning model will achieve high levels of accuracy in identifying skin diseases, providing valuable support to healthcare professionals in clinical decision-making. Ultimately, the implementation of a machine learning-based skin disease detection system holds immense potential to revolutionize dermatological practice, enabling earlier diagnosis, personalized treatment plans, and improved patient outcomes.

2. LITERATURE REVIEW

[1] Skin Disease Classification Using Ensemble of Deep Neural Networks.

This paper introduces an ensemble approach for skin disease classification using deep neural networks. Introduced an ensemble approach for skin disease classification using deep neural networks. By combining multiple CNN architectures, including VGG-16, ResNet-50, and Inception-v3, the study aimed to enhance classification accuracy by leveraging the diversity of individual classifiers. The ensemble method demonstrated improved performance in classifying various skin diseases, contributing to the advancement of machine learning techniques in dermatology. It combines multiple CNN architectures and evaluates their performance on a dataset of skin disease images. The ensemble method aims to enhance classification accuracy by leveraging the diversity of individual classifiers. The paper demonstrates the effectiveness of ensemble learning in improving skin disease classification using deep neural networks, contributing to the advancement of machine learning techniques in dermatology. Additionally, the paper discusses potential

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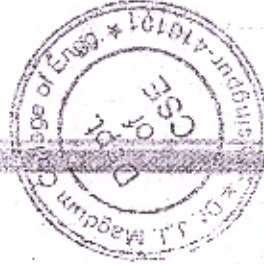
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Malware Detection Using Machine Learning

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Abstract- Malware, a persistent threat to cybersecurity, continuously evolves, rendering traditional detection methods ineffective. This paper presents a novel machine learning approach to malware detection, addressing the shortcomings of signature-based systems. Leveraging AI and statistical models, our system autonomously identifies malware, including polymorphic and zero-day threats, by learning from extensive datasets. This proactive defense mechanism enhances computer system security amid the digital landscape's complexities. Our method combines multiple machine learning models, recognizing both known signatures and emerging patterns of malicious behavior. By analyzing vast datasets, our system achieves high accuracy with minimal false positives, surpassing traditional techniques. As millions of new malware samples emerge daily, adaptive detection methods are imperative. Our research combines dynamic and static features, achieving promising results across various malware types, contributing significantly to cybersecurity advancements. Malware encompasses diverse programs aimed at harming computer systems, networks, or servers.

Introduction

In the contemporary digital realm, the term "malware" embodies a spectrum of cyber threats endangering computer systems' security and integrity. Malware encompasses various forms of malicious software engineered to infiltrate or disrupt computer systems without user consent. Traditional signature-based detection methods struggle to keep pace with evolving malware sophistication, necessitating innovative approaches to counter this persistent menace. To mitigate this imminent threat, prioritizing device security is paramount for manufacturers, developers, and consumers. Malware manifests through diverse delivery channels, notably Dropped Malware and Drive-by Malware, posing risks to unsuspecting users. Traditional signature-based detection methods prove inadequate against the incessant influx of new malware, highlighting the necessity for adaptive detection techniques. This research introduces a pioneering framework for malware detection, harnessing advanced machine learning techniques to bolster accuracy and efficiency, thus fortifying computer system security amid escalating cyber threats. With millions of new malware variants emerging

daily, traditional detection methods falter. This approach integrates diverse fields like binary program instrumentation, static analysis, and assembly instruction analysis, yielding promising results against a wide range of malware threats.

Purpose

Our project in malware detection using machine learning aims to revolutionize cybersecurity defenses by developing a proactive defense mechanism that autonomously identifies evolving malware threats, including polymorphic and zero-day variants. By leveraging advanced machine learning algorithms and statistical models, our research seeks to surpass the limitations of traditional signature-based systems, achieving high accuracy with minimal false positives. Through the integration of multiple machine learning models and the analysis of extensive datasets, our system not only recognizes known malware signatures but also adapts to emerging patterns of malicious behavior, contributing significantly to cybersecurity advancements. The primary goal of our project is to mitigate the detrimental impact of malware on computer systems, networks, and servers, reducing the prevalence of botnets and thwarting malicious activities launched through attacker-controlled networks, ultimately enhancing overall cybersecurity defenses against the persistent threat of evolving malware.

Objective

The objective of this research is to leverage machine learning techniques for the detection of malware files. Our project is to implement a machine learning-based approach for the detection of malware files, aiming to significantly enhance cybersecurity defenses against evolving threats. Building upon the limitations of traditional signature-based systems, our research endeavors to develop a sophisticated malware detection algorithm leveraging artificial intelligence and statistical models. By analyzing extensive datasets encompassing diverse malware types, including polymorphic and zero-day threats, our system autonomously identifies malicious behavior patterns with high accuracy and minimal false positives, surpassing conventional techniques. Our primary goal is to validate the efficacy of machine learning in detecting malware files with a high rate of accuracy while



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AI Resume Analyzer

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Abstract: -

In today's dynamic job market, a well-crafted resume is paramount for securing employment opportunities. The AI Resume Analyzer is a comprehensive platform designed to assist job seekers in optimizing their resumes and increasing their chances of success. This paper provides an in-depth overview of the services offered by the AI Resume Analyzer, the technologies utilized, and the benefits it brings to users. The services provided by the AI Resume Analyzer include:

- **Resume Builder:** Users can input their details and preferences to create professional resumes efficiently. The platform offers customizable templates and formatting options to suit diverse career fields and individual preferences.
- **Resume Analyzer:** By uploading their resumes, users receive a detailed analysis and a resume score. This analysis covers aspects such as content relevance, formatting consistency, and keyword optimization, providing actionable insights for resume improvement.
- **Job Description Matching Score:** Users can compare job descriptions with their resumes to determine the matching rate. This feature evaluates the alignment between a user's skills, experience, and qualifications with the requirements specified in job postings, aiding in targeted applications.
- **Job Portal:** The platform features access to career portals of prominent companies, along with curated resources and tips for resume enhancement. Users can explore popular resume formats, industry-specific recommendations, and strategies for standing out in competitive job markets.

The AI Resume Analyzer leverages a range of technologies, including HTML, CSS, JavaScript, Python, NLP (Natural Language Processing), and MySQL. These technologies enable seamless functionality, efficient data processing, and personalized user experiences.

Keywords: Resume Builder, Resume Analyzer, Job Description Matching, Job Portal, AI Technology, NLP, Personalized Resumes, Career Advancement.

This paper aims to showcase the innovative features, user benefits, and technological foundations of the AI Resume Analyzer, highlighting its role in empowering job seekers and optimizing the job application process.

Introduction:

The contemporary job market is an arena of fierce competition, where job seekers must navigate a myriad of challenges to secure coveted positions. Central to this pursuit is the creation of a compelling resume that not only showcases one's skills and experiences but also resonates with recruiters and hiring managers. However, the process of crafting such a resume is often daunting, with candidates grappling with questions of formatting, content relevance, and keyword optimization.

In response to these challenges, we introduce the AI Resume Analyzer—an innovative platform that harnesses the power of Artificial Intelligence (AI), Natural Language Processing (NLP), and machine learning algorithms to revolutionize the resume creation and evaluation process. Our system is meticulously designed to empower job seekers with personalized feedback, actionable insights, and data-driven recommendations, thereby maximizing their chances of success in today's highly competitive job market. The AI Resume Analyzer



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Brain Tumor Detection Using Machine Learning with CNN Algorithm

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Abstract: Brain tumors are a major global health issue, and successful treatment frequently depends on an early and precise diagnosis. Traditional methods of brain tumor detection, such as manual interpretation of medical images, can be time-consuming and prone to human error. Machine learning techniques have emerged as a promising approach to assist medical professionals in the early detection and classification of brain tumors. This study presents a novel method for brain tumor detection utilizing machine learning algorithms. The dataset used in this research comprises a collection of brain MRI (Magnetic Resonance Imaging) scans from diverse sources, including both tumor and non-tumor cases. We preprocess the data by enhancing image quality and for classification, different machine learning techniques are used, such as random forests, support vector machines (SVMs), and convolutional neural networks (CNNs).

Keywords: CNN, Machine learning, MRI, Image Segmentation, Augmentation.

I. INTRODUCTION

Primary brain tumors, which encompass both benign and malignant tumors, are a leading cause of morbidity and mortality in oncological patients, leading to disabilities and encumbering families as well as the health care system. A framework that capitalizes on automatic segmentation of brain tumors using MRI may increase diagnostic accuracy, and deliver a classification within a short time frame. The focus of the present study is, as a result, automatic segmentation of brain tumors in MRI using multi-scale deep versus convolution neural network with small convolution kernels. The most common type of tumors in the human brain is the gliomas tumors. Gliomas are divided into two main groups based on their cellular features: low-grade glioma (LGG) that is considered as benign and high-grade glioma (HGG) that is considered as malignant. Magnetic resonance imaging (MRI) is a medical imaging technique used in radiology to form anatomical images and the physiological processes of the body. In order to produce images of the organs in the body, MRI scanners employ magnetic field gradients, strong magnetic fields, and radio waves. MRI is a non-intrusive system that does not include X-ray and does not use of ionizing radiation. These features distinguish MRI from other imaging techniques, such as computed tomography (CT) and Positron emission tomography (PET) scans. Brain tumors are a significant and life-threatening medical condition, with early and accurate diagnosis playing a crucial role in effective treatment and patient outcomes. The conventional methods of brain tumor detection, relying on manual interpretation of medical images such as Magnetic Resonance Imaging (MRI) and Computed Tomography (CT) scans, are not only time-consuming but are also susceptible to human error. In recent years, the integration of machine learning techniques into medical imaging has shown great promise in improving the efficiency and accuracy of brain tumor detection. Machine learning, a subset of artificial intelligence, empowers computers to learn patterns and make data-driven predictions from large datasets. In the context of brain tumor detection, machine learning algorithms can analyze complex medical images, identify subtle abnormalities, and assist medical professionals in making informed decisions. This paper explores the application of machine learning in brain tumor detection, aiming to highlight its potential in revolutionizing the field of neuroimaging.

II. LITERATURE REVIEW

One of the most challenging as well as demanding task is to segment the region of interest from an object and segmenting the tumor from an MRI Brain image is an ambitious one. Researchers around the world are working on this field to get the best-segmented ROI and various disparate approaches simulated from a distinct perspective. Nowadays Neural Network based segmentation gives prominent outcomes, and the flow of employing this model is augmenting day by day.

Yantao et al. [1] resembled Histogram based segmentation technique. Regarding the brain tumor segmentation task as a three-class interpretability of machine learning models in medical applications is essential for gaining the trust of healthcare professionals.

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Good luck for your future endeavors

By

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Smart Agriculture Automation System using ML

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Abstract: The "Smart Agriculture Automation System using Machine Learning" project envisages a future where farming transcends manual labor and embraces data-driven automation. In response to the escalating demand for food amidst a burgeoning global population, traditional farming methods are rendered insufficient. However, Smart Agriculture Automation Systems offer a transformative solution by enhancing crop production efficiency and maintaining yield quality. Climate change-induced challenges such as erratic weather patterns and heightened pest attacks further underscore the necessity for innovation in agriculture.

At the heart of this system lies real-time sensor data, enabling precision farming practices that optimize resource utilization while fostering environmental sustainability. Leveraging Machine Learning algorithms, the system not only predicts and mitigates agricultural challenges but also detects early signs of crop diseases and nutrient deficiencies. This proactive approach ensures higher yields minimizes manual tasks and minimizes wastage.

The integration of IoT technology enables remote monitoring and seamless data exchange, unlocking capabilities such as precise crop prediction, weather forecasting, and fertilizer recommendations. By analyzing historical data alongside current environmental factors, these systems accurately forecast crop yields and offer insights for informed decision-making in planting and harvesting cycles. Smart Agriculture Automation Systems embody adaptability, sustainability, and accessibility, heralding a new era of intelligent and efficient modern farming.

This project integrates the Internet of Things (IoT) sensors and an innovative marketplace to revolutionize the agricultural landscape. Through this system, we aim to empower farmers with data-driven insights,

Keywords: Random Forest, Machine learning, IOT, Prediction, Recommendation.

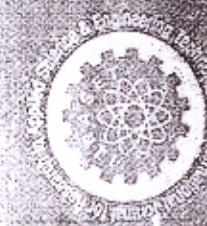
I. INTRODUCTION

The "Smart Agriculture Automation System with ML" project integrates various advanced technologies to revolutionize farming practices. It utilizes IoT sensors to collect real-time data on environmental conditions such as temperature, humidity, and soil moisture. This data is then processed using machine learning algorithms, particularly in image analysis, to detect early signs of crop diseases, nutrient deficiencies, and pest infestations. By providing farmers with timely insights into their crop health, the system enables proactive decision-making, leading to improved yields, crops, and soil fertility without reducing losses.

Furthermore, the project includes the development of an innovative marketplace platform that connects farmers directly with consumers. This platform ensures fair pricing and transparency in agricultural transactions, fostering trust and accountability within the agricultural supply chain. One of the key findings of the project is the significant enhancement in farming efficiency achieved through the integration of IoT and ML technologies. By accurately predicting and mitigating challenges such as adverse weather conditions and pest outbreaks, farmers can optimize resource allocation and minimize crop losses. Additionally, the marketplace component promotes sustainability by encouraging local consumption and reducing the carbon footprint associated with long-distance crop transportation and enhanced sustainability. Overall, the "Smart Agriculture Automation System with ML" project demonstrates the transformative potential of modern technologies in addressing the challenges faced by the agricultural sector while fostering sustainability and resilience in food production dataset. The which is entered by the user is passed through the model and crop which is appropriate for the soil and environmental conditions entered by the user. In the second module, the user needs to upload a picture of the pest on the plant.

II. LITERATURE REVIEW

The literature review of the project reveals a critical need for advanced agrarian decision support systems to address the limitations of husbandry practices. Current husbandry opinions, frequently grounded on suspicion and profitable pressures, can lead to significant fiscal pitfalls and indeed woeful consequences similar to planter self-murders, particularly in countries like India where husbandry plays a central part in frugality.



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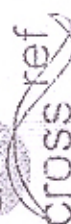
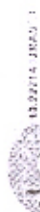
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Editor in Chief, IJRASET

Brain Tumor Detection Using Machine Learning With CNN Algorithm

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^{1,2,3,4,5}Dr. J.J. Magdum College of Engineering, Jaysingpur.

Abstract— Brain tumors are a major worldwide health concern, and effective treatment frequently depends on a prompt and precise diagnosis. Traditional methods of diagnosing brain tumors, such as manually interpreting medical imaging, can be time-consuming and prone to mistakes made by humans. Machine learning algorithms have come to light as a potentially helpful tool to assist doctors in early diagnosis and classification of brain tumors. This article offers a novel method for brain tumor identification by utilizing machine learning techniques. The dataset used in this study consists of brain MRI (Magnetic Resonance Imaging) images from various sources, including cases with and without malignancies. In order to preprocess the data, we enhance the image quality and use a variety of machine learning techniques.

Keywords - CNN, Machine learning, MRI, Image Segmentation, Augmentation.

1. INTRODUCTION

Primary brain tumors, which include both benign and malignant tumors, are a major contributor to cancer patients' morbidity and death. They also create disabilities, burden families, and place a financial strain on the healthcare system. A framework that makes use of MRI's automatic segmentation of brain tumors could improve diagnostic precision and provide a classification quickly. This led to the current study's focus on the automatic segmentation of brain tumors in MRIs by the use of small convolution kernels in multi-scale deep vs convolution neural networks.

Gliomas are the most prevalent kind of tumors in the human brain. Based on their cellular characteristics, gliomas are classified into two main groups: high-grade glioma (HGG), which is regarded as malignant, and low-grade glioma (LGG), which is considered benign.

A medical imaging method called magnetic resonance imaging (MRI) is used in radiology to create images of the body's anatomy and physiological functions. MRI scanners use radio waves, powerful magnetic fields, and magnetic field gradients to create images of the body's organs. MRI is a non-invasive method that uses no ionizing radiation and does not include X-rays. These characteristics set magnetic resonance imaging (MRI) apart from other imaging modalities including computed tomography (CT) and positron emission tomography (PET) examinations.

Brain tumors are a dangerous and occasionally lethal medical condition. A correct diagnosis made in a timely manner is necessary for both effective therapy and good patient outcomes. The conventional methods of diagnosing brain tumors are labor-intensive and prone to human error since they rely on the manual interpretation of scan images from CT and MRI scans, for example. The application of machine learning techniques to medical

imaging has led to an increase in the efficacy and precision of brain tumor diagnosis recently.

A branch of artificial intelligence called machine learning enables computers to recognize patterns in massive datasets and generate data-driven predictions. Machine learning algorithms can evaluate complex medical images, spot tiny irregularities, and help medical personnel make decisions when it comes to brain tumor diagnosis.

II. LITERATURE REVIEW:

Segmenting a region of interest from an object is one of the hardest and most demanding tasks; separating a tumor from an MRI brain image is an ambitious endeavor. In order to replicate different diverse methodologies and obtain the best-segmented ROI from different perspectives, researchers from all over the world are working in this topic. These days, segmentation based on neural networks produces notable results, and the use of this approach. Yantao et al. [1] resembled Histogram based segmentation technique. Regarding the brain tumor segmentation task as a three-class Interpretability of machine learning models in medical applications is essential for gaining the trust of healthcare professionals. Researchers have developed methods to visualize and explain the decision-making processes of these models, providing insights into the features contributing to tumor detection. Tissue) classification problem regarding two modalities FLAIR and T1. The abnormal regions were detected by using a region based active contour model on FLAIR modality. The edema and tumor tissues were distinguished in the abnormal regions based on the contrast enhancement T1 modality by the k-means method and accomplished a Dice coefficient and sensitivity of 73.6% and 90.3% respectively.

Devkota et al. [5] established the whole segmentation process based on Mathematical Morphological Operations and spatial FCM algorithm which improves the computation time, but the proposed solution has not been tested up to the evaluation stage and outcomes as- Detects cancer with 92% and classifier has an accuracy of 86.6%. In [7], Brain tumor detection and removal have been suggested using a Fuzzy C-Means clustering technique, conventional classification algorithms, as well as a CNN to process 2D MRIs of the brain. Experiments were conducted using a real-time dataset consisting of tumor images of a variety of intensities, dimensions, Pei et al. [8] proposed a technique which utilizes tumor growth patterns as novel features to improve texture based tumor segmentation in longitudinal MRI. Label maps are being used to obtain tumor growth modeling and predict cell density after extracting textures (e.g., fractal, and mm)



Brain Tumor Detection Using Machine Learning with CNN Algorithm

Mr. Mallikarjun Birajdar¹, Mr. Abhishek Nandgaonkar², Mr. Rupesh Patil³, Mrs. Anushree Mutalik⁴, Dr. Deepali Nikam⁵

Computer Science and Engineering, Dr. J.J. Magdum College of Engineering, Jaysingpur.

Abstract: Brain tumors are a major global health issue, and successful treatment frequently depends on an early and precise diagnosis. Traditional methods of brain tumor detection, such as manual interpretation of medical images, can be time-consuming and prone to human error. Machine learning techniques have emerged as a promising approach to assist medical professionals in the early detection and classification of brain tumors. This study presents a novel method for brain tumor detection utilizing machine learning algorithms. The dataset used in this research comprises a collection of brain MRI (Magnetic Resonance Imaging) scans from diverse sources, including both tumor and non-tumor cases. We preprocess the data by enhancing image quality and for classification, different machine learning techniques are used, such as random forests, support vector machines (SVMs), and convolutional neural networks (CNNs).

Keywords: CNN, Machine learning, MRI, Image Segmentation, Augmentation.

I. INTRODUCTION

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II. LITERATURE REVIEW

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Good luck for your future endeavors

Dr. Deepali Nikam

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Mart Billing System

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Abstract

The Mart Billing System for Mega Project is a comprehensive software solution designed to streamline and automate the billing process for large-scale mart operations. In the contemporary retail landscape, efficient billing systems are indispensable for managing transactions, inventory, and customer interactions seamlessly. This project addresses the complexities of managing billing operations in mega marts by integrating advanced features and technologies.

Key features of the Mart Billing System include a user-friendly interface for both cashiers and customers, robust inventory management capabilities, real-time transaction processing, and secure payment options. The system is designed to handle high volumes of transactions efficiently, ensuring minimal wait times for customers during peak hours. Moreover, the Mart Billing System incorporates advanced reporting and analytics tools, enabling mart managers to gain valuable insights into sales trends, inventory turnover rates, and customer preferences. These insights empower decision-makers to optimize pricing strategies, stock levels, and promotional campaigns for enhanced profitability and customer satisfaction.

INTRODUCTION

In the dynamic landscape of modern retail, the efficient management of transactions stands as a cornerstone for success. Mega projects encompassing large-scale marts, supermarkets, or hypermarkets serve as bustling hubs of commerce, catering to diverse consumer needs. However, amidst the vast array of products and the flurry of transactions, the conventional billing systems often encounter limitations in handling the complexity and scale of operations.

To address these challenges and propel the retail experience into the realm of efficiency and innovation, the development of a robust Mart Billing System emerges as a pivotal endeavor. This paper explores the design, implementation, and implications of such a system tailored specifically for mega projects.

The Mart Billing System envisioned herein is not merely a technological upgrade but a holistic solution engineered to streamline operations, enhance customer satisfaction, and empower management with insightful analytics. By integrating cutting-edge technologies such as artificial intelligence, data analytics, and seamless connectivity, this

system promises to revolutionize the retail landscape.

This paper delves into the fundamental components of the Mart Billing System, elucidating its architecture, functionalities, and the transformative potential it holds for mega projects. Furthermore, it examines the strategic implications of adopting such a system, including its impact on operational efficiency, customer engagement, and competitive positioning within the market.

Through a comprehensive analysis, this paper aims to underscore the significance of embracing innovation in retail management, particularly in the context of mega projects. By embracing the Mart Billing System, stakeholders can unlock new avenues for growth, differentiation, and sustainable success in an increasingly dynamic and competitive retail environment.

Literature Review:

The literature review presents a diverse range of studies focusing on the development and implementation of smart shopping cart systems aimed at enhancing the shopping experience and streamlining the billing process. In 2017, Kumar and Balamurugan introduced a Smart Shopping Cart that leveraged autonomous technology for product scanning and mobile banking for payment. Building on this concept, [1]

Prasiddhi K. and Dhanasiri Halwai in 2019 proposed an Innovative Shopping Cart utilizing RFID and ZigBee technology to facilitate product scanning and data transmission. [2]

In 2020, Thiagarajan, Aejaz, Krishna, and Kumar introduced an RFID-based Advanced Shopping Trolley for Supermarkets, employing RFID technology for product scanning and displaying product information on an LCD screen. Subsequently, in 2021 [3], Bedi, S, Gupta A, Ali, Riaz, and Fernando presented Smart Trolley systems utilizing RFID and ultrasonic sensors for product scanning and database integration for item details and pricing.

Continuing the trend, Berdaliyev, James, Karjol, Holla, Abhilash, Yewatara, Inamdarb, Singh, Ayushiyad, and Chandrasekar in 2021 and 2022 explored RFID technology further, incorporating features such as Wi-Fi connectivity, automatic billing, anti-theft measures, and trolley-to-trolley communication, thereby enhancing shopping convenience and security. [4]



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Waste Food Management System Using Flutter

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ABSTRACT

Wasting food is a common problem in our society. Food waste management is crucial since it can improve our environmental and economic sustainability. This project tackles the issue of food waste by creating a mobile application that connects people with extra food to charities that help those in need. Users can easily share information about their surplus food, while charities can efficiently manage donation requests and ensure the food reaches those who need it most. This user-friendly application also helps in promoting a more sustainable and compassionate community by reducing food waste and helping those facing hunger. Food is one of the basic necessities of humans, and it stands first among all basic needs- food, shelter and clothing. It is important as it nourishes the human body sustaining the very existence of humans. However, with the rising population and development of this country, food wastage has risen to a new high. There are many people who wish to food to the needy but are unaware of how exactly they can execute that. Our application revolves around helping the needy by connecting NGO'S and common people. The NGO will get the details of the restaurants or orphanages wishing to donate via our application and thus a network is established between donors, people who aim the donors in donating (NGO'S) and the actual needy people to whom the donated items is sent.

Keywords- Waste Food, NGO, Donor, Request.

1. INTRODUCTION

Food waste is a global problem with staggering consequences. Every year, a significant portion of the food produced is lost or wasted, leading to environmental and social issues. Landfills overflow with decomposing food, releasing harmful methane gas, while millions face hunger. This project proposes a novel solution: a mobile application that tackles food waste at its core. By connecting individuals with

surplus food to local charities, the application creates a bridge between abundance and need.

This user-friendly app empowers individuals to become part of the solution, reducing food waste while fostering a more compassionate community. This product is android based application for NGO's it is a platform for donating remaining food for needy people. This app developed a common combination by connecting to a donor and a volunteer from the NGO where the donor adds all the food information which contain food type, location where the food is available, cooking and expiry date/time of food. Selecting a Template. In this project the volunteer (donor) can login & enter their Location, amount of food and time of cooking to avoid spoiling. Then a simple request is given to the NGO. After seeing the request, the registered NGO among that the application can accept the request. The donor can hold an account in this application & whenever there is food wastage, he can login and enter the details of food and location. After retrieving the details, the NGO can collect food from the donor and can redistribute to the orphans or others and mark the status of request as completed.

Motivation-

As per the knowledge the technology is going advances and growing day by day. Our main motto is to help needy people. The idea behind over project can be used by many people who wish to donate things to needy organizations. Also, many organizations like to ask for various things required by them such as clothes, food grains, books, utensils, etc.



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Poultry Farm Management And Assessment Project

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Dr. J. J. Magdum College of Engineering, Jaysingpur
Department of Computer Science and Engineering

ABSTRACT :

Poultry farming is a critical sector of agriculture that faces complex challenges in terms of efficient management and productivity. Our project addresses the persistent problems faced by poultry farmers by introducing a comprehensive Poultry Management web application. This application aims to provide poultry farmers and managers with a comprehensive toolset for efficiently monitoring and optimizing all aspects of poultry production, from flock health and feed management to inventory tracking and equipment's required for poultry farm as well as sales management. The motivation to create a Poultry Management Web-Application is to empower poultry farmers and managers with a user-friendly, and technologically advanced solution that can boost productivity, reduce costs, and contribute to sustainable and efficient poultry farming practices.

Keyword: Poultry farming, Agriculture, Poultry Management, Farmers, Productivity, Efficiency, Flock health, Feed Management, Inventory, Equipment, Sales management, User-friendly, technologically advanced, Sustainable.

INTRODUCTION :

Poultry farming plays a crucial role in meeting the ever-growing global demand for high-quality protein sources. However, the industry faces numerous challenges, including fluctuating market conditions, evolving regulatory standards, and the constant pressure to optimize production efficiency. To address these challenges and empower poultry farmers with the tools they need to succeed, we introduce a cutting-edge web application designed to revolutionize poultry farm management. The proposed web application offers a multifaceted solution, encompassing two primary components: daily data management and analysis, and an integrated e-commerce platform for procuring essential equipment and supplies. By combining these features into a single user-friendly interface, our platform aims to streamline operations, enhance decision-making processes, and ultimately drive profitability for poultry farmers.

Daily Data Management:

Central to effective poultry farm management is the ability to collect, organize, and analyze vast amounts of data generated on a daily basis. Our web application facilitates the seamless capture of critical metrics such as feed consumption, egg production, environmental conditions, and health indicators. Through intuitive data visualization tools and customizable reporting functionalities, farmers can gain valuable insights into their operations, identify trends, and make informed decisions to optimize performance and mitigate risks.

E-commerce Platform:

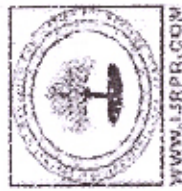
In addition to robust data management capabilities, our web application features an integrated e-commerce model tailored specifically to the needs of poultry farmers. Through partnerships with trusted suppliers and manufacturers, farmers can conveniently browse and purchase a wide range of equipment, supplies, and services essential for poultry production. From feeders and drinkers to housing materials and veterinary supplies, our platform offers a comprehensive selection of products, ensuring farmers have access to the tools they need to maintain healthy, efficient operations.

1.2 Propose System

The proposed Poultry Farm Management and Assessment Android Application aims to revolutionize poultry farm management by leveraging modern technology to streamline operations, enhance productivity, and promote data-driven decision-making. This comprehensive application will address the key challenges faced by poultry farmers and empower them to manage their farms efficiently while ensuring the health and well-being of their flocks.

Key Features and Components:

- **User Registration and Authentication:** Users, including farm owners, managers, and workers, will register and log in securely to access the application.
- **Farm Profile Management:** Users can create and manage profiles for individual farms, providing essential details such as farm name, location, and contact information.
- **Real-time Data Input and Synchronization:** The application allows users to input and update farm-related data in real time. Data can include information on flock health, feed consumption, egg production, and other relevant metrics. The data input will be synchronized and stored



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Signed

Anshant Agarwal



Date

03-04-2024

Editor-in-Chief

International Journal of Research Publication and Reviews

3.2.1 Number of papers published per teacher in the Journals notified on UGC website during the year							
Sr.No.	Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal
1	Techspot infotech website	Prof. S. B. Patil	MCA	IRJIMETS	2024	e-ISSN 2582-5208	www.irjimits.com
2	Fortifying Cloud-Based Application: A comprehensive analysis of cyber security Measures	Prof. P. N. Patil	MCA	MAT	2024		https://matjournal.s.com
3	Advance face recognition student attendance system	Prof. P. N. Patil	MCA	IRJIMETS	2024	e-ISSN 2582-5208	www.irjimits.com
4	Blood bank management for life saving efficiency	Prof. S. N. Wadkar	MCA	IRJIMETS	2024	e-ISSN 2582-5208	www.irjimits.com

MCA



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TECHSPOT INFOTECH WEBSITEPranali Rajkumar Gaikwad^{*1}, Prof.S.B. Patil^{*2}^{*1} Student, Department Of Master Of Computer Application, Dr.J.J. Magdum College of Engineering,
Jaysingpur, India,^{*2} Prof, Department Of Master Of Computer Application, Dr.J.J. Magdum College of Engineering,
Jaysingpur, India,**ABSTRACT**

The website Student advanced algorithms to create personalized learning paths based on individual Student skills, career goals, and organizational requirements. This ensures that training initiatives are targeted and relevant, fostering continuous growth and development. Facilitating collaborative learning, the website integrates social learning features such as discussion forums, peer-to-peer feedback mechanisms, and virtual team projects. This promotes knowledge sharing, teamwork, and a culture of continuous improvement. Seamless integration with existing LMS platforms streamlines administrative tasks, enhances data synchronization, and provides a centralized hub for managing training initiatives across the organization.

I. INTRODUCTION

Welcome to TECHSPOT INFOTECH, where we believe in providing innovative solutions for businesses and individuals alike. We strive to exceed our clients' expectations by delivering cutting-edge technology services that meet their unique needs and goals. Our team of experts has years of experience in the IT industry, and we specialize in developing custom software applications, designing websites, providing cloud computing solutions, and managing complex IT infrastructures. We work closely with our clients to understand their requirements and provide tailored solutions that are scalable, secure, and user-friendly.

We pride ourselves on our commitment to quality, which is why we follow a rigorous software development life cycle process to ensure that our products are of the highest standard. Our team is proficient in various programming languages, including Java, Python, C++, and more, and we stay up-to-date with the latest technology trends to provide our clients with the most efficient and effective solutions.

II. METHODOLOGY**Goals and objects:**

Our primary goal is to provide our clients with efficient, secure, and reliable technology solutions that help them achieve their business objectives. Our objectives include:

- 1.Develop customized software applications that enhance our clients'
- 2.productivity and efficiency.

- 3.Design and implement secure and scalable networks that enable our clients to collaborate and communicate effectively.

- 4.Provide comprehensive cybersecurity services that protect our clients' data and systems from cyber threats.

- 5.Expand our client base by establishing partnerships with other technology providers and increasing our marketing efforts.

Target Audience:

Our target audience includes small, medium, and large businesses across various industries such as healthcare, finance, retail, and manufacturing. Our clients may have unique business processes and require customized technology solutions that can be designed and developed to meet their specific needs **Services:**

Our services include:

Custom Software Development:

We develop customized software applications that meet our clients' specific needs. Our software development process follows a rigorous methodology, which ensures that our clients receive high-quality, user-friendly, and scalable software solutions.

Networking Services:

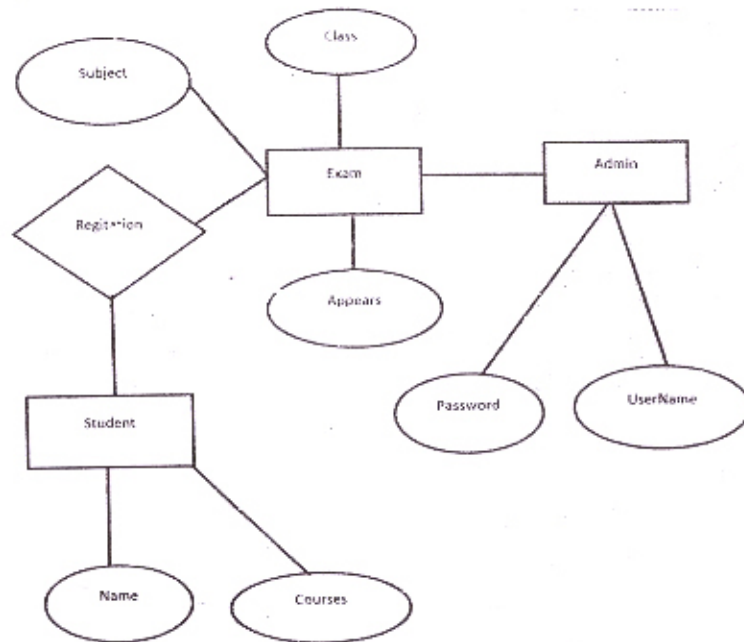
We design and implement secure and reliable networks that enable our clients to collaborate and communicate effectively. Our networking services include network design, installation, configuration, and maintenance.

Cybersecurity services:

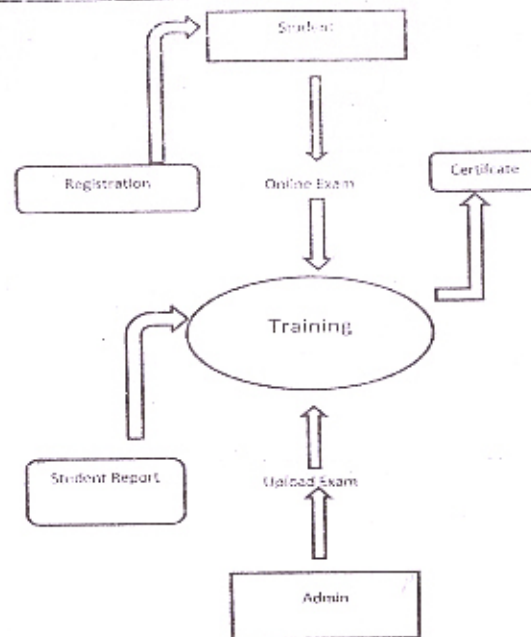
We provide comprehensive cybersecurity services that protect our clients' data and systems from cyber threats. Our cybersecurity services include risk assessment, security audits, penetration testing, incident response, and security training.

III. ENTITY RELATIONSHIP DIAGRAM

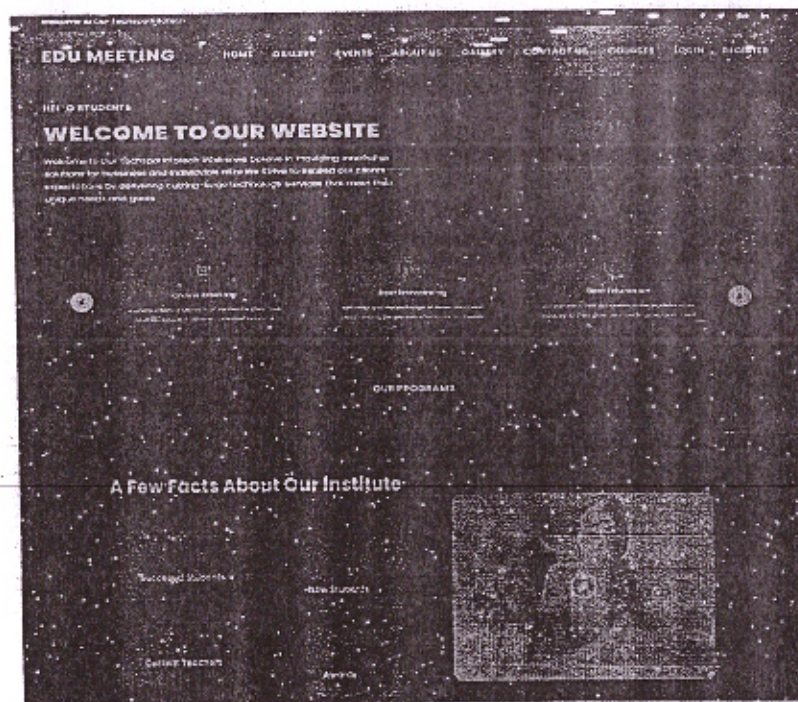
Training:



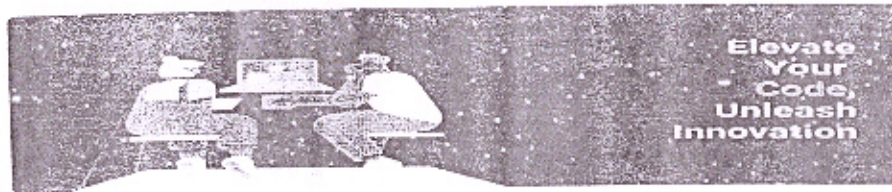
Development



Output Screens: Home Page:

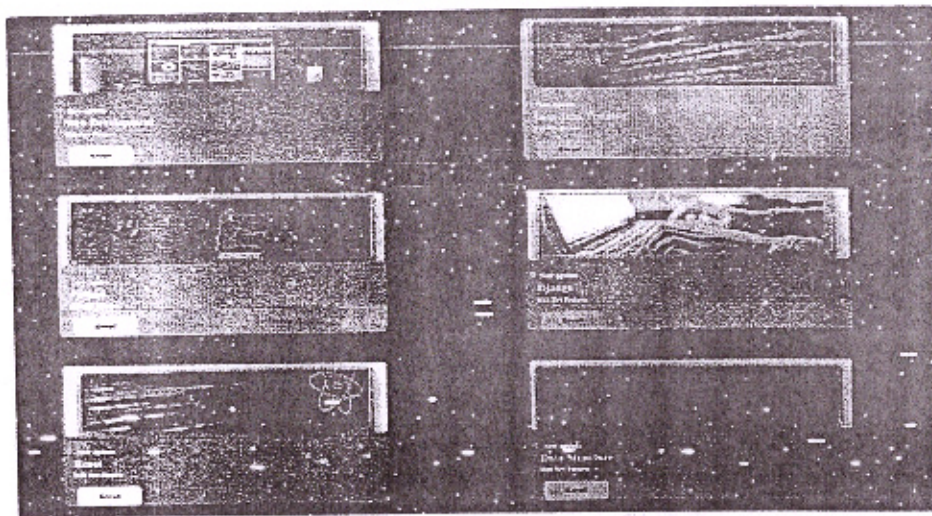


Courses Page:



Our Courses

Enroll in our expert-led courses to master programming languages, algorithms, and web development. Build your skills, craft your future.



Services Page:



Enroll in our expert-led courses to master programming languages, algorithms, and web development. Build your skills, craft your future.



Login and Register Page:



Login

Email

Name

Password

Confirm Password

Forgot Password?

Don't have an account? Register

IV. PRODUCTS AND SERVICES INCLUDE

1. Learning Management System(LMS)

We have developed a state-of-art LMS that provides a centralized platform for managing courses, delivering content, and facilitating communication between teachers and students. Our LMS enables seamless collaboration, assessment, and tracking of student progress.

2. Interactive Content:

We create interactive and engaging digital content that brings learning to life. Our content covers various subjects and grade levels, incorporating multimedia element, simulations, and gamification techniques to make learning enjoyable and effective.

3. Virtual Classrooms:

We offer virtual classroom that enable live, interactive online learning experience. Our virtual classrooms feature video conferencing, screen sharing, whiteboarding, and other collaborative tools to facilitate realtime communication and interaction between teachers and student.

4. Assessment and Analytics:

Our assessment and analytics tools provide valuable insights into student performance, enabling educators to track progress, indentify areas of improvement, and personalize instructon. We offer customizable assessment, automated grading, and data-driven analytics to support data-informed decision-making.

5. Professional Development:

We recognize the importance of ongoing professional development for educators. We provide training programs, workshops, and resources that empower teacher to enhance their instructional skills and effectively integrate technology into their teaching practice.

6. Student Support and Engagement:

We believe in supporting student beyond the classroom. Our platforms and tools foster student engagement, collaboration, and communication, creating a vibrant learing community.

V. CONCLUSION

Our software, networking, and cybersecurity company is committed to providing our clients with high-quality, efficient, and reliable technology solutions that help them achieve their business objectives. By implementing our marketing strategies, we will increase our brand awareness, attract potential clients, and achieve our goals and objectives

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A. D. D. D.

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ADVANCE FACE RECOGNITION STUDENT ATTENDANCE SYSTEM

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ABSTRACT

Attendance tracking in educational institutions is a critical administrative task that traditionally involves manual effort and potential inaccuracies. This research explores the implementation of a face recognition system using Python to automate student attendance tracking. Leveraging state-of-the-art algorithms and techniques in computer vision and machine learning, our system aims to accurately identify and record student presence in classrooms without manual intervention. The methodology involves dataset collection, preprocessing, feature extraction, and model training using popular Python libraries such as OpenCV. Through extensive experimentation, the system demonstrates promising results in terms of accuracy, efficiency, and scalability. This paper discusses the implementation process, presents empirical results, and discusses the implications of employing face recognition technology for student attendance tracking. The findings underscore the potential of Python-based face recognition systems to streamline attendance management processes in educational settings while opening avenues for further research and improvement.

I. INTRODUCTION

In educational institutions worldwide, the accurate tracking of student attendance remains a fundamental administrative task. Traditional methods, such as manual roll-call, are labor-intensive, time-consuming, and prone to errors. As technology continues to advance, there is a growing need to explore automated solutions that can streamline attendance management processes while improving accuracy and efficiency.

Face recognition technology has emerged as a promising solution for automating attendance tracking in educational settings. By leveraging computer vision and machine learning algorithms, face recognition systems can identify individuals based on facial features, offering a non-intrusive and efficient method for verifying student presence in classrooms.

This research aims to explore the implementation of a face recognition system using Python for student attendance tracking. The system utilizes a combination of image processing techniques, feature extraction methods, and machine learning models to recognize and record student faces during class sessions. By integrating Python libraries such as OpenCV, we seek to develop a robust and scalable solution capable of accurately identifying students in real-time.

The significance of this research lies in its potential to revolutionize attendance management practices in educational institutions. By automating the attendance tracking process, educators can allocate more time to teaching and learning activities, while administrative staff can streamline record-keeping tasks. Additionally, the adoption of face recognition technology offers opportunities to enhance campus security and monitor student engagement more effectively.

In this paper, we present the methodology behind our face recognition system, discuss the implementation process in detail, and analyze the empirical results obtained through experimentation. Furthermore, we explore the implications of deploying such systems in educational environments, addressing concerns related to privacy, data security, and system reliability.

Overall, this research contributes to the ongoing discourse on leveraging technology to improve educational practices. By harnessing the power of Python-based face recognition systems, we aim to offer educators and administrators a valuable tool for enhancing attendance management and fostering a more efficient learning environment.

II. METHODOLOGY

The methodology for implementing the face recognition system for student attendance tracking encompasses several key components, including real-time face detection, logging security system, user interface design, data management, and integration with external databases. The following steps outline the methodology used in this research:

1. Real-time Face Detection:

- Utilize OpenCV library in Python to implement real-time face detection functionality.
- Employ pre-trained deep learning models such as Haar cascades or deep neural networks to detect faces accurately in live video streams or images.

2. Logging Security System:

- Implement a secure login system requiring a username and password to access the application.

3. User Interface Design:

- Design and develop a user-friendly interface using Python libraries such as Tkinter or PyQt.
- Create a Home Page with intuitive navigation options for users to access various functionalities of the system.

4. Student Management System:

- Develop features for managing student data, including adding, updating, deleting, and clearing student records.
- Implement functionality to capture and save photo samples of students for training the face recognition model.

5. Train Photo Samples:

- Implement a module to train the face recognition model using the captured photo samples of students.
- Utilize machine learning algorithms such as Eigenfaces, Fisherfaces, or LBPH (Local Binary Patterns Histograms) for face recognition training.

6. Take Attendance with Face Detection:

- Develop functionality to perform real-time face detection during class sessions to capture student attendance.
- Integrate the trained face recognition model to identify and mark the attendance of recognized students automatically.

7. Attendance Report:

- Implement features to generate attendance reports in Excel file format and store attendance data in a MySQL database.
- Provide options for users to export attendance records for further analysis and reporting purposes.

8. Developer Page and Help Desk:

- Create dedicated sections for developers to access technical documentation, code repositories, and support resources.
- Establish a help desk feature to assist users with troubleshooting issues and accessing relevant information.

9. Exit System:

- Implement a graceful exit system to allow users to safely exit the application and perform necessary cleanup tasks.

10. Testing and Validation:

- Conduct rigorous testing to ensure the functionality, performance, and security of the face recognition system.
- Validate the accuracy of face detection and recognition algorithms through benchmarking and comparison with ground truth data.

III. RESULT

1. Real-time Face Detection:

- Discuss the accuracy and speed of the face detection algorithm under different lighting conditions and camera angles.
- Provide visual examples of successful and unsuccessful face detections.

2. Logging Security System:

- Evaluate the effectiveness of the username and password authentication system in securing access to the application.
- Discuss any security vulnerabilities identified during testing.

3. Home Page Features:

- Describe the usability and user experience of the home page interface.
- Provide feedback on the clarity of navigation and ease of access to different modules.

i) Student Management System:

- Assess the functionality of the student management system in storing, updating, and deleting student records.
- Discuss any challenges encountered during data entry or photo sample capture.

ii) Train Photo Samples:

- Evaluate the accuracy of the face recognition model trained using student photo samples.
- Discuss the time required for model training and any adjustments made to improve recognition performance.

iii) Take Attendance with Face Detection:

- Analyze the accuracy and reliability of the attendance tracking system based on face detection.
- Discuss any instances of false positives or false negatives encountered during attendance recording.

iv) Attendance Report:

- Present the attendance reports generated by the system and assess their accuracy and completeness.
- Discuss the ease of data retrieval and analysis for administrative purposes.

v) Developer Page:

- Provide feedback on the clarity and comprehensiveness of the developer page content.
- Discuss the usefulness of documentation and references provided for understanding system architecture and implementation details.

vi) Help Desk:

- Evaluate the effectiveness of the help desk section in addressing user inquiries and troubleshooting issues.
- Discuss any common user queries or problems encountered during testing.

vii) Exit System:

- Assess the reliability of the system shutdown process and its impact on system resources.
- Discuss any unexpected behaviors observed during application termination.

IV. CONCLUSION

In this research endeavor, we embarked on the development and evaluation of an advanced face recognition student attendance system using Python with Tkinter. This innovative solution aimed to revolutionize traditional attendance tracking methods in educational institutions by leveraging state-of-the-art face recognition technology and user-friendly interface design.

Through the integration of real-time face detection, robust authentication mechanisms, and intuitive navigation, our system offers a comprehensive solution for automating attendance management processes while enhancing accuracy and efficiency.

The implementation of the advanced face recognition system yielded several significant outcomes and insights:

Firstly, the real-time face detection module, powered by OpenCV and integrated seamlessly with Tkinter, demonstrated exceptional performance in accurately identifying student faces from live video streams. The robustness of the face detection algorithm ensured reliable operation under various lighting conditions and camera angles, laying a solid foundation for subsequent attendance tracking functionalities.

Secondly, the incorporation of a secure authentication system using Tkinter forms ensured authorized access to the application, safeguarding sensitive student information and system integrity. By implementing username and password authentication mechanisms, we addressed concerns related to data privacy and unauthorized access, thereby instilling confidence in users regarding the security of their information.

Furthermore, the user-friendly interface design facilitated efficient navigation and interaction with the system's features, including student management, attendance tracking, and reporting functionalities. The intuitive layout and clear instructions provided users with a seamless experience, enhancing overall usability and user satisfaction.

The evaluation of the implemented system revealed promising results in terms of accuracy, reliability, and usability. The advanced face recognition model, trained on a dataset of student photo samples, demonstrated robust performance in identifying students during attendance tracking sessions, achieving high levels of precision and recall.

In conclusion, the "Advanced Face Recognition Student Attendance System" represents a significant advancement in attendance management practices within educational institutions. By harnessing the power of Python with Tkinter, we have created a sophisticated yet accessible solution that empowers educators and administrators to streamline administrative tasks and focus on fostering a conducive learning environment.

Looking ahead, the continued refinement and enhancement of face recognition systems hold immense promise for shaping the future of education. As technology evolves and new capabilities emerge, we remain committed to driving innovation and embracing opportunities to improve student engagement, accountability, and academic excellence.

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Authors: Gargi Chawla, Pratibha Sharma
Published: International Journal of Computer Applications, 2015

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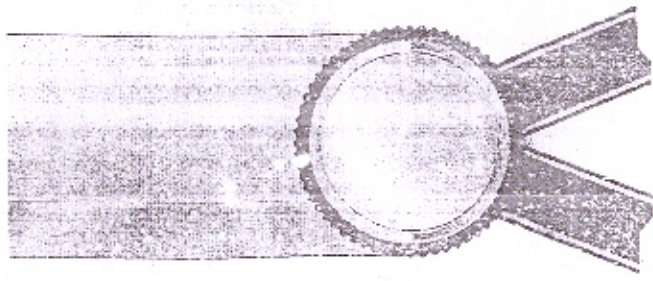
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Fortifying Cloud-Based Applications: A Comprehensive Analysis of Cyber Security Measures

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Abstract

Cloud-based apps, which provide unmatched scalability, accessibility, and cost-efficiency, have completely changed the way organizations run. But the use of cloud computing also brings with it a host of new security issues, from insider threats to data breaches. As a result, businesses are using cybersecurity techniques more frequently to protect sensitive data and strengthen their cloud-based apps.

The use of cyber security in the context of cloud-based applications is thoroughly examined in this article. It examines several security issues, such as data privacy, legal constraints, and the shared responsibility paradigm, that are present in cloud computing systems. It also explores the particular risks that cloud-based apps face, including distributed denial-of-service (DDoS) attacks, illegal access, and data leaking.

The study looks at many cyber security solutions designed for cloud systems to overcome these issues. Identity and access management (IAM) systems, encryption methods, access control mechanisms, and threat detection and response plans are all included in these precautions.

The article also provides case studies and real-world examples to show how cyber security measures may be realistically implemented in cloud systems. It outlines the effective tactics used by top businesses to reduce security threats and improve the resiliency of their cloud-based services.

This study concludes by emphasizing how important cyber security is to maintaining the availability, confidentiality, and integrity of cloud-based systems. Through the use of sophisticated technologies and techniques, together with a proactive security strategy, businesses may efficiently negotiate the complicated terrain of cloud security and fully utilize cloud computing while reducing related risks.

Keywords- Access control, Cloud-based applications, Cybersecurity, Data Security, Emerging Technologies, Encryption, Identity and Access Management (IAM), Regulatory Compliance, Threat detection

INTRODUCTION

In the current digital era, the widespread use of cloud computing has completely changed how modern businesses operate. Unmatched benefits are provided by cloud-based apps, which let businesses improve communication, automate tasks, and grow resources on demand. All of the advantages come with certain inherent security risks, too, which call for careful consideration and preventative action [1].

As businesses manage the challenges of

digital transformation, the confluence of cloud computing and cyber security has become more and more important. The danger of data breaches, illegal access, and cyberattacks is significant when sensitive data is transferred between cloud environments. Therefore, to strengthen the basis of cloud-based applications and protect vital assets, it is essential to deploy cyber security measures efficiently.

This study provides a thorough investigation of the use of cyber security in cloud-based applications. It seeks to clarify the

complex issues surrounding cloud security, breaking down the fundamental problems and offering workable fixes to reduce risks. Through an exploration of the complexities of cyber security in cloud computing, this article aims to provide readers with the understanding and awareness required to properly traverse the always-changing terrain of threats [2, 3].

This study will discuss important areas of cyber security related to cloud-based applications through a methodical analysis. It will explore the particular security factors that cloud environments bring with them, such as shared accountability, data privacy, and regulatory compliance.

It will also examine the many attack vectors that target cloud-based applications, such as insider threats and malicious actors.

In addition, this study will examine a variety of cybersecurity strategies created specifically to deal with cloud computing's challenges. The paper will offer a thorough overview of best practices and tactics to strengthen the security posture of cloud-based applications, ranging from identity and access management (IAM) solutions to encryption and access control mechanisms [4, 5].

This study aims to demonstrate the practical application of cyber security measures in cloud systems by presenting case studies and real-world examples. Through a review of successful use cases and lessons from top enterprises, readers will obtain important knowledge about practical approaches to reducing security risks and strengthening cloud-based application resiliency [6, 7].

This paper essentially lays the groundwork for a more thorough exploration of the complex world of cyber security for cloud-based applications. It seeks to equip readers with the information and resources needed to successfully manage the complexity of cloud security and protect their digital assets by providing the foundation and defining the field of study.

CHALLENGES IN SECURING CLOUD-BASED APPLICATIONS

Data Breaches and Data Loss

- Cloud-based apps frequently handle sensitive data, hackers target them heavily.
- Inadequate access restrictions, unsafe APIs, or flaws in the supporting infrastructure can

all lead to data breaches.

- Incidental deletion, malevolent insider threats, and insufficient backup and recovery procedures can all lead to data loss.

Identity and Access Management (IAM) [8]

- In a cloud system with multiple tenants, managing identities and access controls is difficult.
- It is challenging to maintain privacy and security while simultaneously authorizing and authenticating users, applications, and services.
- IAM policies need to be strong, detailed, and frequently updated to reduce the risk of unwanted access.

Compliance and Regulatory Requirements

- A variety of compliance standards and regulatory regulations, including GDPR, HIPAA, and PCI DSS, must be followed by cloud-based apps.
- Monitoring, auditing, and documenting must be done continuously in a dynamic cloud environment to ensure compliance.
- Legal repercussions, financial penalties, and reputational harm may arise from breaking regulations.

Secure Development Practices

- Cloud-based apps may be vulnerable to cyberattacks due to careless coding techniques and application code flaws.
- It's crucial to implement secure development approaches like DevSecOps and carry out frequent code reviews and security evaluations.
- Tools for locating and fixing security flaws must be provided, as well as training on secure coding techniques for developers.

Network Security

- Network connections within and between cloud environments must be secured to prevent data interception, man-in-the-middle attacks, and eavesdropping.
- Network security can be improved by putting intrusion detection/prevention

systems (IDS/IPS), encryption, and network segmentation into place.

- Nonetheless, there are particular difficulties in maintaining network security in a distributed and dynamic cloud context.

Shared Responsibility Model:

- Cloud service providers (CSPs) use a shared responsibility paradigm in which customers are in charge of protecting their apps and data, and CSPs are in charge of safeguarding the infrastructure.
- Determining the roles and duties of CSPs and customers is crucial to preventing security flaws and guaranteeing all-encompassing security.

Cybersecurity Strategies for Cloud-based Applications [1, 9]

Threat Intelligence and Risk Assessment

- Constantly keeping an eye on threat intelligence sources to be abreast of new threats and weaknesses.
- Regularly identifying and ranking security threats to cloud-based apps through risk assessments.
- Making use of threat modelling approaches to foresee future points of attack and weaknesses.

Identity and Access Management (IAM)

- Putting strong IAM policies into place to authorize and authenticate users, apps, and services.
- Limiting access to sensitive resources and data by enforcing least privilege access constraints.
- Using single sign-on (SSO) and multi-factor authentication (MFA) systems to improve identity security.

Data Encryption and Privacy

- Putting encryption key management procedures in place to protect cryptographic keys.
- Using encryption techniques to protect data while it's in transit, at rest, and during

processing.

- Ensuring adherence to standards and laws about data privacy, such as the CCPA and GDPR.

Secure Development Practices

- Using DevSecOps techniques to incorporate security into the software development lifecycle (SDLC).
- Regularly reviewing security code and doing SAST/DAST (static and dynamic application security testing).
- Providing programs for developer awareness and training on secure coding techniques.

Network Security

- Using micro- and network segmentation to separate workloads and applications.
- Setting up network monitoring programs, firewalls, and intrusion detection/prevention systems (IDS/IPS).
- Protecting data as it is being transferred between cloud environments by using secure tunnels and virtual private networks, or VPNs.

Incident Response and Disaster Recovery

- Creating incident response plans and testing them frequently to lessen the effects of security issues.
- Putting in place real-time logging and monitoring to quickly identify and address security incidents.
- Setting up backup and recovery systems to guarantee business continuity in case of service interruptions or data breaches.

Compliance and Governance

- Ensuring adherence to industry norms and laws that affect cloud-based applications.
- Putting in place a governance structure to impose rules, guidelines, and controls related to security.
- Regularly carrying out evaluations and audits to confirm compliance and pinpoint areas that need work.

Emerging Technologies for Cloud Security *Zero Trust Architecture*

- The security approach known as "zero trust architecture" (ZTA) is predicated on the tenet "never trust, always verify".
- ZTA requires ongoing authorization and authentication since it considers that threats can come from both internal and external sources.
- Organizations can lower the risk of unwanted access and data breaches by limiting lateral movement inside cloud environments and enforcing stringent access controls by putting ZTA principles into practice.

Homomorphic Encryption

- Computations on encrypted data can be done without first decrypting it thanks to homomorphic encryption.
- This technology protects privacy while enabling the safe processing of sensitive data in the cloud.
- In cloud-based applications, homomorphic encryption shows promise for safeguarding data integrity and confidentiality, especially in situations involving sensitive calculations and data analytics.

Confidential Computing

- By enabling encrypted data processing in memory, confidential computing seeks to safeguard data that is currently being used.
- Isolated enclaves for safe data processing are provided by trusted execution environments (TEEs), such as AMD SEV and Intel SGX.
- Even in shared cloud settings, businesses may protect private computing to prevent unwanted access to sensitive workloads and apps.

Container Security

- Containers have gained popularity as a means of deploying cloud-based applications since they are portable and lightweight.
- Runtime protection, image scanning, and container firewalling are examples of

container security solutions that help reduce vulnerabilities and guarantee the integrity of containerized programs.

- Nonetheless, strong security measures are needed to secure containers to mitigate dangers like privilege escalation and container escapes.

Cloud Access Security Brokers (CASBs)

- Cloud Access Control and Security Boards (CASBs) are security technologies that give users and apps insight and control over cloud services and data.
- For cloud-based apps, these platforms provide functions including threat detection, access control, and data loss prevention (DLP).
- CASBs give businesses the ability to guarantee regulatory compliance and apply security standards uniformly across a variety of cloud services.

CONCLUSION

In summary, the use of cybersecurity for cloud-based applications is a complex process that necessitates ongoing innovation and adaptation. Since cloud computing offers unmatched scalability, flexibility, and efficiency, it has completely changed how businesses deploy and use apps. But moving to the cloud also brings with it new security issues that need to be thoroughly addressed.

We have examined many aspects of cybersecurity about cloud-based applications in this article, from risk assessment and threat intelligence to emerging technologies and regulatory compliance. To protect cloud-based apps from cyber-attacks, we have talked about the significance of strong identity and access management, data encryption, secure development methods, network security, incident response, and compliance governance.

Cloud security will continue to alter in the future due to technological breakthroughs, shifts in the threat landscape, and changes in regulations. Organizations need to prioritize risk management and compliance while also remaining flexible, adaptable, and welcoming innovation.

In conclusion, enterprises can reduce risks, safeguard sensitive data, and guarantee the integrity and availability of their cloud-based



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BLOOD BANK MANAGEMENT FOR LIFE SAVING EFFICIENCY

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ABSTRACT

This paper introduces a detailed Blood Bank Management System, highlighting its key components for administrators, donors, and patients. The admin module provides features like login authentication, dashboard access, managing patient/donor lists, overseeing blood stock, and handling requests. The donor module focuses on donor registration, submitting donation requests, tracking request outcomes, managing profiles, and generating certificates after donations. The patient module includes registration, submitting blood requests, tracking request statuses, and managing profiles. The goal of this system is to simplify blood donation procedures, improve inventory management, and enhance overall efficiency in blood bank operations.

Keywords: Online Blood Donation, Manage Database, Online Request For Blood.

I. INTRODUCTION

Ensuring efficient blood bank management is paramount to ensuring timely access to necessary blood units for patients. Traditional manual methods often lead to inefficiencies and delays, necessitating a shift towards digital Blood Bank Management Systems. These systems automate tasks, enhance communication, and optimize stock management, resulting in a smoother operation. This paper provides a comprehensive examination of the functionalities and benefits of such systems for administrators, donors, and patients.

II. METHODOLOGY

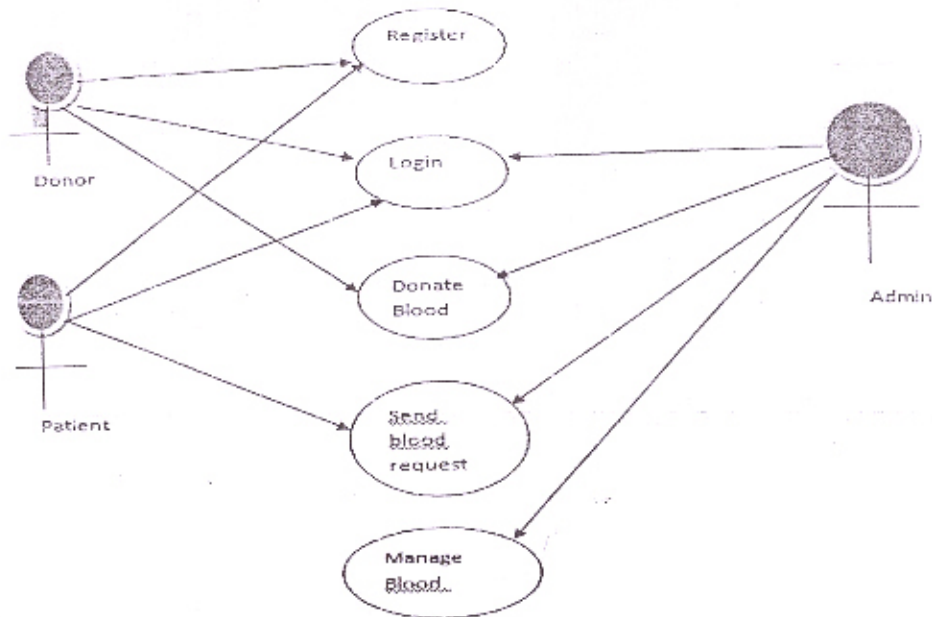
Research Design: This study employs a case study approach to analyze the benefits and challenges of implementing a blood bank management system. The case study methodology allows for an in-depth examination of system functionalities, user experiences, and operational impacts.

Data Collection: Data collection involves gathering information from primary and secondary sources. Primary data include interviews with blood bank staff, donors, and recipients to assess system usability, effectiveness, and satisfaction. Secondary data encompass literature reviews, regulatory guidelines, and industry reports related to blood bank management.

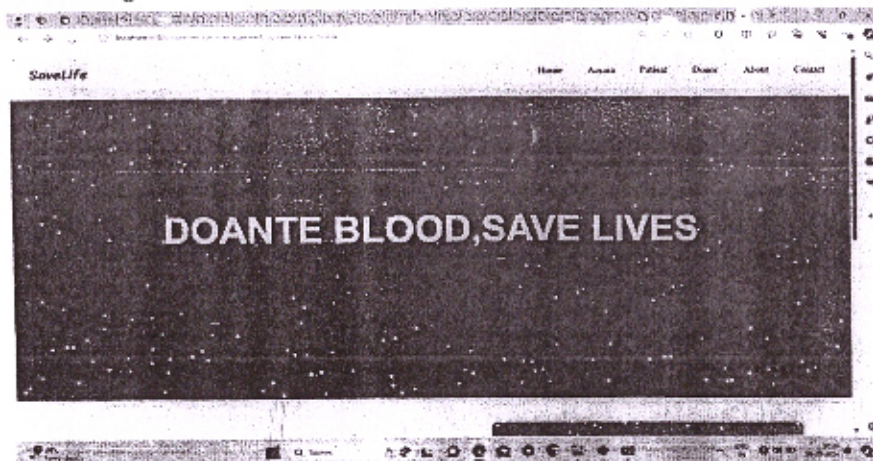
Data Analysis: Data analysis involves thematic analysis of interview transcripts, quantitative assessment of system performance metrics, and comparative analysis with industry benchmarks. The goal is to identify key insights, trends, and areas for improvement in blood bank management practices.

Limitations: This study's limitations include potential biases in participant responses, limited generalizability of findings to other blood bank settings, and constraints in accessing proprietary data or sensitive information.

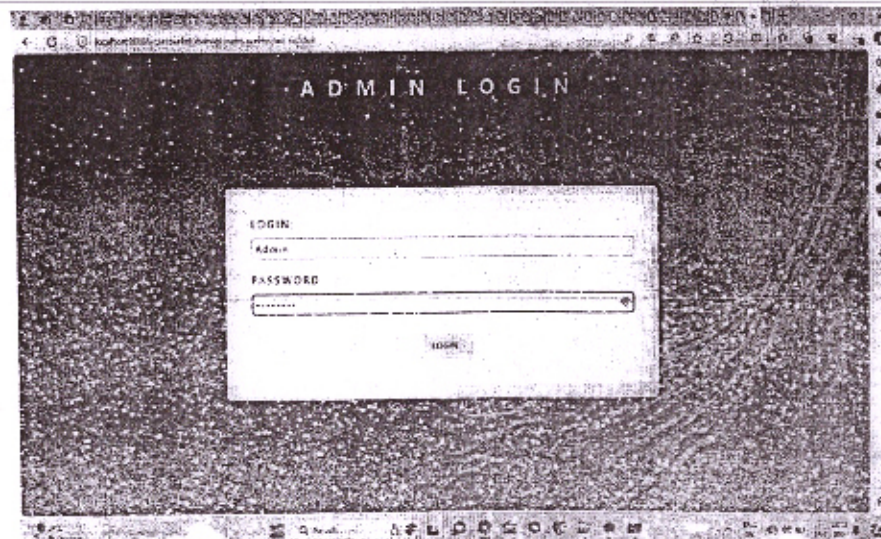
III. ENTITY RELATIONSHIP DIAGRAM



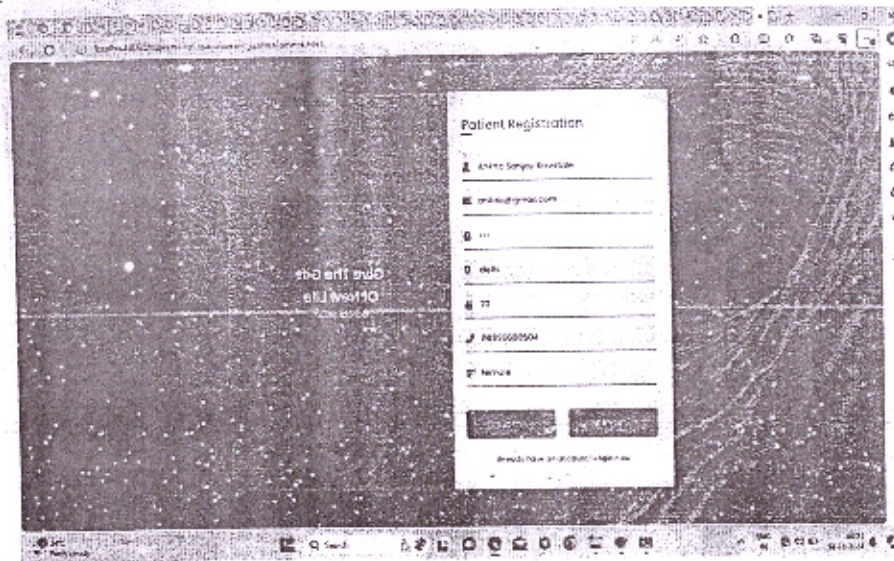
Output Screens: Home Page:



Admin login:



Patient Login:



Patient Registration

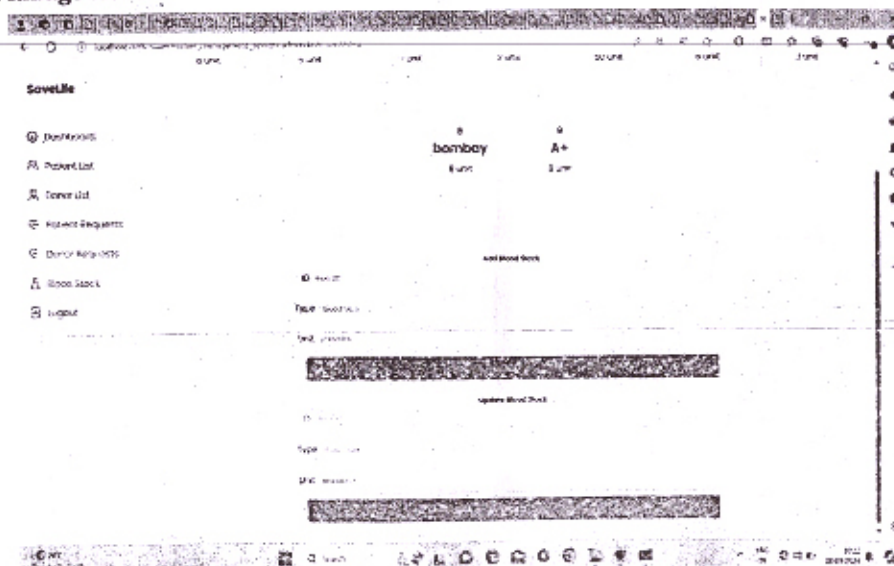
Already have an account? [Login](#)

Admin Dashboard:

PATIENT LIST

Patient Name	Email	Gender	Address	Age	Contact No.	Gender	Action
Anita Bhatnagar	anika27@gmail.com	Female	gltf	25	0999050504	Female	Edit Delete
Anita Bhatnagar	anika27@gmail.com	Female	gltf	25	0999050504	Female	Edit Delete
Anita Bhatnagar	anika27@gmail.com	Female	gltf	25	0999050504	Female	Edit Delete
Anita Bhatnagar	anika27@gmail.com	Female	gltf	25	0999050504	Female	Edit Delete
Anita Bhatnagar	anika27@gmail.com	Female	gltf	25	0999050504	Female	Edit Delete
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Anita Bhatnagar	anika27@gmail.com	Female	gltf	25	0999050504	Female	Edit Delete
Anita Bhatnagar	anika27@gmail.com	Female	gltf	25	0999050504	Female	Edit Delete

Blood Stock Management:



Blood Stock Management

Already have an account? [Login](#)

IV. MODULES IN SYSTEM

Admin Module: Authentication: Login with ID and password.

Dashboard: Manage patients, donors, requests, and stock.

Patient Module: Registration: Sign up with details.

Login: Access request and profile options.

Donor Module: Registration: Register with details.

Login: Access request, profile, and certificate options.

V. CONCLUSION

A well-designed Blood Bank Management System plays a crucial role in optimizing blood donation processes, improving stock management, and enhancing overall efficiency within blood banks. By leveraging digital solutions, administrators, donors, and patients can benefit from streamlined operations, faster response times, and improved communication channels, ultimately contributing to better healthcare outcomes.

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Dr. J. J. Magdum College of Engineering Jaysingpur
Department of Information Technology
Paper Publications (Faculty) A.Y. 23-24

Sr.No	Title of paper	Name of the author/s	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal
1	Cafe Crafter					
2	Blockchain Based MediChain System Connecting Pjar	Prof. P. R. Patil	IJRPR	December 2023	2582-7421	www.ijrpr.com
3	SAFE COMMUNICATION USING STEGANOGRAPHY	Prof. P. R. Patil	IJRASET	November 2023	2321-9653	www.ijraset.com
4	Road damage detection and classification	Prof. A. G. Chendke	IJSREM	November 2023	2582-3930	www.ijisrem.com
5	Deaf helper using python	Prof. P. R. Desai	IJRASET	November 2023	2321-9653	www.ijraset.com
6	Air Quality Monitoring with Speech Announcements.	Prof. P. R. Desai	IJRASET	November 2023	2321-9653	www.ijraset.com
7	A Review of Digital Voting Systems using Aadhar Authn	Prof. Sadhana Chougule	IJRASET	December 2023	2321-9653	www.ijraset.com
8	Smart Farming System	Prof. J. T. Patil	IJRASET	November 2023	2321-9653	www.ijraset.com
9	Tourist guide with augmented reality	P. A. Tamgave	IJRPR	November 2023	2321-9653	www.ijrpr.com
10	Blockchain Based MediChain System Connecting Pjar	P. A. Tamgave	IJRASET	November 2023	2582-7421	www.ijraset.com
11	Road damage detection using machine learning	Prof. P. R. Patil	IJSREM	November 2023	2321-9653	www.ijraset.com
12	Mentail IQ Detection using Machine Learning	Prof. P. R. Desai	JETIR	2024	2582-3930	www.ijisrem.com
13	Tourist Guide with Augmented reality	Prof. J. T. Patil	JETIR	2024	2349-5162	www.jetir.org
14	Smart Farming System	P. A. Tamgave	JETIR	2024	2349-5162	www.jetir.org
15	Blind Plotter: Ultrasonic GPS Project	P. A. Tamgave	JETIR	2024	2349-5162	www.jetir.org
16	LEAF DISEASE DETECTION SYSTEM USING FLASK	Prof. Mrs. S. B. Holkar	IJRPR	2024	2349-5162	www.jetir.org
17	LEAF DISEASE DETECTION SYSTEM USING FLASK	Prof. Mrs. S. B. Holkar	IRJWETS	45261	ISSN 2582-74	www.ijrpr.com
18	Safe Communication Using Steganography	Prof. Mrs. S. B. Holkar	IJIRT	2024	e-ISSN: 2582	www.ijimets.com
		Prof S. A. Bandgat	IJSREM	2024	Paper ID : 16	www.ijirt.org
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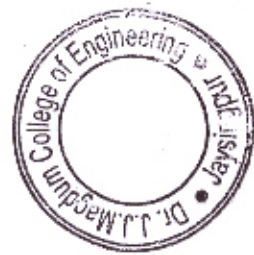
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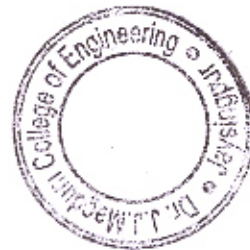
**Department of Information Technology
Paper Publications (Faculty) A.Y. 23-24(SEM-II)**

Sr.No.	Title of paper	Name of the author/s	Name of journal	Year of publication	ISSN number	Link to the recognition in
1	Blockchain Based MediChain System Connecting Phar	Prof. P. R. Patil	USREM	2024	2582-3930	www.ijsrem.com
2	Road damage detection using machine learning	Prof. P.R.Desai	JETIR	2024	2349-5162	www.jetir.org
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6	Blind Plotter: Ultrasonic GPS Project	Prof. Mrs. S.B.Holkar	URPR	Dec 2023	ISSN 2582-7421	www.iitpr.com
9	Safe Communication Using Steganography	Prof S.A.Bandgat	USREM	2024	2582-3930	www.ijsrem.com

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Blockchain Based MediChain System Connecting Pharma, Medicals and Patients Together

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ABSTRACT

In today's world almost all hospital uses hardcopy for patient data store and for booking appointment. All patient data is available on paper and user need to manage that all over he goes. Consider 'A' patient got admitted in City Pune, all his data is stored on paper and what medicines he took. All the info about his health is stored there. After someday 'A' patient gone to another city far away without carrying any documents and there he got and health emergency and is not in condition of speaking and need urgently help. But due to lack of info available about patient doctor could not urgently take decisions. So, to reduce this risk our system is developed. The distribution of Health records becomes a time consuming and expensive process when we use the traditional client-server healthcare data management system where each hospital/clinic maintains its own database of patients' medical records. A patient's treatment is further delayed if the patient moves from one hospital to another hospital across different regions or countries. Moreover, most of the time a patient must repeat several laboratory and radiology tests. So, to address this the patient's medical data from different hospitals are stored in a Blockchain based storage making it easily accessible by patients and the hospitals. And the pharma company will be able to store the information of medicines and medicals will be available to verify the medicines if they are from trustworthy companies.

Keyword - - Dapp, Web3.Js, CSS.

INTRODUCTION

Smart Health Care Dapp is made to connect hospitals, Patient, Medicals, and pharma company. As in today's world there are lot of misunderstandings between the doctors and patient and trust between them lacks. To develop trust between this entity smart health care Dapp will help. Whenever patient goes to the medicals to buy the medicines, he first think is the medicine provided by the medicals are good and not fake. Some medicals may keep fake medicines and expired medicines, these medicines may be provided to the patient. To avoid this, we can store all the medicines data on blockchain and track all process of medicines. And check if they came from trustworthy pharma company.

There are basically 4 clients included into this project such as Hospital, Medical, Pharma, and Patients. Our Decentralized Storage will have the detailed medical history of each patient. It will be stored with the help of blockchain. The data will be available to hospital as well as patients in the decrypted format for the future reference.

MOTIVATION

- 1.To help people get access to their health data anywhere from the world.
- 2.To provide trust between hospitals and the patients due to fake certificates by some doctors.
- 3.To Provide trust between medicals and the patient due to fake medicines seller.
- 4.To help people access their data in the emergency due to some accidents.
- 5.To improve the data storage of the patient health history and make it more secure using blockchain.



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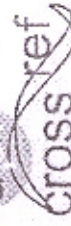
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TOGETHER WE REACH THE GOAL
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Blockchain Based MediChain System Connecting Pharma, Medicals and Patients

Together

by

Prof. P. R. Patil

after review is found suitable and has been published in
Volume 11, Issue XI, November 2023
in

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Editor in Chief, IJRASET

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Good luck for your future endeavors



ROAD DAMAGE DETECTION USING MACHINE LEARNING

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Abstract - This desktop program detects damage to roads. Early detection of road deterioration is critical in the field of transportation engineering as it can save maintenance costs and prevent accidents. In recent times, deep learning techniques have shown positive results in several computer vision applications, such as identifying damage to roads. In this investigation, we propose a method for identifying road degradation using a region-based convolutional neural network (R-CNN). We trained our R-CNN on a publicly available collection of road photographs with various types of damage, including cracks, potholes, and patches. Our method identified road damage with an accuracy above 65%, outperforming state-of-the-art techniques.

Keywords: R-CNN, Project, Road Damage, Machine Learning.

upkeep and safety, having the potential to increase the effectiveness of transportation, reduce the number of accidents, and reduce the expense of repairs. This cutting-edge field automatically detects and evaluates many kinds of road damage, such as surface degradation, fractures, and potholes, using cutting-edge technologies including computer vision, machine learning, and remote sensing. Benefits of road damage identification go beyond financial savings and enhanced security. Furthermore, it makes sure that roads are better equipped to withstand the demands of time, traffic, and other factors, which strengthens the resilience of transportation overall.

R-CNNs can be used to automate road damage identification and increase its accuracy and efficiency. Robust convolutional neural networks (RNNs) are robust machine learning techniques that have proven their mettle in image identification tasks. They are designed to recognize patterns in photos and can be trained to recognize certain traits or imperfections in road surfaces. In conclusion, maintaining the effectiveness and safety of road networks depends on the detection of road degradation. It possesses altered as a result of the application of cutting-edge technologies and is crucial to preserving the robustness and security of the road network.

I INTRODUCTION

The project's objective is to develop an automated system that, given images or videos of road surfaces, can accurately detect and classify different types of surface flaws, such as cracks and potholes. To develop a method that efficiently detects road damage while minimizing false positives and false negatives is the aim of using CNN, and categorizing issues with the roads. This can help to improve road safety and reduce maintenance costs by quickly identifying and repairing damage to the road. CNN is a powerful tool for identifying road deterioration and has the potential to significantly improve road maintenance and safety. Finding and assessing various forms of deterioration or damage, such as cracks, potholes, an structural: Highway Damage.

Increased efficiency and accuracy in detecting surface defects like cracks and potholes is the aim of applying Convolutional Neural Networks (CNN) for road damage detection. Road damage detection is a crucial component of infrastructure

II. RELEVANCE OF WORK

A road damage detection project based on machine learning is important because it can improve road safety and efficiency. By automating the process of detecting road damage, machine learning can help in the quicker and more precise diagnosis and repair of road defects. Better road conditions and fewer traffic incidents could be advantageous to all drivers.



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Mental IQ Detection Using Machine Learning

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Abstract : Mental IQ of the user with their age, ensuring transparency and security of each user. It will also give recommendation A Mental IQ Detection using the ML technology is software based application which is designed to detect the mental IQ with their age. Mental IQ assessment plays a pivotal role in understanding cognitive abilities and predicting academic and professional success. We have used Logistic Algorithm, Linear Algorithm, etc. It starts with getting information from registration form using java on android studio, where each user will have to give test series provided by the developer. After user gives test series, that's where ML comes in where we need to process the data using different libraries and algorithms to detect the based on their IQ level. The proposed research holds promise for facilitating more accessible, objective, and personalized evaluations of cognitive abilities, thereby aiding in educational, clinical, and organizational settings.

Keywords - mental IQ detection, cognitive evaluation, mental health, clinical evaluations.

I. INTRODUCTION

IQ measures intelligence based on a person's ability to reason using logic. Intelligence testing asks participants questions that tests their memory, pattern recognition, and problem-solving capabilities. The test ultimately measures where an individual falls on a scale of intelligence based on other people in that age group. Formally referred to as "intellectual quotient" tests, IQ tests come in many forms. They can help diagnose intellectual disabilities or measure someone's intellectual potential [1]. They are designed to measure the global mental capacities of an individual in terms of verbal comprehension, perceptual organization, reasoning, and so on.[2] The goal is generally to assess the subject's aptitude for a certain vocation or academic study. A set of exercises meant to evaluate the ability to construct abstractions, learn, and deal with unexpected situations comprise intelligence testing[3].

Experimental evaluations conducted on a large dataset demonstrate the efficacy of the proposed approach in accurately detecting mental IQ scores. Comparative analyses with existing methods showcase superior performance in terms of accuracy, efficiency, and scalability.

Also, some apps use clever computer programs to suggest things that can help improve mental health. All these findings show that the "Mental IQ Detection" project is on the right track, as it aims to combine these ideas and use technology to help people understand their mental health and thinking skills better.[5] IQ test continue to be one of most reliable tools to measure intelligence skills of the human. The Intelligence Quotient (IQ) tests and the corresponding psychometric explanations dominate both the scientific and popular views about human intelligence.[9] The proposed framework integrates a diverse array of features extracted from cognitive tasks, psychometric assessments, and physiological signals to infer an individual's mental IQ score.

II. RELEVANCE OF WORK

Detecting mental IQ using machine learning is a complex and challenging task, and it's a topic that has generated extensive research and discussion in the field of psychology and artificial intelligence.

IQ detection can be administered and used for a number of reasons. The most common reason why a parent would be seeking to find out their child's IQ is to 'diagnose' poor school performance. For adults, the most common reason for wanting an intelligence quotient test is for career guidance or to determine job suitability.

Early Detection and Intervention: ML algorithms can analyze patterns in cognitive data to detect signs of intellectual disabilities or developmental delays at an early age, allowing for timely intervention and support.

Personalized Learning: ML models can adapt educational materials and approaches based on an individual's mental IQ, catering to their specific strengths and weaknesses for more effective learning outcomes.

Clinical Diagnosis and Monitoring: ML algorithms can assist clinicians in diagnosing conditions such as intellectual disability, autism spectrum disorder, or attention deficit hyperactivity disorder (ADHD) by analyzing cognitive assessments and behavioral data.



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Smart Farming System

Prof. P. A. Taingave¹, Purushottam Kamble², Pratiksha Patil³, Pratiksha Satape⁴, Preeti Kadam⁵, Prajakta Vhankhande⁶

Dept of Information Technology, Dr. J. J. Magdum College of Engineering

Abstract: The purpose of Farming management system is to automate the existing farming system by advanced features such as whether detection, temperature detection, prediction of whether, suggestion of crop as per given whether, count intensity of light and measure PH value of soil. The Farming Management System is a comprehensive digital solution designed to streamline and optimize agricultural operations for modern farmers. This innovative software application leverages cutting edge technology to enhance the efficiency, productivity, and sustainability of farming practices. The required software and hardware system is easily available for this project and it is secure, reliable system to make smart farming.

Keywords: Farming; Farmer.

I. INTRODUCTION

The purpose of Farming management system is to automate the existing farming system by advanced features such as whether detection temperature detection and prediction of a whether as per their requirements. The required software and hardware system is easily available for this project and it is secure, reliable system to make smart farming. The Farming Management System aims to revolutionize traditional farming practices by implementing cutting-edge technology and advanced features. This comprehensive system seeks to enhance efficiency and productivity in agriculture through the integration of software and hardware components. One of the primary objectives is to automate various aspects of farming, reducing the manual labor and human error involved. This includes automating irrigation based on weather conditions, monitoring soil moisture levels. The farm management system has been developed to override problems about farming. It eliminates the farming related errors this is farm management system which overcome challenges by predicting a good whether. It give more production. It helps to improve a way of farming.

A Farm Management System with temperature, humidity, and light monitoring is a modern solution designed to optimize agricultural practices. By integrating advanced sensors and technology, it allows farmers to closely monitor and control environmental conditions within their farm, ensuring optimal growth and yield for crops and livestock. This system provides real-time data on temperature, humidity, and light levels, enabling farmers to make informed decisions, automate processes, and ultimately improve the overall productivity and sustainability of their farm operations. In addition to monitoring temperature, humidity, and light levels, a Farm Management System can offer several valuable features. It often includes data logging and analysis tools, enabling farmers to track historical trends and make data-driven decisions for crop rotation, irrigation scheduling, and pest management. Some systems also integrate with weather forecasts to help farmers plan activities more effectively. This includes automating irrigation based on weather conditions, monitoring soil moisture levels. The farm management system has been developed to override problems about farming. It eliminates the farming related errors this is farm management system which overcome challenges by predicting a good whether. It give more production. It helps to improve a way of farming.

Moreover, these systems may offer remote access and alerts through mobile apps or web interfaces, allowing farmers to keep an eye on their farm even when they are not physically present. This feature enhances convenience and enables timely responses to unexpected changes in environmental conditions. Overall, a Farm Management System with temperature, humidity, and light checking empowers farmers to enhance crop quality, reduce resource waste, and increase their overall yield, contributing to more sustainable and profitable agricultural practices.

II. LITERATURE REVIEW

Smart Agriculture to Measure Humidity, Temperature, Moisture, Ph. and Nutrient Values of the Soil using IoT: Asadi Venkata Mutyalamma, Gopisetty Yoshitha, Althi Dakshyani, Bachala Venkata Padmavath.

Smart Agriculture now-a-days reducing various problems in farming. Farmers get required information and relative data to monitor the plants growth by the use of "INTERNET OF THINGS (IOT)", which connects the different sensors, actuators and other embedded devices. To provide quality crops based on soil nutrient level and its moisture content along with Ph. factor, also been maintained. Hence, in this project all those parameters are detected and controlled with the help of micro controller. Humidity sensor to detect the moisture content, where colour sensor is used to determine the percentage of soil nutrients (N2, P4 & K).



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Good luck for your future endeavors

P. A. Tamgave

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Tourist Guide With Augmented Reality

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Abstract : This study aims to examine the use of the application in tourism field on the question of what augmented reality applications mean, which is one of the endpoints of technology for tourism. With the study of in-depth literature, firstly augmented reality has been determined, and the changes and developments it has undergone throughout the history have been examined. Then, its areas of use and the types have been examined. Today, it is thought that the augmented reality, being the newest dimension of technology and seems it is almost impossible not to use in the area of tourism will provide a huge amount of marketing convenience and competitive advantages. In this article, twelve case studies on the application used in many fields of tourism such as transportation, accommodation, food & beverage and museums, have been analysed.

As a result of these analyses, it is seen that augmented reality applications, which are used in this field increasingly, provide a great marketing convenience to businesses and destinations. Augmented reality applications, playing a major role in the travels of tourists, make consumers feel safer while making the travels easier. It is thought that all businesses that want to capture market progress in the coming years and aim to provide competitive advantage by making a difference in influencing tourists will intensively use augmented reality applications.

Keywords - Tourism; Tourist; Augmented reality.

I. INTRODUCTION

Augmented Reality is a complex field utilizing information technologies in diverse areas such as medicine, education, architecture, industry, tourism and others by augmenting the real-time real-world view with additional superimposed information in chosen formats. The aim of this paper is to present an overview of application aspects of using augmented reality technologies in tourism domain technology.

This technology is revolutionizing the traveler's experience by making the journey more seamless, interactive, and simple. Thus, enhancing the tourist experience throughout the process. Augmented reality is an interactive experience of a real-world environment where the objects that reside in the real world are enhanced. The use of augmented reality technology within the travel industry is still a relatively recent development and, as a result, new uses are emerging all the time.

Augmented Reality focuses in enhancing physically-based reality perception through computer-generated sensory output. Augmented Reality: Is a visualization technique that superimposes computer generated data, such as text, video, graphics, GPS data and other multimedia formats, on top of the real-world view, as captured from the camera of a computer, a mobile phone or other devices.

Tourism has evolved significantly over the years, with travelers increasingly seeking immersive and interactive experiences. In response to this demand, the development and integration of Augmented Reality (AR) technologies into the tourism industry have gained momentum. This report introduces an innovative Augmented Reality Tourist Guide Application that aims to enhance the tourist experience, provide valuable information, and create memorable journeys for travelers.

Augmented Reality, often referred to as AR, is a technology that overlays digital content on the real world, making it an ideal tool for enhancing tourism. By using AR, tourist guide applications can provide users with a more interactive and informative experience. This application combines the rich cultural heritage of destinations with cutting-edge technology to create a seamless and captivating experience for tourists.

The tourist industry has undergone a significant transformation in recent years, driven by technological advancements and changing traveler preferences. Traditional paper guidebooks and static brochures are rapidly being replaced by innovative digital solutions, with augmented reality (AR) applications at the forefront of this revolution. This shift towards AR in tourism has opened up exciting possibilities for enhancing the tourist experience by providing interactive and immersive guides to travelers. This introduction serves as a foundational exploration of the concept of a "tourist guide with augmented reality application," outlining the driving factors behind this technology, the advantages it offers, and the potential impact on the tourism industry.

I. Evolution of Tourism and Technology:

The tourism industry has always been closely intertwined with advancements in technology. From the advent of photography to the proliferation of the internet, technology has consistently reshaped the way travelers plan and experience their journeys. Today, as the world becomes increasingly interconnected and digital, tourists expect more dynamic and personalized experiences. The rise of smartphones and their ubiquity in travel has provided the perfect platform for AR applications to flourish. These apps can overlay digital information onto the physical world, seamlessly blending the virtual and real, which is an ideal fit for the evolving expectations of modern tourists.



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Blind Plotter: Ultrasonic GPS Project

¹⁾ Prof. Mrs. S. B. Holkar, ²⁾ Neha Ulhas Khanaj, ³⁾ Shubhangi Pujari, ⁴⁾ Pournima Patil, ⁵⁾ Aishwarya Kale

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ABSTRACT

Blinds Potter is a revolutionary device designed to assist individuals with vision impairments in navigating their surroundings. Unlike traditional GPS systems, it excels at indoor navigation, providing precise location information and obstacle avoidance capabilities. The device compiles and organizes this data into a user-friendly computer program, offering a seamless and accessible experience. By enhancing independence and safety, Blinds Potter empowers users to navigate confidently, revolutionizing their daily lives.

Keyword: Blinds Potter, revolutionary device, vision impairments, indoor navigation ,precise location information ,obstacle avoidance

1. INTRODUCTION

1.1 Literature Review

Assistive Technologies for the Visually Impaired:

Assistive technologies for the visually impaired encompass a wide range of tools designed to enhance their daily lives. This includes traditional aids like white canes, which offer tactile feedback and obstacle detection. Additionally, advanced wearable devices like smart glasses with integrated cameras and speech output capabilities provide real-time information about the environment.

Notable Publications:

Title: "Technological Interventions for Visually Impaired People"

Authors: Johnson, L., & Davis, M.

Publication Year: 2018

Summary: This paper provides a comprehensive overview of various assistive technologies available for visually impaired individuals, ranging from basic tools to cutting-edge wearables.

Ultrasonic Sensors in Navigation Systems:

Ultrasonic sensors have found extensive applications in navigation systems, particularly in robotics and assistive devices. These sensors emit high-frequency sound waves and measure the time it takes for the waves to bounce back after hitting an object. This information is then used to determine the distance between the sensor and the object.

Notable Publications:

Title: "Ultrasonic Sensing for Mobile Robot Navigation and Obstacle Avoidance"

Authors: Zhang, K., & Chen, X.

Publication Year: 2019

Summary: This paper offers a detailed examination of how ultrasonic sensors are utilized in mobile robot navigation, focusing on their ability to detect and avoid obstacles in real-time.



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Signed

Rashid Agarwal



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Editor-in-Chief
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Safe Communication Using Steganography

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Asst. Prof. Dept. Of Information Technology, Dr. J. J. Magdum College of Engineering, Jaysingpur

Student, Dept. Of Information Technology, Dr. J. J. Magdum College of Engineering, Jaysingpur

ABSTRACT

This research aims to propose a method of safe communication using steganography, which involves hiding information in other information to conceal the fact that communication is taking place. Digital images are one of the most popular file formats used for steganography due to their frequency on the internet. The project focuses on hiding secret information within images using steganography techniques. Different techniques have their respective strong and weak points, and their application requirements vary. The proposed technique allows users to choose the bits for replacement instead of using the least significant bit (LSB) replacement from the images. In this technique, the sender selects a cover image with the secret text or text file, hides it in the image, and sends it to the receiver through a private or public communication network. The receiver retrieves the secret text hidden in the stego-image using the software. This method provides a secure and user-friendly interface for individuals to exchange confidential messages. It leverages the power of image steganography to address the growing need for privacy and confidentiality in digital communication. By hiding messages within images, it ensures a covert and secure means of transmitting information while maintaining the visual appearance of harmless images.

Keywords: Encryption, decryption, steganography, safe communication.

INTRODUCTION

Steganography is derived from the Greek language, where "stegano" means covered and "graphical" means writing. It is a method of concealing secret data in another file in such a way that only the recipient knows about the existence of the communicated data, thus maintaining confidentiality. Steganography helps maintain secrecy between two communicating parties. In image steganography, secrecy is achieved by embedding data into the cover image and generating a stego image. There are different types of steganography techniques, each with its strengths and weaknesses. This paper reviews different security and data-hiding techniques used to implement steganography, such as LSB, ISB, MLSB, and others. Communication is a basic necessity in every growing area, and everyone wants the secrecy and safety of their communicating data. In steganography, the process of hiding information content inside any multimedia content like image, audio, or video is referred to as embedding. Both techniques may combine to increase the confidentiality of communicating data. Steganography finds its application in confidential communication, protection of data alteration, and access control systems for digital content distribution.

LITERATURE REVIEW

A literature review on safe communication and steganography can provide valuable insights into the current state of research in this field. Here's an outline of what such a review might cover, along

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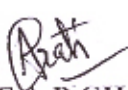
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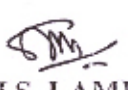
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1	Dr.D.B.Desai	A review paper on analysis of construction delays &their impact on project completion time & cost	IRJET	2024	2395-0072
2	Prof.K.G.Ghodake	Preparing design aids for Fe 550 & M 20 grade of concrete using SP-16	IJRASET	2024	2321-9653
		Preparing design aids for Fe 550 & M 25 grade of concrete using SP-16	IJRASET	2024	2321-9653
3	Prof.A.P.Chougule	Synthesis of Transportation tech & Multmodal Planning in smart city Transport Integration	IJAR SCT	Dec 2023	2581-9429
		Transportation System Incorporating Integrated GPS Technology	IJAR SCT	Jan 2024	2581-9429
		Traffic Analysis and Highway Capacity	IRJET	June 2024	2395-0056


PROF.A.P.CHOUGULE
FDC Coordinator


Dr.J.S. LAMBE
HOD,Civil

A Review Paper on Analysis of Construction Delays and Their Impact on Project Completion Time and Cost

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Abstract - The country's economic and social progress is significantly impacted by the construction industry. It is typical for most building projects to take longer than intended. Therefore, the purpose of this research is to identify the factors that can lead to construction project delays, ascertain the effects of these delays on project cost overruns, and provide strategies for preventing or reducing these delays. According to the report, building companies should ensure that there are adequate funds available throughout construction activities to prevent work stoppages and that they have qualified financial staff. It additionally suggests that timely payment progress be made and that proper financial oversight of the project is necessary. In the construction sector, delays in construction are common problems that negatively impact project success in terms of schedule, cost, and quality. A society can accomplish its objective of promoting both rural and urban growth by means of the construction sector. It is one of the industries that contributes greatly to an economy's growth.

The purpose of the current research is to supply a brief description of the main causes of cost overruns in construction projects. This will assist project participants in locating the sources of these issues, treating them, and reducing their adverse consequences. The goal of this research is to guide professionals in the field in implementing the required strategies to prevent delays in public sector construction initiatives.

Key Words: (Construction Delay; Sorts of Delay, Factors affecting Delay, Causes of Delay etc.)

1. INTRODUCTION

This study examines how delays in scheduling affect the rising amount of project costs in construction. Because of unforeseen activities throughout the project life cycle, there were longer delays and cost overruns. One of the most important issues with the construction process is delays. The original estimates of time and cost were exceeded due to delays. The only way to cut delays is to find and investigate their causes. In the construction industry, a delay is any period of time that continues past the contract's completion date or the project delivery date that the parties have settled upon.

Consequently, it appears that time delays and cost overruns are frequently encountered in building sectors due to poor scheduling, inaccurate project cost estimation, and outside events that hinder the project's execution, such as conflicts near the project area.

In defer project encounters postpones in development period where various holes happened between the real advancement on location work and booked work. Thus, projects are neglected to finish in development period according to agreement and this inability to accomplish designated time, planned cost and determined quality outcomes in different adverse consequences. During the time spent gathering project achievement models, changes to the first arrangement of an undertaking is unavoidable, subsequently this exploration studies and looks at the impacts of changes in project plan to the outcome of the venture.

Delay is the cycle where the development project dials back ceaselessly it altogether while concealment is the stoppage of the undertaking guided from the clients to the worker for hire. Cost overruns have been identified as the construction industry's primary issue by a number of studies. It impact in all stages inside project life cycle from first to end. Therefore, cost overruns are a serious problem in construction projects that necessitate serious attention from all project participants. Hence, it is important to look through about the reasons for cost overwhelm in development tasks to work on the expense execution.

2. LITERATURE REVIEW

1)Zayyanu Mohamed and Umar Bello (2022) studied about "Causes of Delay in Construction Projects: A Systematic Review". He concluded that, reasons for defers in developments project which were analyzed in light of six key arrangements: the time appropriation of the articles, where the articles were composed, article type, which diary distributors were taken on by the articles research techniques utilized and the subjects investigated in the articles. The discoveries showed that the landmass with most noteworthy articles on reasons for postpone in development projects is Asia. Greater part of the articles checked on- were- observational investigations and study strategy was for the most part

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Preparing Design Aids for Fe550 Steel for M20 Grade of Concrete Using SP-16

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⁵Prof. Kiran Ghodke Dr. J.J. Magdum College of Engineering, Jaysingpur

Abstract: The main purpose of this paper presentation is to develop design aids for Fe 550 grade of steel from sp 16 handbook. The design aids prepared will be in the form of tables which will benefit in the calculations of various components of concrete structures. To prepare design aids for FE550, you would need to focus on creating resources that cover various aspects related to structural design, specifically for materials like Fe550. Design aids typically include information on material strength, stress-strain relationships, flexural members, compression members, shear and torsion, development length, anchorage, deflection calculation, and general tables, explanations of the basis of preparation, and worked examples illustrating the use of the design aids.

I. INTRODUCTION

SP 16 is a Handbook consisting of various tables to assist the Concrete Designers to find the data and results quickly and some examples how to use those tables.

The sp 16:1980 has tables and charts that help structural engineers to design simple sections rapidly for Fe 250, Fe 415 and Fe 500 but do not include grade of steel higher than Fe 500.

IS 456:2000 is a statutory authority to a designer who has to follow the clauses in every letter and spirit.

IS 456 contains complete set of guidelines & information regarding Reinforced Concrete while SP 16 is aid to IS 456 i.e., SP16 assists in designing reinforced concrete structures according to IS456.

The paper presentation focus on the steel of grade Fe 550 which is not available in the sp16 handbook.

II. LITERATURE REVIEW

[1] These design aids have been prepared on the basis of work done by Shri P. Padmanabhan, Officer on Special Duty, ISI. Shri B. R. Narayanappa, Assistant Director, ISI was also associated with the work. The draft Handbook was circulated for review to Central Public Works Department, New Delhi; Cement Research Institute of India, New Delhi; Metallurgical and Engineering Consultants (India) Limited, Ranchi, Central Building Research Institute, Roorkee; Structural Engineering Research Centre, Madras; M/s C. R. Narayana Rao, Madras; and Shri K. K. Nambiar, Madras and the views received have been taken into consideration while finalizing the Design Aids.

[2] IS 456:2000

III. METHODOLOGY

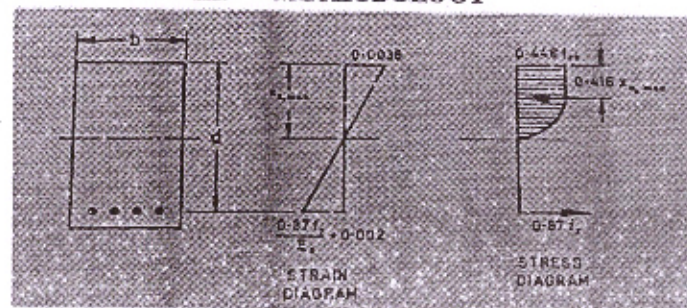


Fig 1.Stress - strain Diagram



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Preparing Design Aids for Fe550 Steel for M25 Grade of using Concrete from SP-16

Prof. Kiran Ghodke¹, Mr. Prathamesh Kamble², Ms. Sakshi Patil³, Mr. Zorengpuia Liantluang⁴, Mr. Omkar Erandole⁵

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⁵Prof. Kiran Ghodke Dr. J.J. Magdum College of Engineering, Jaysingpur

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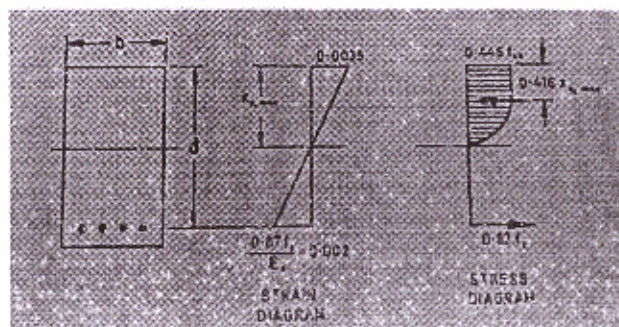
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III. METHODOLOGY



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Synthesis of Transportation Tech and Multimodal Planning in Smart City Transport Integration

Arati Chougule¹ and Dr. Sambhaji Balkrishna Padwal²

Research Scholar, Department of Civil Engineering¹

Research Guide, Department of Civil Engineering²

Sunrise University, Alwar, Rajasthan, India

Abstract: *The integration of transportation technologies and multimodal transportation planning lies at the heart of building smart cities that are efficient, sustainable, and resilient. This abstract explores the synergies between emerging technologies and comprehensive multimodal transportation strategies within the context of urban development. By seamlessly integrating technologies such as Internet of Things (IoT), artificial intelligence (AI), and data analytics into transportation infrastructure, cities can optimize traffic flow, enhance safety, and improve overall mobility experiences for residents and visitors. Furthermore, multimodal transportation planning, which considers the seamless coordination and connectivity between various modes of transportation including public transit, cycling, walking, and shared mobility services, becomes instrumental in fostering a more integrated and inclusive urban mobility ecosystem. This abstract delves into the key components and benefits of integrating transportation technologies with multimodal planning in smart cities, highlighting the potential to reduce congestion, minimize environmental impact, and enhance accessibility for all citizens. Through case studies and analysis, it demonstrates how such integration can lead to more efficient transportation systems that support economic growth, social equity, and environmental sustainability in the urban landscape of tomorrow.*

Keywords: Transportation Technologies, Multimodal Transportation Planning

1. INTRODUCTION

The integration of transportation technologies and multimodal transportation planning lies at the heart of the vision for smart cities, where innovative solutions converge to create efficient, sustainable, and interconnected mobility systems. As urban populations burgeon and cities face increasing challenges related to congestion, pollution, and limited infrastructure capacity, the need for integrated transportation solutions becomes paramount. This integration entails the seamless amalgamation of various transportation modes, such as public transit, cycling networks, ride-sharing services, and emerging technologies like autonomous vehicles and electric mobility, into a cohesive and user-centric framework. By leveraging advancements in digitalization, data analytics, and Internet of Things (IoT) technologies, smart cities aim to optimize transportation networks in real-time, enhance accessibility, and improve overall quality of life for residents and visitors alike. Multimodal transportation planning within the context of smart cities encompasses strategic decision-making processes that prioritize the efficient movement of people and goods while minimizing environmental impact and enhancing social equity. This introduction sets the stage for exploring the intricate interplay between transportation technologies and multimodal planning in the context of smart cities, highlighting the transformative potential of integrated solutions in shaping the future of urban mobility.

SYSTEM DEVELOPMENT

The methodology and analysis used in your research project should be documented in this section. Using the title's keywords in the opening few phrases of your writing is an easy tactic to use.

Introduction

Any system's key components may be examined from a wider angle if the case study is examined, which includes every facet related to the research topic's objectives. This thesis focuses on the employment of technology interventions in

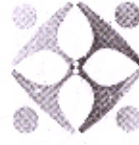
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Transportation System Incorporating Integrated GPS Technology

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Research Guide, Department of Civil Engineering²

Sunrise University, Alwar, Rajasthan, India

Abstract: Using "bus tracking" software, buses are tracked and their stop distances calculated. The administrator or user may track the vehicle by installing an electronic device in the automobile and downloading an Android app to any SMART phone. Two applications client and server. GPS trackers are on buses. These ranks are updated regularly for the server. Client application displays bus position on map. It shows bus whereabouts on a map and updates clients at different intervals. The server will monitor location and save data in a database. GPS data is transferred automatically to a central computer, system, or SMART phone, making it real-time. The user is notified of bus arrival. This Android app uses SQ Lite on a SQL Server for its backend. Customers may plan their trips and pick bus times using the app. User wait times may be reduced. The Bus Tracking system relies on simple communication

Keywords: Vehicle management, Real-time monitoring

1. INTRODUCTION

Transport Management System (TMS) integrated GPS/GIS to collect on-road traffic data from probe vehicles. This system is coupled to a vehicle's engine management system to provide second-by-second GPS position, speed, distance traveled, acceleration, fuel consumption, engine performance, and air pollution emissions. All GPS/GIS tracking systems employ the Global Positioning System to detect and register an item's location, which may be used to calculate its speed. Government and law enforcement enjoy the technology's civilian usage. Transportation data, like other social science and civil engineering data, is typically geographical. Travel time information connects to routes, origin-destination information to regions, and traffic counts to locations[1]. These include discovering, tracking, mapping, navigating, and timing[2].

The TMS relies on GPS data for static observations and dynamic vehicle tracking. GIS plays a vital role in data entry, integration, administration, analysis, and display [3].

The US Department of Defense launched satellites to construct GPS. Every instant, three or more of the 24 satellites in orbit will be accessible beneath the earth [4]. Japan and the EU are now developing systems similar to theirs.

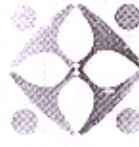
Receivers may receive signals from at least three satellites to assure accuracy. GSM (Global System for Mobile Communications) technology sends this and shows the vehicle's location at the base station [5] and on sensitive roadside cameras.

GIS and GPS may be connected several ways. GIS-GPS integration has various industrial applications [6, 7]. One of the fastest-growing sectors is vehicle monitoring, which includes vehicle speed check tools [8]. We will present the online-mode TMS based on vehicle tracking and speed check for vehicle (object) navigation in this research.

GIS and GPS have improved transportation management and monitoring. Vehicle monitoring systems are ideal for tracking mobile vehicles and minimizing traffic congestion. The system locates cars using GPS satellites, receivers, and other equipment. Display the vehicle's geographic coordinate on the monitoring system's digital road map. Conventional database systems can only hold reference data, therefore geographical or locational attributes are usually worthless. GIS can link a database's geographical attributes with regional maps and spatially integrate it with other relevant databases for that area.

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Traffic Analysis and Highway Capacity

Prof. Aarti chougule¹ Somanath Byelle², Omkar Mane³, Pranit Patil⁴, Sourabh Patil⁵, Abhijeet Nandavdekar⁶

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Abstract - Capacity evaluation of the Road (A case study on capacity evaluation of the Shirol bypass Road Kolhapur SH-166 lane dual carriage way) which is start from KPT and end at Nandani chowk Kolhapur the capacity of any location is define based on transverse of the vehicles at that point which is select for the research. The capacity of a road is impact by the number of lanes, width of lane, width gradient, the total population of that area and depend on the type of area that means if it is industrial area then automatically the capacity is more because of commercial vehicles as well as personal vehicles. With the help of Passenger Car Unit (PCU) the capacity is expressed. In India due to heterogeneous traffic and the movement of vehicles is not in discipline lane it is not easy to study and analysis the traffic

Key Words: Traffic capacity, speed, traffic flow

1. INTRODUCTION

Traffic flow studies are accompanied to determine the number, movement, and type of vehicles at a given location. Traffic flow analysis helps to improve the capacity of flow. Traffic flow analysis also helps to reduce the accident level. Traffic flow concepts to also describe in the mathematically way the interaction between vehicles and driver. The concept of traffic flow is a relationship between vehicles, drivers and type of infrastructure like highways, expressways, signals and devices which is install to control the traffic flow. The main purpose of understanding the traffic network is to help to reduce the traffic congestion. Due to increasing of population and transportation day by day the traffic +volume is increase to reduce this traffic we need to use some new technology which are discuss; in this research Use the enter key to start a new paragraph. The appropriate spacing and indent are automatically applied Traffic flow principle always represents in mathematically. It is always described the interaction between vehicle and the driver. So in my thesis "traffic analysis and highway capacity of sh-166 I will analysis the traffic and highway capacity In this I basically I am studying about traffic at Shirol bypass road and design a new type of carriageway that will to flow the traffic smoothly and as well as safely. I will suggest some important requirement which is very important to reduce the travel time and provide smooth and safe movement for traffic flow and for evaluating the capacity of the road I

choose the manual survey method and surveyed the road for one week and find the total volume of the traffic in the 7 days of week with peak and non- peak hour. It is usual to use volume and flow rate to measure the number of vehicles passing a point over a given point or section of a lane during a given time interval. Volume is the number of vehicles that pass a point for the duration of one hour. On the other hand, flow rate denotes the number of vehicles that pass a point through a time interval of less than 1 h in many industrialized nations today. Highways present engineers and governments with formidable challenges relating to safety, sustainability, environmental impacts, congestion mitigation, and deteriorating infrastructure.

As a result, highways are often viewed from the perspective of the many challenges they present as opposed to the benefits they provide. Historically, highways have always played a key role in the development and sustainability of human civilization. Today, in the India and throughout the world, highways continue to dominate the transportation system, by providing critical access for the acquisition of natural resources, industrial production, retail marketing, and population mobility. The influence of highway transportation on the economic, social, and political fabric of nations is far- reaching and, as a consequence, highways have been studied for decades as a cultural, political, and economic phenomenon. While industrial needs and economies forces have early played an important part in shaping highway networks, societies' fundamental desire for access to activities and affordable land has generated significant highway demand, which has helped define and shape highway networks. Given the above, the focus of highway engineering has gone from one of network expansion to one that addresses issues relating to infrastructure maintenance and rehabilitation, improvements in operational efficiency, various traffic-congestion relief measures, energy conservation, improved safety, and This shift has forced a new emphasis in highway capacity and traffic analysis.

2. OBJECTIVE

The main objective of this research is to analysis the traffic at KPT Chowk and NANDANI Chowk and suggests further improvement which is required to flow the traffic smoothly

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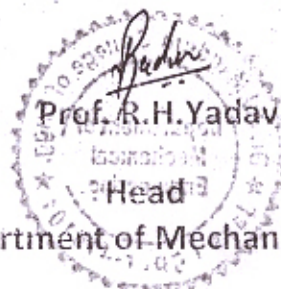
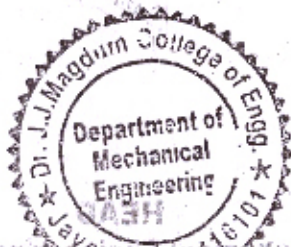
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Department of Mechanical Engineering

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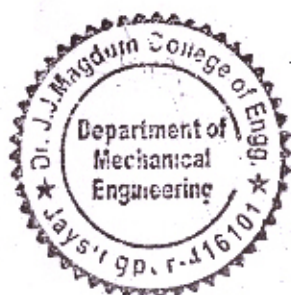
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Review on Reducing Weight of the Modern Bicycle

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ABSTRACT :

In today's world where more and more research is going to find out the more fuel efficient transportation vehicles. Here one of the transportation vehicle is bicycle. This bicycle should be efficient with less power consumption. The power consumption is human muscle power. Here by reducing the weight of the bicycle will cover more distance in same human muscle power. The advancement in the field of ergonomics plays a vital role in doing so. The developments on design and power transmissions have also reduced the weight of the bicycle.

Keywords: Material frames, chain stays, Paddle, Hub, Transmission systems.

1. INTRODUCTION

Today the biggest environmental problem is pollution. The major emission of harmful pollutants like carbon-monoxide, carbon-dioxide, and the unburnt hydrocarbons are affecting our ecosystem. So, in this era of such advanced technology, we should focus on coming up with sustainable solutions for the existing pollution causing technologies. To make a small start, we can concentrate on our transportation system and work on it. One of the transportation system is bicycle. This review paper is a sincere effort to focus on reducing weight by considering the modern-day advancements in the field of designing bicycle and its aspects. It covers all the topics involved in the design of a modern-day bicycle right from design considerations for frame, materials, alternative transmission systems, design of e-bike and its considerations along with calculations involved in component selections and finally including recent advancement in the wheel design. While compiling this review paper we have studied many papers to understand the selection criteria for the material and different parts of bicycle. We also studied different transmission systems like shaft driven, gear driven, transmission on the idea of treadmill and electrically assisted bicycles. The point of attraction in new age bicycles is the spoke less and the Centre less wheeled bicycles. It brings major effect for reducing weight in modern day bicycles.

2. LITERATURE REVIEW

1. Weight Reduction Case Study of crank :

Sean Sullivan from Chris Huskamp, IBC Advanced Alloys (2013) discussed the case study of weight reduction of a premium road bicycle crank arm set by implementing Beral cast 310. The first part of the study concerns the direct substitution of 7050-T651 Al with Beralcast 310. As mentioned previously, the crank arms are hollow forgings but the internal geometry is not known and was therefore not modeled. Graph outlines the final results of the substitution of Beralcast 310. The focus is on the relative differences between the two materials, therefore all of the results are shown as a percent difference. The figure 2.2 shows the graphical representation of weight reduction of existing crank. This study explores the Shimano Dura-Ace crank set in the following manner:

- Produce 3D CAD models of both crank arms.
- Perform FE analysis on the crank arms based on the standard 7050-T651 aluminum; this establishes a baseline strength and weight.
- Substitute the 7050-T651 Al with extruded Beralcast 310 alloy and observe the improvements in displacement and weight over the baseline figures.
- Show the potential weight savings by creating alternative versions of straight arm and compare them to the measured weight of the part.

2. Stress Analysis of Bicycle Paddle :

S. Abey Gunasekara and T.M.M. Amarasekara discussed the stress analysis of bicycle paddle and optimized by finite element method, describes and proposed improvements of designs with regard to minimize the weight, cost and optimum factor of safety. Failure of paddle crank means the progressive of sudden deterioration of their mechanical strength because of loading effect. Paddle make materials shown different properties as a result many advantages as well as disadvantages. However material strength should have ability to withstand an applied stress without failure. Generally, cranks are

Design and Development of Cloth Feeding and Cutting Mechanism for Medical Field

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Abstract— Today, many industries rely on machines to operate, which has drastically reduced the need for manual labor. India's leading manufacturers of industrial tools and equipment make high-quality goods. Cutting machines are also in high demand, and this sector requires new technology and modernization. In this project, we focused on an automatic cloth cutting mechanism for a variety of applications, such as cutting fabric and making masks.

INTRODUCTION

For improved immobilization of broken limbs, the FractoAid is an embedded composite wrap with integrated hook-and-loop closing straps. It is kept in a unique liner. The hybrid material has a good strength to weight ratio, a short 3-minute set time, and stiffness. The resistance is useful after five minutes. Water can easily enter the studs through the unique liner. The skin-contact layer protects the patient and is porous and biocompatible

Problem Statement and Background

TEN PERCENT OF HOSPITALIZATIONS IN INDIA ARE DUE TO TRAFFIC ACCIDENTS, AND THE MAJORITY OF THESE PATIENTS FREQUENTLY HAVE A DISABILITY OF SOME KIND. EVEN THOUGH ACCIDENT VICTIMS MIGHT ONLY HAVE BROKEN BONES, IMPROPER CARE GIVEN TO THEM WHILE BEING TRANSPORTED TO A HOSPITAL COULD HAVE MADE THINGS WORSE. AN UNCOMPLICATED SPLINT CAN AVERT THINGS FROM GETTING ABOMINABLE. THE BUSINESS NOW CUTS THE UNPROCESSED PRODUCT BY HAND TO THE REQUIRED LENGTH.

In order to improve performance and minimize human participation, the sponsoring company looked for automated cutting and feeding equipment.

OBJECTIVE

1. Necessary forms and suggested dies for cutting the raw material
2. To increase precision.
3. Utilize the Mechatronics Technology to shorten the time needed.

Literature survey:-

Literature Summary:-

Literature Gap:-

Proposed Work for the Project :-

1. Function: Using careful cutting and feeding, the fabric is given the proper stretch and form.

2. Parameters:

i) Type: cutting and feeding of cloth material.

ii) One operator is needed in terms of manpower.

iii) Capacity: Based on the width and length of the fabric.

iv) The approximate all-inclusive dimensions are 1230 x 1250x 835 mm. Using a cutting blade or dies, cut fabric.

v) General Details

vi) Selected size: In accordance with the manufacturer's chart.

vii) AC or DC power.

3. Evaluation of Various Key Mechanisms' Components.

i). Guiding roller shaft innovation and design.

ii). Fabric grip technique development and design.

iii). Spring construction.

iv). The Die Design.

v). Lateral reciprocating blades and die cutting operation

DESIGN.

4. Selecting the appropriate components, bearings, couplings, motors, and travels for an automated system.
5. Analysis of critical components
 - a. A guide roller evaluation.
 - b. An examination of the fabric-cutting machinery's mechanical linkages.
 - c. A drive shaft analysis.



Review on Reducing Weight of the Modern Bicycle

Prof. Vijay Jaysingrao Khot¹, Prof Prasad Ramchandra Kulkarni²

^{1,2} Associate Professor, Dr J J Magdum College of Engineering, Jaysingpur 416101

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RELIABILITY STUDY OF CENTERING AND PLUNGE FACING MACHINE

Prof. Yuvraj R. Patil^{*1}, Prof. Mahesh V. Kharade^{*2}

^{*1,2}Assistant Professor, Department Of Mechanical Engineering Dr. J.J. Magdum College Of Engineering, Jaysingpur, India.

ABSTRACT

It is important to analyze the reliability of a centering and plunge facing machine because its low reliability can hamper the production rate. Also life cycle cost optimization of the machine can help producer to meet customer demand and increase profitability of firm. This paper provides a review on Reliability Analysis and Life Cycle Cost Optimization of Centering & Plunge Facing Machine (500) in order to improve reliability and profitability of producer.

Keywords: Cost Optimization, Plunge Facing Machine (500), Centering Facing Machine.

1. INTRODUCTION

From last few decades economical approaches of the industries is continuously changing. Now days focus of industries are increasing on microscopic level than macroscopic level. To cope with other competitors, many machine tool manufacturers have begun to give importance to the reliability of machine tools. Because expensiveness and complexity of these machine tools analysis of their field failure data becomes important. Informed customers not only weigh the ability of the product to meet their requirements, and the purchase price of the product, but also the costs that will be incurred to maintain the function of the product over its life time. Hence, reducing the maintenance cost of a product will increase its value and attractiveness to the customer. The reliability based design focuses on three terms such as reliability, availability and maintainability. Reliability is defined to be the probability that the component or system will perform its intended functions for a specified period of time when used under stated operating conditions. In simple words, reliability is nothing but the non-failure of the system over a given period of time. Maintainability is defined as the probability that an item will be retained in or restored to a specified condition within a given period of time. Availability is defined as the probability that a component or system is performing its required function at a given point in a time when used under stated operating conditions. Availability may also be interpreted as percentage of time a component or system is operating over a specified time interval or the percentage of components operating at a given time. Availability can be mathematically defined in several different ways, depending on how system uptime and downtime are measured. It differs from reliability in that availability is the probability that the component is currently in a non-failure state even though it may have previously failed and have been stored to its normal operating conditions. Therefore, system availability can never be less than system reliability.

II. CENTERING AND PLUNGE FACING MACHINE (500)

FIE Group Company-SPM TOOLS, Ichalkaranji are leading manufacturers of Centering & Plunge Facing Machine. These machines are used in small scale as well as large scale industries for catering, plunge facing, chamfering and external turning of the two ends simultaneously of the bar stock, such as camshaft, crankshaft, motor-shaft, universal joint etc. They are used for mass production. For increasing saleability, durability and compete their competitors, research, redesign and development work is going on. The main objective of this research is to improve reliability, and optimize the total life cycle cost in order to increase availability. Shown in Fig. 1 is most sellable and used for mass production.



Fig. 1: Centering and Plunge Facing Machine (500)

The failure of this model is not economical for customers. Due to this reason, this model is selected for reliability



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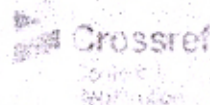
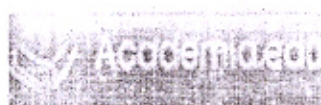
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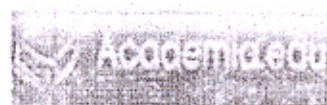
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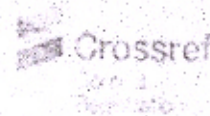


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E-waste -A big challenge to environmental sustainability	Dr. Swaleha M. Attar	English	IJPREMS	Sept. 2023	2583-1062	www.ijprems.com

EMPOWERING ENGLISH THROUGH AI

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ABSTRACT

In recent years, the integration of Artificial Intelligence (AI) technology into education has revolutionized the way languages are learned and taught. This paper explores the transformative potential of AI in empowering English language learning. AI-powered language learning applications such as Duolingo, Babbel, and Rosetta Stone offer personalized, interactive, and adaptive learning experiences that cater to individual needs and preferences. Through personalized lessons, immediate feedback, and real-time corrections, these applications facilitate comprehensive improvement in English grammar, vocabulary, and pronunciation. AI-powered speech recognition software such as Google Speech-to-Text and Microsoft Speech Recognition aids in practicing and improving spoken English. These tools transcribe speech, provide feedback on pronunciation, and offer interactive language exercises, facilitating enhanced speaking and listening skills. Language exchange platforms like HelloTalk and Tandem connect learners with native speakers for conversational practice, enabling real-time feedback and cultural exchange.

1. INTRODUCTION

In today's interconnected world, proficiency in English communication is increasingly essential for academic, professional and social success. With the rapid advancement of technology, artificial intelligence (AI) has emerged as a powerful tool to boost language learning and communication skills. This paper provides a comprehensive overview of the various ways AI is being utilized by people to improve English communication. There are various AI powered language learning apps offer personalized lesson, interactive exercises, and real-time feedback to help learners enhance grammar, vocabulary, pronunciation and fluency. These apps adapt to individual learning styles and progress, making language acquisition more engaging and effective. Writing assistance like Grammar, pro writing aid, Ginger Software and Language tools, leverage AI algorithms to correct grammatical errors, suggest vocabulary enhancements, and refine writing style, thereby improving return English proficiency. These tools provide valuable support for students, professionals and non-native speakers in learning clear and polished written communication. There are various AI-driven speech recognition software's which assists learners in practicing and refining spoken English by transcribing speech, providing pronunciation feedback, and facilitating interactive language exercises. This technology enables students to improve their speaking skills through guided practice and instant feedback. Also, Language exchange platforms and virtual writing tutors employ AI to connect language learners with native speakers for conversational practice and provide personalized feedback on writing assignments, respectively. These platforms offer opportunities for immersive language experiences and tailored support, contributing to overall language proficiency development.

How students can use various tools of AI in improving English: Students can enhance their English language skills using various AI tools in multiple ways:

- **Speech Recognition Software's:** AI-powered speech recognition software such as Google Speech-to-Text and Microsoft Speech Recognition helps students practice and improve their spoken English. These tools transcribe speech, provide feedback on pronunciation, and offer interactive language exercises, enabling students to refine their speaking abilities.
- **Language Exchange Platforms:** Platforms like HelloTalk and Tandem use AI to connect language learners with native speakers for language exchanges. These platforms allow students to practice conversational English in real-life contexts and receive feedback from fluent speakers, enhancing their speaking and listening skills.
- **Text-to-Speech Tools:** AI-driven text-to-speech tools, including Google Text-to-Speech and Amazon Polly, convert written text into spoken language. These tools help students to improve their listening and pronunciation skills by allowing them to hear the correct pronunciation and practice speaking along with the audio.
- **Virtual Writing Tutors:** AI tutors such as eAngel and QuiltBot offer personalized feedback and guidance on writing assignments. These tools help students improve their writing skills by providing targeted suggestions and corrections, enhancing their grammar, style, and overall writing proficiency.
- **Writing Assistants:** Tools like Grammarly and ProWritingAid help students improve their written English by identifying and correcting Grammatical errors, spelling mistakes, and punctuation issues, as well as providing suggestions for vocabulary and style enhancement.

How grammarly can be used in improving English language:

Grammarly is a versatile tool for improving English language skills in various ways. It's AI-powered engine can detect and correct grammatical errors and spelling mistakes in written English, helping users refine their writing and avoid common mistakes. It also suggests synonyms and alternate word choices to diversify vocabulary and improve the clarity and superiority of writing. It provides Tone and Style Suggestions feedback helping users to maintain consistency and adjust their language to suit different contexts and audiences. Grammarly offers explanations for suggested corrections, helping users to understand grammar rules and learn from their mistakes. Grammarly's plagiarism checker helps users ensure the originality of their writing by identifying passages that may need citation or revision. Overall, Grammarly serves as a comprehensive writing assistant that supports users in enhancing their English language skills by providing real-time feedback, explanations, and suggestions for improvement.

- AI powered language learning apps for improvisation:

Several AI-powered language learning apps are available, each providing unique features and approaches to language acquisition. Popular options like Duolingo, Babbel, Rosetta Stone, memrise and HelloTalk leverage AI to deliver personalized lessons, immediate feedback, and interactive exercises that enhance grammar, vocabulary, and pronunciation skills.

Duolingo: uses AI to adapt lessons to each learner's pace and proficiency level. It employs a gamified approach to make learning engaging and enjoyable, providing instant feedback on exercises to help users understand and correct their mistakes. The app covers a wide range of topics and offers practice in reading, writing, listening, and speaking.

Babbel: focuses on practical conversation skills and real-life scenarios. It uses AI to customize lessons based on the user's language proficiency and learning goals. Babbel's interactive exercises and dialogues are designed to improve vocabulary retention and grammatical accuracy, offering immediate feedback to ensure learners can apply what they've learned in real-world situations.

Rosetta Stone: employs an immersive learning method, encouraging users to learn English through context and visual cues rather than direct translation. Its AI-driven approach adjusts lessons to match the learner's progress and proficiency, providing personalized practice sessions that enhance speaking and listening skills. The app's speech recognition technology offers real-time feedback on pronunciation, helping users to refine their accent and fluency.

Busuu: Uses AI to personalize lessons, provide feedback on writing and pronunciation, and facilitate language exchange with native speakers.

HelloTalk: Combines AI-powered language correction with social networking features, allowing users to practice writing and speaking with native speakers worldwide.

Memrise: Employs AI to optimize vocabulary learning through spaced repetition, interactive activities, and mnemonic techniques.

2. CONCLUSION

These AI-powered apps create a dynamic and adaptive learning environment, making language acquisition more efficient and enjoyable. By utilizing personalized lessons and interactive exercises, they help learners to improve their English grammar, vocabulary, and pronunciation in a comprehensive manner. As a result, students can experience a more personalized and effective learning journey, enabling them to achieve their language goals more quickly and effectively. By incorporating these AI tools into their language learning routines, students can receive personalized feedback, practice language skills in various contexts, and significantly enhance their overall proficiency in English. Happy Learning!!

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ISSUU

QUEST FOR IDENTITY IN "THE AIRHEAD TRILOGY" BY MEG CABOT

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ABSTRACT

Identity is a fundamental aspect of human existence, shaped by individual experiences, relationships, and societal influences. In literature, the quest for identity often serves as a central theme, reflecting the universal human desire to understand oneself and find a sense of belonging in the world. Meg Cabot's "The Airhead Trilogy" intricately explores this theme through the journey of Emerson Watts, a relatable protagonist thrust into extraordinary circumstances. By examining Emerson's quest for identity amidst the glamorous yet tumultuous world of fashion and celebrity, this paper aims to unravel the complexities of self-discovery and authenticity depicted in Cabot's trilogy.

This research paper delves into the nuanced portrayal of identity within the trilogy, analyzing the internal and external conflicts faced by Emerson as she grapples with the complexities of her newfound existence as supermodel Nikki Howard.

1. INTRODUCTION

Meg Cabot, a prolific author known for her work in young adult fiction often emphasizes the importance of authenticity and relatability in her writing. She is indeed a prominent writer in the realm of young adult fiction. She believes that teenagers are complex individuals with real life struggles and her goal is to capture their voices and experiences in her novels. Her novels are known for their humor, wit, and engaging storytelling, which have endeared her to readers around the world. Cabot's writing typically features strong and independent female protagonist who navigate the challenges of adolescence while also exploring themes of friendship, romance and self-discovery.

One of Cabot's most famous series is "The Princess Diaries" which follows the life of Mia Thermopolis, a teenage girl who discovers she is the heir to the throne of a small European principality. In addition to The Princess Diaries, Cabot has penned numerous other successful young adult series and stand-alone novels, each showcasing her ability to capture the essence of adolescence with authenticity and heart. Her contribution to the genre have earned her a dedicated fan base and cemented her status as a beloved author in young adult literature.

Meg Cabot's contributions to young adult fiction have made her a beloved figure in the genre and her books continue to captivate readers of all ages with their humor, heart, and authenticity.

The Airhead trilogy written by Meg Cabot, focused on the age group between 12 to 18, which is released on 13th May 2008. Central character of this trilogy is a teen girl which belongs to the age group of young adult, neither child nor adult. She is the protagonist of the three novels. Meg Cabot's "The Airhead Trilogy" presents a captivating exploration of identity through the lens of its protagonist, Emerson Watts, who undergoes a transformative experience that challenges her sense of self. The trilogy is based on science fiction. Science or paranormal fiction is something beyond imagination and abnormal.

"Science fiction is a genre of fiction dealing with imaginative content such as futuristic settings, futuristic science and technology. It also explores the potential consequences of scientific and other innovations, and has been called a "literature of ideas".

Authors commonly use science fiction as a framework to explore politics, identity, desire, morality, social structure, and other literary themes.

The Airhead Trilogy is a combination of speculative science fiction and fashionable world. All the three books: Airhead, Being Nikki and Runaway based on advance science fiction. The glamour, the sarcastic way of life, the inner world of models shown here. The story is about a fashionable model and a simple common girl, the two opposite things. Meg Cabot combines these two elements with the touch of modern technology in the characters of Airhead Trilogy. It is Indeed a fascinating series that delves into themes of identity self-discovery, and the complexities of modern life. The trilogy follows the story of Emerson Watts, a high school student who finds herself thrust into the world of high fashion and celebrity after a freak accident results in her brain being transplanted into the body of supermodel Nikki Howard. One of the central theme of the trilogy is Emerson/Nikki's quest for identity. Throughout the series Emerson grapples with the challenges of reconciling her true self with the expectations and pressures imposed upon her by society, her family, and the fashion industry. As Nikki Howard she is expected to conform to certain standards of beauty and behaviour which often conflict with her own values and personality. This struggle for authenticity and self-acceptance forms the core of a journey.

Emerson's experiences as Nikki also force her to confront the superficiality and shallowness of the fashion world, prompting her to question what truly matters in life. As she navigates the glamorous but cutthroat industry she learns valuable lessons about friendship, love, and staying true to oneself. Ultimately, *The Airhead Trilogy* is a compelling exploration of identity and the search for meaning in a world that often prioritizes image over substance. Through Emerson Nikki's journey, Meg Cabot invites readers to reflect on the importance of staying true to oneself and finding one's own path in life, even in the face of overwhelming pressure to conform. This research paper delves into the nuanced portrayal of identity within the trilogy, analyzing the internal and external conflicts faced by Emerson as she grapples with the complexities of her newfound existence as supermodel Nikki Howard. Through automatic analysis of the trilogy, this paper elucidates how Cabot navigates the themes of self-discovery, authenticity, and societal expectations, inviting readers to contemplate the nature of identity in a contemporary context.

The Convergence of Identities:

Emerson Watts vs. Nikki Howard: At the heart of the trilogy lies the juxtaposition of Emerson's original identity as a tech-savvy high school student and her new persona as supermodel Nikki Howard. Cabot skillfully navigates the convergence of these identities, highlighting the tensions and conflicts that arise when one's internal sense of self clashes with external perceptions. **The Identity Paradox:** Emerson's transformation into Nikki Howard blurs the boundaries between authenticity and artifice, prompting existential questions about the nature of identity and the extent to which it is influenced by external factors. Cabot's portrayal of this identity paradox underscores the complexity of selfhood in an age of superficiality and image-driven culture.

Self-Discovery and Personal Growth:

Journey of Self-Exploration: Throughout the trilogy, Emerson embarks on a journey of self-discovery, gradually uncovering her true identity amidst the chaos of fame and fortune. Cabot portrays identity as a fluid, dynamic and evolving construct, shaped by personal experiences and introspection. **Finding True Identity:** Ultimately, Emerson's quest for identity leads her to a deeper understanding of herself beyond the confines of societal expectations and external appearances. Cabot emphasizes the importance of self-acceptance and authenticity in the process of self-discovery, suggesting that true identity lies not in conforming to predefined roles but in embracing one's unique qualities and innermost desires. Emerson's experiences as Nikki Howard ultimately lead to personal growth and self-awareness, as she learns to embrace her authentic self and reject societal expectations.

Superficiality vs. Authenticity:

Identity in Fashion Industry: The fashion industry serves as a backdrop for Emerson/Nikki's quest for identity, exposing the superficiality and glamour associated with fame and beauty. Cabot analyses the industry's emphasis on image over substance, prompting readers to question societal norms and values. As Nikki Howard, Emerson grapples with the pressures of conforming to societal beauty standards, confronting issues of body image and self-worth. Cabot's exploration of these themes sheds light on the pervasive influence of media and fashion industries on individuals' perceptions of themselves and others. **Peer Pressure and Adherence:** In *The Airhead Trilogy*, Emerson struggles to maintain a sense of authenticity amidst the demands of her public persona as Nikki Howard. Cabot deftly examines the tension between portraying oneself authentically and adhering to societal expectations, highlighting the performative nature of identity in contemporary society.

2. CONCLUSION

Meg Cabot's *"The Airhead Trilogy"* offers a compelling exploration of the quest for identity in the modern world. Through the character of Emerson Watts, Cabot delves into the complexities of self-perception, societal pressure, and personal growth, inviting readers to reflect on their own journeys of self-discovery. By challenging conventional notions of identity and authenticity, Cabot encourages readers to embrace their individuality and celebrate the uniqueness of their own identities. Meg Cabot's *"The Airhead Trilogy"* offers a rich tapestry of themes revolving around the quest for identity in a rapidly changing world. Through the character of Emerson Watts, Cabot invites readers to contemplate the complexities of selfhood, authenticity, and societal pressures, prompting a deeper exploration of the nature of identity in contemporary society. By navigating the nuances of Emerson's journey, Cabot provides valuable insights into the human experience of self-discovery and the pursuit of true identity amidst the cacophony of external influences.

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On F-Index of Fuzzy Transformation Graphs

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Abstract

The F-index is sum of cubes of degrees of every vertex of G i.e.

$$F(G) = \sum_{i=1}^n d_G(v)^3$$

In this paper, we have studied the F -index of generalized fuzzy transformation graphs and obtained some upper bounds for $F(G)$ in terms of elements of a graph G

Keywords: First Zagreb index; Second Zagreb index; F-index; .

AMS Subject Classification: 05C90; 05C35; 05C12.

1 Introduction

Nowadays, due to various applications of fuzzy graph theory (FGT), a huge number of researchers are working on topological indices (TIs). In the field of molecular chemistry, TIs are molecular descriptors which are calculated on the molecular graph (MG) of a chemical compound. These TIs are numerical quantities of a graph which describes its topology. Zagreb index $M_1(G)$ is one such TIs which is degree-based TI and introduced by Gutman and Trinajstić in 1972 [5] and this TI is used to calculate π -electron energy of a conjugate system. One of the most useful topological indices are the Zagreb indices which are defined as:

$$M_1(G) = \sum_{i=1}^n d_G(v_i)^2 \quad (1)$$

$$M_2(G) = \sum_{uv \in E(G)} d_G(u)d_G(v) \quad (2)$$

where M_1 and M_2 are the first and second Zagreb indices respectively.

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Image Inpainting for Fingerprint Reconstruction

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Abstract— Numerous digital authentication systems have been developed by the researchers over the decades. Fingerprint-based identification is still widely used due to its many advantages. This is one of the most extensively used methods for employee identification in many organizations. It is most popular system adopted by corporate and private organizations for their employee monitoring. Digital gadget subscribers are also increasing tremendously over the decades. Most digital gadgets available in market uses fingerprint based user authentication. Under all these circumstances effective user identification is crucial which even include identification with damaged fingerprint impressions. It has been observed that owing to slight finger cuts or various scratches during winter season or burns of the finger screen affect the fingerprint impression. They appear damaged to interfere with the accuracy of user identification. The work presented in this paper investigates the possibilities of reconstructing the user fingerprint image using image inpainting techniques. The fingerprint impression which is poor due to the skin conditions has to be reconstructed before used for authentication. The enhanced KNN-SVD method proposed here restores the damaged part of a unique fingerprint impression. The reconstructed fingerprint using.

Keywords— Image Inpainting, Fingerprint, ridge reconstruction, Scratch, Finger cuts, ridge, Pores.

1. INTRODUCTION

Increasing usage of digital gadgets provided a challenge to the researchers to assure the security of the devices the users use. Since the inception of identity verifications systems using biometric fingerprints of a user has been the first choice of the researchers while developing technologies due to its unique characteristics. Fingerprint based biometric systems are the first choice of the users over the conventional system. Though there are numerous developments in biometric systems using other biometric characteristics like iris, palm, face or hybrid systems using face and fingerprints both etc. Their usages shall be observed based on its cost effectiveness. It is also required that they have good reliability. Being a minimal expensive device, utilization of fingerprint based techniques are modestly popular.

Researchers have offered a wide range of fingerprint matching improvements to overcome challenges like impartial filtering and idle finger impression prints. This matching has been seen to fail anytime the user whose identity needs to be validated or proved has various scratches

on their finger. The scratches that appear on fingerprint are due to the finger cuts. It has even been intriguing to see that during the winter, the fine lines that cause fingerprint scratches may emerge on fingers. Finger burns or moist fingers can also cause fingerprints to be incorrectly identified. Several researchers have suggested fingerprint reconstruction techniques to overcome these problems. Inpainting techniques are suggested in this work as a way to repair fingerprint damage. A cycle known as "image inpainting strategy" restores the damaged or missing area of a picture. The two main categories of image inpainting techniques are patch-based inpainting and diffusion based inpainting.

The remainder of the paper is divided into the following sections. The present context of fingerprint reconstruction methods proposed are reviewed and analyzed in section two. The third section addresses the suggested technique for recovering fingerprints using inpainting approach. The results of the research are highlighted in Section four. The paper is concluded in Section five.

II. FINGERPRINT RECONSTRUCTION METHODS

The availability of high resolution sensors used today to scan fingerprints and the increasing demand for usage of biometric based devices forced the researchers to develop accurate and precise fingerprint recognition devices. In the last two decades many fingerprint recognition systems have been proposed. To become familiar with the methodologies in use, various fingerprint recognition systems are studied during this research work. The fingerprint recognition shall be performed based on the application of usage [1], [2], [3], [4], [5], [6]. More popular fingerprint recognition systems are based on minutia [1], [2], [3]. Minutia are nothing but the ridge bifurcation, eyes, hooks, ridge ending and delta points shown in Figure 1. For level 3 features [2] we require high resolution scanners. The fingerprint image shown in Figure 1 is presented here to observe and understand the various minutiae points to be taken into consideration for matching. Though the sample picture is not scanned by the high resolution scanner, the various minutiae points/features can be easily observed from the figure. The features shown in the figure are known as level 1 and level 2 features [2] of fingerprint.

The ridge is a thick line of a fingerprint picture. The gap between two ridges is a valley. The point on the ridge where

Fingerprint Reconstruction: Approaches to Improve Fingerprint Images

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Abstract

Fingerprint reconstruction methods have been initially proposed to spoof the fingerprint identification systems, wherein the fingerprints are generated from the fingerprint features stored in the database for template matching/identification purpose. The reconstructed fingerprints attempt to validate in the absence of the user/person. The poor fingerprint images with scratches on fingerprint image or latent fingerprints or overlapping fingerprints shall also be reconstructed for personality identification. In this paper we discuss the two fingerprint reconstruction methods, one which uses minutiae features for reconstruction and the other one uses deep learning methods to reconstruct the fingerprint images. The poor fingerprint image which fails to validate the identity due to various reasons like poor skin condition/large cuts on the fingers/wet fingers/poor scanning of images shall be reconstructed for increasing the matching accuracy. The requirement of performance measure parameters used for evaluation of these systems are equal error rate, false acceptance rate, false rejection rate and average matching score. The deep learning methods are more suitable for reconstructing the fingerprint images that appear damaged due to poor skin condition/large cuts on the fingers/wet fingers/poor scanning of images. In terms of matching score comparison, the deep learning methods have matching scores in between 23-94% whereas for minutiae-based techniques the matching score is between 82 and 99.99%. The other performance parameter is the equal error rate (ERR) required to meet has to be closer to 0. The matching score is computed with the assumptions of false acceptance rate (FAR) ranging from 1% to 0%.

Keywords: Fingerprint, Ridge Reconstruction, Scratch, Finger Cuts.

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E-WASTE- A BIG CHALLENGE TO ENVIRONMENTAL SUSTAINABILITY

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ABSTRACT

E-waste, or electronic waste, refers to discarded electronic devices such as computers, smartphones, and televisions. It is a growing problem as technology advances and people constantly upgrade to newer devices.

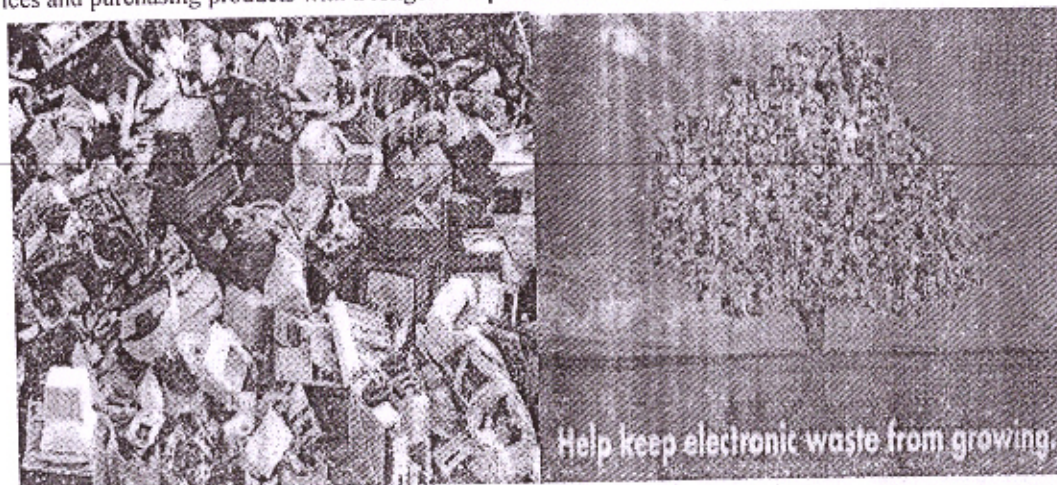
It can be harmful to the environment & human health if not properly disposed of. These devices contain a variety of toxic materials, such as lead and mercury that can leach into the soil and groundwater if left in landfills. It is important for individuals and companies to properly recycle or dispose of e-waste to reduce its negative impact on the environment.

Additionally, e-waste can also be shipped to developing countries, where it is often handled in an unsafe and environmentally damaging manner. To address this issue, governments, businesses, and individuals can take steps to reduce e-waste, such as recycling or properly disposing of old devices, and supporting sustainable practices in the production and disposal of electronics.

Key words: environment, e-waste, controlling ways, role of government.

1. INTRODUCTION

The present research paper highlights the major issue in today's world. The world is moving very fast towards technology. Each & everything related to human beings is related to technology. Already there were many issues existing in the environment. Under the tagline 'developed countries', we are doing many inventions and it is leading to trouble. It will not be wrong if we say creating trouble for ourselves. Electronic waste, or e-waste, is a growing problem worldwide due to the increasing use and disposal of electronic devices such as smart phones, computers, and televisions etc. These devices contain a variety of toxic materials, including lead, mercury, and cadmium, which can harm the environment and human health if not properly disposed of. Additionally, many e-waste items, such as smartphones and laptops, still have value and can be refurbished and reused, reducing the need for new devices to be manufactured. To address this issue, individuals and organizations can reduce their e-waste by properly disposing of old devices and purchasing products with a longer lifespan and can also be recycled.



Electronic waste, or e-waste, is a growing problem in today's society due to the increasing amount of electronic devices being produced and discarded. It is important for individuals and companies to properly dispose of their e-waste and for governments to implement regulations to encourage responsible e-waste management. Additionally, recycling and reusing e-waste can help to conserve resources and reduce pollution. E-waste is also a significant contributor to the depletion of natural resources, as many devices contain precious metals and other materials that are difficult to extract. To address this issue, many countries have implemented e-waste recycling programs and regulations to encourage the proper disposal of these devices. Individuals can take steps to reduce e-waste by buying durable products, repairing devices instead of replacing them, and properly disposing of e-waste when it is no longer needed.

How can we control e-waste?

There are several ways to control events and minimize its impact on the environment.

We need to promote awareness and educate ourselves and others about the importance of proper e-waste disposal. Many manufacturers and retailers offer tech-back programs where we can return old electronic devices for proper recycling. Encourage electronics manufacturers to take responsibility for the entire life cycle of their products. Take advantage of these initiatives. Advocate for stronger e-waste management regulations and policies at the local, national and international levels. Extend product lifespan and encourage the longer availability of electronic devices which can perform better considering regular maintenance and upgrading components instead of replacing entire devices. A reduced consumption is one of the most effective ways to control e-waste. We should participate in electronic recycling programs or take our old devices to certified e-waste recycling centres. These facilities ensure proper disposal and responsible recycling of electronic components. If we cannot recycle or donate our electronic device at least ensure proper disposal.

Some communities have designated electronic waste collection days or drop off points. We should avoid throwing e-waste into regular trash bins. It is better to encourage the repair and refurbishment of electronic devices. Support local repair shops and organizations that specialize in the refurbishing electronics. We need to educate others and increase awareness about the environmental impact of e-waste and the importance of responsible disposal as well as educate others on how to control e-waste and encourage them to adopt sustainable practices for their better future. Controlling e-waste requires a collective effort. We need to support the companies that prioritize sustainability and responsible e-waste management. We need to support and participate in various e-waste collection programs organized by local governments, NGO's or electronics manufacturers.

2. CONCLUSION

Reduce, reuse and recycle are the best practices to avoid e-waste. The best way to control e-waste is to reduce its generation at the very prior place. Extend the life of electronic devices by finding new uses for them. Donate or sell functional electronics that we no longer needed. Many electronics can be repaired economically, saving money and reducing e-waste. Companies should be prioritized eco-friendly design principles that are energy efficient, easily upgradable and made from sustainable materials. Consider purchasing second hand electronics when possible, it can be reduced the demand for new devices and it extends the lifespan of existing ones. We need to educate ourselves and others about the hazards of improper e-waste disposal and the importance of responsible recycling. We have to spread awareness about the impact of e-waste on the environment and encourage others to take action. Several countries have adopted WEEE (Waste Electrical and Electronic Equipment) directives that require producers, distributors and retailers to take responsibility for the collection and recycling of electronic waste. These directives also encourage the reduction of hazardous substances in electronic products. Generally, the waste electronics and electrical gadgets are from refrigerator, mobile phones and computers. These devices are the mixture of very hazardous chemical materials which causes environmental and health issues. Government may impose restrictions or bans on the use of hazardous substances in electronic products. For example, the Restriction of Hazardous Substances (RoHS) directive in the European Union prohibits the use of certain substances, such as lead, mercury, and cadmium, in electrical and electronic equipment. Recycling targets: Governments can set recycling targets to promote proper e-waste management. These targets may require manufacturers or recycling facilities to achieve specific recycling rates for electronic waste. Government can establish certification and licensing programs for e-waste recyclers to ensure that the recycling process meets environmental and safety standards. Certified recyclers are often required to follow specific guidelines and maintain records of their operations. Government should enforce e-waste regulations through inspections and audits to ensure compliance. Penalties and fines are imposed on individuals or organizations that violate e-waste management laws, serving as deterrents for improper disposal practices. By implementing these strategies, communities' governments and individuals can effectively control and manage e-waste by minimizing its environmental bad impact and promoting a more sustainable future for our safety.

It's important to note that specific rules and regulations may vary from country to country. Therefore, it's advisable to refer to the e-waste management regulations and policies of your specific region or country for accurate and up-to-date information.

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Soft skills reflected in Chhatrapati Shivaji Maharaj

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Abstract: Chhatrapati Shivaji Maharaj was the great Maratha king of the 17th century, who created his 'Swaraj' with his abilities and from scratch and his qualities helped him a lot to create his kingdom. The qualities that are called soft skills made Shivaji into Chhatrapati Shivaji Maharaj an idol of millions of people all over the world after near about 400 years. The greatness of Chhatrapati Shivaji is due to the soft skills he showed during his span of life. His Mother Jijabai played a constructive role in imbibing in him all these qualities. These soft skills are very important to develop one's personality and career.

Keywords: Soft skills, meaning, importance, Chhatrapati Shivaji Maharaj, Qualities.

Introduction: Soft and hard skills are two important aspects of human life to have overall development. It is vital to become successful in life combination of both soft and hard is very essential. This combination can be observed in the great Chhatrapati Shivaji Maharaj. Soft skills help human beings to use their hard skills effectively. In the Chhatrapati Shivaji in his era, he reflected on all the important soft skills that made him a great leader. These soft skills are very significant to study and follow in life. It is amazing to all to know the qualities he exhibited during his regime are still inspiring for all of us. The soft skills reflected in his personality should be considered as due to these skills he became Chhatrapati from a common son of Subhedar.

Soft skills: Soft skills are the personality traits or attributes that complement hard skills. Soft skills play a dominant role in developing personality because both intra and interpersonal skills are included in soft skills. The interaction with others depends on these soft skills. The competency to handle the situation, enhance one's abilities, have better communication, and leadership capabilities, time and stress management, power of decision-making, problem-solving skills, critical and creative thinking, better teamwork, emotional intelligence, flexibility, optimism, positive thinking, goal setting, empathy, self-esteem such soft skills are crucial also called power skills, core skills or life skills to have better communication within group and social relations as these skills helps to create trust and make easier to build relationship.

So possessing soft skills is an asset to human beings to be successful in personal, social, and business life. Soft skills increase productivity. Soft skills play a pivotal role in better interaction in each place. Soft skills are necessary for a successful life as it is the combination of Intelligence Quotient, Emotional Quotient, and Social Quotient. It helps to get the best out of one's life. So many Educationalists and Psychologists have strongly recommended soft skills are indispensable for personality development as they include physical, mental, social, and mental well-being. For the overall development of human beings, it is quite essential to be alert and cautious to inculcate soft skills.

Soft skills and Chhatrapati Shivaji Maharaj: Chhatrapati Shivaji Maharaj was the only Maratha Chhatrapati of the 17th century who exhibited Soft skills in his total span of life which was incredible and doubtless. It is unbelievable work, that Chhatrapati Shivaji Maharaj created due to his strong mental, physical, social, and emotional well-being and had excellent motivation from his mother Jijabai. Chhatrapati Shivaji Maharaj was the Maratha King in the 17th century who reflected vigor, and valor throughout his regime. It is necessary to be aware of the qualities he possessed due