VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

INSIGHT

NEWS LETTER

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

VOLUME NO:34

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Vision of the Department

To inspire and educate female students in Computer Science and Engineering to become skilled, ethical, and innovative professionals prepared for future technologies and challenges.

Mission of the Department

M1: To provide strong foundational and advanced knowledge in core areas of Computer Science and Engineering, enabling students to design, analyse, and solve engineering problems using modern Computing tools.

M2: To promote research skills, innovation, entrepreneurship and lifelong learning by encouraging students to participate in research, development, and interdisciplinary activities in emerging technologies.

M3: To inculcate professional ethics, social responsibility, and sustainable practices, enabling graduates to contribute positively to society.

Program Educational Objectives

PEO1: To acquire logical and analytical skills in core areas of Computer Science & Information Technology.

PEO2: To adapt new technologies for the changing needs of IT industry through self-study, graduate work and professional development.

PEO3: To demonstrate professional and ethical attitude, soft skills, team spirit, leadership skills and execute assignments to the perfection.

Program Specific Outcomes

PSO1: **Software Development:** Ability to grasp the software development life cycle of software systems and possess competent skill and knowledge of software design process.

PSO2: **Industrial Skills Ability:** Ability to interpret fundamental concepts and methodology of computer systems so that students can understand the functionality of hardware and software aspects of computer systems.

PSO3: **Ethical and Social Responsibility:** Communicate effectively in both verbal and written form, will have knowledge of professional and ethical responsibilities and will show the understanding of impact of engineering solutions on the society and also will be aware of contemporary issues.

EDITORIAL BOARD

COMPUTER SCIENCE AND ENGINEERING

Established in 2008, the CSE Department at VMTW has grown from an intake of 90 to 240 students, reflecting its commitment to excellence. The department earned NBA accreditation in 2019 and reaccreditation in 2022, ensuring high academic standards.

With experienced and research-driven faculty, the department promotes innovation through Centres of Excellence in IoT and AI & ML and collaborations with MSME, ALEAP, and TASK. Active associations with ISTE, CSI, and IETE enrich student learning through workshops and seminars.

Boasting 90% placements in leading companies like Amazon, Flipkart, Accenture, and Cognizant, and a highest package of ₹ 20 LPA, the department stands as a hub of innovation, research, and success.

HOD'S MESSAGE

Dr. Phijik Battula,
Associate Professor &
HoD, DEPARTMENT OF
COMPUTER SCIENCE AND
ENGINEERING

Dr. Phijik Battula brings over 20 years of academic and research experience to his role as Associate Professor and Head of the Department of Computer Science & Engineering at Vignan's Institute of Management and Technology for Women (VMTW), Hyderabad. He earned his Ph.D. in Computer Science from Osmania University, Hyderabad in 2023. He holds an M.Tech. in Computer Science and Engineering from Jawaharlal Nehru Technological University Hyderabad (JNTUH). Dr. Battula's expertise spans Computer Networks, Software Engineering, Operating Systems, Machine Learning, and Blockchain Technologies. He has made significant scholarly contributions, including:3 national patents,1 authored book,10 journal publications, including(1 in SCIE-indexed journal,4 in SCOPUS-indexed journals,5 in UGC- approved journals,2 international conference papers).He also served as an Academic Counsellor with the Indira Gandhi National Open University (IGNOU), Regional Services Division, Maidan Garhi, New Delhi, through Aurora Degree College Study Center (Code: 0111), Hyderabad. A dedicated mentor and educator, Dr. Battula has guided over 100 B.Tech graduates from VIGNAN's Group Institutions, Hyderabad. He is an active member of several professional organizations, Life Member, Indian Society for Technical Education (ISTE) – LM-137313,Life Member, International Association of Engineers (IAENG) – Member No: 277087,Life Member, Society of Digital Information and Wireless Communication (SDIWC) – ID: 30616.

Events at Department:

Freshers day

Freshers day: VMTW organized a vibrant Freshers' Day on 30th Nov 2024 to welcome the new batch of students, marking the beginning of their exciting academic journey with enthusiasm and joy.

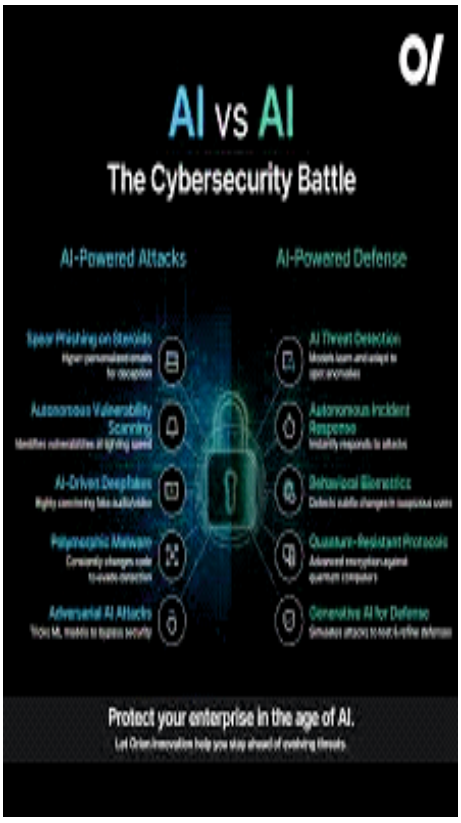
FACULTY ARTICLE ON SAFEGUARDING THE DIGITAL WORLD

By,Mrs D Vaishnavi , Assistant Professor (CSE)

Cybersecurity in the Age of AI – Safeguarding the Digital World

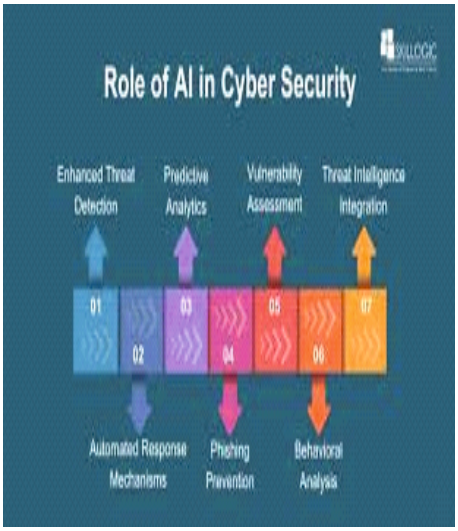
In today's interconnected world, Artificial Intelligence (AI) is revolutionizing not only how we live and work but also how we protect digital systems. As technology advances, so do the threats—making cybersecurity in the age of AI a crucial area of focus for both industry and academia.

AI has become a double-edged sword in cybersecurity. On one hand, it empowers security professionals by enabling real-time threat detection, predictive analysis, and automated response systems. AI-driven tools can analyze vast amounts of data to identify vulnerabilities and detect cyberattacks faster than ever before.



On the other hand, cybercriminals are also leveraging AI to develop more sophisticated attacks, such as deepfakes, phishing automation, and intelligent malware. This evolving threat landscape calls for continuous research, innovation, and awareness to stay ahead of malicious actors.

As educators, we must equip students with the knowledge of ethical AI practices, secure coding, and data protection principles. The future of cybersecurity will depend on how effectively we can harness AI for defense while mitigating its misuse.



Balancing innovation with security is the key to building a safe and resilient digital future.

FDP ATTENDED

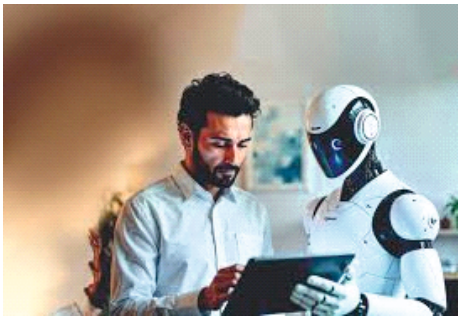
Sl No	Name of the faculty	Event Type	Date of event	Mode of attending
1	Mrs Bhanusri	FDP-Digital Marketing	21st to 25th Oct 2024	Online
2	Mrs Bhanusri	FDP- Cloud Architect	18st to 22nd Nov 2024	Online

STUDENT ARTICLE ON A PARTNERSHIP FOR THE FUTURE

By, Meenakshi G IV year (CSE)

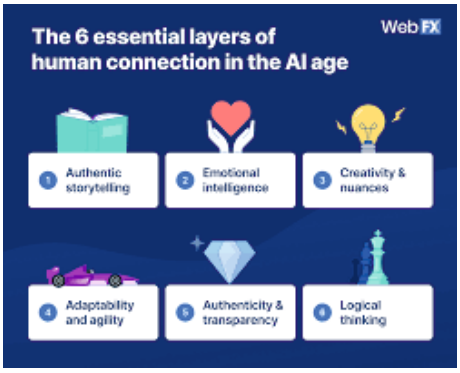
The Human and AI Connection – A Partnership for the Future

In the modern world, Artificial Intelligence (AI) has become an inseparable part of our daily lives. From virtual assistants like Alexa and Siri to personalized recommendations on Netflix and YouTube, AI interacts with humans in ways that make life smarter and more efficient.



The connection between humans and AI is built on collaboration rather than competition. While AI excels at speed, accuracy, and data processing, humans bring creativity, emotions, and ethical judgment—qualities machines cannot replicate. Together, they create a powerful partnership that drives innovation in fields like healthcare, education, and transportation.

As AI continues to evolve, it is essential for humans to guide its development responsibly, ensuring it benefits society as a whole. Understanding AI's potential and limitations helps us use it wisely and ethically



The future belongs to those who can blend human intelligence with artificial intelligence, creating a world where technology enhances—not replaces—human capabilities.

KYROS: The Department of Computer Science and Engineering students of Vignan's Institute of Management and Technology for Women (VMTW) actively participated in the college fest "KYROS", showcasing their talent and technical skills through paper presentations on various innovative topics.

ICreative Carnival 2024:

The Creative Carnival Talent Hunt 2024 was hosted at VMTW, Ghatkesar, on November 9th, 2024. The event encouraged students to showcase their skills in film making, dance, acting, modeling, stand-up comedy, singing, and photography while spreading social awareness on topics like women safety, global warming, and anti-narcotics. Students also had the opportunity to earn CSR certificates, meet influencers, and win exciting rewards. The carnival was a vibrant celebration of creativity, awareness, and youth empowerment.

CAMPUS RECRUITMENT

Sl No	Company Name	Package	Designation	No. of CSE Students placed
1	Movate	2.4 LPA	Digital customer experience	3
2	Tutorial point	6 LPA	Technical content engineer	1

STUDENT PROJECTS

TRIVIA BUSTERS

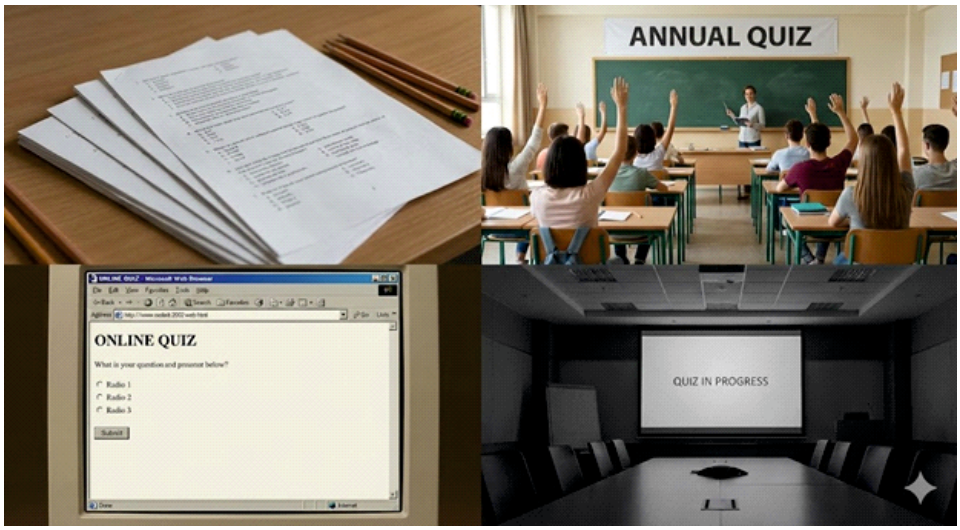
K. Nithya sri (21UP1A0593)

Introduction

Trivia Busters is an interactive quiz-based application designed to enhance learning and entertainment through engaging trivia questions. It combines fun and knowledge by allowing users to test their understanding across various domains such as general knowledge, science, technology, history, and pop culture. Traditional learning methods often lack engagement, whereas trivia-based platforms encourage active participation and curiosity. Trivia Busters uses gamification elements like scores, levels, and leaderboards to motivate users. The system promotes quick thinking, knowledge retention, and healthy competition, making learning enjoyable and accessible for users of all age groups.

Existing System

Existing trivia systems mainly include paper-based quizzes, classroom oral tests, or basic online quiz platforms. These systems often lack interactivity, personalization, and real-time feedback. Many quizzes are static, offering the same set of questions repeatedly, which reduces user engagement. Traditional systems also do not provide detailed performance analysis or progress tracking. Multiplayer or competitive features are limited or absent in most cases. Due to these limitations, existing trivia systems fail to sustain long-term user interest and do not effectively adapt to different learning levels or user preferences.

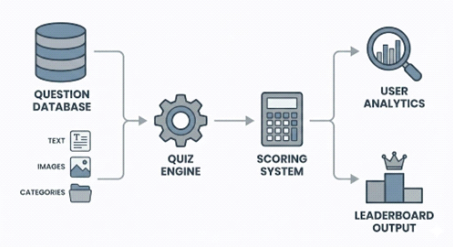


Proposed System

The proposed Trivia Busters system is a dynamic and intelligent quiz platform that offers personalized and engaging trivia experiences. It provides categorized quizzes, adaptive difficulty levels, real-time scoring, and leaderboards. Users can participate in solo or multiplayer modes, making the experience competitive and fun. The system tracks user performance and suggests topics for improvement. With an attractive user interface and responsive design, Trivia Busters supports web and mobile platforms. This modern approach enhances engagement, encourages continuous learning, and transforms quizzes into an enjoyable knowledge-building activity.

METHODOLOGIES USED

The methodology starts with designing a structured question database categorized by topics and difficulty levels. The system selects questions dynamically based on user performance. A scoring algorithm calculates points based on accuracy and response time. User progress and statistics are stored for analysis and feedback. Gamification techniques such as badges, levels, and leaderboards are integrated to increase engagement. The application is tested for usability, responsiveness, and performance. This systematic methodology ensures a smooth, interactive, and scalable trivia platform that supports both learning and entertainment effectively.



Pill Reminder System

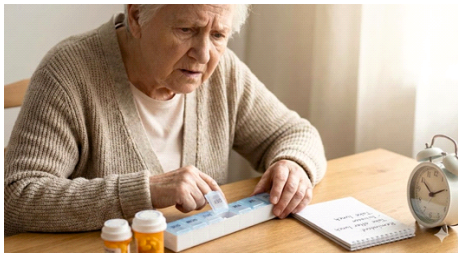
V. Akanksha (21UP1A05C9)

Introduction

A pill reminder system is designed to help individuals take their medications on time and in the correct dosage. Forgetting to take medicines is a common problem, especially among elderly people, patients with chronic diseases, and individuals managing multiple prescriptions. Missed or incorrect doses can lead to serious health complications. A pill reminder system uses technology such as mobile applications, alarms, and notifications to remind users about their medication schedule. By providing timely alerts and tracking medication intake, the system improves treatment adherence, enhances patient safety, and supports better overall health management.

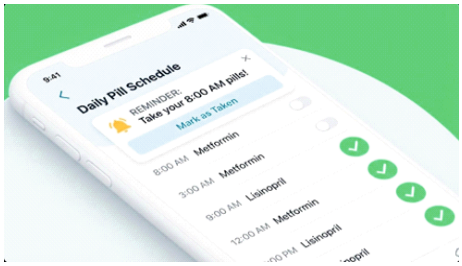
EXISTING SYSTEM

In existing systems, people rely on manual methods such as memory, written notes, or basic alarm clocks to remember their medication schedules. Some use traditional pill boxes labeled with days of the week, which do not provide active reminders. These methods are unreliable, especially for elderly users or those with busy routines. There is no tracking mechanism to confirm whether a pill was taken or missed. Caregivers and doctors also lack real-time information about patient adherence. As a result, medication non-compliance remains a significant issue in traditional systems.



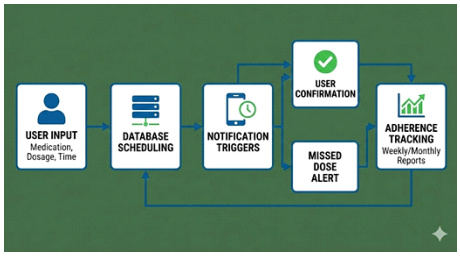
Proposed System

The proposed pill reminder system is a smart, automated solution that uses digital technology to ensure timely medication intake. Users can enter medicine details such as dosage, timing, and duration into the system. The application sends real-time notifications and alarms to remind users when it is time to take their pills. It can also record whether a dose was taken or skipped and share reports with caregivers if required. The system is user-friendly, customizable, and accessible through smartphones, making it suitable for patients of all age groups.



Methodologies Used

The methodology begins with user registration and medication data entry. The system stores medicine schedules in a database and uses a time-based trigger mechanism to generate reminders. Notification services send alerts through sound, vibration, or messages at scheduled times. User responses are logged to track adherence patterns. Optional features include caregiver notifications and report generation. The system is tested for accuracy, usability, and reliability. This structured approach ensures consistent reminders, improves medication adherence, and reduces health risks caused by missed or incorrect doses.



Smart Driver Monitoring and Assistance System Using OpenCV

B. Sri Saugandhika (21UP1A05D5)

Introduction

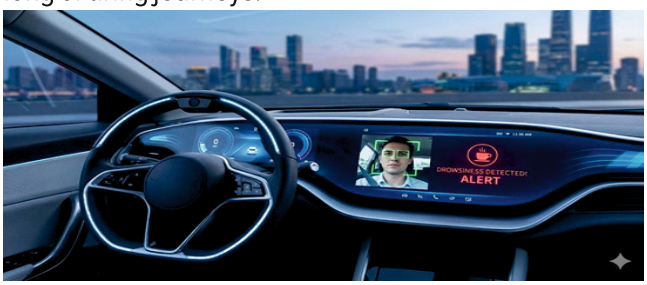
A Smart Driver Monitoring and Assistance System using OpenCV aims to improve road safety by continuously monitoring driver behavior and alerting them during risky situations. Road accidents often occur due to driver fatigue, distraction, or drowsiness. This system uses computer vision techniques to analyze real-time video captured through a camera installed inside the vehicle. By detecting facial features, eye movements, and head position, the system can identify signs of drowsiness or inattentiveness. Timely warnings help prevent accidents, reduce human error, and enhance overall driving safety, making it an important application in intelligent transportation systems.

Existing System

Existing driver safety systems mainly rely on manual awareness, vehicle alarms, or basic sensors. Some vehicles include lane departure warnings or seatbelt alerts, but they do not actively monitor the driver's physical condition. Traditional methods cannot detect fatigue, eye closure, or distraction effectively. Advanced systems are often expensive and limited to premium vehicles. Moreover, many systems operate independently without real-time visual analysis of driver behavior. Due to these limitations, existing systems fail to provide comprehensive driver monitoring, resulting in delayed responses to dangerous driving conditions and increased risk of road accidents.

Proposed System

The proposed system uses OpenCV-based computer vision techniques to monitor the driver in real time through a camera. Facial detection and eye-tracking algorithms analyze eye blink rate, eye closure duration, and head movement to detect drowsiness or distraction. When unsafe behavior is identified, the system immediately alerts the driver using visual or audio warnings. This low-cost and efficient solution can be integrated into standard vehicles. The system enhances road safety by providing real-time assistance, reducing accident risks, and supporting drivers during long or tiring journeys.



Program Outcomes (Adapted from NBA)

Engineering Graduates will be able to:

Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems

Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and Engineering sciences.

Design/Development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health safety, and the cultural, societal, and environmental considerations.

Conduct Investigations of Complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions

Modern Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts and demonstrate the knowledge of,and need for sustainable development.

Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions.

Project Management and Finance: Demonstrate knowledge and understanding of the engineering management principles and apply these to one's own work, as a member and leader in a team to manage projects and in multidisciplinary environments.

Life-Long Learning: Recognize the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.