Annual Magazine 2022-23

Department of Information Technology

INFO TECH



Vision

VISION MISSIO

Aiming to empower the students to demonstrate technical and operational excellence through a commitment to professionalism and bridge the gap between academy and industry to contribute to the betterment of the society and the nation.

Mission

M1: To create a culture that fosters excellence and combines rigorous academic study with the support of a diverse campus community.

M2: To enable students to recognize the importance of development by pursuing higher education for challenging and rewarding careers in Computer and Information Sciences and business in the evolving global community.
M3: To create competent and trained professionals and entrepreneurs in Information Technology who shall contribute towards the advancement of engineering, science and technology & development of the nation.
Programme Educational Objectives (PEOs)

PEO 1. Provide socially responsible, environment friendly solutions to Information technology related broad-based problems adapting professional ethics.

PEO 2. Adapt state-of-the-art Information Technology broad-based techniques to work in multidisciplinary work environments.

PEO 3. Solve broad-based problems individually and as a team member communicating effectively in the world of work.

Program Outcomes (POs):

PO 1. Basic and Discipline specific knowledge: Apply knowledge of basic mathematics, sciences and engineering fundamentals and engineering specialization to solve the engineering problems.

PO 2. Problem analysis: Identify and analyse well-defined engineering problems using codified standard methods.
PO 3. Design/ development of solutions: Design solutions for well-defined technical problems and assist with the design of system components or processes to meet specified needs.

PO 4. Engineering tools, Experimentation and Testing: Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

PO 5. Engineering practices for society, sustainability and environment: Apply appropriate technology in context of society, sustainability, environment and ethical practices.
PO 6. Project Management: Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.

PO 7. Life-long learning: Ability to analyse individual needs and engage in updating in the context of technological changes.

Programme Specific Objectives (PSOs) PSO 1. Modern Information Technology: Use latest technologies for operation and application of information. PSO 2. Information Technology Process: Maintain the information processes using modern information and commu-



P.N TANDON PRINCIPAL

Information Technology Engineering is becoming a demanding field in the industries, more and more students are getting attracted to Information Technology Engineering., but many of them doesn't know what Information Technolgy Engineering actually is? This year's magazine committee has taken a step to highlight the insights of Information Technolgy Engineering for which I congratulate them. Globalization demands a new dimension to our approach to education. We thus have to recognize the need for a globally relevant education. In Bharati Vidyapeeth, we open the gates for a student to expand his limits beyond the curriculum. The new technological advancements in the fields of engineering are made known to them so they can walk with the technology. Department of Information Technolgy Engineering has come up with an excellent activity which wakes student's curiosity up. Allowing students to search for various inventions, reaches, requirements, problems and solutions. The purpose of the magazine is to make student aware of the responsibilities they withhold as a Information Technolgy Engineer I hereby congratulate the students and teaching and nonteaching faculty of Information Technolgy Engineering department for their efforts in their work and bringing this wonderful magazine every year.



RANJIT PAWAR HEAD OF DEPARTMENT

Welcome to the department of Information Technology, BVIT, Navi Mumbai. The department has a team of highly experienced and motivated faculty members who are in process of tuning the young minds to make them globally competitive. During this course, students are able to mold their career and inculcate team spirit with good oral & written communication through innovative teaching learning process a teamwork approach & leadership building experience our student gain vital communication & critical-thinking skills The magazine plays an instrumental role in providing exposure to the students to develop written communication skills and command over the language. It is a step towards building professional and ethical attitude in them. The entire journey of creating InfoTech is an outcome of rigorous effort made by students. Students not only gain the knowledge. about the latest technological developments and advancements through reading and writing articles but they also develop verbal and written communication skills.



MOHAN MALI MAGAZINE CO-ORDINATOR

This is the annual magazine of Information Technology department magazine. As the magazine coordinator of the Information Technology department magazine InfoTech, this issue is particularly special to me as it was a challenge to not only live up to the standards set by the previous issue but also set new ones. InfoTech is all about the emerging trends in computer that inspires students to do something, that leaves an everlasting mark on the world of technology. Thus it was our job to ensure inspiring technological developments are being brought to the students of Bharati Vidyapeeth Institute of Technology, Kharghar. It gives me an immense pleasure to write and interact with you through this channel. We are always eager to assist you by keeping you abreast of the latest developments, to keep track of important achievements and to exhibit the talent of our stars. We, at BVIT always strive hard to offer our students salubrious learning ambience so that they can be given plentiful opportunities to groom their overall personality. We create the favourable environment to learn not just academics but lessons of life, character, ethics and values, so that they emerge as responsible individuals. We are confident enough to get you the targeted goal. Best wishes for all your future endeavours.



SUDARSHAN DATE

On behalf of the entire Information Technology Department and all the reader, we extend our whole heart gratitude to Hon. H.O.D Prof. Ranjeet Pawar for their guidance and Inspiratoin towards our department. The faculty Of our department boost our confidence for publishing InfoTech Magazine As the name suggest InfoTech means "Information Technology". We are glad to get the Golden Opportunity for publishing InfoTech magazine on behalf of the entire Information Technology Department. This magazine includes articles on Emerging new **Technologies in Computer Science. Students have properly reserched and** made the articles on exciting topics. Our endevaour with each edition is to update you on the latest trends of technologies coming up and flashing some light on the innovative minds of the youth today. Lastly, quoting my special thanks to Mohan Mali sir for her support and guidance all along, the Departmental faculty members and also to all my team members without whom this issue wouldn't have been possible. We hope all the readers will enjoy this issue as much as we enjoyed creating it.

STUDENT AND FACULTY PAPERS

S T U D E N T A C H I E V E M E N T

T E C H N I C A L A R T I C L E S

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5G- Now Stepping into the World of Gigabytes

5G mobile network is a new global wireless standard after 1G, 2G, 3G and 4G networks. The question that arises is, "*What's so different about 5G as compared to 4G? Isn't 4G enough for today's world?*". *Obviously not!* 4G is not fast enough. In many places, the 4G network is so overloaded with users that it is painful to use. 18mb/s seem really fast until you have 1000 people trying to use it all at once (and each can only get 18kb/s as a result. What, you didn't foolishly think that it should be 18Mbit/s per person, did you?). The technologies, such as 3G and 4G, cannot meet the demand of fifth-generation requirements. They cannot be used for long-distance communication.

The most discussed 5G feature is the increased speed and bandwidth. The fifth generation of cellular network technology will push far beyond 4G LTE. It has a killer speed, if you are near to any of the 5G towers with your 5G phone, you shall transfer entire episodes of HD programs in a fraction of seconds. Buffering of videos will never happen similar to the old days. Predicted speeds of up to 10 Gbps represent up to a 100x increase as compared to 4G.

One of the goals for each wireless generation has been to reduce latency. Latency means how long a signal takes to go from its source to its receiver, and then back again. 5G's low latency, under 5ms, is another benefit for WAN usage. 5G density enables up to 100 times more connected devices in the same physical area that 4G LTE operates today.

5G offers mobile industry an unheard opportunity to uplift network and service security levels. 5G is more capable of protecting your identity. Firstly, your connection is shielded from unauthorised devices that may capture phone calls by mimicking cell towers. But your ID with 5G is encrypted. A more robust encryption algorithm scrambles the traffic when your voice and data travels from your device to the cell tower.

But the thing is, 5G is difficult to install and deploy also initial costs for rollout are high. Obstructions can impact connectivity and it has access to only city areas and limits rural access. Also an important demerit of 5G is battery drain/heat. Phones operating on 5G will experience a huge battery sewer. Superior battery technology will be required if the object is to run your phone.

But, one of the most promising applications of 5G is autonomous driving. The sensor technology of Connected Cars needs to recognize various obstacles and react appropriately to them.

A lot of people underestimate the power of the next generation connection, thinking it will just make their internet speed faster, but it's so much more than that. Boosting internet capacity to a 5G level will change the way we live, work and socialize. Ultimately, 5G will lead to one of the biggest technological transformation of our lifetime, with unlimited possibilities. We will not correctly know what 5G can do till it's fully implemented, but what we do know is what it's formed to do.

Anjaleena Mahadik, SYIF

Heart of Bitcoin : BLOCKCHAIN

The technology at the heart of bitcoin and other virtual currencies, blockchain is an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way. The ledger itself can also be programmed to trigger transactions automatically. With blockchain, we can imagine a world in which contracts are embedded in digital code and stored in transparent, shared databases, where they are protected from deletion, tampering, and revision. In this world every agreement, every process, every task, and every payment would have a digital record and signature that could be identified, validated, stored, and shared. Intermediaries like lawyers, brokers, and bankers might no longer be necessary. True blockchain-led transformation of business and government, we believe, is still many years away. That's because blockchain is not a "disruptive" technology, which can attack a traditional business model with a lower-cost solution and overtake incumbent firms quickly. Blockchain is a foundational technology: It has the potential to create new foundations for our economic and social systems. But while the impact will be enormous, it will take decades for blockchain to seep into our economic and social infrastructure. Blockchain-a peer-topeer network that sits on top of the internet-was introduced in October 2008 as part of a proposal for bitcoin, a virtual currency system that eschewed a central authority for issuing currency, transferring ownership, and confirming transactions. Bitcoin is the first application of blockchain technology. The parallels between blockchain and TCP/IP are clear. Just as e-mail enabled bilateral messaging, bitcoin enables bilateral financial transactions. The development and maintenance of blockchain is open, distributed, and shared—just like TCP/IP's. A team of volunteers around the world maintains the core software. Clearly, starting small is a good way to develop the know-how to think bigger. But the level of investment should depend on the context of the company and the industry. Financial services companies are already well down the road to blockchain adoption. Manufacturing is not. Nonetheless, blockchain will likely affect every business in some way, and the big question is when.



By – Bhumi Devendra Vedant TYIF

CHAT GPT –a boon or a curse

Chat GPT, or GPT (Generative Pre-trained Transformer) language model, is a powerful tool that uses machine learning to generate human-like text. It is widely used in various industries, from customer service to content creation. While it has many advantages, some people argue that it could also be a curse. In this article, we will explore the benefits and drawbacks of Chat GPT.

One of the biggest benefits of Chat GPT is its ability to automate tasks. It can generate text-based responses to customer inquiries, reducing the workload of customer service representatives and improving response times. This can lead to improved customer satisfaction and increased sales.

Chat GPT can also be used to create content, such as news articles, blog posts, and social media posts. It can generate text that is both informative and engaging, saving time for content creators and allowing them to focus on other aspects of their work.

Another advantage of Chat GPT is its ability to learn from large amounts of data. It can analyze patterns in data and generate insights that may not be immediately obvious to humans. This can be especially useful in industries such as finance, where large amounts of data need to be analyzed quickly and accurately.

One of the main drawbacks of Chat GPT is the potential for misuse. It can be used to generate fake news or misleading information, which can have serious consequences. For example, it can be used to spread propaganda or manipulate public opinion. This has become a major concern, especially in the context of social media, where information can spread rapidly and have a significant impact on society.

Another issue with Chat GPT is the potential for bias. Since it learns from data, it can inherit biases present in that data. This can lead to unintended consequences, such as perpetuating stereotypes or discrimination. It is important to be aware of these biases and take steps to mitigate them.

Finally, Chat GPT raises ethical concerns around privacy. It collects and analyzes data, which could include personal information, without explicit consent. This raises questions about data ownership and control, and whether individuals have the right to know how their data is being used.

In conclusion, Chat GPT is a powerful tool that has many benefits, but also some drawbacks. It can automate tasks, create content, and generate insights from data. However, it also has the potential for misuse, bias, and ethical concerns. As with any technology, it is important to be aware of both the benefits and drawbacks and use it responsibly. With proper management, Chat GPT has the potential to be a boon to society, enabling us to work more efficiently and effectively.

-Anushka Pawar, TYIF

CYBER LAWS IN INDIA

Cyber laws in India focus on ensuring that citizens' online privacy is protected and secured while preventing cybercrime. India has embraced the use of technology, and the government recognizes the need to create regulations to protect its citizens. In this article, we will explore the importance of cyber laws in India, their purpose, and how they apply to online users in the country. In India, the Information Technology Act 2000 is the primary cyber law, with various other laws enforcing it. The act covers several legal issues, including data protection, contractual obligations, identity theft, and the unauthorized access or damage of devices, computer systems, or computer networks. The act also provides guidelines on combating cyber terrorism, harassment, and defamation online. The act has undergone several amendments since its inception. One significant addition was the IT (Amendment) Act 2008, which introduced cyber-crimes such as data theft, cyber stalking, cyber terrorism, and child pornography as offenses. This amendment also added specific provisions for compliance with data privacy, the regulation of digital signatures, and the punishment of cybercrimes. Another noteworthy amendment of the act was in 2013, the IT (Amendment) Act 2013, which provided the act with more teeth against cybercrime. India's computer emergency response team (CERT-In) handles the implementation of cyber security laws in the country. CERT-In has a critical role in resolving and preventing cyber threats, including disseminating alerts about new threats and vulnerabilities. CERT-In also works with other government agencies to promote a secure cyber environment and support forensic investigation of cybercrime. India's cyber laws aim to safeguard individual privacy rights and counter cyber threats. As a user, it is essential to know how these cyber laws apply to ensure compliance and prevent any repercussions. For instance, online content in India is protected under the Information Technology (Intermediaries Guidelines) Rules 2011, guidelines aimed at addressing the spread of offensive content online.

In conclusion, India's cyber laws are crucial in creating a safe, secure online environment for its citizens while preventing cybercrime. These laws are continuously evolving to adjust to new advancements in technology and combat new potential online threats. It is, therefore, crucial for online users in India to be aware of cyber regulations to take appropriate action and ensure their online safety.



-Tamanna Shenoy, TYIF

Financial literacy: "Know how to handle the money."

Some skills are fundamental and essential throughout our lives. Currently, our education system glorifies skills like public speaking, but a skill that still hasn't received enough attention is personal finance or financial literacy. Financial literacy involves managing, investing, saving, and budgeting money.

Today's youth is only interested in maximum LPA and not interested in how to manage that money. Some people make poor financial decisions and end up stuck in a debt trap, while smarter people only protect their money, leaving no growth despite their wealth depreciating due to inflation. Therefore, achieving financial security becomes a necessity for us.

Having the right knowledge of personal finance can save and grow your money. First, you must understand the difference between assets and liabilities. For example, if I purchase a bike for 1 lakh rupees and do not make proper use of it, it will cost unnecessary maintenance, and the value of the bike will also depreciate daily, making it a liability for me. Instead, if I invest that 1 lakh in gold, its value will increase day by day and help me increase my wealth, making gold my asset

There are many common financial mistakes that are done by individuals like poor budget planning, overspending on unnecessary things, making liabilities more than assets and top of all saving more and investing less money. Savings protecting your money for emergencies inform gold ,cash,etc and investment means growing your money in form of bonds, equities real estate.Numorous individuals think "FD" is type of investment yes it is type of investment till inflation comes in picture because average interest rates for FD and average inflation rates are not at 6% means if you are investing in FD you are saving or protecting your money.

Savings alone didn't help you to build the wealth. What really help is investing with "Diversification". This diversified investment also opens cash flow resulting passive income (income that comes monthly of rents, dividend of stocks, etc). You should diversify your money like little savings for emergencies, some gold, some in bonds and some in equities. Of Course this investments should be executed with proper knowledge, guidance and advisory else you will only left with Penny's

If we want financial stability in our life .We need to seek this knowledge of personal finance . According to 'National Council of Applied Research (NCAER), an estimated 24% of the population in India is financially literate. As said stock exchanges show the economic growth of a country, but in India only 3% of the population operate the stock market. If we compare it with America, their 55% population Operates stock market. There are various misconceptions about many of the money market tools like the stock market.

Currently various institutes are taking steps for opting awareness about personal finance among their students but these topics need more exposure so all the youth will get aware that how to handle or manage the the money

-Sudarshan Date, TYIF

TRENDING TECHS IN NEWS

Technology is constantly evolving, and with each passing year, new advancements are made that change the way we live, work, and interact with the world. From cutting-edge artificial intelligence to advanced medical treatments, the latest technology is helping to shape the future in exciting ways. In this article, we will explore some of the most recent advancements in technology and how they are impacting various industries.

1. Artificial Intelligence (AI)

AI is one of the most exciting areas of technology at the moment. This technology has the potential to revolutionize various industries, from healthcare to finance, by providing faster, more efficient, and accurate solutions. AI is already being used in many industries, including self-driving cars, virtual assistants, and chatbots. Machine learning, a subset of AI, is enabling computers to learn from data and make better decisions based on that data.

2. 5G Technology

5G technology is the latest in mobile network technology. It promises to deliver faster speeds and lower latency than ever before, enabling faster downloads and streaming of video content. It also has the potential to transform various industries, from healthcare to transportation, by enabling remote surgeries, autonomous vehicles, and smart cities.

3. Augmented Reality (AR) and Virtual Reality (VR)

AR and VR technologies are becoming increasingly popular, especially in the gaming and entertainment industries. AR is a technology that overlays digital information onto the real world, while VR creates an entirely immersive virtual environment. These technologies have the potential to revolutionize the way we learn, work, and communicate.

4. Blockchain Technology

Blockchain technology is another area of technology that is gaining attention. It is a decentralized, distributed ledger that records transactions securely and transparently. Blockchain technology has the potential to transform various industries, from finance to healthcare, by providing a more secure and efficient way of conducting transactions.

5. Internet of Things (IoT)

The Internet of Things is a term used to describe the interconnectedness of physical devices, vehicles, buildings, and other objects that are embedded with sensors, software, and network connectivity. The IoT has the potential to transform various industries, from manufacturing to transportation, by enabling more efficient and automated processes.

6. 3D Printing

3D printing technology has been around for a while, but it is becoming more affordable and accessible than ever before. This technology allows for the creation of complex structures and prototypes, which has the potential to transform various industries, from architecture to medicine, by enabling more efficient and accurate production of products.

7. Quantum Computing

Quantum computing is a rapidly advancing area of technology that uses quantum mechanics to process information. This technology has the potential to solve complex problems that are impossible for traditional computers to solve, such as optimizing supply chains or designing new materials.

8. Robotics

Robotics technology is becoming increasingly advanced, with robots becoming more autonomous and capable of performing complex tasks. This technology has the potential to transform various industries, from manufacturing to healthcare, by providing more efficient and accurate solutions.

In conclusion, the latest technology advancements have the potential to transform various industries and change the way we live, work, and interact with the world. From AI and 5G technology to AR and VR, blockchain technology, IoT, 3D printing, quantum computing, and robotics, these advancements are changing the world in exciting ways. As technology continues to evolve, it will be interesting to see how these advancements will impact our daily lives and shape the future.

-Anushka Pawar, TYIF

Online Education - Success Way For new Generation or New Element of Destruction...!!

Online education is a rising way of education from the time of COVID and lockdown. Apart from work from home the concept of schooling from home was also brought into the society focusing on providing education safe and contact free as back in those days it was important to keep distance and avoid crowds as much as possible. Schools, colleges, and classes were the target spots of crowd. Apart from being a helping hand in the field of education it has been a main cause of the degrading grades of students. Let's see in brief the two sides of this coin.

During the hard hours of Covid when everything was supposed to be at living place work, shopping, business, meanwhile one of the most important sector that is education was lacking during the start of the pandemic. Online education brought a new beginning for the learning as well as teaching sector. Gaining as well as providing knowledge made it effective and accessible to all. It was proven that even in such unhealthy, unproductive and mind blocking circumstances knowledge can be gained and delivered. Contactless education can be a medium to avoid the spread of such a dreadful infection.

As we have seen the good and side of online education let's see points that make online education a topic of concern.Long distance studying made possible but only studying the goal of education. Learning something new, applying it, practicing it is one of the measure purpose of education.

The attention span has been degraded rea bad as there is no supervision in online classes. education has made it simple so students can capture pictures



resulting in less write up which eventually caused problems as during written exams students faced the difficulty in writing for 3 hours of exams. Apart from this some students lost interest in studies and the grades were degraded.

Every this has its advantages and disadvantages but still during the tough times online education helped a lot. It had some drawbacks past pandemic but served a lot during the time of need which is the major success of online education.

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~Vaishnavi S. Parab (TYIF)

The Advancement of Artificial Intelligence: From Machine Learning to Deep Learning

Artificial Intelligence (AI) has been one of the most significant technological advancements of the 21st century. It has revolutionized industries such as healthcare, finance, and manufacturing, just to mention a few. AI techniques such as machine learning and deep learning have contributed immensely towards solving complex problems that involve a large amount of data. Artificial Intelligence refers to the capability of machines to perform tasks that would typically require human intelligence. These tasks may include decision making, recognizing speech, and visual perception. AI has many applications, including chatbots, virtual personal assistants, and image recognition software.

Machine learning is a subset of AI that involves programs to learn and improve on their own from data and experience.

Machine learning algorithms use statistical models to analyze data patterns and improve the accuracy of the predictions they make. This technology is widely used in areas such as recommendation systems, fraud detection, and predictive analytics. Machine learning applications in healthcare have played a prominent role in early detection and management of diseases such as cancer and heart diseases. However, machine learning is limited in its ability to learn from more complex data sets effectively. This limitation led to the development of deep learning. **Deep learning** uses artificial neural networks to simulate the way the human brain works. This technique allows for the processing of large and complex data sets by analyzing multiple layers of information. Deep learning has significantly contributed to image and speech recognition, natural language processing, and self-driving cars. Image recognition has been used in facial recognition technologies, cancer detection, and facial expression recognition. Through deep learning algorithms, computers can analyze images pixel by pixel to identify patterns that aid in image recognition. Another popular application of AI is natural language processing (NLP), a field of AI that deals with the interaction between computers and humans using natural language. NLP is used in the development of chatbots, language translation, and voice recognition systems.



AI-powered virtual assistants like Siri, Alexa, and Google Assistant use machine learning algorithms to understand human speech and perform tasks like scheduling appointments, making phone calls, and setting reminders. Another example is the use of deep learning algorithms to diagnose medical conditions. These algorithms can analyze medical images, such as CT scans or MRI images, and detect abnormalities that may be difficult to identify with the naked eye. Overall, the field of AI, ML, and DL is rapidly evolving, and the potential applications of these technologies are vast. As with any new technology, it is essential to proceed with caution and ensure that these technologies are used in ways that are beneficial and ethical for all.



In conclusion, artificial intelligence is no longer a futuristic technology, but a reality that impacts many industries in today's world. Machine learning and deep learning have significantly contributed to the advancement of AI by allowing for the processing of large data sets and making decisions based on learned data.

-Sudarshan Date, TYIF







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The certificate is awarded to

VAIBHAVI .TALAWNEKAR

for successfully completing the course

Active Listening Skills for Students

on Tuesday, October 11th 2022

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Date Sudarshan Rajendra.

for successfully completing the course

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DEPARTMENT OF INFORMATION TECHNOLOGY



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The certificate is awarded to

SHINDE AISHWARYA RAMESH SHINDE

for successfully completing the course

Active Listening Skills for Students

on Tuesday, October 11th 2022



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DEPARTMENT OF INFORMATION TECHNOLOGY







DEPARTMENT OF INFORMATION TECHNOLOGY













DR. DHANANJAY WELUKAR PRESIDENT

SHATRUGHNA GOKHALE SECRETARY

JAYANT DESHMUKH TREASURER

To Whomsoever it may concern

Date: 10/12/2022

At the conclusion of Inter District Youth State Basketball Championship held at Dhule the following players are selected for Maharashtra Team Probable's Camp for the forthcoming 37th Youth National Basketball Championship for Boys & Girls to be held at Indore, Madhya Pradesh from 21st to 27th December 2022. The Probable's Camp will be from 13th to 19th December 2022.

Girls

- 1. Aanaya Bhavsar Pune
- 2. Sara Chopade Pune
- 3. Patil Akshaya Pune
- 4. Patil Shrushti Pune
- 5. Aarya Patangare Pune
- 6. Sameeksha Chandak Nagpur
- 7. Gunjan Mantri Nagpur
- 8. Rajvi Maladhari Nagpur
- 9. Samiksha Patil Kolhapur
- 10. Harshada Shelke Kolhapur 11. Rutuja Nalvade - Mum City
- 11. Rutuja Nalvade -Mum City12. Shreya Jadhav -Dhule
- 13. Anushka Singh Mum Sub
- 14. Anusha Rao Mum Sub
- 15. Tanvi Pawar Satara
- 16. Muskan Singh Raigad
- 17. Aarushi Aatmaram Thane

The above mentioned players should report on 13th December 2022 by morning at Healthy Sports Acadmey, Dhule to Ms. Mudra Agrawal (7499636154)

Thanking you

Yours

Shatrughna Gokhale Secretary Maha Basketball Association One by: Basketball Federation Of India Of India Madhya Pradash Basketball Association

21¹⁰ to 27¹⁰ December 2022 IMDORE










Following probable 16 players are selected to represent the Maharashtra State Junior Girls Basketball team for the Junior West Zone Basketball Championship to be held at Bhilwada Rajasthan from 13th Oct to 16th Oct 2022. The coaching camp of the players will be conducted at Sangola Taluka Shikshan Prasarak Mandal's School at Sangola, Dist: Solapur from 6th Oct 2022. Players should report to the venue on 6th Oct 2022 morning up to 9 am. The final team will be declared after the coaching camp.

Sr. No	Name of the Player	District
1.	Ananya Bhavsar	Pune
2.	Manasi Niramalkar	Pune
3.	Bhumika Sarje	Pune
4.	Khilare	Pune
5.	Samiksha Chandak	Nagpur
6.	Dhara Phate	Nagpur
7.	Gunjan Mantri	Nagpur
8.	Swati Wankhede	Nagpur
9.	Richa Ravi	Mumbai Suburban
10.	Sai Deshmukh	Mumbai Suburban
11.	Poorva Bhosale	Kolhapur
12.	Aditi Pargaonkar	Kolhapur
13.	Mushan Singh	Raigad
14.	Sneha Yadav	Raigad
15.	Avishka Gurava	Satara
16.	Rutuja Nalawade	Mumbai City









BHARATI VIC	DYAPEETH INSTITUTE (OF TECHNOLOGY
Sector-7, CBD	9 Belpada, Opp. Kharghar Rly. Station, Na	avi Mumbai-400 614.
	<u>Gertificate</u>	
This certificate of merit is	awarded to Mr. Ms. Ruti	uia Nalawade
of	SY IF	ya muunin.
in Babáar / Art Golf	ery / Sports - 2022-2023	for having participated
from 23rd March -	25th March '23. He/She has secur	ed2ndposition
in the event / c ategor y	100M KALE (GILHS	
	21.	. 3
	Convenor	Principal
	LINEAR CONSTRUCTION	
BHARATI VIDY Sector-7, CBD B	Extended for the second	DF TECHNOLOGY vi Mumbai-400 614.
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BHARATI VID Sector-7, CBD E This certificate of merit is c	Availed to Mr./Ms. Bhumi Vec	DF TECHNOLOGY vi Mumbai-400 614.
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DEPARTMENT OF INFORMATION TECHNOLOGY

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Sector-7,	CBD Belpada, Opp. Kharghar Rly. Statio	on, Navi Mumbai-400 614.
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of TYLE		
in Bahaar / Art	Gallery / Sports - 2022-2023	for having participated held
from 23rd Mar	ch - 25th March He/She has	secured 1st position
in the event /-category	Volley Ball	
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	Convenor	Phnopal
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This certificate of men	rit is awarded to Mr./MsSakahi	Keni
This certificate of men ofYIF	rit is awarded to Mr./MsSakshi	Keni for having participated
This certificate of mer of <u>TYIF</u> in <u>Bahaar / Art (</u>	rit is awarded to Mr./Ms. Sakshi Gallery / Sports - 2022-2023	Keni for having participated held
This certificate of mer of <u>TYIF</u> in <u>Bahaar/Art (</u> from 23 rd Mar	Fit is awarded to Mr./Ms. Sakshi Gallery / Sports - 2022-2023 ch = 25 th March: He/She has s	Keni for having participated held recuredst position
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	Participant		
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This certificate of merit	is awarded to MelMs. Shrufi	Jagdale	
	HARATI	for having partic	ipated
in Bahaar / Art Ga	allery / Sports - 2022-2023	ter ter	heid
in the event / category	Volley Ball	curedp	osition
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BHARATI V Sector-7, C	TDYAPEETH INSTITUTE BD Belpada, Opp. Kharghar Riy. Station, N Certificate	OF TECHNOLOGY avi Mumbai-400 614.	
BHARATI V Sector-7, C	TDYAPEETH INSTITUTE DB Belpada, Opp. Kharghar Riy. Station, N Certificate it is awarded to Mir. Ms. Riya Bhal	OF TECHNOLOGY avi Mumbai-400 614.	
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	<u>Gertificat</u>	e	
This certificate of mer	it is awarded to Mr. Ms. Sakshi	keni	
of TYIF			
E	HARATI	for havi	ng participated
in Baháar / Art G	Figliery / Sports - 2022-2023	nd	held
from 237 March-	25 March .He/She has	secured 2 ^{r14}	position
in the event / category_	FOOLDay		
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BHARATI Y Sector-7	Convenor	Principa TE OF TECHNO Ion, Navi Mumbai-400 614	DLOGY
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Sector-7, C	30 Belpada, Opp. Kharghar Rly. Station, Nav	i Mumbai-400 614.
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This certificate of merit	t is awarded to MEIMS. Shortufi .T	andale
of_ TYIF		
	11 10 201 2015	for having participated
from 2 3rd March-	25th March Helshe has secured	held
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BHARATI VI Sector-7, CB	The second secon	DF TECHNOLOGY vi Mumbai-400 614.
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This certificate of merit of TYIF in Bahaar / Art Ga from 23 rd March - 2 in the event / category	is awarded to Mr./Ms. Bhum? D. Miery / Sports - 2022 - 2023 25 th March	DF TECHNOLOGY vi Mumbai-400 614. Vedant for having participated held d_2nd position
BHARATI VI Sector-7, CB This certificate of merit of TYIF in Babaar / Art Ga from 23 rd March - 2 in the event / category	Alery / Sports - 2022-2023 Alerthold In Arch He/She has secured	DF TECHNOLOGY vi Mumbai-400 614. Vedant for having participated held d_2 nd position
BHARATI VI Sector-7, CB This certificate of merit of TYIF in Babáar / Art Gø from 23 rd March - 3 in the event / category	Alerry / Sports - 2022 - 2023 25 th March	DETECHNOLOGY Mumbai-400 614. Vedant for having participated held dndposition

	<u>Gertific</u>	ate		
This certificate of meri of TYIF	t is awarded to Mr./Ms. <u>Ab</u>	stha Bho	าใด	-
Babbas (Art C	HARATI	C VINSED	for having par	ticipated
from 23rd March-	25th March Harsh	o has socierad	and	held
in the event / category	Football	e nus secured	6	_ position
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BHARATI V Sector-7, 1	IDYAPEETH INST BD Belpade, Opp. Kharghar Ro Gertific It is owwarded to HelMs	ITUTE OF	TECHNOLO Imbai-400 614.	GY
BHARATI V Sector-7, 1	IDYAPEETH INST	ITUTE OF	TECHNOLO Imbai-400 614.	GY
BHARATI V Sector-7, 1 This certificate of men of in from	IDYAPEETH INST	ITUTE OF Station, Navi Mo Calle	TECHNOLO Imbai-400 614.	GY ticipated held position
BHARATI V Sector-7, 1 This certificate of men of in <u>Bohoor / Are G</u> from <u>25rd - 25</u> in the event / sategory	TIDYAPEETH INST	ITUTE OF Station, Navi Mu Calle	TECHNOLO Imbai-400 614.	GY ticipated held position
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This certificate of mer	it is awarded to Mr./Ms. <u>RUTUIA</u>	INMANT NALAWADE
0 <u></u>	SUARATI S VID	for having participated
in Bahaar / Art C	Sallery / Sports - 2022-2023	edposition
in the event /-category_	KHO-KHO	
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	Convenor	Principal
₩ BHARATI V	TIDYAPEETH INSTITUTE O	F TECHNOLOGY
BHARATI V Sector-7, (Edit Tardonalis Through Dynamic Education TIDYAPEETH INSTITUTE O CBD Belpada, Opp. Kharghar Riy. Station, Navi	F TECHNOLOGY Mumbai-400 614.
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BHARATI V Sector-7, 0 This certificate of merr of inBahaar / Art G	EXAMPLE TYTE	FTECHNOLOGY Mumbai-400 614. WENDRA VEDANT for having participated held
BHARATI V Sector-7, 0 This certificate of merr of in from23 rd - 25	t is awarded to Arr./Ms. BHUMI DE TYIF	FTECHNOLOGY Mumbai-400 614. NENDRA VEDANT for having participated held 1 th position
BHARATI V Sector-7, 0 This certificate of men of in <u>Bahaar / Art G</u> from <u>23rd - 25</u> in the event / category	t is awarded to Ar./Ms. BHUMI DE TYIF	FTECHNOLOGY Mumbai-400 614. NUMBAI-400 614. NUMBAI-400 614. Mumbai-400 614. NENDRA VEDANT
BHARATI V Sector-7, 0 This certificate of ment of in <u>Bahaar / Art G</u> from <u>23rd - 25</u> in the event / category	it is awarded to AFr./Ms. BHUMI DE TYIF Ballery / Sports - 2021-2023 MARCH .He/She has secured KHD- KHO	FTECHNOLOGY Mumbai-400 614. NENDRA VEDANT for having participated held 1 ¹⁺ position
BHARATI V Sector-7, 0 This certificate of merr of in <u>Bahaar / Art G</u> from 23 rd - 25 in the event / category	EXAMPLE THE ARCH ARCH AND	ETECHNOLOGY Mumbai-400 614.

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Sector-7, CBD I	Belpada, Opp. Kharghar Rly. Station	n, Navi Mumbai-400 614.	Y
	Certificat	0,	
	ou guin		
This certificate of merit is a	warded to Jef Men Astha Bha	ix	_
of TYLE		for having particip	ated
in_Bahaar / Art G	allery / Sports - 2022-2023		held
from 23rd March .	- 25th Maxch, He/She has secu	ared 1 \$4 position in	the
event/eategory- Box	Cricket		-
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N BHARATI VID Sector-7, CBD Be	Extension Rive Station, Control Control Contr	OF TECHNOLOGY Navi Mumbai-400 614.	ſ
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BHARA	Or-7, CBD Belpada, Opp. Kharohar Riv. Stati	ITE OF TECHNOLOG	Y
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	<u>Ctr tyrtur</u>	~	
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	BHARATI	for having partici	pated
in_Bahaar / A	Art Gallery / Sports - 2022-2023	serviced 15t bo	_held
in the event / coteg	1014- Box Cricket	securedpo	
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	e.Y	23	
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MRS. SALY ANTONY PRINCIPAL

DEPARTMENT OF INFORMATION TECHNOLOGY



ISSN: 2320-2882

IJCRT.ORG



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

ATTENDANCE SYSTEM USING CNN FACE RECOGNITION ALGORITHM

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Abstract: An attendance system using face recognition technology with a defaulter list is a system that uses facial recognition algorithms to identify and record attendance for individuals. The system maintains a database of individuals with their images, and when an individual comes in front of the camera, the system recognizes the face and records attendance accordingly. The system also has a defaulter list, which includes the names of individuals who are expected to attend but have not done so. The defaulter list is created based on the attendance record and can be used to take appropriate actions, such as sending notifications or reminders to the individuals. The system uses computer vision algorithms to extract features from the face, such as distance between the eyes, nose shape, and mouth shape, to recognize the person. The system compares the extracted features with the features stored in the database to identify the person. The system can be used in various settings, such as schools, colleges, and offices, where attendance needs to be recorded regularly. The system can help save time and effort by automating the attendance recording process, and the defaulter list can help ensure that all individuals attend as required. Overall, an attendance system using face recognition with a defaulter list can be a useful tool in managing attendance and ensuring that individuals attend as required.

Index Terms - Attendance System, Face Recognition, Machine Learning, CNN Algorithm

I. INTRODUCTION

An attendance system using face recognition technology with a defaulter list is a system that allows for automated tracking of attendance in a given environment, such as a classroom or workplace. The system uses a camera or other imaging device to capture images of individuals, and then applies facial recognition algorithms to identify individuals and match them against a database of authorized personnel. The system can be set up to generate a list of individuals who are not present or who are late, known as the defaulter list. This list can be used for various purposes, such as tracking attendance, monitoring tardiness, or identifying individuals who are consistently absent or late. The attendance system using face recognition technology has several advantages over traditional attendance tracking methods, such as paper sign-in sheets or card-swipe systems. It can be more efficient, accurate, and secure. It can also save time and reduce errors by eliminating the need for manual data entry or verification. Overall, an attendance system using face recognition with a defaulter list can provide a powerful tool for organizations to monitor attendance and improve accountability, while also ensuring that authorized personnel are the only ones granted access to the premises.

Every organization requires a robust and stable system to record the attendance of their students. and every organization have their own method to do so, some are taking attendance manually with a sheet of paper by calling their names during lecture hours and some have adopted biometrics system such as fingerprint, RFID card reader, Iris system to mark the attendance. The conventional method of calling the names of students manually is time consuming event. The RFID card system, each student assigns a card with their corresponding identity but there is chance of card loss or unauthorized person may misuse the card for fake attendance. While in other biometrics such as finger print, iris or voice recognition, they all have their own flaws and also they are not 100% accurate [1] [19].Use of face recognition for the purpose of attendance marking is the smart way of attendance management system. Face recognition is more accurate and faster technique among other techniques and reduces chance of proxy attendance. Face recognition provide passive identification that is a person which is to be identified does not to need to take any action for its identity [2].

Face recognition involves two steps, first step involves the detection of faces and second step consist of identification of those detected face images with the existing database. There are number of face detection and recognition methods introduced. Face recognition works either in form of appearance based which covers the features of whole face or feature based which covers the geometric feature like eyes, nose, eye brows, and cheeks to recognize the face [3].

Our system uses face recognition approach to reduce the flaws of existing system with the help of machine learning, it requires a good quality camera to capture the images of students, the detection process is done by histogram of oriented gradient. And recognizing performs through deep learning. The frontend side (client side) which consists of GUI which is based on electron JS and backend side consist of logic and python (server side), an IPC (Inter Personal Communication) bridge is developed to communicate these two stacks. The images capture by the camera is sent to system for further analysis; the input image is then compared with a set of reference images of each of the student and marks their attendance.



Fig.1.1: Flow of the system

II. LITERATURE REVIEW

Attendance Management System using Facial Recognition [1]: The conventional way of taking attendance leads to proxy through friends thus reducing effectiveness. So for that we choose bio-metrics but this lacks reliability and then we go for face recognition technology which is efficient & time saving. It works in 4 states as Image Capturing, Face Detection, Face Comparison and Updating of Attendance in Database.

Attendance Management System [2]: In the growing virtual world, this research paper deals about whole class attendance through face recognition that captures the image of a human entity & checks from the existing database, then result will put in MySQL having accuracy of 99%.

Implementation of Face Recognition Algorithm for Bio-metrics Based time Attendance System [3]: Face recognition starts with taking out the features of face like breadth of mouth, width of pupil in eyes & checks it from already existing database. Many papers are published that contains facial feature extraction, face recognition implementations. The major focus over it is best face recognition up-to 95% similar.

Attendance Monitoring System Based on Face Recognition [4]: Understanding the scenario, to make the different task of institutions & organizations fruitful, face recognition feature comes into use that takes out facial features & changes into numeral format. An automatic mail system sends mail to all the students or staff.

Attendance Monitoring System using Facial Recognition with Audio Output [5]: The manual approach of keeping track of class attendance and keeping a journal is ineffective. Since, bunking classes or appointing proxies for absentees has become a popular pastime among today students. Manual Attendance entry in logbooks becomes a laborious chore that can be readily manipulated. As a result, the purpose of this work is to offer an automatic attendance system.

Automatic Attendance Management System using Face Detection [6]: The automatic attendance management system will replace the time-consuming and difficult-to-maintain manual system. In this study, we shall address attendance without the need of humans. This method involves installing a camera in the classroom that captures images, detects faces, compares them to a database, and then registers attendance. If a student's attendance is marked as absent, a notice notifying their parents of their child's absence are sent. A multitude of methods exist for comparing faces. The Eigen face of the procedure is the one. Eigen faces are a set of Eigen vectors used in computer vision to solve the face recognition problem.

CNN Based Efficient Face Recognition Technique using D-lib [7]: Despite breakthroughs in face recognition, it has received a lot more attention in the scientific and business sectors in recent decades. This research proposes a Deep Learning-based face recognition system that uses Convolutional Neural Networks (CNN) with D-lib face alignment.

III.PROPOSED SYSTEM

An attendance system using face recognition with a defaulter list is a proposed system that uses facial recognition technology to automatically record attendance and identify individuals who are absent or tardy. Here are the main components and features of the proposed system:

• Face Recognition Technology: The system will use advanced face recognition algorithms to identify individuals based on their facial features. This technology can accurately identify people even in low-light or high-traffic environments, making it ideal for use in busy schools, universities, or businesses.

- Attendance Tracking: The system will record attendance automatically based on facial recognition, eliminating the need for manual check-ins or paper-based systems. This will save time and improve accuracy, as well as reducing the risk of errors or fraud.
- **Defaulter List:** The system will maintain a list of individuals who have been absent or tardy, allowing teachers or managers to easily identify students or employees who are falling behind. This list can be sorted by date or time, making it easy to track trends and patterns over time.
- Notifications: The system can be configured to send notifications to teachers or managers when individuals on the defaulter list are detected, allowing them to take action and provide support as needed. This can help improve attendance and performance over time.
- **Reporting:** The system will generate reports and analytics on attendance and defaulter rates, allowing administrators to track progress and identify areas for improvement. This data can be used to inform decision-making and drive positive change in schools, universities, or businesses.

Overall, an attendance system using face recognition with a defaulter list has the potential to significantly improve attendance tracking and support for students or employees who are struggling. By leveraging the latest in facial recognition technology, this system can help schools, universities, and businesses streamline attendance tracking and improve outcomes for all.

IV.SYSTEM IMPLEMENTATION

An attendance system using face recognition with a defaulter list implementation can be developed using the following steps:

- Collect a dataset of facial images for each individual who needs to be enrolled in the system. The dataset should include images captured from different angles and under different lighting conditions to improve accuracy.
- Train a machine learning model, such as a convolutional neural network (CNN), on the collected dataset. The model should be trained to recognize each individual's face and associate it with their unique identifier.
- Implement a real-time face detection and recognition system using the trained model. The system should capture images of individuals as they enter the attendance area and compare them to the enrolled dataset to determine their identity.
- Maintain a database of all individuals enrolled in the system and their attendance records. The attendance records should include the individual's name, unique identifier, and timestamp of entry.
- Implement a defaulter list feature in the system that tracks individuals who have missed a certain number of attendance sessions. The number of missed sessions required to be added to the defaulter list can be set by the system administrator.
- Generate daily reports of attendance records and defaulter lists to provide the administrator with a comprehensive overview of the attendance status of all individuals enrolled in the system.
- Add a notification system to the defaulter list feature to alert the administrator when an individual is added to the list. The notification can be sent via email or SMS.

By following these steps, an attendance system using face recognition with a defaulter list implementation can be developed to efficiently track attendance and identify individuals who have missed a certain number of sessions. This can be useful in educational institutions, workplaces, and other settings where attendance is important.

CNN Algorithm:

dlib: Dlib is a modern C++ toolkit containing machine learning algorithms and tools for creating complex software in C++ to solve real-world problems.

Face Recognition: The face recognition library, created and maintained by Adam Geitgey, wraps around dlib facial recognition functionality.

Opency: for some image pre-processing.

Now that you have downloaded all the important libraries, let's import them to build the system.

import cv2

import numpy as np

import face_recognition

Load images: After importing libraries you need to load an image.

face_recognition library loads images in the form of BGR, in order to print the image you should convert it into RGB using OpenCV.

imgelon_bgr = face_recognition.load_image_file('elon.jpg')

imgelon_rgb = cv2.cvtColor(imgelon_bgr,cv2.COLOR_BGR2RGB)

cv2.imshow('bgr', imgelon_bgr)

cv2.imshow('rgb', imgelon rgb)

20'

cv2.waitKey(0)

Find the face location and draw bounding boxes: You need to draw a bounding box around the faces in order to show if the human face has been detected or not.

imgelon =face_recognition.load_image_file('elon.jpg')

imgelon = cv2.cvtColor(imgelon,cv2.COLOR BGR2RGB)

#-----Finding face Location for drawing bounding boxes------

face = face_recognition.face_locations(imgelon_rgb)[0]

copy = imgelon.copy()

#-----Drawing the Rectangle-----

cv2.rectangle(copy, (face[3], face[0]),(face[1], face[2]), (255,0,255), 2)

cv2.imshow('copy', copy)

cv2.imshow('elon',imgelon)

cv2.waitKey(0)

Train an image for face recognition: This library is made in such a way that it automatically finds the face and works on only faces, so you don't need to crop the face out of

Training: At this stage, we convert the train image into some encodings and store the encodings with the given name of the person for that image.

train_elon_encodings = face_recognition.face_encodings(imgelon)[0]

Testing: For testing, we load an image and convert it into encodings, and now match encodings with the stored encodings during training. This matching is based on finding maximum similarity. When you find the encoding matching the test image, you get the name associated with train encodings.

lets test an image

test = face recognition.load image file('elon 2.jpg')

test = cv2.cvtColor(test, cv2.COLOR BGR2RGB)

test_encode = face_recognition.face_encodings(test)[0]

print(face_recognition.compare_faces([train_encode],test_encode))_

V. RESULT AND DISCUSSION

An attendance system using face recognition technology can be a reliable and efficient way to manage attendance records in various settings, such as schools, universities, or workplaces. Face recognition technology can accurately identify individuals and mark their attendance without the need for manual input or human intervention.

One potential feature of this system could be a defaulter list. The defaulter list would be a record of individuals who have failed to meet attendance requirements, such as missing a certain number of classes or arriving late repeatedly. The system would automatically flag these individuals as defaulters and add them to the list.

The defaulter list can serve as a valuable tool for teachers or supervisors to monitor attendance and address any issues with students or employees who may be struggling to meet attendance requirements. The list can also help identify patterns or trends in attendance and inform decisions about interventions or support.

It is important to consider potential concerns about privacy and security when implementing a system that uses face recognition technology. Organizations must ensure that they are collecting and storing data in compliance with relevant privacy laws and regulations. Additionally, it is important to implement security measures to protect the data and prevent unauthorized access.

In conclusion, an attendance system using face recognition technology can be an efficient and reliable way to manage attendance records. The addition of a defaulter list can provide valuable insights and help address attendance issues. However, organizations must ensure that they are complying with relevant privacy laws and implementing security measures to protect data.

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Fig.5.1: Attendance Records in Excel Sheet



Fig 5.3: Teacher dashboard

The admin add students in classroom and then teacher takes attendance of students using Teacher Dashboard page as shown in fig. 5.3.



Fig.5.4: Classroom Dashboard

The admin adds classroom subject wise using Classroom Dashboard page as shown in fig. 5.4.

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Fig.5.5: All students List

The teacher can view all student of respective class using all student page as shown in fig.5.5



Fig.5.6: Taking Attendance

The teacher takes students attendance using Capture It page as shown in fig.5.5

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Fig.5.7: Defaulter Student

The email is send to those students who are in defaulter list using Defaulter Students page as shown in fig. 5.7

CONCLUSION

An attendance system using face recognition technology can provide an efficient and accurate way to keep track of employee or student attendance. With the use of facial recognition, individuals can easily be identified, and attendance can be automatically recorded without the need for manual input.

One potential feature of such a system could be the creation of a defaulter list. This list would consist of individuals who have consistently failed to attend classes or work shifts. By identifying these individuals, management can take appropriate action, such as counseling or disciplinary action, to improve attendance and ensure productivity.

In conclusion, a face recognition-based attendance system with a defaulter list could be an effective tool for managing attendance in educational institutions or workplaces. The use of facial recognition technology can help reduce the likelihood of errors and improve efficiency, while the defaulter list can provide a means of addressing attendance issues in a timely and effective manner. However, it is important to ensure that such systems comply with data protection and privacy regulations to prevent any misuse of personal information.

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International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

Volume 2, Issue 1, December 2022

QR Code and Barcode Generator

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Abstract: Before we delve into the history of a QR Code, let's make sure it's clear what a QR Code is. A QR Code, or quick response Code, is a Code that is quickly readable by a cell phone (hence the word "quick" in the name). Using a combination of spacing as a type of Matrix Barcode (a 2-D Barcode), when a QR Code is scanned, it conveys a wide multitude of information. QR Codes have a wide range of uses across all types of industries such as retail, marketing, and logistics. A barcode, consisting of bars and spaces, is a machine- readable representation of numerals and characters. Today, stripes as shown below on packages of products sold at supermarkets, convenience stores and other stores are ubiquitous. These are barcodes. A barcode consists of bars and spaces of varying width that can be read with an optical barcode scanner. While QR Codes and Barcodes are similar in practice, QR Codes contain more information because they have the ability to hold information both horizontally and vertically. Barcodes only use horizontal information. While Barcodes work wonderfully for situations like scanning supermarket items, QR Codes have a much higher capability of transferring information, likely what has made them increasingly popular due to their versatility.

Keywords: QR code, Barcode

I. INTRODUCTION

A Quick Response Code' also known as QR code is a two-dimensional type of barcode that Denso Wave develops, a Japanese barcode developer, in 1994. QR codes are scan-able using smartphones devices, which are natively developed to scan/detect QR codes. These codes are generated using an online QR code generator that displays online information to the scanner when scanned.

Today, QR codes are generally used in advertising, business, health care, and education. However, business sectors, especially in the advertising and operations, most widely use QR codes. Aside from these sectors, the restaurant industry also employs an interactive restaurant menu QR code software and QR code generators to generate menu QR code for their business. You can find QR codes in brochures, flyers, posters, billboards, items and products, business cards, and even online websites such as social media and shopping sites. QR codes have become common in consumer advertising. Typically, a smartphone is used as a QR code scanner, displaying the code and converting it to some useful form (such as a standard URL for a website, thereby obviating the need for a user to type it into a web browser). QR code has become a focus of advertising strategy, since it provides a way to access a brand's website more quickly than by manually entering a URL.

Beyond mere convenience to the consumer, the importance of this capability is that it increases the conversion rate: the chance that contact with the advertisement will convert to a sale. It coaxes interested prospects further down the conversion funnel with little delay or effort, bringing the viewer to the advertiser's website immediately, whereas a longer and more targeted sales pitch may lose the viewer's interest. Although initially used to track parts in vehicle manufacturing, QR codes are used over a much wider range of applications. These include commercial tracking, entertainment and transport ticketing, product and loyalty marketing and in-store product labeling.

Examples of marketing include where a company's discounted and percent discount can be captured using a QR code decoder which is a mobile app, or storing a company's information such as address and related information alongside its alpha-numeric text data as can be seen in Yellow Pages directories. They can also be used in storing personal information for use by organizations. An example of this is Philippines National Bureau of Investigation (NBI) where NBI clearances now come with a QR code. Many of these applications target mobile-phone users (via mobile tagging).



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

Volume 2, Issue 1, December 2022

Users may receive text, add a vCard contact to their device, open a URL, or compose an e-mail or text message after scanning QR codes. They can generate and print their own QR codes for others to scan and use by visiting one of several pay or free QR code- generating sites or apps. Google had an API, now deprecated, to generate QR codes, and apps for scanning QR codes can be found on nearly all smartphone devices. Barcode or bar code is a method of representing data in a visual, machine-readable form. Initially, barcodes represented data by varying the widths, spacings and sizes of parallel lines. These barcodes, now commonly referred to as linear or one- dimensional (1D), can be scanned by special optical scanners, called barcode readers, of which there are several types. Later, two-dimensional (2D) variants were developed, using rectangles,

dots, hexagons and other patterns, called matrix codes or 2D barcodes, although they do not use bars as such. 2D barcodes can be read using purpose-built 2D optical scanners, which exist in a few different forms. 2D barcodes can also be read by a digital camera connected to a running software that takes a photographic image of the barcode and analyzes the image to deconstruct and decode the 2D barcode.

A mobile device with an inbuilt camera, such as smartphone, can function as the latter type of 2D barcode reader using specialized application software (The same sort of mobile device could also read 1D barcodes, depending on the application software). The barcode was invented by Norman Joseph Woodland and Bernard Silver and patented in the US in 1952. Barcodes are widely used around the world in many contexts.

In stores, UPC barcodes are pre-printed on most items other than fresh produce from a grocery store. This speeds upprocessing at check-outs and helps track items and also reduces instances of shoplifting involving price tag swapping, although shoplifters can now print their own barcodes.

Barcodes that encode a book's ISBN are also widely pre-printed on books, journals and other printed materials. In addition, retail chain membership cards use barcodes to identify customers, allowing for customized marketing and greater understanding of individual consumer shopping patterns. At the point of sale, shoppers can get product discounts or special marketing offers through the address or e-mail address provided at registration.

Barcodes are widely used in the healthcare and hospital settings, ranging from patient identification (to access patient data, including medical history, drug allergies, etc.) to creating SOAP Notes with barcodes to medication management.

They are also used to facilitate the separation and indexing of documents that have been imaged in batch scanning applications, track the organization of species in biology, and integrate with in- motion check weighers to identify the item being weighed in a conveyor line for data collection.

They can also be used to keep track of objects and people; they are used to keep track of rental cars, airline luggage, nuclear waste, registered mail, express mail and parcels.

Barcoded tickets (which may be printed by the customer on their home printer, or stored on their mobile device) allow the holder to enter sports arenas, cinemas, theatres, fairgrounds, and transportation, and are used to record the arrival and departure of vehicles from rental facilities etc. This can allow proprietors to identify duplicate or fraudulent tickets more easily. Barcodes are widely used in shop floor control applications software where employees can scan work orders and track the time spent on a job.

Barcodes are also used in some kinds of non-contact 1D and 2D position sensors. A series of barcodes are used in some kinds of absolute 1D linear encoder. The barcodes are packed close enough together that the reader always has one or two barcodes in its field of view.

As a kind of fiducial marker, the relative position of the barcode in the field of view of the reader gives incremental precise positioning, in some cases with sub-pixel resolution. The data decoded from the barcode gives the absolute coarse position.

An "address carpet", such as Howell's binary pattern and the Anoto dot pattern, is a 2D barcode designed so that a reader, even though only a tiny portion of the complete carpet is in the field of view of the reader, can find its absolute X,Y position and rotation in the carpet.

2D barcodes can embed a hyperlink to a web page. A mobile device with an inbuilt camera might be used to read the pattern and browse the linked website, which can help a shopper find the best price for an item in the vicinity.

Since 2005, airlines use an IATA- standard 2D barcode on boarding passes (Bar Coded Boarding Pass (BCBP)), and since 2008 2D barcodes sent to mobile phones enable electronic boarding passes.

Some applications for barcodes have fallen out of use. In the 1970s and 1980s, software source code was occasionally



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encoded in a barcode and printed on paper (Cauzin Softstrip and Paper byte are barcode symbologies specifically designed for this application), and the 1991 Barcode Battler computer game system used any standard barcode to generate combat statistics.

Artists have used barcodes in art, such as Scott Blake's Barcode Jesus, as part of the post-modernism movement.

II. LITERATURE REVIEW

QR i.e. "Quick Response" code is a 2D matrix code that is designed by keeping two points under consideration, i.e. it must store large amount of data as compared to 1D barcodes and it must be decoded at high speed using any handheld device like phones.

QR code provides high data storage capacity, fast canning, omnidirectional readability, and many other advantages including, error-correction (so that damaged code can also be read successfully) and different type of versions.

Different varieties of QR code symbols like logo QR code, encrypted QR code, QR Code are also available so that user can choose

among them according to their need. Now these days, a QR code is applied in different application streams related to marketing, security, academics etc. and gain popularity at a really high pace. Day by day more people are getting aware of this technology and use it accordingly.

The popularity of QR code grows rapidly with the growth of smartphone users and thus the QR code is rapidly arriving at high levels of acceptance worldwide. This software creates barcodes that can be printed and read on any product.

Integrating scanners are able to scan and analyse the information stored within these barcodes. Barcodes are typically scanned when products are sold or shipped from one location to another. Different industries and countries use different formats for barcodes, depending on their specific needs. Barcode software should offer various templates so users can print whichever format of barcode will fit a business' needs. These solutions are typically used in industries such as manufacturing and e-commerce.

III. SCOPE OF A PROJECT

- Omnidirectional and Fast Scanning: QR code can be read much faster and within 360 degrees can be scanned from any angle i.e. no need to place the scanner as per the code symbol.
- Small Size: QR code takes less space. A QR Code can hold the same volume of information contained in a 1-D barcode in only one-tenth the space.
- Huge Data Storage Capacity: QR code has high data storage capacity. A single QR Code token can store up to 7,089 numerals (200 times the volume of information storage capacity of the traditional 1-D barcode).
- Many Types of Data: The QR Code can handle numerals, alphanumeric characters, Japanese, Chinese or Korean letters and binary data.
- Error correction: Error correction technique used in QR codes enables successful decoding of the code symbol even if up to 30% of the data is dirty or damaged.
- Available for Everyone: Anyone can make their own QR code according to their need, for example, user can create QR code of the URL of its own website for advertising purpose.
- Wide Range of Uses: There are lots of potential uses of QR codes. They can be implemented to extend the user experience in store, restaurants, websites and more. 4.2 Although QR code has many positive points on its side but, there are some demerits of the QR code too, such as, Need of QR code scanner; to decode the code users must have a QR reader app, which limits the audience; Security issues, the scanner never really knows where the code is going to lead the user before scanning a QR code; Lack of public awareness, large portion of population is still unaware of this technology.

III. PROPOSED METHODOLOGY

Scientific research has been playing an important role in the progress and enrichment of new age technology. Research is invention or scientific investigation or scientific enquiry to extract truth or invent new concepts by scientific way. Descriptive research consists of fact-finding enquiries and surveys of various kinds. The main motive of descriptive analysis is explanation of the state of affairs as it currently exists. Research can be either applied to study or to

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fundamental studies. The objective of applied analysis is to find a solution to an instant issue facing a community or an industrial/business organization, whereas basic study is primarily worried with generalizations and the formulation of a theory.

Quantitative research is based on quantity or quantity measurements. It applies to events that can be stated in quantity terms. On the other side, qualitative research is concerned with the phenomenon of quality.

Conceptual study involves some theory or abstract ideas. Theorist and thinkers typically use it to develop fresh thoughts or reinterpret current ones. However, inquiry relies on knowledge or examination alone, often without proper scheme and theory consideration. It is data-based study, resulting in judgments that can be checked through observation or experimentation. We did QR Code analysis with the assistance of all these techniques.

IV. PROBLEM DEFINETION/STATEMENT

While QR Codes are quite the sturdy technology and are easy to read with any smartphone, sometimes improper designs can render them unscannable. There are things to look out for such as colour mismatches, materials the QR Code will be used on, its size, and more. Here we've outlined the most common QR Code scanning problems and how they can be resolved. The quiet zone that distinguishes the QR Code from the surroundings is too small or nonexistent, so the QR Code can't be read. Because the design has left out the quiet zone, the scanner can't determine what is the graphic and what is the QR Code. Make sure to always leave enough space for the quiet zone. The ideal size would be if the quiet zone is at minimum four times larger than the width of your QR Code modules. When in original form, the modules are the black pixels that make up the QR Code (or also come in colour when customized).

The more data that you add to a QR Code, the smaller those pixels will become. Nevertheless, this is not a reason to reduce the quiet zone perimeter to compensate. Design QR Codes to match the background colours but not in a manner that the QR Code is lost in the design. Maintain the quiet zone and make sure that the pixels stand out against the background or any surrounding colour designs. In the example below, you can see that the design actually looks better when the QR Code colors contrast from the background, yet still, match with the overall design.

V. REQUIREMENT

5.1 Hardware Requirements

Dual core x86-64 CPU with 2.0GHz or faster. 4 GB of system memory GPU

5.2 Software Requirements

- XAMPP v3.3.0 as my local web server that has a PHP Version 8.0.7 •
- PHP Language MySQL Database HTML .
- CSS .
- JavaScript jQuery
- PicQer PHP Barcode Generator PHP QR Code



Figure 2. Structure of QR Code^[3] DOI: 10.48175/568

VI. DESIGN



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Finder Pattern (1): The finder pattern comprises of three identical structures that are situated in all corners of the QR Code except the bottom right one. Each pattern is based on a black module matrix of 3x3 encircled by white modules that are again surrounded by black modules. The Finder Patterns allows the decoder software to identify the QR Code and determine the exact orientation.

Separators (2): The white separators have a width of one pixel and boost the recognition of the Finder Patterns as they isolate them from the actual data.

Timing Pattern (3): In the Timing Pattern, alternating black and white modules allows the decoder software to determine a single module's width.

Alignment Patterns (4): Alignment Patterns helps to reimburse the decoder software for mild picture deformation. Version 1 QR codes have no Alignment Patterns. With increased code size, more Alignment Patterns are added.

Format Information (5): The Formation Information section is made up of 15 bits next to the separators and stores data about the QR code error correction rate and the masking model selected.

Data (6): Data is converted into a bit stream and then stored in information segment in 8 bit sections (known as codewords).

Error Correction (7): Similar to the data section, error correction codes are stored in 8 bit long code-words in the error correction section.

Remainder Bits (8): This section consists of empty bits, if data and error correction bits cannot be split into 8 bit codewords without remainder. To enhance code recognition by the decoder software, the entire QR code must be encircled by the so called Quiet Zone, an area in the identical color shade as white modules.



5.3 Quiet Zone (Margin)

Quiet Zone is a blank margin located at either end of a barcode. The minimal margin between barcodes (distance from the outermost bar of one barcode to the outermost bar of another barcode) is 2.5 mm. If the width of a Quiet Zone is insufficient, barcodes are hard for a scanner to read.

Start Character/Stop Character

The Start Character and the Stop Character are characters representing the start and the end of the data, respectively. The characters differ depending on the barcode type.

sCheck Digit (Symbol check character)

The Check Digit is a digit for checking whether the encoded barcode data are correct.



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VII. BARCODE GENERATOR BLOCK DIAGRAM



VIII. QR CODE GENERATOR BLOCK DIAGRAM



DOI: 10.48175/568

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IX. APPLICATION

Barcodes save time and money because they can be read by a scanner, either a handheld device or one built into a checkout station, instead of an employee having to manually key in product information.

There are two primary types of barcodes: one- dimensional (1D), like those found on food packaging or a shampoo bottle, and two-dimensional (2D), like a QR code on an advertisement that directs the user to

that company's website. Most scanners can only read 1D, or linear, barcodes, and they remain the most popular format; more on 1D vs. 2D codes later.

Two of the most common types of linear barcodes are the Universal Product Code (UPC) in the U.S. and the European Article Number (EAN) in Europe.

1. Direct customers to a landing page/website Scanning a QR code can lead to a signup page or any landing page/website. This removes the hassle of going through the process of accessing the website and navigating your way around the page. Make sure that you use a unique URL matched with your QR code to measure it accurately.

2. Dial your business number

In business conferences, you'll surely engage and interact with a crowd. If you use QR codes for your booth or station, then interested business partners can just scan the code and receive your business details such as your business contact number. Sometimes, you can even tweak the QR code to dial the number on the receiver's phone directly.

3. Send a message

This is exciting because the user will only receive the message once the QR code has been scanned. Sending messages through QR codes benefits SMS marketing the most. It can be used for sales, user support, on- request product upgrades, and opt-in SMS registration.

4. Send an email

Much like sending messages, QR codes for sending emails will help you read and monitor data for newsletters, email marketing, and your email's performance rates (e.g. open and bounce rates).

Aside from that, the user can also continue reading the said the email on his mobile phone by scanning the QR code. In this manner, your email will be accessible on any platform.

Barcodes encode product information into bars and alphanumeric characters, making it much faster and easier to ring up items at a store or track inventory in a warehouse.

Besides ease and speed, bar codes' major business benefits include accuracy, inventory control and cost savings.

There are many types of barcodes, but they all fall into two categories: linear codes, including widely used formats like UPC and EAN, and matrix codes, like QR codes.

Barcoding has a low barrier to entry-all a business needs is a printer, scanner and basic inventory management software.

X. FUTURE SCOPE

QR codes are becoming one of the most prime facet in cashless transactions. They were already hugely popular and in use in the European countries as well as in America but in past few years, they are gaining momentum in South and East Asia. In China, the implementation of QR code has even surpassed cash and card based transactions. This has to be one of the biggest achievements so far for these QR codes. In India, there is a rapid hike in the usage of QR codes and the new era of cashless India is ushering upon the country's horizon. Many people argue with the fact that QR codes are used as a second fiddle while doing money related transactions. These codes are slowly becoming first preference for many users in the recent times. The main limitation of QR codes is that they are only being used to redirect to a webpage or website but they are not collecting any information on their own. If in this hugely data driven world, if these codes start to collect information and start a two-way transaction then it will surely stabilize in this technology market for future years. Another limitation regarding the application of QR codes is that one must have a QR code reader or scanner installed in their mobile or tablet to be able to scan and read the data held by the QR code. Instead of this, we can create and integrate the QR codes. QR codes have been scrutinized by many of the technology and security pundits but still it has been loved and accepted by the normal people at a high context. They have been literally used everywhere as far as promotional events are concerned like mobile payments, coupons, air ticket coupons, business

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cards, new business profile promotions etc. There are new technologies launching in the last couple of years who are better or more secure than QR codes, but still QR codes will be there for many more years to come because of the ease of their use and many people in the developing countries already adapting them in the recent past. So it is a rare possibility that they will again turn to a new technology after taking so much years to get used to the QR codes.

XI. CONCLUSION

We have discussed about the analysis of QR codes as well as their applications. The capacity of these codes to store data is very high plus they are damage resistance which makes them overcome one of the key concerns of security. In the past decade or so, the application of QR codes in public domains like supermarkets and in educational purposes like book scanning or stationary scanning has been increased rapidly and it will continue to thrive in more fields as the awareness will increase. The QR code technique is getting popular day by day and at the same time it is becoming increasingly secure as the technology is enhancing. Once, the awareness about these codes increases, it will get a wide spectrum to evaluate its significance. In near future, this technology will be used in wide public domains. Firstly, QR codes were used to store the information about inventory products but nowadays it is being used in the huge industries like marketing, secure payment systems, advertising, education systems etc.

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IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 11 Issue: IV Month of publication: April 2023

DOI: https://doi.org/10.22214/ijraset.2023.51308

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Intelligent Quotient Testing Using Stanford Binets Standardized Method

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Abstract: We aim to help individuals, students, professionals or businesses produce quick and accurate mental skills estimates online, as well as to provide insights and advice on how these skills can be analyzed and fostered!

In this paper we have promised to estimate an atmost accurate IQ of an individual with 15 set of questions which are based on important aspects such as logical mind, creative mind, spatial mind, verbal mind. This test estimates IQ till 170 that is highest IQ the test can estimate is 170. IQ stands for Intelligence Quotient, which is a parameter for measuring a human being's ability to solved difficult problems and think. IQ tests have been designed and used to estimate this characteristic, and your IQ score tells you how smart you are in comparison to people your age. Your IQ test score actually reflects how well you do in various mental activities, and therefore, can be a good criterion to know if you can be successful in a specific field of study. The results from an IQ test should be analyzed carefully, but as core between 90 and 109 indicates average intelligence.

INTRODUCTION

In the early 1900s, IQ test was originally developed by the French psychologist, Alfred Binet. The average IQ score is 100, as core above130 is labeled as extremely smart while as core below 70 is labeled as developmental delays. Unfortunately, fact of statistics showed that half of people score below average intelligence. Is this means that they are not clever and would not success in life? [3] Averaging the results that my IQ is either 85 which is considered as low average or 135 which is considered excellent. [5] Now which result do you think is true?

I.

The study found that IQ tests have been show more content. This was done by their searchers who took sample of 46,000 people around the world from an online survey. They analyzed how they performed and found these three distinct components. A study published in the Journal Neuron stated that the traditional IQ test did not accurately measure all of these components. [6]

IQ tests measure experience, not biology. The questions of the intelligence tests concerning concepts and objects based on circumstances. According to Hannah Richardson, intelligence tests measure the ways people respond to their environment but they do not measure genetic predis positions. Intelligence tests are inaccurate to measures true ability of a person because genes affect how a person responds to their surroundings, the tests cannot measure the person biological make up or his true potential for being "smart".[4]

An IQ test is an assessment that measures a range of cognitive abilities and provides as core that is intended to serve as a measure of an individual's intellectual abilities and potential. IQ tests are among the most administered psychological tests. To understand what the wise scores really mean, it is essential to look at exactly how these tests scores are calculated.

Today, many IQ tests are standardized, and scores are derived by comparing individual performance against then orm for people in that age group. While many tests utilize similar methods to derive their scores, it is also important to note that each IQ test is different. Additionally, scoring methods may not be the same from one test to another. [7]

According to Mensa International, an organization for people scoring in the top 2% for IQ.2 Intelligence tests assess a person's mental abilities and compare them with the abilities of other people through the use of numerical scores. Although the term intelligence is used as if there is agreement on what it means, in reality there is much debate as to how this term should be and has been defined. [8]

For example, debate has surrounded whether intelligence should be considered an inherent cognitive capacity, an achieved level of performance, or a qualitative construct that cannot be measured.[7]

Psychologists have debated whether intelligence is learned or inherited, culturally specific or universal, and one ability or several abilities. While these debates are ongoing, evidence is increasing that traditional intelligence tests measure specific forms of cognitive ability that are predictive of school functioning, but do not measure the many forms of intelligence that are beyond these more specific skills, such as music, art, and interpersonal and intrapersonal abilities.[6]



International Journal for Research in Applied Science & Engineering Technology (IJRASET) ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538 Volume 11 Issue IV Apr 2023- Available at www.ijraset.com

More specifically, for the purpose of this article, intelligence is discussed as it relates to a child's score on the intelligence (IQ or "intelligence quotient") tests that are used most commonly to measure a person's intelligence for educational planning or neuropsychological assessment. [4]

II. LITERATURE SURVEY

IQ assessments have always been a conversation starter as well as a recruitment method. Intelligence Quotient (IQ) was established in the early 1900s as a way to create a standardized measure of intelligence as well as cognitive abilities. Over the years, the IQ test has been used to identify potential leadership material as well those with certain cognitive skills that would go on to be leading names in different fields. [3]

A. What is IQ?

IQ or Intelligence Quotient is a standard score that shows how far above or below, his/her peer group an individual stands in mental ability. The peer group score is an IQ of 100. The IQ number is attained by giving the same test to huge numbers of people from all socio-economic strata of society and then taking the average.[4]

Coined in 1912 by psychologist William Stern, IQ was represented as a ratio of "mental age to chronological age x 100". For example if someone was 10 years old and had the mental age of a 10 year old, their IQ would be 100. But if their mental age was for example, 13 rather than 10, their IQ would be 130.[6]

B. What are IQ Tests?

A typical IQ test consists of taking various tests measuring intelligence including; spatial recognition, short-term memory, mathematical ability, and analytical thinking. Commonly misunderstood as something that tests all the knowledge you have acquired over the years, the IQ test is actually testing your capacity to learn.[7]

The modern day IQ test has come a long way since its inception in the early 20th century. Their purpose hasn't changed, and the methodology remains similar – in that they are testing facets of an individual's intelligence quotient rather than anything that has been learnt in the past.[8]

C. What does an IQ Test Measure?

An IQ test measures a range of an individual's cognitive ability and provides a score that is intended to serve as a way to measure an individual's capabilities and potential.[2]

A typical IQ test takes one to two hours and consists of anywhere between 25 and 50 multiple choice questions. It depends on the association administering the test but examinations can be shorter. Tests taken on social media for example can be short but do not cover a wide range of requirements to accurately measure IQ.[5]

D. What are IQ Tests used for?

IQ tests can be used for a variety of different purposes. These include:

- 1) Schools: To help identify children who may be gifted and thus to be given extra support to achieve or equally, analysing where children may require additional help in education.
- 2) *Military:* When originally coined, the IQ tests were separated into ALPHA and BETA. The first is for new recruits, the second for those who pass training. It helped to identify those with candidates with intellectual deficiencies, psychopathic tendencies, nervous intangibility, and inadequate self-control.
- 3) Recruitment Professionals: The IQ test helps point out candidates who exhibit critical thinking skills, learning ability and problem solving.
- 4) *Individuals:* This could just be for fun for many people, a bragging rights measure at the pub quiz or it could be done for genuine interest.
- 5) Mensa: Mensa tries to identify those of a higher intellect in order to foster human intelligence for the benefit of humanity.[7]

E. Types of IQ Tests

There are many different types of IQ tests with over 200 being last identified in a 2017 study. They are all trying to do the same thing but with different focuses on cognitive abilities and differentiate measuring tools.[3]



F. Are IQ Tests Accurate?

People often ask if IQ tests are accurate. There appears to be a variety of opinions on this subject. One of the common concepts around IQ test accuracy is that it depends on the tests that are being administered where scores can vary at different ages. This application would help to determine your IQ by performing standardized tests which will measure special factors of your brain

and your Intelligence level based on two assessments

- 1) Standford binet Intelligence Scale
- 2) Raven's Progressive matrices [7]

G. What is the Stanford-Binet Test?

The Stanford-Binet test is an examination meant to gauge intelligence through five factors of cognitive ability. These five factors include fluid reasoning, knowledge, quantitative reasoning, visual-spatial processing and working memory. Both verbal and non-verbal responses are measured. Each of the five factors is given a weight and the combined score is often reduced to a ratio known commonly as IQ. [5] How reliable is the Stanford-Binet test? The Stanford-Binet test is among the most reliable standardized tests currently used in education. It has undergone many validity tests and revisions throughout its long history, and while there are undoubtedly a few issues with the assessment, most results are treated as accurate. That is, individuals with high scores are usually gifted, and those with low Stanford Binet test scores often face some sort of cognitive disability. [5]

H. Origins of the Stanford - Binet Test

The Stanford - Binet test traces its roots to the Binet - Simon scale, French device for identifying levels of intelligence. The Binet-Simon Scale was developed by Alfred Binet and his student Theodore Simon. French education laws were influx at the time and Binet was approached by a governmental commission. The commission wanted a device to detect children that possessed not ably below-average levels of intelligence for their age. The Stanford-Binet Intelligence Scale (Terman&Merrill, 1973) and the most recent revision of the Wide Range Achievement Test (Jastak & Jastak, 1978) were administered by certified school psychologists and psychological assistants.[5]

III. PROPOSED SYSTEM

An IQ Test score is calculated based on a norm group with an average score of 100 and a standard deviation of 15. The standard deviation of 15 means, 68% of individuals have scored between 85 and 115 on the IQ test. This means the average score will always be 100 and 95% of individuals will score between 90 and 145.

The mean (μ) IQ score for the entire population is 100. The standard deviation (σ) is 15 points.

If you have an IQ score of 115 (100 + 15), then you are 1 standard deviation above the mean (z = +1).

If you have an IQ score of 85 (100 – 15), then you are 1 standard deviation below the mean (z = -1).

To put this in perspective, we need to know the area under the curve between the IQ scores of 85 and 115. This is the area under the standard normal curve between z = -1 and z = +1. Therefore, we know that 68% of the population have and IQ score between 85 and 115. Similarly, if we look at the scores that are 2 deviations away from the mean (z = +/-2), we would be looking at people with IQ scores between 70 and 130. We know that 95% of the population lies between these z scores which tells us that 95% of the people in the world have an IQ score between 70 and 130.

Any score within 2 standard deviations of the mean is considered "normal". Outside of these values, statisticians consider the scores to be "extreme" or different from the normal population. Only 5% of the population will have IQ scores above 130 or below 70.







A. Problem Definition

IQ tests are unable to measure variable aspects of intelligence like emotional and social intelligence. Both of these are crucial factors in assessing an individual's potential for success, but they are not tested in IQ tests. Ultimately, IQ tests only really measure how well an individual takes an IQ test and little more.

IQ tests have the potential to inaccurately measure an individual's intelligence and cause problems including low confidence, unrealistic expectations, and just a generally flawed understanding of a person's potential.

Every person is different, and while an IQ test can be useful for identifying certain strengths and weaknesses, you should be proactive when evaluating your student's learning needs and look beyond their IQ score. Identifying your student's ability level in areas not tested by an IQ test, such as creativity and is essential to maximizing their potential for success.

B. Scope of the Project:

The scientific study of human intelligence dates back well over 100 years. In that time there have been numerous schools of thought about how to measure intelligence. The core disagreement between researchers and theorists about intelligence is around whether it's genetic or largely influenced by the environment; whether it's nature or nurture. In the late 1800s, Englishman Sir Francis Galton (1822-1911) became one of the first people to study intelligence. He tried to measure physical characteristics of noblemen and created a laboratory to measure their reaction time and other physical and sensory qualities. Regarded as one of the fathers of modern-day intelligence research, Galton pioneered psychometric and statistical methods. Given the technology of the day, he wasn't particularly successful at measuring biological parameters. But he did create testable hypotheses about intelligence that later researchers used.





Fig 4.1:.Home page of IQ Testing

Fig.4.1 shows the home page of IQ Testing



Fig 4.2: Result page of IQ Testing



International Journal for Research in Applied Science & Engineering Technology (IJRASET) ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538 Volume 11 Issue IV Apr 2023- Available at www.ijraset.com

Fig.4.2 shows the Result page of IQ calculated after conducting the test. The highest IQ result showed is 170 based on number of question's evaluated points. The question deploys the core aspects of intelligence.

V. APPLICATION

- A. Psychological Batteries in Clinical Settings
- 1) Screening Assessment: A brief assessment with the intent of determining risk or eligibility of certain disorders or programs.
- 2) Focused Assessment: A detailed assessment of a specific area of functioning.
- 3) *Diagnostic Assessment:* A detailed evaluation of a person's strengths and weaknesses in various areas (e.g. cognitive, academic, and behavioral).
- 4) Counseling and Rehabilitation Assessment: Focuses on a person's ability to adjust and successfully fulfill daily responsibilities.
- 5) Progress Evaluation Assessment: Focuses on a person's progress overtime.
- 6) Problem-solving Assessment: Focuses on specific types of problems.

B. Intelligence Testing in School Settings

Intelligence testing can be used in the schools by qualified individuals to help determine if a student has a specific learning disability, a developmental delay, or a cognitive delay. In most schools, the individual that is qualified to administer and interpret intelligence tests is the school psychologist.

VI. CONCLUSION

In conclusion, the argumented theory of successful intelligence provides a theoretical basis for assessing many of the skills needed for college (and other forms of) success. Measures derived from the theory show significant and substantial incremental predictive power, and also increase equity across ethnic groups. If our society were to experience better teaching, with more emphasis on the creative and practical skills needed for success in school and life, the predictive power of WICS assessments might increase as well. This application would really workout and can be a great source for the society based on the intelligence batteries working in this application

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At the end, we would like to extend our sincere gratitude to our management for their constant suppor. Also we would like to thank our Magazine Coordinator Mr Mohan Mali and H.O.D Ranjeet Pawar Sir for their encouragement and innovative ideas for the additions made to our magazine, and Lead Editor / Technical Editor Sudarshan Rajendra Date for shaping the InfoTech. Lastly we would like to thank all the faculty members, students and all stakeholders for their valable inputs.