



CSI-VESIT

REDUX

BEYOND THE NORMS



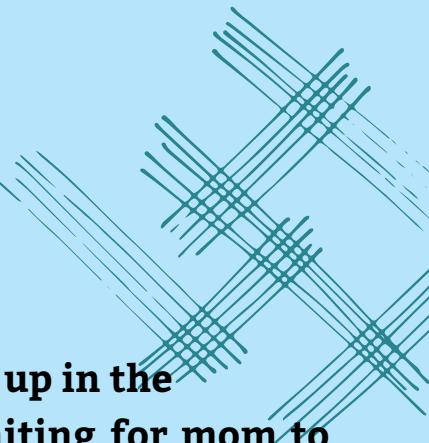
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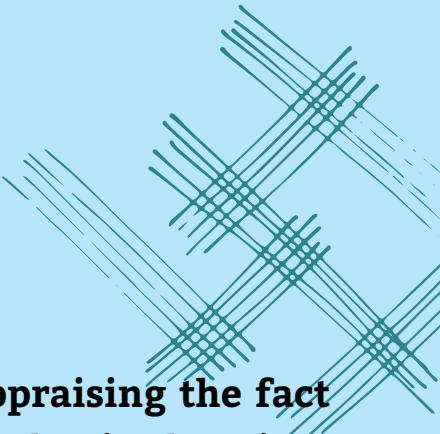
EDITORIAL



If we try recollecting a distant memory of waking up in the morning at 7 am, sitting at the kitchen table waiting for mom to serve breakfast, and completing the leftover homework from last night, it seems like a routine that all of us followed during our elementary school days. Coming back to the present, you look at your sibling trying to complete at least one stage of his leftover mission from a game he played last night before leaving for school. What differences can you observe between them and yourself? Did we use to do our homework because we were more responsible than our siblings? Does that mean the current generation is irresponsible?

These questions keep striking our minds because of the vast dissimilarity between the inceptions that we might have laid for carrying out specific activities during a fixed period of time. These qualities might be an advantage for the current society, or some of them could even scar the image of the work applauded by previous generations. An era where a pandemic-stricken population could continue receiving education despite not attending classes would appear much superior to a generation of people who would have lost a year of schooling due to the lockdown. Human behaviour has been subject to change along with the constant changes observed in this highly innovative age of technology. Modifying the forms of education and the vast availability of the internet has immensely improved the standard of human thinking. By the time a person gets to adolescence, they get better at making decisions and inspiring lives around them.





Children having unlimited access to education and appraising the fact that men and women are at the same level in an urbanized society illustrate the impact of how humans have matured themselves from the way their predecessors used to act in the past. From just sending an electronic mail by buying a data pack to instructing an artificially intelligent robot to turn the lights on/off, we have certainly learned the importance of evolution. While this evolution continues to change the lifestyle of people, we can try to maintain a balance between the past and the present and bridge the gap that it creates.

We, at CSI-VESIT, are honoured to present to you this year's version of **REDUX: Beyond The Norms**. Ranging from a plethora of personified ideas and skillful thoughts about revamping the current generation to mentioning noteworthy stints of reorienting humanity's ever-expanding innovations, we have ensured to include all technical and non-technical aspects about bringing an emergence beyond norms. We hope you have an excellent time going through this edition!

Happy Reading!!

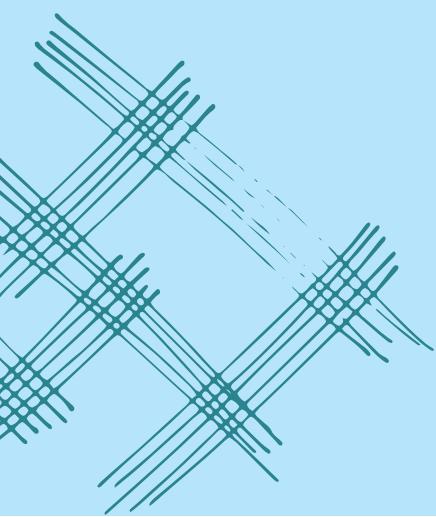


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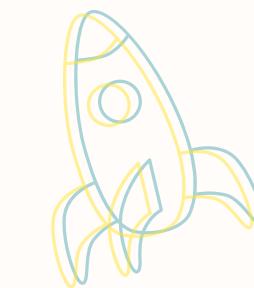
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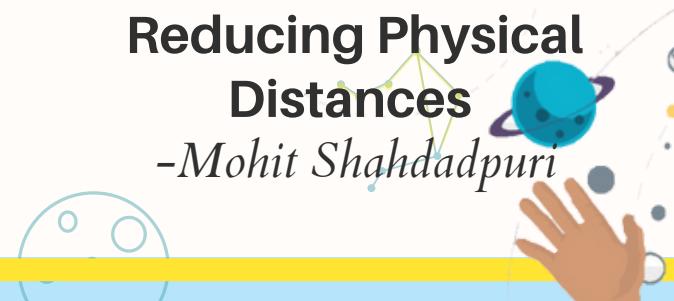


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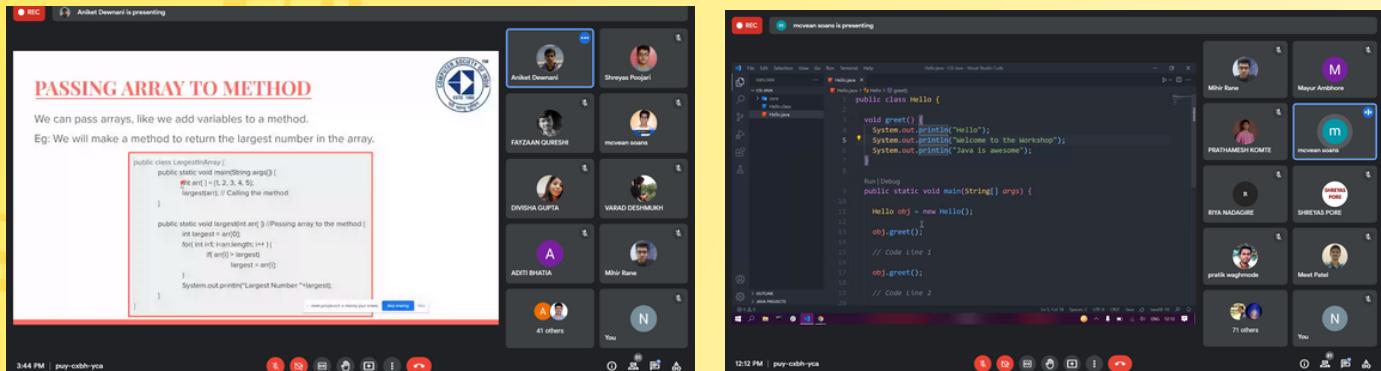
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EVENTS ORGANIZED



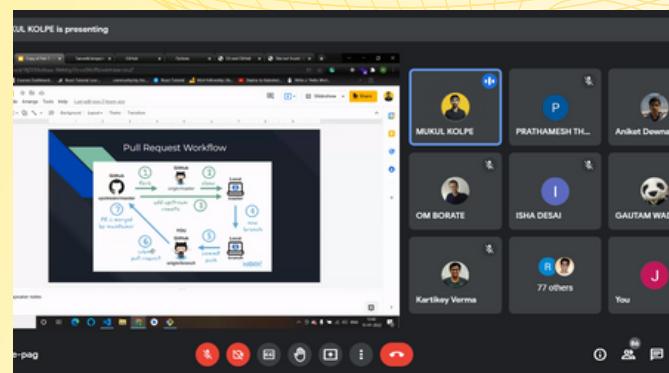
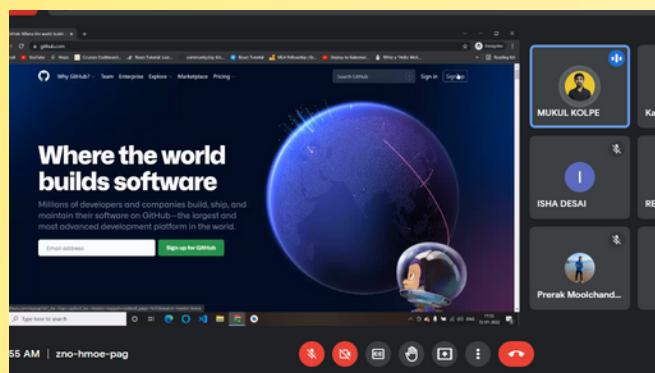
JAVA WORKSHOP

Java:

The workshop was conducted on 17th October in two sessions which included: the very basic concepts of java like classes, objects, and inheritance. The second session of the workshop was where the attendees were taught about functions, their parameters, and exception handling. The principal aim of the session was fulfilled as all students were familiarized with basic concepts and techniques used in Java Programming.

GitHub & Docker:

The workshop was conducted on the 15th and 16th of January 2022. The following topics were discussed extensively in the GitHub session: version control system, basic overview of Git, use of Git, workflow, branching, and merging. In the second session the attendees were taught about docker client, docker server, docker hub, container image. The main objective to familiarize students with basic concepts and working of GitHub and Docker was successfully achieved.



GITHUB & DOCKER WORKSHOP



HIDDEN CIPHER

Bootstrap:

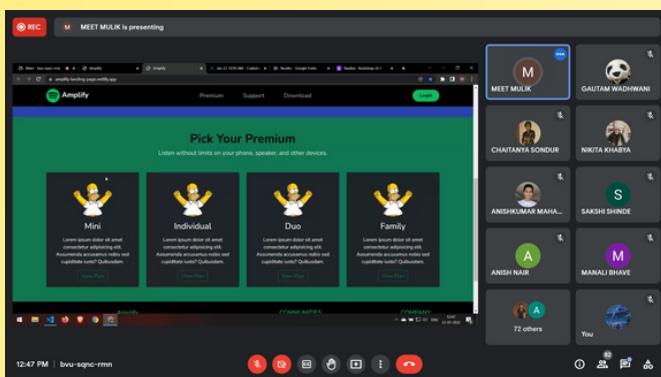
The workshop was conducted on 22nd January 2022 from 11 am to 1 pm, which covered the basics of HTML, CSS, and JavaScript. The workshop was open exclusively to the members. Participants built a hands-on responsive website with the organizers. As the session was concluded, it received a lot of appreciation and positive, encouraging feedback. The workshop helped students to go one step forward in their journey of learning Web development.

Hidden Cipher:

CSI-VESIT conducted the Hidden Cipher event on 29th and 30th January 2022 from 3 pm to 5 pm on the Google Meet platform. The event had a total of 5 rounds in which the first three rounds were held on the first day and the last two rounds on the second day. 10 top teams qualified for the semi-finals, and they brought in a very fierce competition. The entire CSI council did a wonderful job in carrying out the whole event and tackling all the difficulties.

NodeJS and MongoDB:

The first workshop of CSI-VESIT's series JS101: JavaScript Decoded was conducted on 5th and 6th February 2022 from 11 am to 1 pm. The workshop was based on the powerful JavaScript runtime environment, NodeJS, and leading document database MongoDB. It was open exclusively to the members. The council left no stone unturned to make the workshop a grand success.



BOOTSTRAP WORKSHOP



NODEJS & MONGODB WORKSHOP



WLAN GAMING

WLAN GAMING:

WLAN GAMING, conducted by CSI-VESIT and streamed on YouTube, was a four-day event from 15th to 17th February 2022. BGMI, Valorant, Call Of Duty, and Rocket League were the games played by the participants which registered as teams.

The winners were:

BGMI: Reshu Nehru and the team

Rocket League: Nitesh Jaiswal

Valorant: Nagesh Nayak and the team

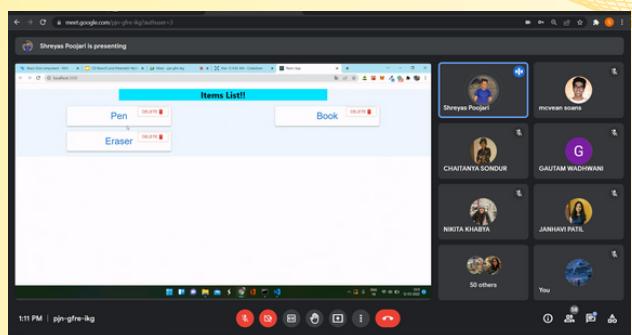
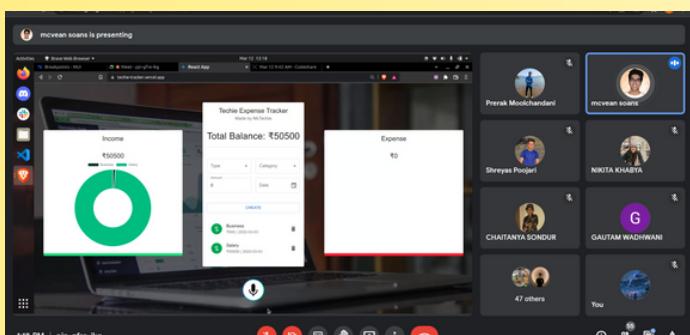
COD: Japneet Rajput and the team

PHP and Laravel:

PHP and Laravel workshop was conducted on 5th March 2022 by Anishkumar Iyer, Yashvi Dhar, Fayzaan Qureshi and Pooja Koshti. The topics like PHP Syntax, Data types, Variables and GET and POST Requests were covered in both the sessions. SQL Data types, MySQLi and Database Query, MVC Architecture, Composer, X ampp and file structure of a project were among other concepts that the participants got to learn.

ReactJS and Material UI:

The second workshop of CSI-VESIT's workshop series JS101-Javascript Decoded unraveled concepts on the world's most popular Javascript library, ReactJS and Material UI. It was a two-day workshop conducted on 12th and 13th March 2022 via the Google Meet platform. The attendees gave appreciative feedback as the session was conducted smoothly by the Council.



REACTJS & MATERIALUI WORKSHOP



NEXTJS & TAILWIND WORKSHOP

NextJS and Tailwind Workshop:

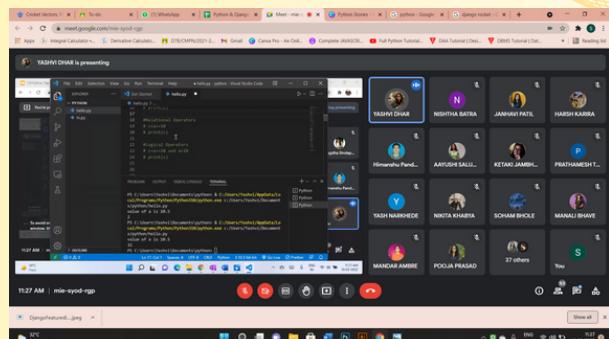
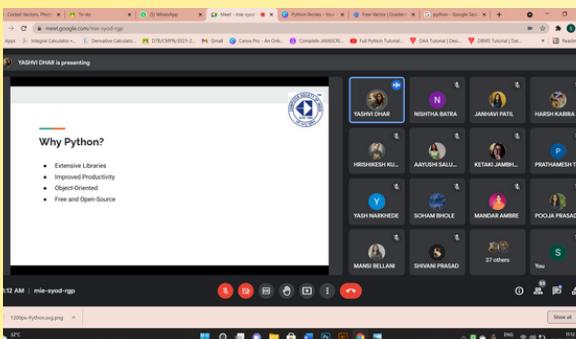
CSI-VESIT conducted the first offline workshop of the year on NextJS and Tailwind CSS. The workshop aimed towards building a hands-on Google Clone using NextJS and Tailwind CSS. The speaker for the session was Mcvean Soans (Co-Chairperson). The session was organized smoothly by the Council and the attendees provided encouraging feedback hoping to build such amazing projects with more offline workshops in the future.

Python and Django Workshop:

A workshop on Python and Django was organized by CSI-VESIT on 19th and 20th March 2022 helping students to get a gist of one of the most rapidly-growing and favorite languages out there. It provided the perfect opportunity for SE members to prepare for their vivas. It was conducted successfully by the Council and received a lot of appreciative feedback.

Article Writing Competition:

CSI-VESIT organized an ‘ Article Writing Competition ‘ which was open to all the students of VESIT. The themes for creative writing of participants were Reimagining Education: The Pandemic Induced Transition and Connecting the dots with DevOps. An overwhelming number of responses was received and a few were shortlisted to be featured in our annual magazine for 2021-22. The winner of the Article Writing Competition was Juhi Talreja (D17A).



PYTHON & DJANGO WORKSHOP

Ravindra Jadeja
Base Price : ₹ 6 Cr
Current Bid : ₹ 42 Cr
Batting : Left-hand bat
Bowling : Slow left-arm orthodox
Stat ODIs tests firstClass
50 10 8 23
100 0 0 8
Ave 31.37 29.89 45.12
SR 85.29 65.93

MS Dhoni
Base Price : ₹ 7 Cr
Current Bid : ₹ 7 Cr
Batting : Right-hand bat
Bowling :
Stat ODIs tests firstClass
50 66 33 47
100 10 6 9
Ave 51.85 36.09 36.84
SR 88.45 59.11

CRICOMANIA

Cricomania:

CSI-VESIT's all time mega event of Cricomania was conducted on 26th and 27th March 2022 on the Zoom platform. The purse allocation round for the event was held on 24th March from 6 pm onwards. A total of 20 teams, i.e 55 participants participated in the main event which consisted of teams bidding for their favourite players.

The winners were:

SE and MCA round: Hitesh Ramrakhiani, Kaushik Sahasranaman, and Mansi Shah
TE and BE Round: Krish Amesur, Preet Jain, and Atharva Godse

Sherlock and watson:

CSI VESIT, in collaboration with VESIT Renaissance Cell, and in association with IIC and IQAC, hosted its first offline mega event of the year, Sherlock & Watson. The event was held on March 30, 2022. Each member was given a unique problem statement and they had to solve their respective problems individually. After a stipulated time period, the team members would switch positions and complete their partner's problem.

The winners were:

FEs: Pranav Jha (D4A) and Ashish Nair (D4A)
SEs:Nikhil Lalwani (D10B) and Shree Samal (D10B)

Amazing Race:

Amazing Race was conducted as a Praxis'22 event in collaboration with VESIT Renaissance Cell, IIC and IQAC. It was an offline event held on 31st March 2022 from 9 am onwards in the VESIT College Campus. Total of 39 teams i.e 156 participants participated with the winners of the event being Mayank Wadhwani and team (1st Place), Pranav Rane and team (2nd Place), Ashish Nair And team (3rd Place) from FE and Gurudatt Gaonkar and team (1st Place), Gargi Khanvilkar and team (2nd Place), Diya Shah and team (3rd Place) from SE, TE and BE.



AMAZING RACE



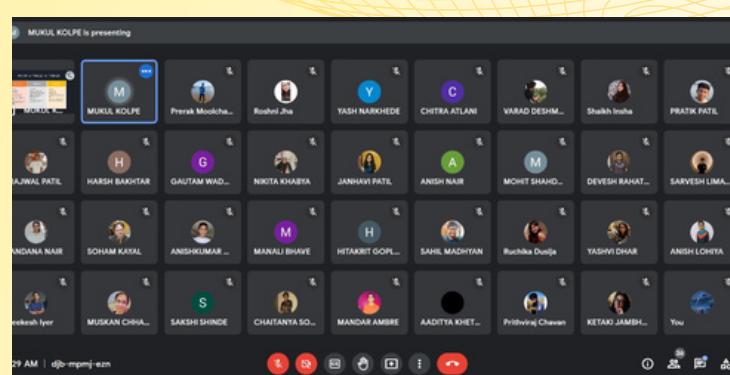
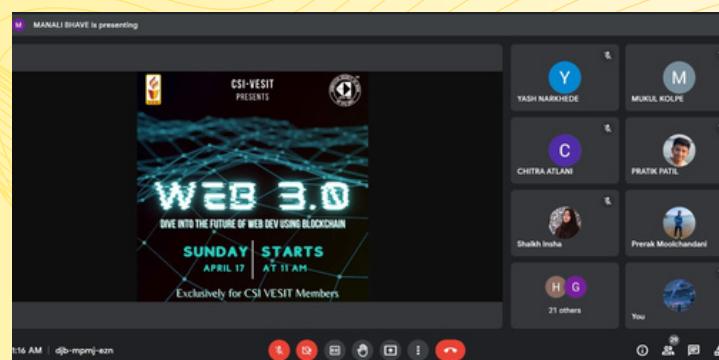
SHERLOCK & WATSON

The Frontman's Challenge:

CSI-VESIT conducted its event The Frontman's Challenge on 8th January, 2021 on Zoom Platform. A total of 27 Teams had registered for the event. There were a total of 5 rounds that were played throughout the event which were as follows: Word Traffic, Memory Mania, Gganbu or jeog, dimag laga ke haisha, the frontman's challenge. The team that survived after the last round came out victorious.

Web 3.0:

The Web 3.0 workshop was held on April 17th, 2022 by CSI-VESIT from 11 am to 1 pm via the Google Meet platform. The workshop focused on making students understand Web 3.0 and the new technological advancements it brings for users. Mukul Kolpe (Jr. Web Editor) and Yash Narkhede (Jr. Technical Officer) were the speakers for this workshop. The workshop was very well appreciated and the attendees learned greatly through it.



THE FRONTMAN'S CHALLENGE

WEB 3.0 WORKSHOP



HOW CAN I HELP YOU? - THE EVOLUTION OF CHATBOTS OVER TIME

-Harsh Bhat

A steady gaze on a totally blank wall on top of your study desk hoping to remember the trick that the professor told you to memorize a math formula. Was the square root in the numerator or wait, it was definitely in the denominator! Even if you're 99.9% sure about your guess, won't you be bothered at the back of your mind to cross check the doubt? This is exactly a situation that people used to experience when they didn't have a source to verify something or an aid to get help from. Of course, many would be entitled to have experienced and helpful people around them to solve their doubts, but what about those who think that their question might be silly or rather, dumb? In this situation, everything that one would ask for is to clear the doubt without anyone knowing that he/she has it in the first place. And that's where chatbots come in!

Getting right to the basics, If you go on to search the meaning of a chatbot on the internet, it would describe it as: a computer program designed to simulate conversation with human users, especially over the internet. But the rather informal and perfect definition of a chatbot might be: a non-existent friend who has the answers to all our embarrassing/ innovative/ anxious queries whose conversational secrecy would be limited to only the person it's talking to. And guess what? It can improve its conversational skills by learning from the chat it has with various users by using artificial intelligence. Chatbots have evolved from being helpful for just a single question to having the capability of answering any kind of a query whose knowledge ranges over the whole internet. What are these intelligent machine based bots and how did they come into use? Let's dive into their history

1950: The evolution of chatbots began when Alan Turing, an English computer scientist, published "Computer Machinery and Intelligence." In the paper, he asked, "I propose to consider a question, can machines think?" He also introduced the Turing test, which is still used today as a test of an intelligent program's ability to mask itself as human.:.

1966: In the following decade, a collection of ambitious scientists followed Turing's lead. Joseph Weizenbaum created **ELIZA**, one of the first chatbots.

1972: Around six years later, Kenneth Colby created the chatbot **PARRY**. Using a system of "emotional responses" triggered by varying weights assigned to verbal inputs, **PARRY** simulated a paranoid human.

1988: Rollo Carpenter created the **Jabberwacky** chatbot. It used the AI technique known as contextual pattern matching and has led to further use for academic research.

1992: Dr. Sbaits was a chatbot created for MS-DOS by Creative Labs. It is one of the first chatbots that included AI, and it had a complete voice-operated chat Program.

1995: Richard Wallace created **A.L.I.C.E.** (Artificial Linguistic Internet Computer Entity). **A.L.I.C.E.** simulated the action of chatting with someone online. The chatbot was designed to look like a young woman who could tell you interesting facts. Plus, she was able to answer questions.

2010-2015: Chatbots began to take over with Siri, Google Assistant, Alexa, and Cortana. These types of chatbots could perform online searches, respond to voice commands, play music, and more.



Rule Based Chatbot:

A rule-based chatbot is a chatbot that is guided in a sequence. It uses a machine learning library that helps to generate an automatic response based on the user's input. They are also referred to as decision-tree bots. As the name suggests, they use a series of defined rules. These rules are the basis for the types of problems the chatbot is familiar with and can deliver solutions for. Like a flowchart, rule-based chatbots map out conversations. They do this in anticipation of what a customer might ask, and how the chatbot should respond. Rule-based chatbots can use very simple or complicated rules. They can't, however, answer any questions outside of the defined rules. These chatbots do not learn through interactions.

Also, they only perform and work with the scenarios you train them for. While rule-based bots have a less flexible conversational flow, these guard rails are also an advantage. You can better guarantee the experience they will deliver, whereas chatbots that rely on machine learning are a bit less predictable.

Conversational AI:

With the huge acceptance of Siri, conversational AI started to be used as a more interactive manner of conversation. It is the use of messaging apps, speech-based assistants, and chatbots to automate communication and create personalized customer experiences at scale. Conversational AI applications enable long-running interactions with customers via text or voice using the most intuitive interface available: natural language. With conversational AI, conversations can be driven by words to support two-way interactions. Further, conversational AI uses NLP to offer personalized consumer experiences by combining automation and AI to facilitate personalized interactions. With conversational AI, chatbots can now offer improved engagement and more unique interactions. But what was lacking in the rule based chatbots that were built before these more acceptable and reliable conversational AI models? Let's understand it with an example:

Rule based chatbot	Conversational AI
Hi, how may I assist you? Type "Track Delivery" or "Check Orders List"	Hi, how may I assist you?
Where is my Delivery?	Where is my Delivery?
I'm sorry, I don't understand. Type "Track Delivery" or "Check Orders List"	Your order is dispatched and will reach you by 8:27 pm.
I don't need this. I need to know when my parcel will reach me.	Thank You.

It's clear from the example above that while a rules-driven chatbot carries out a keyword-based chat, a conversational AI chatbot uses NLU to gauge what the user is looking for at the moment and how specific topics relate to each other. Additionally, simple chatbots are trained on 100-200 customer intents; an AI-chatbot, on the other hand, is pre-trained on thousands of industry-specific customer intents and use cases.

Where do we stand today?

Today, with its innumerable advantages to business, conversational AI is being deployed in various consumer and employee use cases and processes, such as IT and security management, marketing, human resource, insurance, retail, banking and financial services, and healthcare. Personalized and immersive customer and employee experiences boost customer loyalty, build brand image, and increase employee productivity. Since these chatbots learn from past conversations and any new data that enters the system, they can accurately predict what users want to develop specific responses and upsell by offering personalized product recommendations. Moreover, since such bots rely on their cognitive capabilities to deliver self-service resolutions at scale, the return on investment is also high.

The future of AI is in the safe hands of our innovative minds of today's generation and there is no doubt that it will advance into a well-developed sector of artificial intelligence for chatbots and the benefits that will result from their advancement will be accessible to all those who are in need for a friend/ doubt-solver/ query-resolver/ etc. So the next time you think about verifying a formula, just ask Alexa/Siri or any of your virtual assistants to kindly find out the solution to your doubt!



DEFINING DEFI

-Prithviraj Chavan

Decentralized finance (DeFi) is an emerging financial technology based on secure distributed ledgers similar to those used by cryptocurrencies. The system removes the control banks and institutions have on money, financial products, and financial services.

Decentralized finance eliminates intermediaries by allowing people, merchants, and businesses to conduct financial transactions through emerging technology. This is accomplished through peer-to-peer financial networks that use security protocols, connectivity, software, and hardware advancements.



How Does DeFi Work?

Decentralized finance uses blockchain technology. A blockchain is a distributed and secured database or ledger. Applications called dApps are used to handle transactions and run the blockchain.

In the blockchain, transactions are recorded in blocks and then verified by other users. If these verifiers agree on a transaction, the block is closed and encrypted; another block is created that has information about the previous block within it. The blocks are "chained" together through the information in each proceeding block, giving it the name blockchain. Information in previous blocks cannot be changed without affecting the following blocks, so there is no way to alter a blockchain.

This concept, along with other security protocols, provides the secure nature of a blockchain.

DeFi Financial Products

Peer-to-peer (P2P) financial transactions are one of the core premises behind DeFi. A P2P DeFi transaction is where two parties agree to exchange cryptocurrency for goods or services with a third party involved.

The Future of DeFi

Decentralized finance is still in the beginning stages of its evolution. For starters, it is unregulated, which means the ecosystem is still riddled with infrastructural mishaps, hacks, and scams. Current laws were crafted based on the idea of separate financial jurisdictions, each with its own set of laws and rules. DeFi's borderless transaction ability presents essential questions for this type of regulation. For example, who is responsible for investigating a financial crime that occurs across borders, protocols, and DeFi apps? Who would enforce the regulations, and how would they enforce them?

The decentralized finance ecosystem's open and distributed nature might also pose problems to existing financial regulation.

Other concerns are system stability, energy requirements, carbon footprint, system upgrades, system maintenance, and hardware failures. Many questions must be answered and advancements made before DeFi becomes safe to use. Financial institutions are not going to let go of one of their primary means of making money—if DeFi succeeds, it's more than likely that banks and corporations will find ways to get into the system; if not to control how you access your money, then at least to make money from the system.



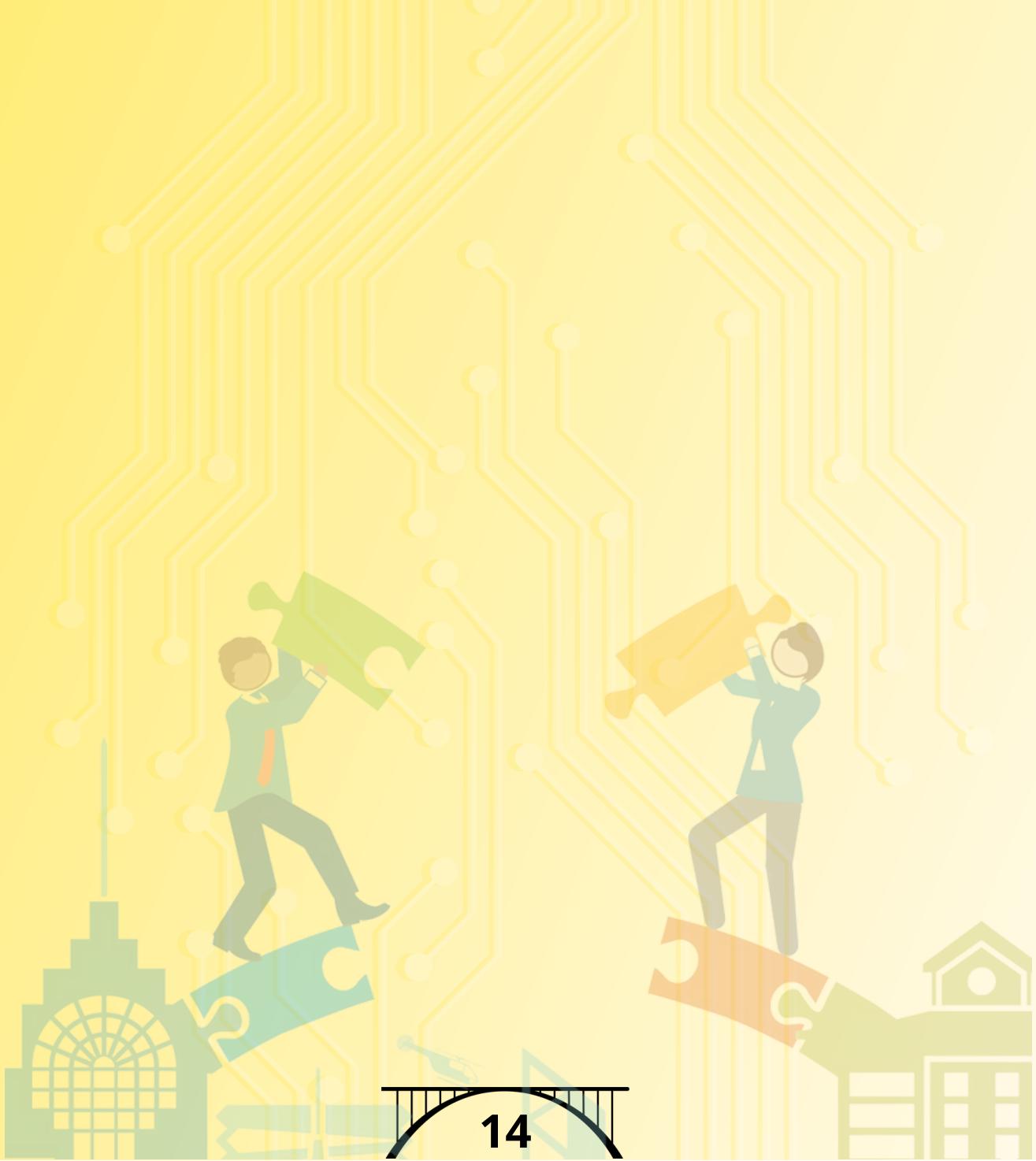
India is becoming a global blockchain and DeFi hub

India is seeing a dramatic rise in establishing itself as a global blockchain and international DeFi hub. Nimbus recognizes this rising trend and has taken advantage of it by setting up systems in India. Nimbus sees a huge growth potential area based on its extensive network of partners in India. Experts anticipate an exponential growth rate of cryptocurrency in India and surrounding regions.

There is the potential that India could become a tech powerhouse in the coming future. This is especially true if it can land a pro-crypto policy through the centralized government. If India aims to reach a 5 trillion dollar economy, then it cannot ignore the 1.7 trillion dollar market that currently exists for cryptocurrencies. This forward-looking crypto policy can have a significant impact on improving the overall financial infrastructure.

Ethereum enables smart contracts to give birth to an entire sector that we know today as decentralized finance or DeFi. DeFi will create a multi-faceted financial system that increases functionality and helps improve the legacy of the traditional financial system. DeFi alone has recently disrupted the fintech space.

It is clear that India is seeing a dramatic rise in becoming a central hub for blockchain and DeFi. Many experts have indicated that the rise towards global dominance is imminent for India and the surrounding regional areas. With the potential to positively impact so many aspects of Indian society, including improving the overall financial infrastructure, safeguarding national security, deterring financial fraud, strengthening the monetary policy, attracting international capital and even creating more job opportunities, the possibilities for blockchain development and establishment of DeFi are endless. All of this in turn will drive the nation towards becoming a global powerhouse. With this recent exponential growth and potential for a forward-looking crypto policy, it's clear that blockchain and DeFi technology are here to stay. All eyes are on India as it moves towards becoming the next global powerhouse in the blockchain space.





ENGINEERING AS A NEW FRONTIER TO MEDICAL SCIENCE

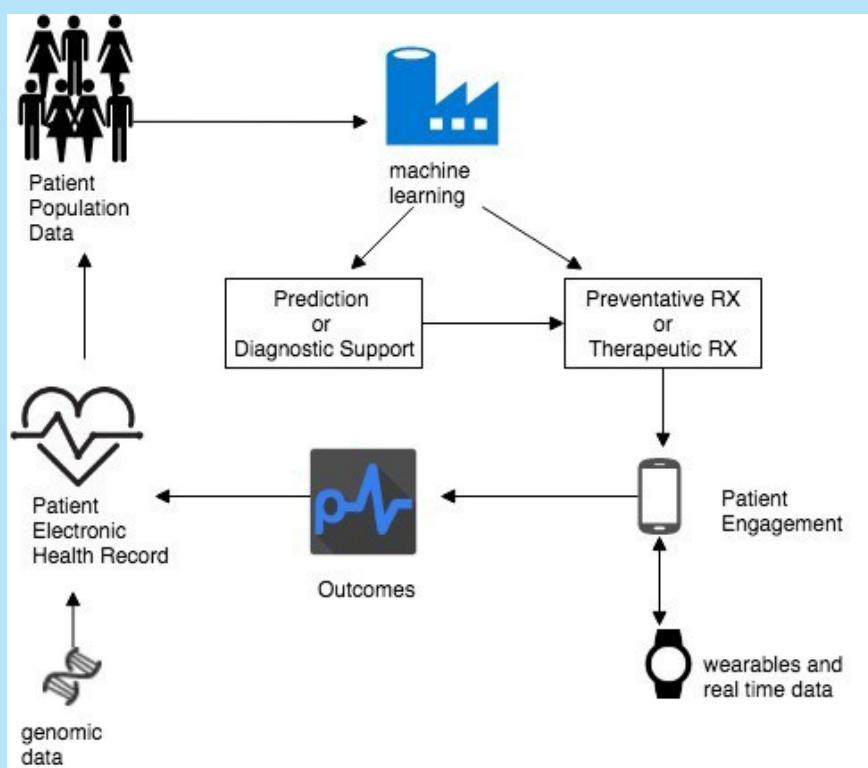
-Shaikh Insha

Engineering is a field in which the knowledge of mathematics and natural science is gained by study and practical experience applied with judgment in order to economically use the forces of nature for the benefit of mankind.

Major engineering advances in health care took place in the past few decades that have intertwined medical science and engineering together . One of them is Artificially intelligent computer systems that are used extensively in medical sciences. While computer systems often execute tasks more efficiently than humans, more recently, state-of-the-art computer algorithms have achieved accuracies which are at par with human experts in the field of medical sciences.

The advancement of computing power with graphics processing units and the availability of large data acquisition, deep neural network outperforms human or other ML capabilities in computer vision and speech recognition tasks. These potentials are recently applied to healthcare problems, including computer-aided detection/diagnosis, disease prediction, image segmentation, image generation, etc.

Healthcare is an industry that keeps up with the times as well. Technology-enabled smart healthcare is no longer a flight of fancy, as Internet-connected medical devices are holding the health system as we know it together from falling apart under the population burden. Machine learning in healthcare is one such area which is seeing gradual acceptance in the healthcare industry. One of the well-known successful examples of machine learning in healthcare is the InnerEye Project from Microsoft. Its initial focus was on 3D radiological images, where ML tools were built to differentiate healthy cells and tumors.



Top applications of machine learning based technology in healthcare :-

CDSS -

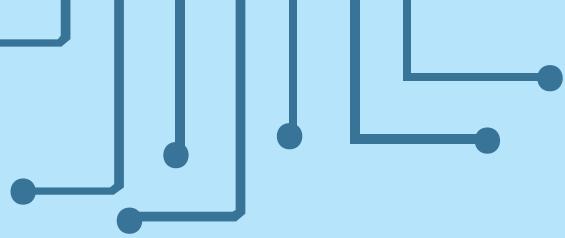
Clinical Decision Support System is a powerful tool that helps the physician do their job efficiently and quickly, and it reduces the chances of getting the wrong diagnosis or prescribing ineffective treatment.

Smart Record Keeping -

One of the uses of machine learning in healthcare is using optical character recognition (OCR) technology on physicians' handwriting, making the data entry fast and seamless. This data can then be analyzed by other machine learning tools to improve decision-making and patient care.

Behavior Adjustments -

Prevention is as important in healthcare as disease treatment. One of the most important parts of preventive medicine is modifying one's behavior to get rid of unhealthy habits and establish a healthy lifestyle. A machine learning-based application (Somatix) follows the patient's daily activity and points out their unconscious habits and routine so that they can focus on getting rid of them.

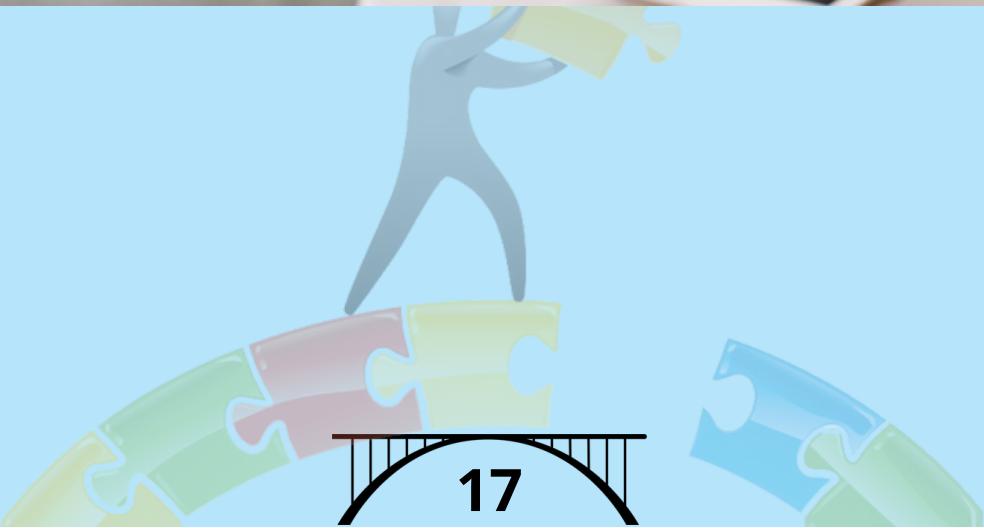


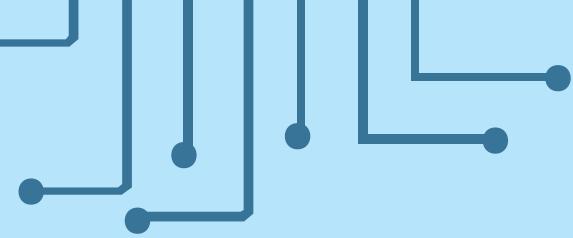
Predictive Approach to Treatment -

When it comes to most dangerous diseases, identifying them in the early stages can raise the chances of successful treatment significantly. This includes the identification of signs of diabetes (using a Naïve Bayes algorithm), liver and kidney diseases, and oncology.

Robotic Surgery -

Surgical procedures require great precision, adaptability to changing circumstances, and a steady approach for an extended period. While trained surgeons have all these qualities, one of the opportunities in machine learning for healthcare is for robots to fulfill these tasks. Right now, robotic surgery can be effectively used as a help for human surgeons.





Healthcare IT - Software solutions designed and implemented to enhance patient care and reduce operational costs . Examples range from Picture Archiving and Communications Systems (PACS) which allow x-rays and scans to be stored electronically and viewed on computer screens, to prescriptions that can be generated, transmitted and dispensed electronically .

Regenerative Medicine - Engineers are working with biologists to develop and commercialize systems that will enable health practitioners to deploy an ever wider range of regenerative techniques. Examples include stem cell implants and the development of tissue materials that will enhance the patient's ability to self-heal. Many engineering disciplines are needed to bring to the patient the technologies that will extend the applications of regenerative medicine and to prove its efficacy as a cost-effective treatment with long-term benefits.

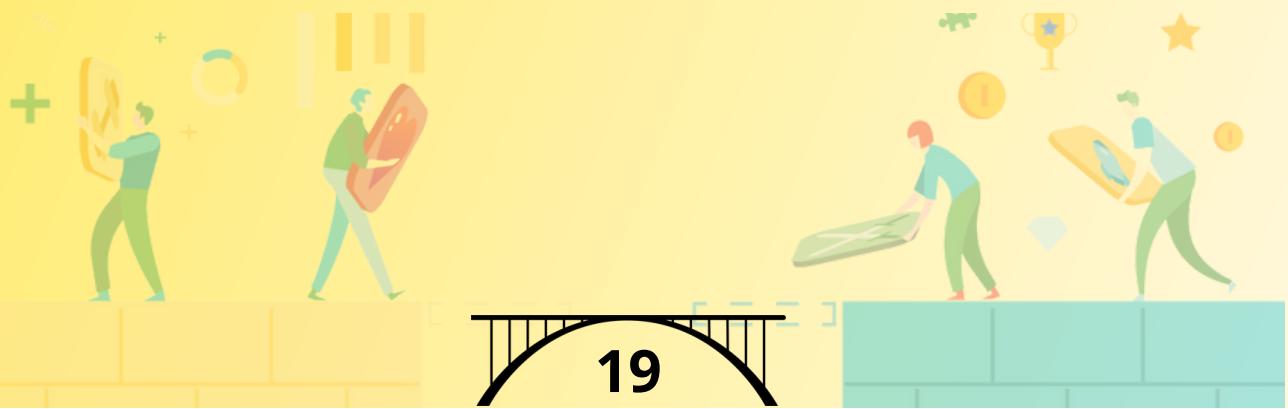
Groundbreaking inventions in mechanics, optics, materials, electronics, and computing in the past decades have ideally positioned the integration of the life sciences and engineering to address major challenges in medicine and health care. Modern medicine and healthcare rely heavily on engineering to deliver improved prevention, diagnosis and treatment of illness.



METAVERSE : FUTURE OR FLUKE?

-Adarsh Kadam

The concept of the Metaverse is one that has been around for decades. Compared to today's technology, it's really just an idea, not a product. Yet, over time, it has acquired a lot of meaning and has become a topic of interest. And yet, even today, it remains an idea that most people don't fully understand. As such, many of us have a general idea of what it is, but no real grasp of the details. So, let's first establish exactly what the Metaverse is and its real meaning.



What is metaverse?

The term metaverse does not denote or refer to any specific type of technology, but rather a broad shift in how we interact and communicate using technology in this fast-growing world. And it's entirely possible that metaverse itself will eventually become just as antiquated, even as the specific technology it once described becomes commonplace.

Broadly speaking, the technologies that comprise the metaverse can include virtual reality (VR) - characterized by persistent virtual worlds that continue to exist even when you're not playing - as well as augmented reality (AR) which combines features of the digital and physical worlds. However, it doesn't require that those spaces be exclusively accessed via VR or AR.

In simple words, a metaverse is a network of 3D virtual worlds focused on social connection and it can be defined as a simulated digital environment that uses augmented reality (AR), virtual reality (VR), and blockchain, along with concepts from digital media, to create spaces for rich user interaction mimicking the real world.

Future or Fluke -

As the metaverse concept is starting to incorporate Web3 technology enabled through blockchain technology, the future metaverse would be something very similar to our real world in many aspects and even replace some real-world activities.

Already some metaverse non-fungible token (NFT) vendors have enabled their NFTs to be usable in some metaverse games such as clothing and footwear and more are planning to venture into the domain.

Let us see some metaverse example use cases help to illustrate the potential of this new digital sphere.

- Entertainment

At first look, entertainment in the metaverse may not appear to be relevant to business. However, business and IT executives should keep an eye on this sector. The metaverse's entertainment is gaining popularity, particularly among younger users, who are expected to fuel metaverse expansion.

Ariana Grande's 2021 concert series within the Fortnite game realm, as well as other such events, suggest how a metaverse would bring new immersive entertainment experiences. Justin Bieber, Marshmello, and Travis Scott are among the celebrities that have dabbled with metaverse entertainment.

- Business operations

Organizations across industries already use augmented reality (AR) to improve operations. A fully realized metaverse will support a more collaborative environment where data will be ubiquitous and always present. For example, the envisioned metaverse should deliver a much more immersive experience to operations workers who should be able to use the technology to guide even the most complex field and service work, as well as being able to coordinate more fully with others.

- Improved education and training

The future metaverse could stream data in real time and support real-time interactions in the virtual space. Enterprises can also make use of virtual training opportunities. Instructors and students could meet in the metaverse and work through real-life scenarios together while using a steady stream of constantly updated data.

- Enhanced customer experiences

Extended reality platforms enable businesses to deliver new experiences and provide information in new ways. Metaverse platforms have the potential to transform how, when and where companies interact with their customers. A ski resort could create a virtual guide for skiers as they move down the mountain, delivering personalized information in real time. Tour companies could provide a persistent immersive experience in the virtual realm overlaid onto the physical World.

- Advertising, branding and marketing opportunities

A number of brands are creating a presence in established VR settings. The Walt Disney Co., a longtime leader of imaginary worlds, is one such company. Last year, Warner Bros. hosted a virtual party on Roblox to market its movie *In the Heights*. Gamers' avatars can experience Hyundai future mobility projects and current products.

The maturation of metaverse platforms will incrementally change the way the world interacts, but the accumulating change will be dramatic. The 'I-don't-know' bucket is by far the biggest bucket of use cases. For these reasons and others, most metaverse use cases fall into the still-unknown category. Thus Metaverse is surely not a fluke. It is technology of the future and is worth exploring.





BLOCKCHAIN: THE BURGEONING TECHNOLOGY.

-Drishti Katiyara

You've probably heard the term "blockchain technology" in reference to Bitcoin and other cryptocurrencies. On the surface, the concept may appear abstract to the uninitiated, with no practical significance. However, blockchain technology is a fundamental component of cryptocurrencies; without it, digital currencies such as Bitcoin would not exist.

How does blockchain work?

In the cryptocurrency world, blockchain retains a record of all data exchanges—this record is referred to as a "ledger," and each data exchange is referred to as a "transaction." Every verified transaction is recorded as a "block" in the ledger. To validate each transaction, it employs a distributed system—a peer-to-peer network of nodes. The new transaction is added to the blockchain after it has been signed and validated and cannot be reversed. To begin, we must understand the idea of "keys." You acquire a unique identity by using a set of cryptographic keys. Your keys are the Private Key and the Public Key, and they work together to provide you with a digital signature. Others can identify you using your public key. Your private key gives you the power to digitally sign and authorize different actions on behalf of this digital identity when used with your public key. This is your wallet address (public key) in the crypto industry, and your private key is what allows you to approve transfers, withdrawals, and other activities with your digital property such as bitcoins. As an aside, this is why it's crucial to keep your private key secure—anyone with your private key may access any of your digital assets connected to your public key and do anything they want with it.

Every time a transaction is made, it is signed by whoever is approving it. That transaction may be something like "Alice is transferring Bob 0.4 BTC," and it will include Bob's address (public key), as well as a digital signature using both Alice's public and private keys. This is posted to the blockchain ledger that Alice transferred Bob 0.4 BTC, along with a timestamp and a unique ID number. When this transaction

occurs, it is broadcast to a peer-to-peer network of nodes - basically, other digital entities that recognize it and add it to the ledger. Cryptocurrency anonymity stems from the fact that your public key is simply a randomized sequence of numbers and characters - so you are not literally signing with your own name or some sort of handle

ADVANTAGES:

1. **Distributed:** Blockchain enables a wide range of computers to participate in a network, thereby distributing computing power. Distribution helps to reduce the risk of tampering, fraud, and cybercrime. With more nodes able to take part, systems are very hard to "takedown" via traditional brute-force network attacks.



2. Once a transaction has been agreed upon and propagated over the distributed network, it is very hard to reverse. In fact, undoing becomes increasingly difficult over time. In the case of a public ledger, such as Bitcoin, this implies that you can search the blockchain to determine the number of Bitcoins in anyone's account and even where payments were disbursed. In other cases, this might be used to follow supply chains or to determine who accessed certain files on a network.

DISADVANTAGES:

1.Wasteful: Every node runs the blockchain in order to maintain consensus across the blockchain. This gives extreme levels of fault tolerance, ensures zero downtime, and makes data stored on the blockchain forever unchangeable and censorship-resistant. But all this is wasteful, as each node repeats a task to reach a consensus, burning electricity and time on the way. This makes computation far slower and more expensive than on a traditional single computer. There are many initiatives that seek to reduce this cost by focusing on alternative means of maintaining consensus, such as Proof-of-Stake.

2.The block's size: Each transaction, or "block," added to the chain expands the database. As every node has to maintain a chain to run, the computing requirements increase with each use. This has one of two effects for big public blockchain implementations:

- a) Smaller ledger: Not every node can hold a complete copy of the blockchain, possibly compromising immutability, consensus, and so on.
- b) More concentrated: There is a high barrier to entry to become a node, promoting greater centralization in the network, with larger players gaining more power



BLOCKCHAIN APPLICATIONS:

- 1) Supply chain management:** Blockchain technology offers the benefits of traceability and cost-effectiveness. This brings about a new level of transparency to B2B ecosystems—simplifying processes such as ownership transfer, production process assurance, and payments.
- 2) Quality assurance:** If an inconsistency is discovered somewhere along the supply chain, a blockchain system may trace you all the way back to the source. This makes it easy for corporations to conduct investigations and take appropriate action. In the food industry, tracking the origin, batch information, and other vital facts is essential for quality assurance and safety.
- 3) Accounting:** Recording transactions through blockchain virtually eliminates human error and protects the data from possible tampering. The records are verified every single time they are passed on from one blockchain node to the next. In addition to the guaranteed accuracy of your records, such a process will also leave a highly traceable audit trail.
- 4) Stock exchange:** The notion of using blockchain technology for securities and commodities trading has been around for a while. Given the open-yet-reliable nature of blockchain systems, it isn't surprising to hear that stock exchanges now consider it the next big leap forward.

With many real-world applications for the technology already being implemented and explored, blockchain is finally making a name for itself in no small part because of bitcoin and cryptocurrency. As a buzzword on the minds of every investor in the country, blockchain has the potential to make corporate and government processes more precise, efficient, secure, and cost-effective by eliminating middlemen.

As we prepare to head into the third decade of blockchain, it's no longer a question of if legacy companies will catch on to the technology—it's a question of when. Today, we see the emergence of NFTs and asset tokenization. The next decades will prove to be an important period of growth for blockchain.

CRYPTO CURRENCY AND A PEACEFUL GATEWAY TO THE FUTURE

-Vallari Patil

In this digitally advanced world it is inevitable to ignore or refuse to accept the transformations taking place. But have we ever wondered to ourselves how these reforms are actually a gateway to a peaceful future and will be a boon to mankind. In this article we are going to analyze a very similar question, whether or not cryptocurrency will open gateways to a peaceful economic future and whether it will sustain its relevance ahead of time.



Let's take a look at how digital currency or cryptocurrency works. In 2009, the first decentralized cryptocurrency, Bitcoin, was created by presumably pseudonymous developer Satoshi Nakamoto. Cryptocurrency is an encrypted data string that denotes a unit of currency. It is monitored and organized by a peer-to-peer network called a blockchain, which also serves as a secure ledger of transactions, e.g., buying, selling, and transferring. It is created (and secured) through cryptographic algorithms that are maintained and confirmed in a process called mining, where a network of computers or specialized hardware such as application-specific integrated circuits (ASICs) process and validate the transactions. Bitcoin, Ether, Litecoin, Monero are some of the popular cryptocurrencies.

Shortcomings of Blockchain Technology and techniques to overcome the same-
The blockchain technology's underlying structure of decentralized networks faces a unique challenge known as the Blockchain trilemma: the balancing act between decentralization, security, and scalability within a blockchain infrastructure. Fortunately, a whole new generation of blockchains and scaling solutions built specifically to solve this transaction-capacity problem is exponentially increasing the scaling limits of blockchain and making meaningful progress. These solutions address scalability in two different ways:
Layer-1 and Layer-2 scaling solutions.

Layer-1 scaling solutions augment the base layer of the blockchain protocol itself in order to improve scalability which in turn also increases transaction speed and capacity. Bitcoin, Litecoin, and Ethereum, for example, are Layer-1 blockchains.

Layer-2 refers to a network or technology that operates on top of an underlying blockchain protocol to improve its scalability and efficiency. By abstracting the majority of data processing to auxiliary architecture, the base layer blockchain becomes less congested and ultimately more scalable.



Correlation between Covid-19 pandemic and cryptocurrency-

One year after the pandemic, the cryptocurrency market seems to have boomed. For instance, when the pandemic erupted, Bitcoin, the world's first cryptocurrency, could be purchased for about \$7,300. Post pandemic, the very same token costs more than \$46,800 which is a staggering 640 percent rise. One of the reasons for that is in Cryptocurrency supply is comparatively lesser than demand i.e. limited supply chain. Other leading cryptocurrencies (e.g. Ether), showed similar (or even greater) increases. The potentially higher demand for cryptocurrencies during a pandemic is due to the fact that cryptocurrencies can be traded from anywhere in the world alleviates, to some extent, potential liquidity constraints that can arise if local governments restrict trading activities as part of a lockdown. As a result, cryptocurrencies become more attractive compared to alternatives.

A very important question that arises among the masses is that ,Whether cryptocurrency should be considered as a currency or an asset and the future scope of the same, El Salvador is a country which has accepted Bitcoin as a legal tender on September 7th, 2021 which is a stepping stone for cryptocurrencies. Along with this the U.S government holds upto 5-10% of Bitcoin which will have long term effects on its entire nature. Cryptocurrency has suffered more than 7 major crashes and came out stronger each time, this has also resulted in the flushing out of the irrelevant cryptocurrencies. The cryptocurrency revolution is also spreading to India, where Prime Minister Narendra Modi has reduced circulation of cash bills to steer the country towards electronic payment ratification. The Reserve Bank of India is now looking into the newest wave of the future-cryptocurrency.

Based on all the arguments and points mentioned above we can come to a conclusion that the future is very bright for crypto and it will open gateways to much more harmonious economies. As far as the traditional currency systems are concerned it will co-exist with cryptocurrency and not diminish completely.



TRANSCENDING FROM PHYSICAL TO VIRTUAL REALITY

-Anish Nair

What are Virtual reality and Augmented reality?

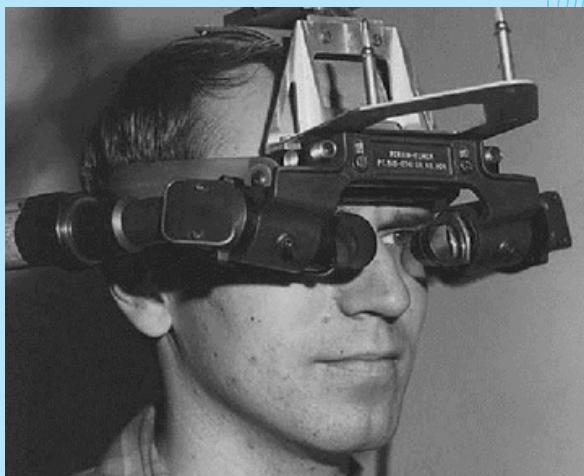
Have you ever wondered how it would feel like to live in an alternate reality, a reality where the whole environment is similar to the one in which we live in right now, yet it is different at many levels, or being able to touch and use a virtual object as easily as you would use a physical object? This question sounds like the plot for a science-fiction novel but in fact it can easily be made possible with the help of extended realities known as the Virtual reality and Augmented reality. Virtual reality and Augmented reality are technologies that help us experience such environments while coexisting in the physical reality.



Origins of VR and AR



Virtual Reality (VR) is the use of computer technology to create and experience a simulation which is similar to our reality but may not follow all its rules. On the other hand, Augmented reality (AR) is a computer technology which superimposes a computer-generated image on the user's view into the real world, thus providing a composite view. These technologies are fairly newer concepts in the scientific community having been discovered only about 50 years ago in the late 1960s. In these past years, although there hasn't been much development in the applications part, the future of Virtual and Augmented reality shows great promise. The first VR/AR head mounted display was created in 1969 by Ivan Sutherland and his student Bob Sproull and was called as 'Sword of Damocles' because it was mounted to the wall and weighed a lot making it impossible for anyone to wear them. Compared to that, the design of these gadgets has improved quite a lot making them light weighted and easy to wear as a head gear which can also be bought by an average person.



Sword of Damocles



Newer version of VR Head Gear



Applications of VR and AR

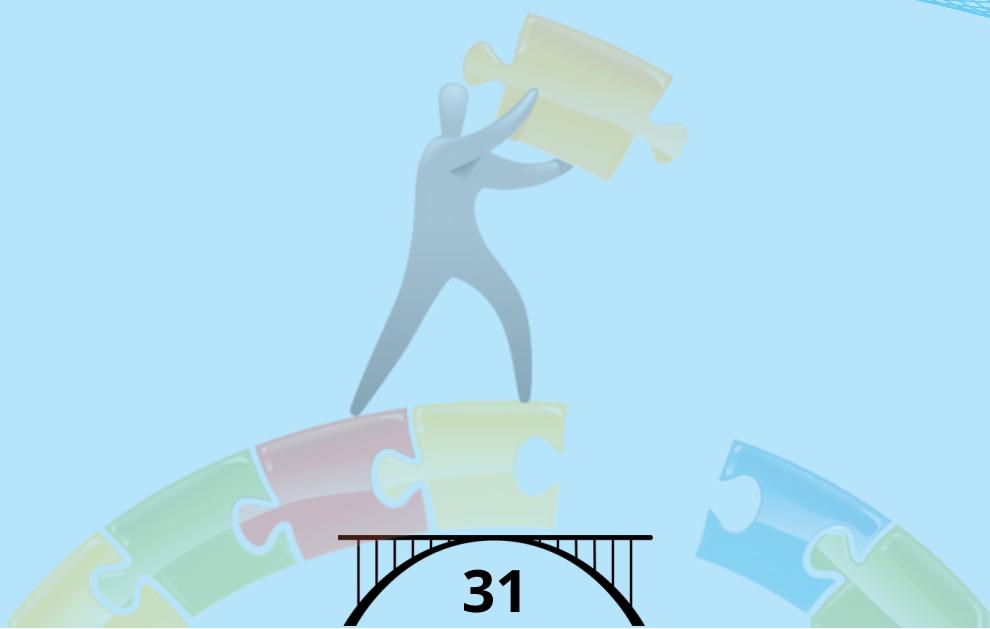
Though the scale of advancement of virtual and augmented reality at this instant is very small, the use of virtual and augmented reality has already begun in many sectors like the healthcare, entertainment, education, etc. The medical world has developed a lot of with help of VR and AR. Using AR, the doctors can create simulations and perform test surgeries to increase the chances of success. VR can be used to help the paraplegic gain a sense and experience of how it feels to walk. Virtual reality makes the job of teachers easy too. Harmful experiments can be performed in the virtual reality and also can be tested for different outputs by changing the constraints and the laws of a virtual reality doesn't have to be the same as the original reality. It can also be used to understand terrains like volcanoes and try to compute the data to check if it will erupt anytime soon. Augmented reality will play a very big role in the designing and architecture industry. It can be used to superimpose images of furniture in a house or to even design a whole city's structure. VR is already growing in the entertainment industry with the help of movies and gaming in a virtual reality.

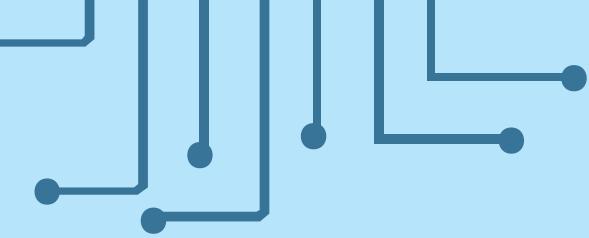


Augmented Reality in Medicine



VR Gaming





Future of VR and AR

The concepts of Virtual Reality (VR) and Augmented Reality (AR) have been attracting many people's attention as users get to experience an other-worldly experience of a world quite similar to ours but yet very different. Virtual and augmented reality will help the world develop to a great extent in the future and help it become almost independent of physical objects. Even though this seems a bit far-fetched, our situation to that of when man wondered if we could travel to the moon. Albert Einstein once said "Reality is merely an illusion, albeit a very persistent one." just like how we achieved our goal to land on moon, with a little time AR and VR will also be able to make the world become advanced where even the original reality will feel like an illusion. A world where we will be able to transcend from physical to virtual reality.



JAVA- A REVOLUTION

-Mohit Shahdadpuri

Most of us know what Java is, and many of us have programmed in Java. When we hear Java, we might think of one of two things, Object-Oriented Programming and 'Java' coffee from which its name was derived. But today, let's look at the history of Java from a different perspective and how it transformed and revolutionised the web.

```
35     parents = [];
36     if(self){
37         parents.push(self);
38         if(self.pId){ //If pId is not null
39             parents = parents.concat(
40                 getSelfAndParents(data,
41                     self.pId));
42         }
43     }
44     return parents;
45     //Through the id to find themselves and all
46     //its parent function getSelfAndParentsId(data, id)
47     function getSelfAndParentsId(data, id) {
48         var self = getObject(data, id);
49         if(self){ //In the presence of self
50             ids = [];
51             if(self){ //In the presence of self
52                 ids.push(id);
53             }
54             if(self.parentId){ //In the presence of parentId
55                 ids.push(self.parentId);
56                 getSelfAndParentsId(data, self.parentId);
57             }
58         }
59     }
60 }
```

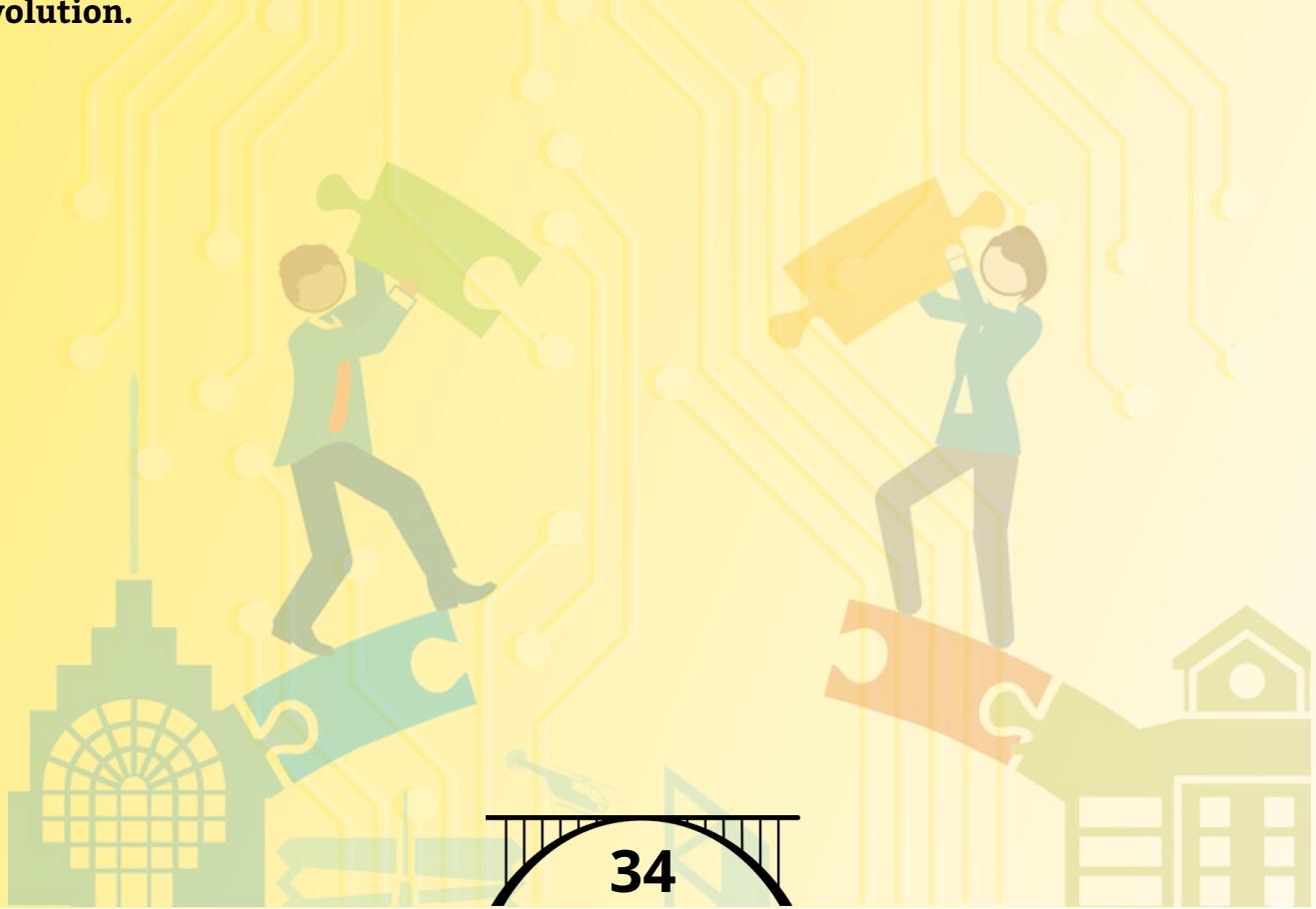
Can you guess what the main driving force behind the birth of Java was? Yes, you guessed it right, it was the need for a platform-independent language which was the main shortcoming of C and C++. This thought of portability was not a necessity before the advent of the World Wide Web and thus, C++ gained popularity and was the most used language. Because of this, Java was just meant to be used in consumer electronics. All of this changed after the launch of the Internet among the masses





Thus, Java came to the forefront due to the Internet and it, in turn, impacted the Internet significantly. Is Portability the only reason why Java became popular? Of course not, there are several other features that will be discussed further. Java, due to its portability first became popular in embedded controllers. But the same problem, to which Java was providing a solution at the small scale, was encountered by the programmers at the large scale while coding for the Internet.

Applets, which are redundant today, paved the way for the evolution of the Internet and the success of Java as a programming language. Since its arrival, Java has been transforming itself and in turn, bringing about transformations. Its first release brought a new dimension to programming for the Internet. The Java Virtual Machine (JVM) and bytecode changed the way we think about security and portability. The Java Community Process (JCP) continually brought innovation to Java. The world of Java has never stood still for very long. That's the reason why Java continues to be a Revolution.





A FLUTTER-ING EVOLUTION

-Chaitanya Sondur

Well, there's always something new buzzing around in the field of Mobile App Development, and the latest stack in the market is Flutter. Let's take a look at why it is becoming overwhelmingly popular amongst developers. Flutter is a framework for building cross-platform mobile applications developed by Google. You can quickly experiment changes, build UIs, add new features and fix bugs faster on emulators. It also has a built-in Material UI and Cupertino Icons widgets, smooth gestures and a lot more. Flutter uses Dart as the programming language. It is an object-oriented programming language with a syntax similar to C. The layout defined is declarative and makes it easy for developers to visualize it.

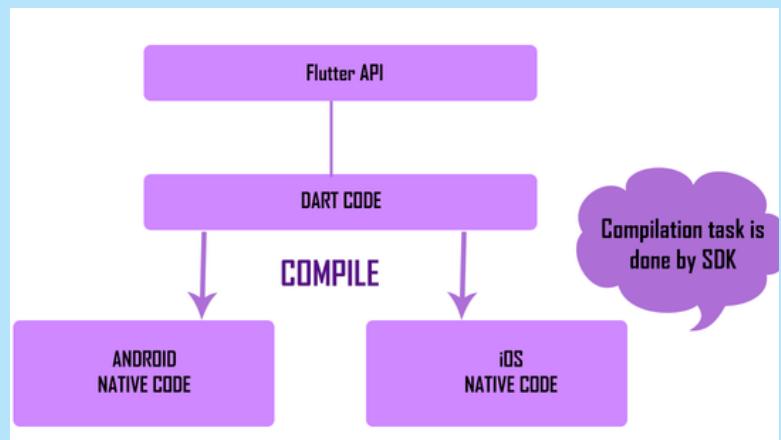
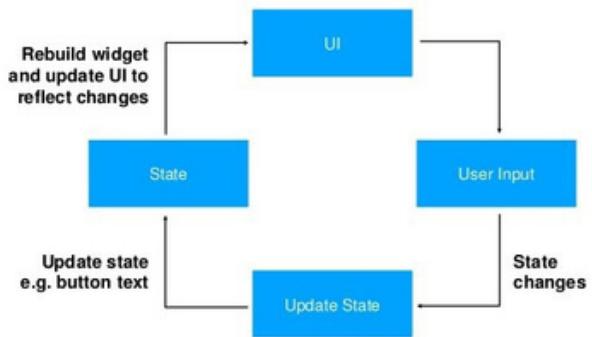
Flutter Architecture

Widgets are the basic building blocks of a Flutter application. They can define the design, can handle interactions like click, tap, etc. They combine with other widgets and produce powerful results. Container and Center are two most commonly used widgets. Container is in turn made up of several other widgets like Align, Padding, DecoratedBox, etc. A widget may also have properties associated with it. For example, mainAxisSize and mainAxisAlignment are two of the properties used in the Row and Column widgets. The build method replaces the widget that is currently present in the tree of the application by the widget returned by this method. By now, you must have understood how important widgets are to the Flutter architecture. There is no bridge between widgets and the framework due to which rendering is efficient.

Stateless and Stateful Widgets

The state of an app can be defined as everything that exists in the memory while the application is running. When you click on a button, or on a checkbox you are changing the state of the widget i.e, the widget goes from one state (of not being checked) to another state (of being checked). The widgets whose state cannot be modified once they are built are called stateless widgets. They are static widgets. Any change in the state doesn't affect them. On the other hand, the widgets whose state can be altered once they are built are called stateful widgets. This means that the state of the app can change multiple times in its lifetime. The class must inherit the StatefulWidget class and override the createState() method and return a State.

Stateful widget



How does Flutter compile into iOS and Android?

Flutter SDK is a collection of tools that allows us to build an app for iOS and Android in one codebase. We know that the apps developed by Flutter can run on both iOS and Android. Hence, we need to compile the dart code to native machine language for Android/iOS. This compilation task is done by Flutter SDK.

Flutter supports Just In Time (JIT) and Ahead of Time (AOT) compilation. In JIT compilation, the code is continuously recompiled which allows us to “hot reload” to see the changes. Using AOT compilation, code is directly compiled to Native ARM which enables fast startup and excellent performance. The main project folder has an android subfolder which contains the gradle configurations in Android. It also has an ios folder which contains the code for the iOS platform configurations. The main.dart file located in the lib folder is the root of your application. It has a main() function and a class.

One concerning drawback -

A simple flutter application without any fancy Widgets like Center, Button etc. will be approximately 4MB in Android and 10MB in iOS. In comparison, a similar app developed in Native Java is around 539KB. To decrease the application size, programmers tend to avoid animations, compress images and bring down the number of libraries/packages used. Usage of Google Fonts (available as a plugin) and using .svg images can significantly reduce the app size. Many files are needed for configuration on both the platforms, hence the app size is bigger.

Comparison with Android / Android Studio

Flutter is a cross platform mobile development whereas with Android Studio you can develop apps for only one platform - Android. Flutter is built to help developers to build mobile apps with modern UI. Android Studio has an expanded template that is supported on various types of devices. Application install size is larger in Flutter compared to Android.

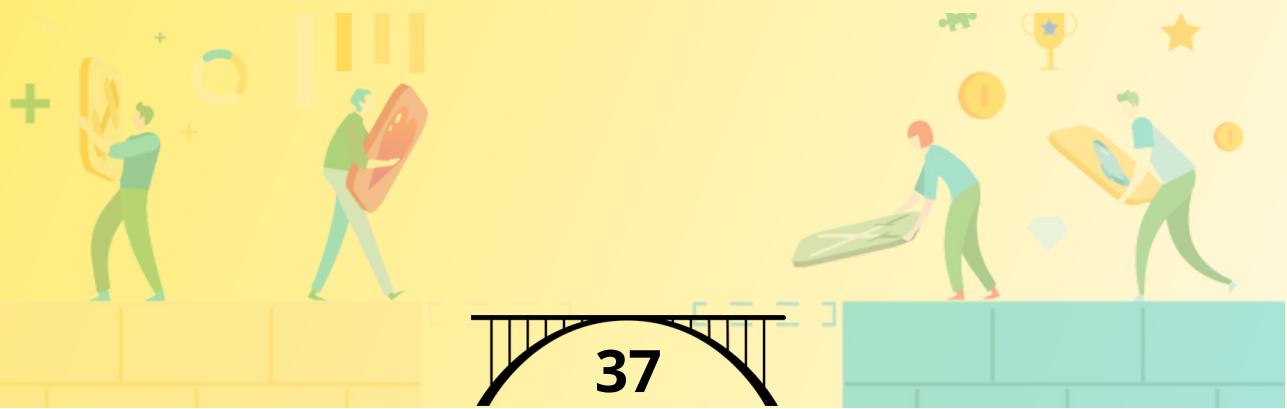
Flutter is in its recent stages of development, with its documentation being constantly updated. It will undoubtedly give you better development experience along with compatibility with multiple platforms all at once. Hope you had a great time reading this article. Thank you!

REIMAGINING EDUCATION: THE PANDEMIC INDUCED TRANSITION

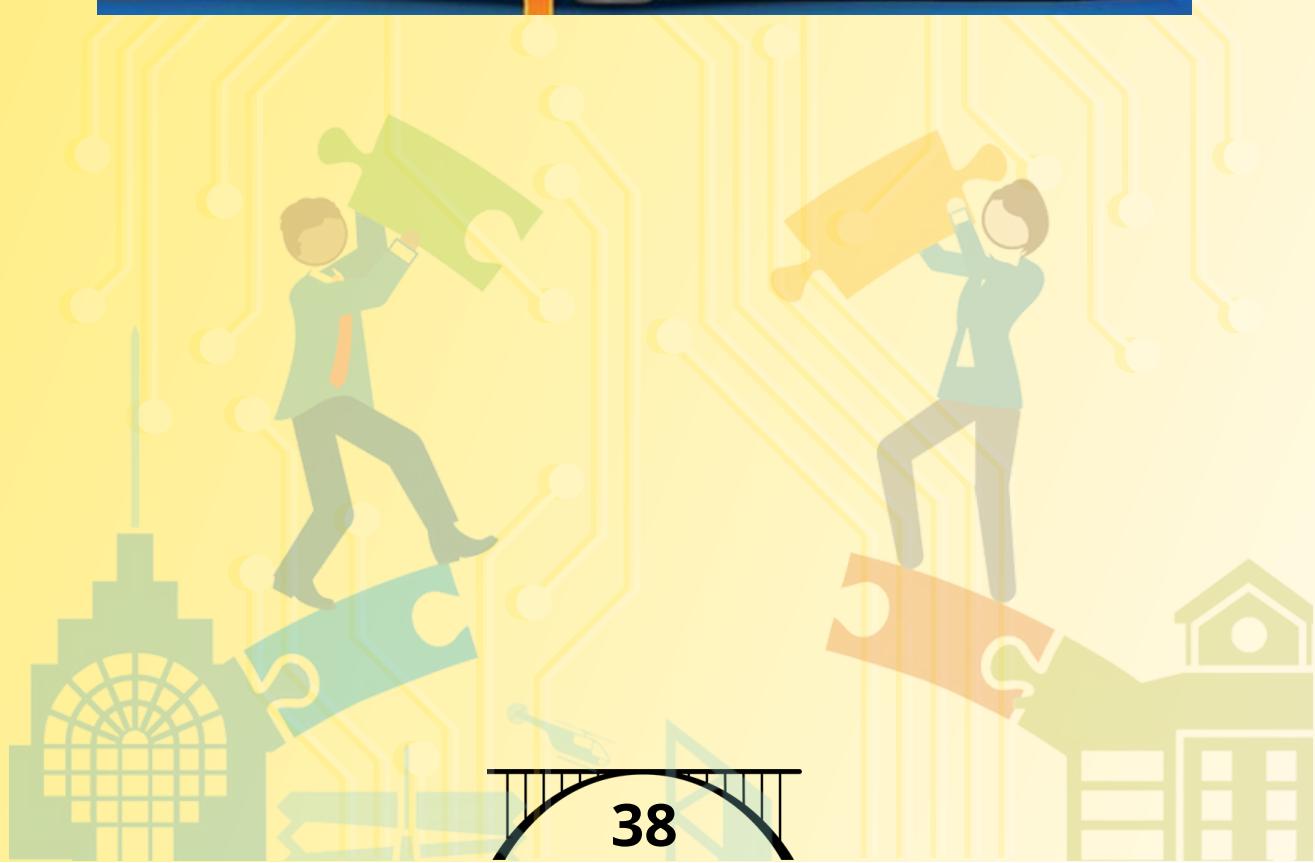
-Juhi Talreja

American author William Durant once said “Education is the transmission of civilization” and this statement holds true irrespective of time and era. Education is the most powerful tool a nation can utilize and forms the backbone of the country’s development. A country’s future lies in its youth population and the right education can train them to think and act for the betterment of the country. Education makes one aware of one’s rights, and empowers one to fight for their freedom and happiness. For a fast developing country like India, education can make or break a nation. However in the recent years, India’s outdated education system has been constantly criticized for being incompetent to train the young leaders of today and this accusation was held true as justified by the Covid-19 Pandemic.

The Covid-19 Pandemic brought the entire world to a standstill. The pandemic revolutionized many sectors. In the field of education, the thumbs once covered with chalk dust were now trying to figure out the complexities of Zoom and Google Meet. Classes went online and teachers were now relying on their students for the technological skills they lacked. However, this was the realization that the education system of India is in dire need of change for the better. This education system was introduced by the British to train Indians for clerical work under British superiors and is outdated to raise smart individuals who have unique personalities and strong opinions.



The education system of India doesn't use technology as a tool to train students, something they have to work with frequently in corporate offices. Online classes emphasized on the horrific reality about how students and teachers focusing on the mugging up culture did not possess any practical or real world skills to manage a difficult situation. Hence, the education system of India needs to be up to date with the latest technology and utilize it for the good of the people. Moreover, the education system should also include mental well being of the students and teach them that mental health is just as important as physical health. The harsh lockdowns imposed by the government might have saved us from physical diseases, however the loneliness and stress leads to mental health disorders like anxiety and depression. We now need to build resilience in our education systems to reimagine education and achieve our goal and vision.





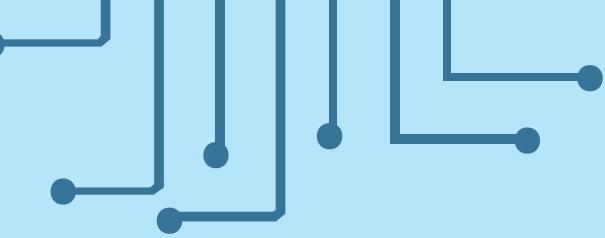
REIMAGINING EDUCATION: THE PANDEMIC INDUCED TRANSITION

-Himanshu Prasad

Finally after a long wait of around 1.5 years, the schools and colleges in the country are now opening, the educational institutes responded well by promoting remote learning and tried their best to help students come up with this abrupt change in the system. However it was not that easy for students coming from poorer sections of society, some were not able to afford smartphones, laptops and internet connectivity and some of them never returned to education. Due to pandemic-related learning losses, students currently in school are estimated to face a \$10 trillion reduction in lifetime earnings, equivalent to twice the global annual public expenditure on primary and secondary education.

Currently what's needed is that some method should be figured out to help students recover from such losses. Short term courses should be introduced in schools and colleges to help students learn what they were not able to learn during pandemic.

Having said about the problems created because of pandemic, the education systems in most of the countries are already outdated and many reports have shown that in the coming 15-20 years, more than half of the world's children and young people (800 million) would not have the skills or qualifications necessary to participate in the emerging global workforce. The changes that were introduced in learning methods were actually not the ones that are needed. The covid-19 pandemic was a good opportunity for the policy makers to make necessary changes in the education system. While traditional academic skills are important, we've also seen the role that playful, creative, and engaging experiences have in helping children cope in unpredictable and rapidly changing situations.



Creativity and a child's ability to be resilient despite life's unpredictable challenges will be among the most in-demand skills that today's learners need in a rapidly changing world. Research tells us that cognitive, creative, social, emotional and physical skills, when integrated with traditional academic skills, help develop students who can better navigate this complex world. In the future, pattern-prediction and recognition, memorization, or any skills connected to collecting, storing, and retrieving information will decline because of AI and related technologies. To help students thrive in the age of smart machines and a globalized world, education must teach students to be creative, entrepreneurial, and globally competent.

Additionally, a hybrid mode of teaching should be adopted, it should be figured out what all things could be executed digitally, this will not only make things more efficient and interesting but at the same time will also extend the teaching timings beyond conventional timings. After being a part of online teaching for so long and trying to make things completely same as before pandemic is the worst idea and it indicates that we haven't learnt anything from all this. It's very necessary for universities and institutes to make changes in their curriculum on yearly basis and stop allowing same syllabus and curriculum to go for years.



REIMAGINING EDUCATION

-Kavish Punjabi

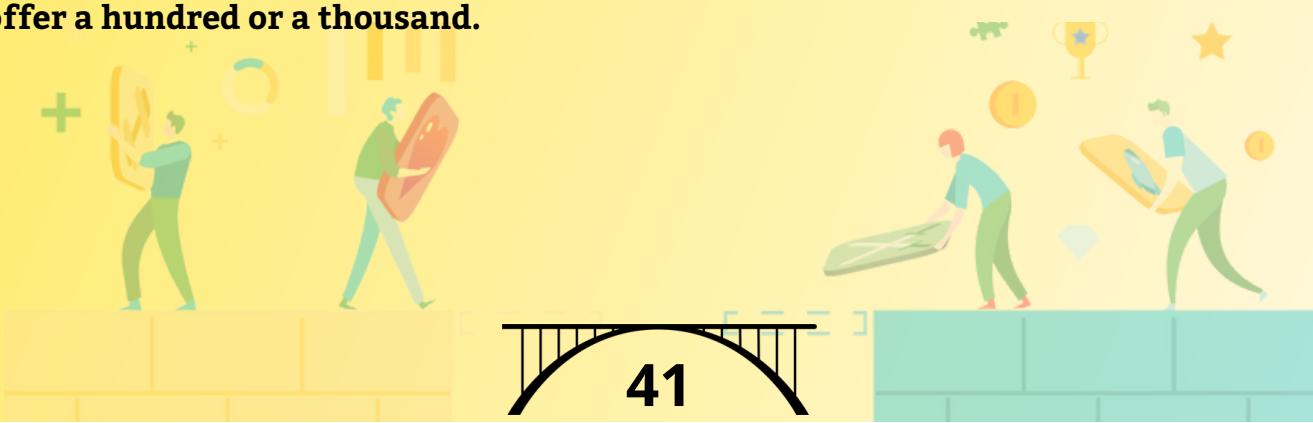
Education is a model based on scarcity, compliance and accreditation. It trades time, attention and money for a piece of paper that promises value. Man is a social animal but the ego is highly anti-social. Most of life seems paradoxical and there never seems to be enough time to sit and ponder. Well, now there is time, lot's of it. But it seems to drift away. And that is boredom defined: Finding each passing moment excruciating and yet not knowing where all the time went.

It is already 20 minutes into the online meeting and they still haven't got past the pleasantries. You want to switch off your video and be free to dig your nose or just stare at the fan. But that wouldn't be polite now would it? Things have definitely changed under lockdown but your teacher is still trying to hold on to the old ways. A mixture of nostalgia and denial. But one must admit, Zoom calls are very realistic, down to people being late and nothing of substance being discussed for close to two hours.

You would think online meetings would be easier. But people still find ways to keep themselves busy and hammered, anything but sitting still with their thoughts.

Education needs to be inconvenient because it relies on effort and discomfort to move us from where we were to where we want to be. The internet gives us more access than ever, and if we care enough, we can use that convenient access to explore the inconvenient places that we know we should be exploring.

MOOCs and online education, of course, turn all of this upside down. There's no extra cost to having more students in an online course. 100,000 students isn't at all unusual. Abundance! Not only that, but since anyone can take any course, there's an abundance of choice. A typical university might offer just one or two intro courses in artificial intelligence, but the internet can easily offer a hundred or a thousand.



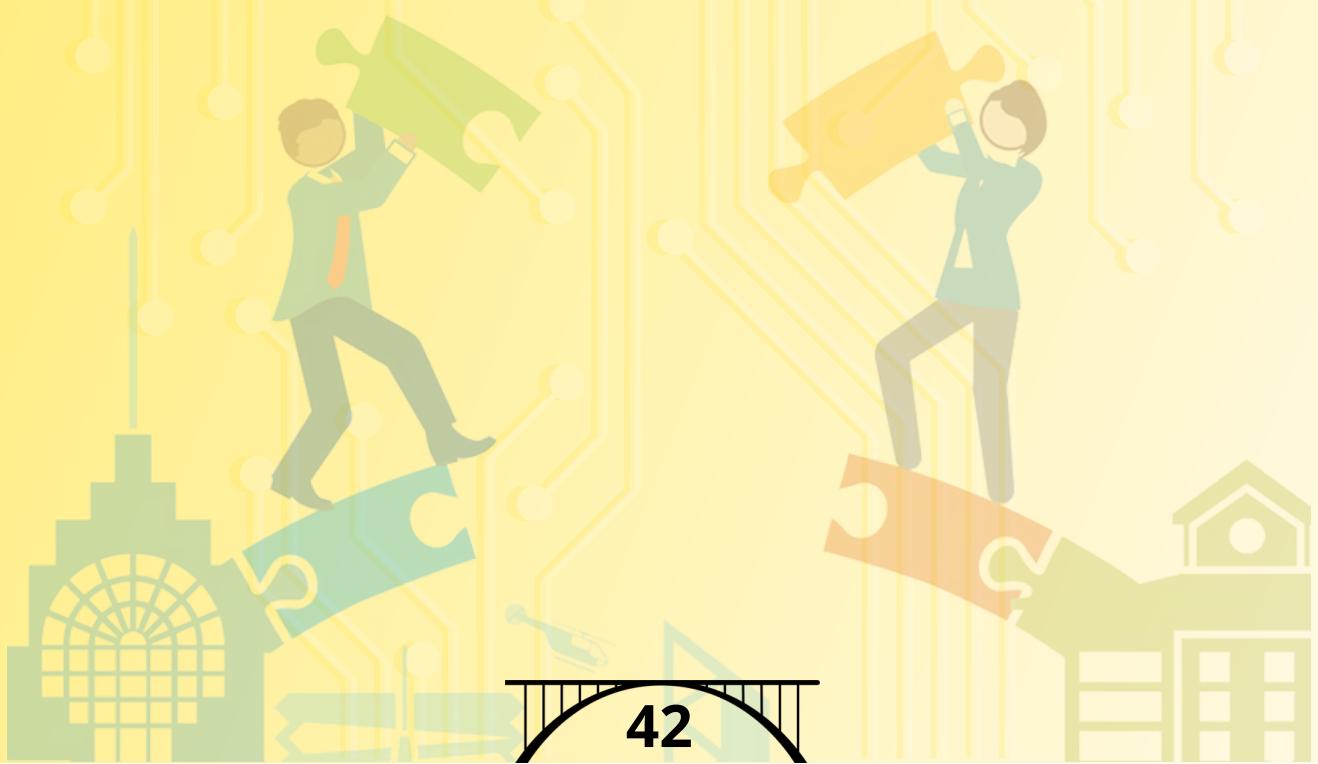
Abundance means that there's far less brand value in saying you took a course, because the fact that you took the course isn't rare or scarce. The learning is valuable, not the proof you took it.

Now that just about anyone can continue their education, just about everyone must. You must, because if you're not keeping up, you're falling behind. You must because the new abundance creates a new expectation. "What do you mean you don't understand that..."

Here's the big leap: When we were offering you the valuable prize of a brand-name degree, that scarcity required you to jump through hoops to get it. It meant you had to spend years in high school following the pre-college rules just to get in. It meant that we had to test you in each course, to prove you learned it. The proof was what you exchanged for your A, and your A was the coin you needed to buy your summa cum laude degree, the thing of value.

In the world of abundance, there's no scarce degree. So testing you as a form of scarce proof is silly. No, the reward is simpler—learn something because you want to learn it, not because you need a grade on a curve.

The old system isn't going away. I still want my surgeon and my engineer to be certified and to prove that they've learned what they were supposed to learn. But more and more of the education we're valuing today is about the soft skills of decision making and creativity and most of all, about the choice to grow and step up. And that sort of learning doesn't easily happen in a scarcity-based institution.





REACHING THE CORE OF YOUR HEARTS WITH FOOD

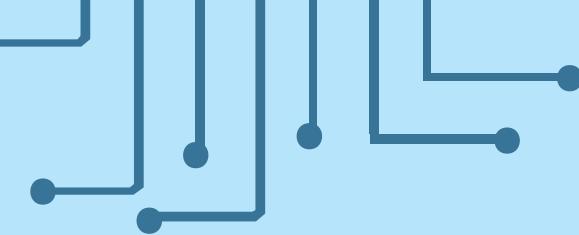
-Janhavi Patil

We should look for someone to eat and drink with before looking for something to eat and drink." - Epicurus

We all come from various backgrounds, various lifestyles, ethnicities, cultural forms, etc so for sure we have many differences in how we view the world and how we live our lives, and our response to the usual things. While different cultures may be separated by several factors, there is one unifying thread that runs through all of us—the need to eat, somewhat the need to eat differently, to explore various tastes, to dive deep into the taste of that trivial herb that won't leave our mouths.



To understand and appreciate the rich cultures all around us, we don't necessarily have to walk a mile in another's shoes necessarily, we just need to taste what they're serving up. It's a reason to gather, a reason to communicate, a reason to celebrate. The sharing of food has brought people together since the beginning of time. It's how we make friends, nurture relationships, celebrate milestones, mend conflicts and feel gratitude for life. Think about your favorite foods. Perhaps it's your mom's home-cooked roast or your grandma's secret-recipe pancakes. Maybe it's the street food from your way to college. Chances are, your favorite food is connected to someone, somewhere – because good food is the one thing that never fails to bring people together.



It doesn't matter where you come from, how you grew up, or where you're gonna end up, the emotions that come from sharing food are universal. Food connects every human from the stomach, and it conquers all, from language barriers to cultural differences. For some, cooking is a form of care, it's a way to let a person know you're not only interested in them, but willing to spend time preparing something you think they'll enjoy. One thing that can bring continents together other than war, is food. The rise of pasta and pizza in our country can easily demonstrate how much Italian food is so loved in our country. And not to mention, Indian food is one most popular cuisine across the world. It enjoys its presence across most of the sampled countries, but it is especially popular in the United Kingdom, South Korea, Thailand, Japan, Germany, France, and the US.



You can explore other cultures, you can make new friends over a plain lunch at some authentic restaurant, and easily win the hearts of people via food. Different cuisines come from different geographies, from different cultures, but it decently bridges the wide gap between cultures with a bond of sharing and caring.

Though not every dish may be of your liking, as you learn more about its background, you may find your worldview broaden more than you may have envisioned. As the food and wine flow, you'll find that people open up, sharing stories of their life, from their joys and successes to their fears and failures. The phrase "To break bread together," solely captures the power of a meal to forge relationships, bury anger, and provoke laughter.

MCU V/S DCEU - WHO'S THE WORTHIER CINEMATIC UNIVERSE?

-Harsh Bhat

Ranging through a plethora of superhero comic adaptations into movies, both Marvel and DC have done a commendable job at still continuing to please a generation of fans which are used to looking at mind-blowing visuals, groundbreaking cinematography and edge-of-the-seat plots with twists and suspense throughout a film. All of us have come a long way with our expectations from movies as compared to the ones we had, maybe just a decade and a half ago? While the Marvel Cinematic Universe that began with Iron Man(2008) has struck an amazing impact on all its fans has continued to keep them satisfied till date, the DC Extended Universe still struggles to bring all of the pieces together whether it comes to character development, issues in contracts with many of its actors or any other factors that have led to the downfall of their expectations from films.

Although from the first few lines, this piece of article might just seem like a Marvel fan bloating about all the joy and satisfaction that he endured after watching the MCU movies and one that just wants to belittle and darken(pun intended) the faith of DCEU fans than it already was, there's a lot more to which one of them is better and how do they have a chance to stand out from each other in the future. Let's review the factors of success as well as failure for both of the comics' live action adaptations and try to draw out a conclusion for which one's better or rather, worthy enough to be better!

● DCEU:

DARK/GRITTY: DC has certainly made a point to go in this direction to reduce any comparisons with Marvel but maybe they took it too seriously and increased the darkness so much that one literally has to light up the theater to watch anything that's going on in the screen. Many people might relate to this after watching the recent The Batman(2022) movie where some might think that the next movie could just be a podcast with the screen totally blank(or dark, as DC might say)! A good outcome from this is that the stakes feel justified in a DC movie. This is important for the audiences as it keeps us engaged in what's going on instead of looking up at the screen and waiting for the heroes to win...again.

STORIES: The theatrical version of Justice League(2017) disappointed a lot of fans as the whole storyline was not developed enough and just seemed like a forced get-together of all superheroes. But, while not always hitting the high marks we want them to, at least the DCEU has attempted to tell different and non-formulaic movies. The superhero movie genre has become oversaturated with the same type of story over the last few years; having a different guy in a suit each time isn't good enough. We need variety, innovation and new ideas to keep us in the cinemas.

VILLAINS: After the huge success of Dark Knight(2008), many fans were in awe of the Joker. It was given a standalone movie in 2019 which came out as a hit too. But a single villain can't carry the responsibility of establishing a malleable character in every movie. Although this is a point I firmly believe DC has over its competitors, they haven't been totally successful in doing justice to their villains. DC has some of the best villains in all of comic book and film history. But the fact why many people are not known to Darkseid as compared to their knowledge of Thanos defines how they failed to portray their villains.

POTENTIAL: The current DCEU will have to go back to the learning stages for establishing a good plot for their upcoming movies. I mean, you aren't going to get a Snyder Cut for every film that is poorly directed and flopped. Many had 'mixed' opinions on Batman v Superman: Dawn Of Justice(2015) which had a completely misleading title for the film in the first place but there are also people who enjoyed it just because of the history and hype created over the years for these beloved characters. One can't deny that there are so many different, exciting possibilities that could be explored with the characters they've chosen as well as the exciting introduction of major characters like Black Adam and Shazam.



● MCU:

PHASES: A massive reason Marvel has had so much staying power in the box office has been thanks to their 'Phases' strategy. They made sure to set up their universe slowly and carefully before going all out with the team up movies. There have been some misses along the way, like Thor: The Dark World(2013) and Avengers: Age Of Ultron(2015), but the hits have been so huge that most have just forgotten about the misses. The bottom line is Marvel has done it the right way in terms of setting up a universe.

FAN SERVICE: If you get an MCU fan started on the joy one felt during watching Spiderman: No Way Home(2021), then it will take a separate article to cover that topic up as all the fan speculations and rumors came true! Another reason the fans and box office have always been kind to Marvel is because it always knows what their fans expect and what they will like to experience on the big screen. Although this is a positive point for Marvel, it could turn out to be a factor for their failure too. The Eternals(2021) and Doctor Strange: Multiverse Of Madness(2022) were hugely hyped films due to their casts and stakes created from previous movies. Some of the viewers found them to be a bit disappointing as it did not cross their expectations as they wanted to. But naturally, if a studio works on Avengers: Endgame(2019) to be the greatest box office hit of all time, then it has to take the same efforts to create all the other movies as well.

CASTING: From the career renaissance of Downey Jr to the discovery of Chris Hemsworth, Marvel has certainly done a great job with their casting choices. At this moment in time it's hard to see anyone else playing the established characters in the MCU. Talking about characters that might have fallen to the wayside e.g. Brie Larson as and in Captain Marvel(2019), there is a diversity of fans that like to see some of their beloved actors in a particular role and some that do not. Marvel needs to make sure to stick with their perfect casting technique to continue their reign at the box office.

CONTRADICTION: Maintaining the storyline and facts has always been important in movies whether it be Marvel or DC. But if characters are shown to be undefeatable or mighty in previous movies, the same temperament needs to be maintained for the latter ones. One can't expect the Hulk to have a friendly and not-so-angry personality in Avengers: Endgame(2019) from being absolutely destructive and fierce in The Avengers(2012). Even though the studio has the wholeful right to change the facts as they wish, it needs to stand strong on the hype and intensive publicity it has created for all the characters.

ACTION: From seeing Cap wielding the Mjolnir to all three spidermen fighting alongside each other, there have been some truly memorable moments in the MCU. While seeing buildings fall down and cities leveled has become the norm for these types of films, Marvel has begun to realize that it's the personal moments that make it truly engaging for all moviegoers. The visuals and VFX action scenes have always been one of the major factors for Marvel having maintained their reputation of producing some of the biggest hits in the history of cinema.

After having reviewed all the major factors for success and some possible factors of downfall for MCU and DCEU, there should be a satisfactory conclusion to the battle of- Which one's better? Considering two scenarios:

1. Some people might enjoy watching the concept of Batman & Superman fighting each other while critics would point out cons like why are they fighting in the first place?
2. For someone who goes in expecting that Tom Cruise will show up as Superior Iron Man in the new Doctor Strange movie and doesn't see his/her expectations becoming true, that person is sure to be disappointed. If the same scenario is compared to a fan who just wants to have a good time watching the film, he/she will love it because of all the visuals and mind blowing action sequences!

Now if I try to reframe my earlier question , it might come out to be like- Which one's better at pleasing their audiences? What might be fair to say is that both have a particular group of people who like to watch their movies and when they go out in theaters with a ticket worth a couple of hundred bucks, we expect to have a good time. The decision of whether a person likes to watch a Marvel film or a DC movie totally depends on his/her perspective or what they expect out of that film.

With unique styles of filmmaking and darker tales of flawed heroes, the DCEU and

MCU have done an overall great job with films and TV shows. As Marvel continues to come through on the spectacle as well as expectations, the DC Extended Universe typically manages both with excellence. However, regardless of which side of the aisle you fall, I strongly believe that there is something for everyone in both franchises. Giving the final answer for "Which one is better among the two?"

Well, that totally depends on what you're looking for!





BRIDGING THE GAP- GENDER DISCRIMINATION

-Mansi Bellani

But you are a girl! These are the words which we girls have heard so often. Everytime I hear thesesickening sentences thoughts that cross my mind are, What the check? Why do you care?

This exactly is the Gender discrimination. When society puts the individual at a disadvantage or limits his or her access to opportunities that are available to other members of society on the grounds of sex, this is called gender discrimination.

The term gender inequality has been widely known in human history but not until the beginning the 20th century has the transformation of gender relations become “one of the most rapid, profound social changes”

According to a survey in America, female's salary at work is 75% as low as male's. Gender inequality can be seen more in Asian countries where it is considered a tradition. Men are thought to have the power to continue their ancestors whereas women are considered “alien money” or so-called “Paraya Dhan” and are never regarded as equal to men. Therefore, women have gradually lost their role in society and therefore suffer from inequality in all aspects of their life.



Gender discrimination is a major problem around the globe. Even after so many efforts made by the government and Nari-Shakti kendras, it still exists in the roots of our society. There are numerous reasons that lead to gender discrimination which cannot be chucked out easily from the society.

Nevertheless, we can still make efforts to educate and create awareness among people and help all the genders to enjoy all their fundamental rights so that they can get fair treatment in society.

The sex ratio is a valuable source for finding the population of women in India and what is the ratio of women to that of men in India. It is an important social indicator to measure the extent of prevailing equality between males and females in a society at a given point in time. As per 2021 data:



Kerala --> 1084
Maharashtra --> 925
Punjab --> 893
Haryana --> 877

And this ratio is not getting any better and shows that all the talk of treating boys & girls is still to materialize in our society.

But all is not lost. Movements like #MeToo have brought significant change in the mindset of society. Corporates have taken lead and are taking steps to bridge the gap by reserving even the board seats for women. Increased literacy, milestones set by our women athletes, celebrities bringing laurels to the country are bringing about a sea change in the way we think of women in our society today.

We must admit that there is a gap, the gap is bridging fast but we must introspect and ask ourselves, how long must women wait for equality and justice?



NFTS AND HOW DOES IT WORKS

-Kartikey Verma



Yup, confusion is expected here, especially when you feel like missing out on something big without even knowing what it is. So to cure my FOMO, I absorbed hundreds of videos and articles to know about the new king of the internet, NFT. Even after understanding the whole concept of NFT and its mechanism, I still can't digest the utility and hype of NFTS.

Ever Heard of Nyan cat?

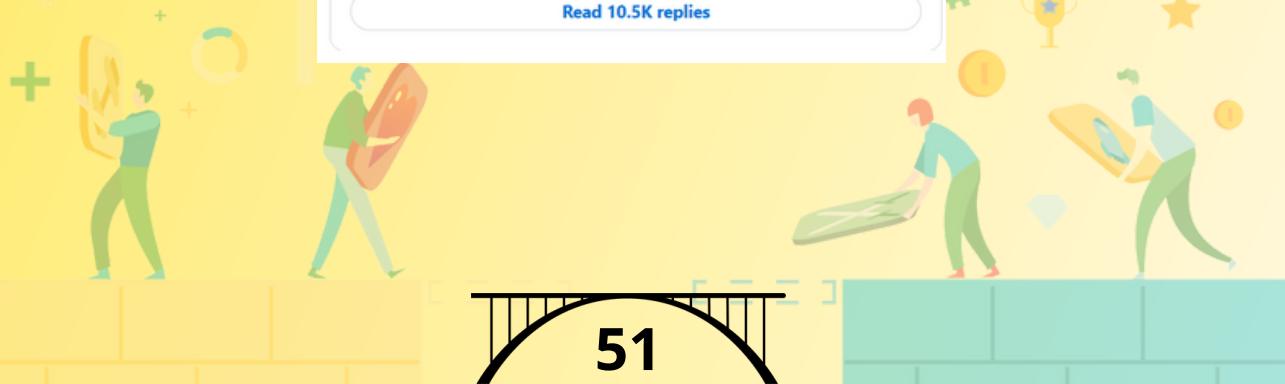
On April 6, 2011, a video was published on YouTube that had this pop-tart-looking cat flying while shooting a rainbow from its back.

Quite quickly it became a really popular meme on YouTube.

An online auction held on 19 Feb 2021, this video was sold for \$590,000. That's not all, the first tweet of Jack Dorsey (Former CEO of Twitter), was sold for \$2.9 Million.

just setting up my twttr
2:20 AM · Mar 22, 2006

178.8K · Reply · Copy link · Read 10.5K replies



What is an NFT? What does it stand for?

A non-fungible token(NFT) is a unit of data stored on digital ledger , called a blockchain, that certifies a digital asset to be unique and therefore not interchangeable. NFTs can be used to represent items such as photos, videos, audios and other type of digital files. Access to any copy of the original file ,however is not restricted to the buyer of NFT. While copies of these digital items are available for anyone to obtain ,NFTs are tracked on Blockchains to provide the owner with the proof of ownership that is separate from copyright.

How to trade an NFT?

Trading an NFT is pretty simple. If a user is interested in buying an NFT, he needs to find an NFT dedicated marketplace. To carry out the transaction, the user must first set up an NFT-supporting wallet. Once the wallet is set up, the user must add a balance to it like ETH and connect this wallet to the marketplace. Now, you can search for the NFT you wish to buy and pay for it using the ETH deposited in the wallet. Once the transaction is complete, the NFT bought will appear in the user's wallet that was connected to the marketplace.

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How is it different from cryptocurrency?

Its generally built using the same kind of programming as cryptocurrency, but each has a digital signature that makes it impossible for NFTs to be exchanged for or equal to one another (hence,Non-fungible).

We can own anything through a Non-Fungible Token(NFT). These safe and trustless ownership modules can be used to own anything ranging from physical property to digital property ,from college degree to inheritance will,etc.

Want to buy NFTs?

There are Umpteen marketplaces through which you can buy different types of arts and collectibles.A few of the most popular market place include :

- 1. NFT Showroom**
- 2. NBA top shot**
- 3. Nifty Gateway**
- 4. SuperRare**



REDUCING PHYSICAL DISTANCES

-Mohit Shahdadpuri

Hopefully, we are now out of the pandemic or at least at a minimal threat from its impact. Looking at its aftereffects, we see that many people lost their loved ones, and some families lost their bread-earners leading to financial instability. The pandemic had a significant toll on humanity but let's look at the other side of it, the impact of online education and work from home and what permanent changes has it made to the future.

People spent a lot of time with their families while being locked up within the confines of their homes. Working from home might be less productive due to obvious reasons but it has some of its key takeaways. The same goes with online education, while it might have major drawbacks, one of them being the uncertainty on the integrity of students while appearing for online exams, there are some focal plus points, too.



Online Education has taught us that many things can be explained better via online mode. If a student chooses to be diligent, online lectures can at least partially substitute offline education, with the major advantage being the availability of recorded lectures. No longer will a student have to ask a teacher to explain a concept again, he can understand things at his own pace with the help of recordings. Distance learning can alleviate the hassles of hostel accommodations. Instructional meetings and seminars might continue online, just because, now a lecturer from Delhi can take a webinar in many institutes across India without having to travel. Talking about programming, many online courses and code-along workshops provide a much better understanding than the physical courses.

The platforms such as Coursera existed even before the advent of the pandemic but the avenues to these have opened now and awareness has increased multifold. Talking about working from home, people can choose to work on weekends in their free time while travelling and also enjoying their family picnic. This is the factor that switching to online mode has brought in, the comfort and the advantage of being able to multitask. And how can we forget the most exciting aspect of this virtual world, Metaverse!!



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BRIDGING THE GAP BETWEEN EDUCATION AND REAL WORLD

-Vallari Patil

As significantly seen how today's education system seems to be lacking when it comes to preparing students for the real (yes, adulting is real) world. If the purpose of education is to prepare students for jobs in the real world (similar to the goal of the hunter and gatherer parents then there seems to be a disconnect between this goal and what is being taught in school. The world has been changing at such an alarming speed in the past few decades that our education system has been left in the dust. By no means is the education industry the tortoise who begins slow and steady to win the race here. No, technology is just a super-charged, hyperactive hare with no intention of taking a nap. So if we want education to even have a chance at winning the race, the system needs to adapt and evolve with the times.

1. Focus on What's Relevant

Think about it, what is being taught in classrooms? Are they still relevant to today's social and career landscape? Remember, we have Google now and it has become such a staple in people's lives that it has initiated phrases like, 'Just Google it' or 'Ask Google' into everyday lingo. Instead of focusing on the memorization of information that will most likely be forgotten the minute a test is over, how about we put thinking and other soft skills at the front and center of education? Yes, it's not going to be easy because soft skills like resilience, creativity, communication, and open-mindedness among others, are infinitely harder to measure. There are no concrete answers, and it's not as simple as opening an answer key and checking if something is right or wrong. But in today's reality they are much more valuable to a person than memorizing what pi stands for or the elements of the periodic table.



2. Maximize Technology

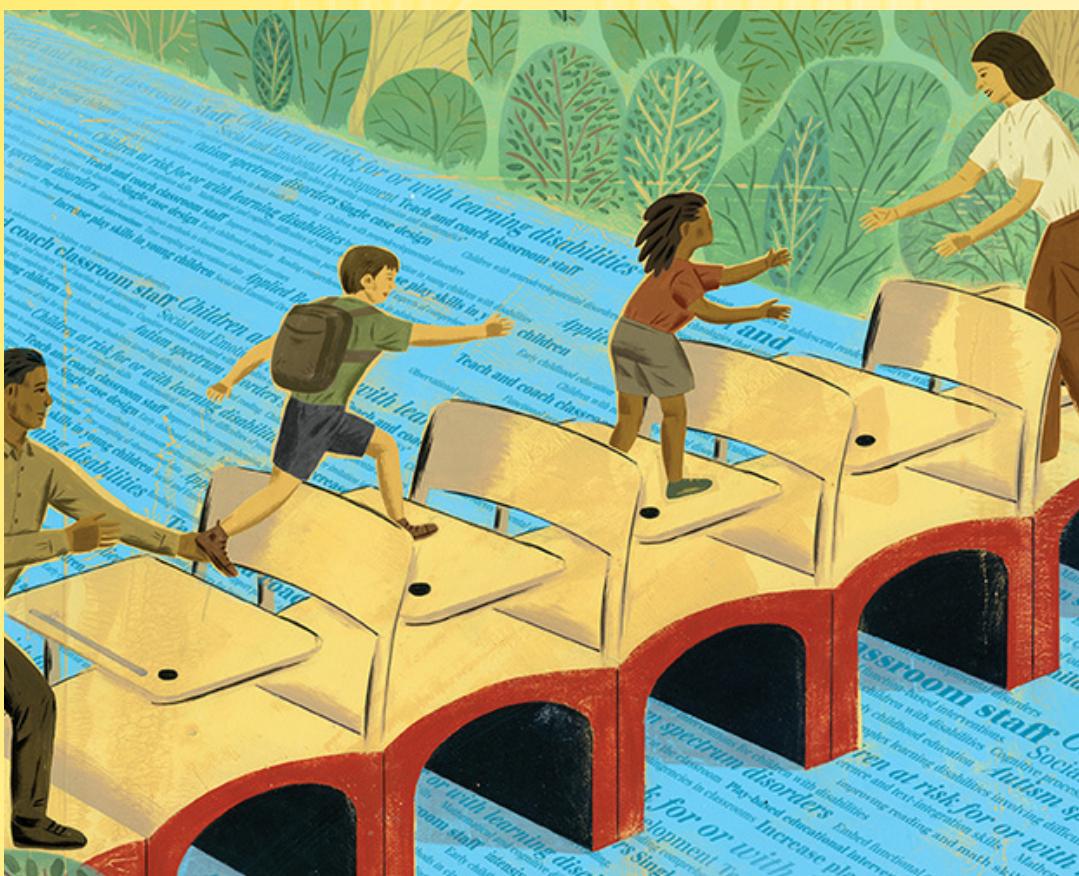
It's a lot easier to say the two words 'Maximizing Technology' than it is to actually do it. Simply integrating technology into the classroom by utilizing e-books or tablets isn't good enough because then technology would merely be a tool to further traditional teaching methods or are simply advanced substitutes for papers and pencils. The role technology should take on is the transformation of teaching. Just look at what technology is capable of outside of the classroom. Think about the possibilities and opportunities technology has if it were brought in to rescue the system.



3. Look for Alternative Solutions

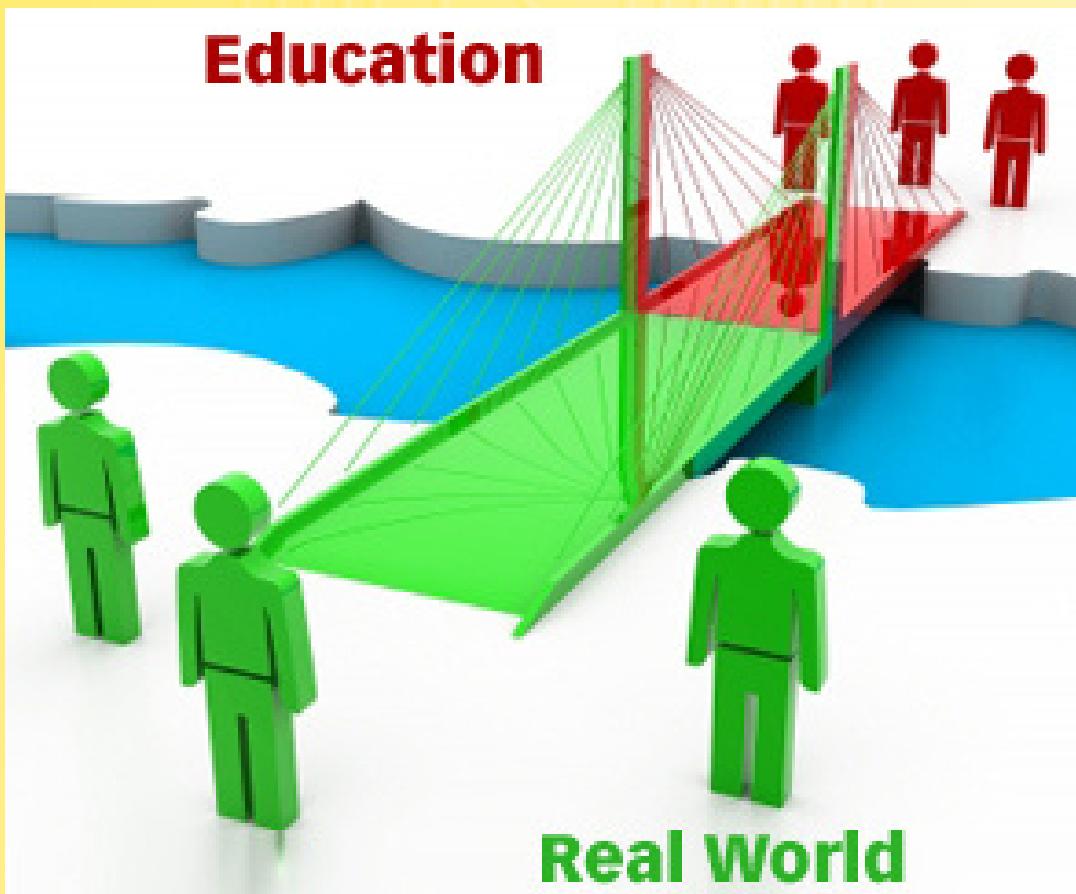
Yes, we get it, solutions one and two require major shifts in thinking and powerful industry leaders to actually set change in motion. So the question now is, is there a short-term solution? What can we do to prepare students for the future?

There are short-term solutions provided by various organizations that make preparing students for the real world and for a career their mission. These organizations focus on the lack of preparation high school and college students have and try to bridge that gap by providing them with opportunities and experiences to help reduce the barriers between education and industry. Think workshops, field trips, mentorship programs, internships, interactive talks, and more.



The Purpose of Education

At the end of the day, it's these experiences that will prepare students for whatever they choose to do in the future. We need to build an education system which eyes to career opportunities they might not have even considered before. The main goal is to re-engineer the education system and bring about systemic change to help close the gap between the institution that is education and the real world. Because so long as the education system remains rooted in its past, the more students and teachers will suffer due to the widely disparate needs of society today.



The purpose of education is not simply to learn or to become a better person. The purpose of education is to prepare you to fulfill your role in society. Ideally, education is supposed to ease you into the real world you face as an adult. Ideally, education is supposed to equip you with the skills you need not just to survive but to excel beyond the bubble of the classroom. Our world and our classrooms are far from ideal, but so long as we remember the purpose of education, then perhaps we're already part way there when it comes to fulfilling it.



COVID - THE MAJOR Crossover

-Drishti Katiyara

When you grow up, the only thing you want to avoid is a routine. Routine, on the other hand, isn't always a terrible term. It creates a sense of orderliness which is fundamental to everyday life. We were following our routine until the Indian government declared a statewide lockdown on March 24, 2020, in order to fight against the COVID-19 pandemic. We were strong-willed and ready to tackle this fatal illness, we had presumed it to be a matter of 21 days. Thus we were prepared to meet the lockdown challenges head-on and keep the wheel spinning and started the first day of the lockdown with hopes of being able to spend adequate time with family. However, we were not prepared for the mayhem and madness which followed.

Life as we knew it was thrown into turmoil when in early 2020, a new virus began to catch the headlines, and no one thought of it being a cause for the world to come to a standstill. The outbreak of COVID-19 had upended normal life. Markets were given a brief period to stay open and people were highly doubtful of going to market and buying all the necessary stuff to just suffice their basic needs, they had to go by following the guidelines issued by the government. Everyone had the fear of the thought of being contracted to the 'devil of the year' at any time. Manufacturing sectors, Small and Medium businesses, students, and daily wage workers all suffered sooner or later. But the daily wage workers had to bear the brunt of the blow. Before the lockdown, we didn't even bother or never bothered to acknowledge it as a matter to consider that uneducated / semi-educated / highly educated people migrate from their home states to another state with better job opportunities. The exodus of daily wage workers that everyone witnessed just after the imposition of the incessant lockdown from 25th March was excruciating for us to watch and horrible for them to perform.

Incredible numbers like 800 km and 1000km were reported by ground reporters from the migrant workers who dared to walk back to their homes without giving much thought to the humongous distance they had to cover. Some excelled in this prolonged and painful endeavor and some succumbed to death being not able to sustain themselves through this apparently unachievable journey to a financially superior India. With the worldwide lockdown and physical distancing measures, our daily routines had changed and, as a result, many of us were forming new habits as well as breaking old ones. People got depressed, and domestic violence witnessed a surge with a divorce filing. People lost jobs and are sustaining their savings and preparing themselves to get a job in the post-COVID-19 world which is going to be a lot more competitive and mature. The impact of this pandemic on the economy, employment, and our society in general, has been massive. Even more alarming is its impact on the nation's mental health.

What will life be like when India and the rest of the world lift the lockdown completely? Will life as we knew it before Covid-19 return? These were the questions we all had. Slowly gradually the government started lifting the restrictions and the avenues to freedom opened. This does not mean that life has returned to normal; rather, we are adjusting to the A New Normal - Life After Lockdown. We are still adjusting to learning at home as well as in school, to be safe and sustainable, to eat healthier, and, most importantly, to focus on our mental health.

Well, this pandemic has made us learn a thoughtful lesson. We should never take life and the things that we are provided with for granted, staying grateful for life is not only a gesture of gratitude but also an attitude to acknowledge that we are very small and our aspirations should not harm this mother earth in any way. Staying happy is as important as living an inspirational and prosperous life. Thus, essentially we must introspect how we treat our only planet.



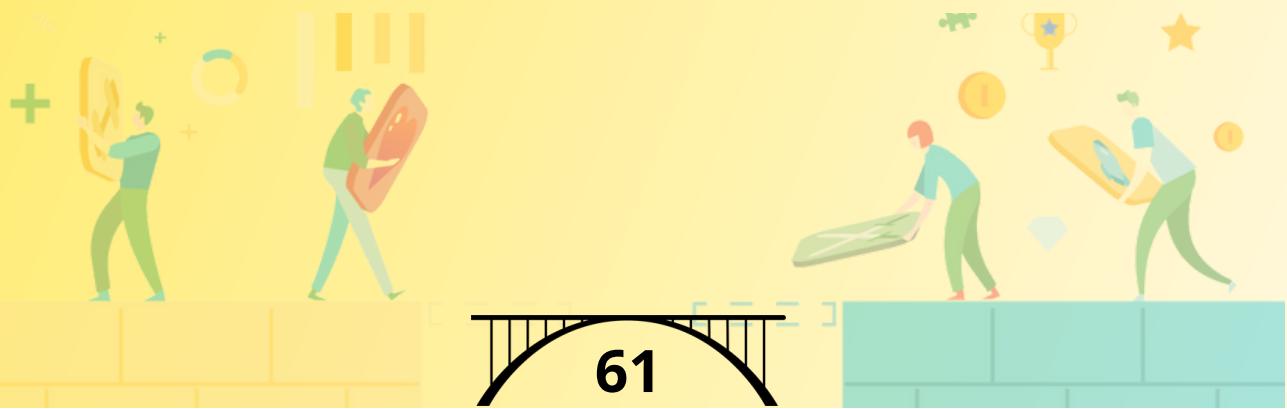
MAKING A LEAP TO PARALLEL COMPUTING

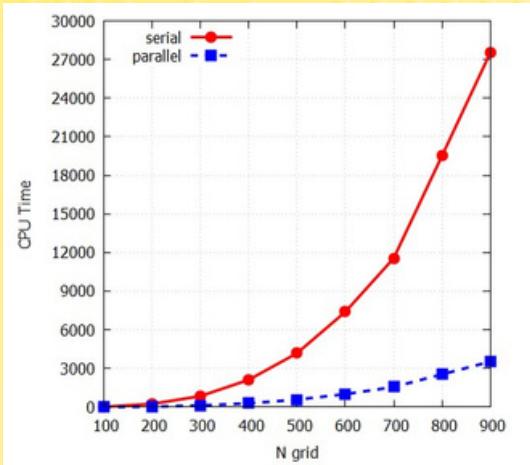
-Shaikh Insha

Computing is the process of using computer technology to complete a given goal-oriented task. Computing can also be seen as a branch of engineering science that deals with the systematic study of algorithmic processes, which are used to describe and transform information. Computing is moving from serial computing , to massively parallel computing.

In serial computing (processing) , the processor completes one task at a time. After completing that, it executes the other tasks in a sequential manner. An operating system executes many programs and each of them has multiple tasks. The processor has to complete all these tasks, but it completes one task at a time.

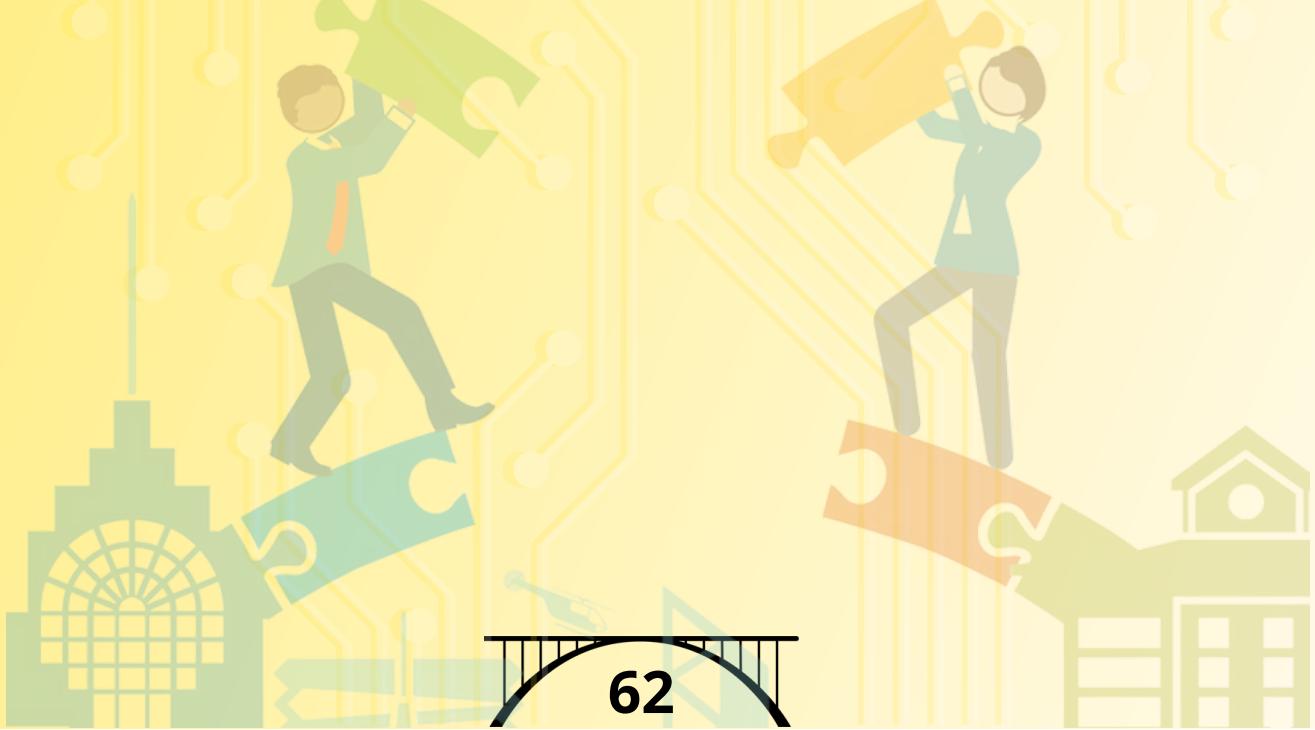
The other tasks wait in the queue until the processor completes the current task. In other words, all tasks are processed sequentially . Until a few years ago, all programs followed the serial model. They constructed their solutions as a single complex operation or group of operations, conducted on a single computer. The more powerful the computer, the more complex the problems it could handle. But the limits of a single machine also shaped the limits of the problems it could handle.

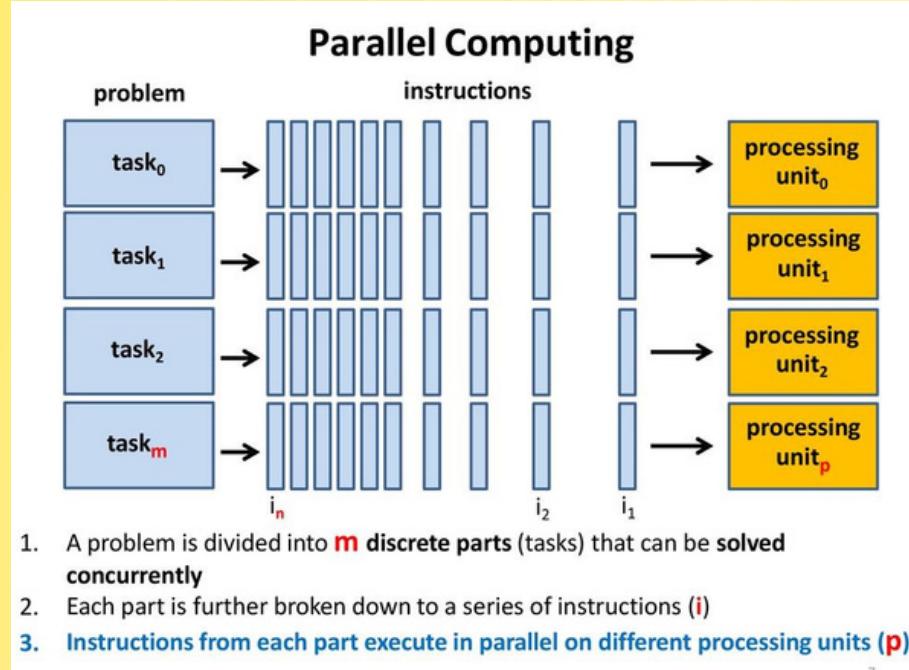




So to cope up with these scenarios , computing evolved from serial to parallel computing (processing) in which there are multiple processors , each processor executes the tasks assigned to them simultaneously. The processors use the bus to communicate with each other and to access the main memory and operate on its local data. As the processors work independently, failure in one processor does not affect the functionality of another processor. Therefore, parallel processing increases the throughput as well as improves reliability. Most modern computers support parallel processing to increase performance.

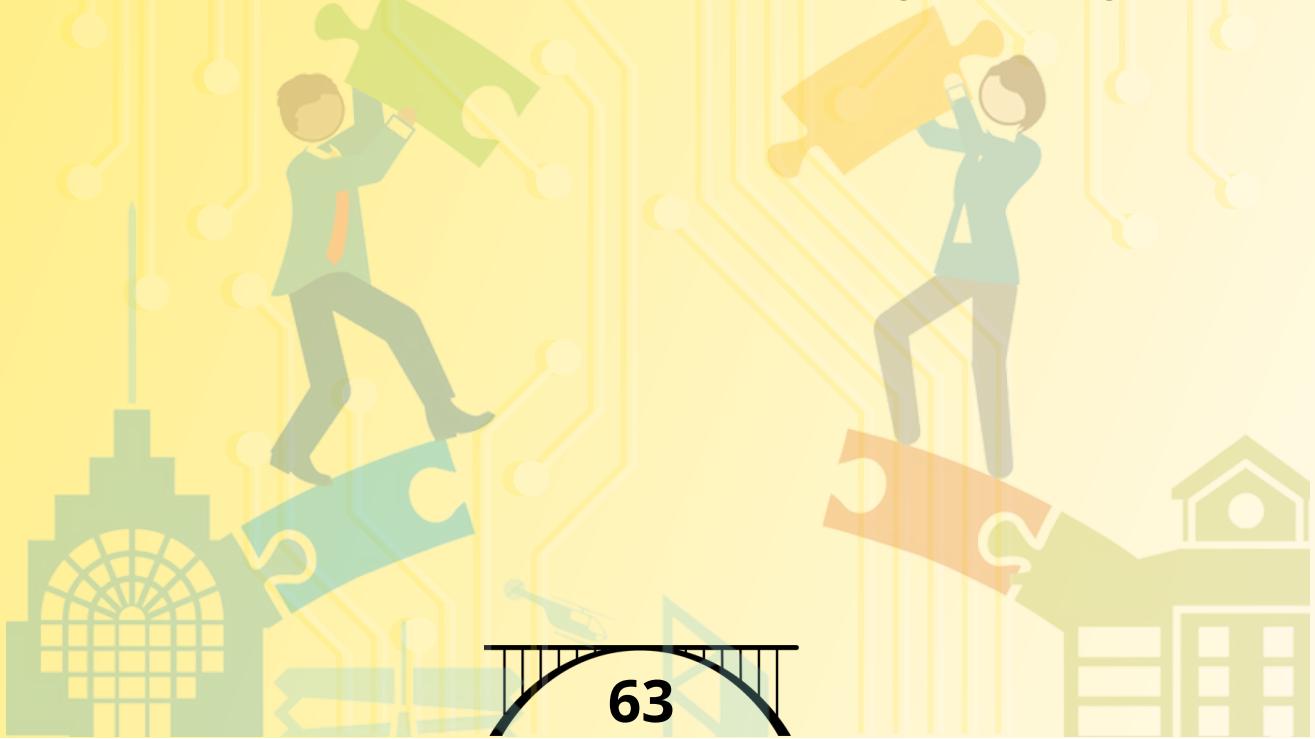
Parallel computing is not a new technology in the computing industry. It is a technique that has been in use for more than twenty five years now to perform various computations using computers. Through use of parallel computing, it is possible to carry out both complex and simple calculations. Parallel computing involves the use of Local Area Networks (LAN) and other related computer connections to carry out computation problems. The need to use parallel computing in carrying out computations has also been driven by recent heating of computer systems when they are over-tasked. Additionally, there has been a need to increase the efficiency and accuracy of computations.

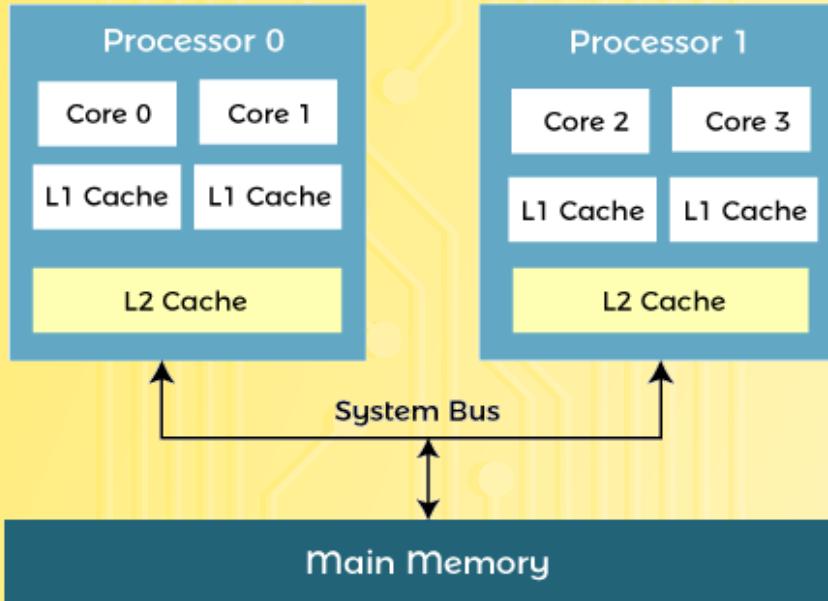




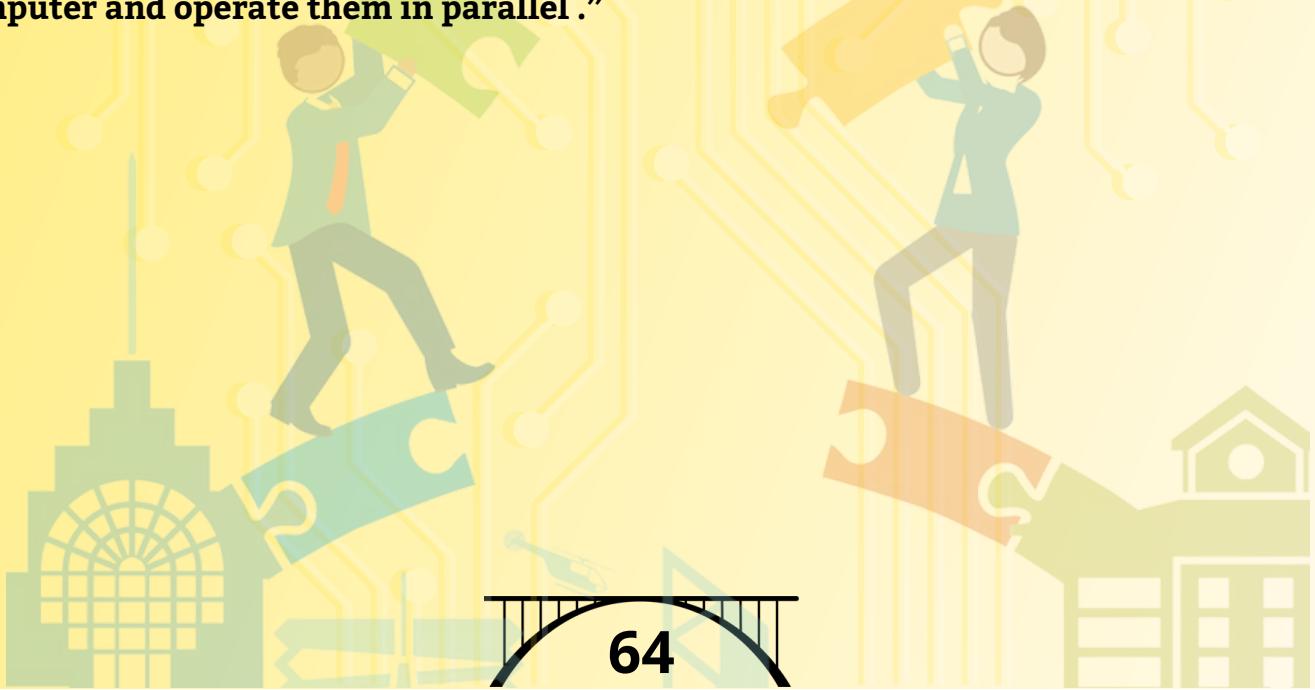
In parallel computing, the main memory of the computer is usually shared or distributed amongst the basic processing elements. Moreover, various processing techniques have been developed to support parallel computing systems. These techniques include multi-core processing method, symmetric multiprocessing, cluster processing and distributed processing. In a multi-core processing system, the computer performs the various computations by different execution or processing units that are placed on one single chip.

Symmetric processing involves use of a bus connection to link multiple processors of a computer system. The bus connection is used to prevent any possibility of scaling of the processors. Finally, distributed processing systems are characterized by massive distribution of the processors within the system. The processors are interconnected using a network. In distributed memory systems, each system processor has its own memory and hence helps in reducing overlapping of the cache.





In the past few years, more and more systems with a parallel architecture have been released. They are orders of magnitude faster and can handle significantly more data than their serial counterparts. They have an additional advantage: The advent of elastic computing, which only calls for as much storage and power as it needs at a given time. Serial computation, which can require fixed amounts of storage, cannot compete effectively against parallel processing and elastic storage, which have significant cost and speed advantages. Google and Facebook are themselves good examples of firms that are leveraging the enormous power of parallel computing. When you type a phrase into Google's search engine, thousands of computers immediately spring to life. This is much faster than if only one computer at a time could be used for the task. Finally as the saying of great computer pioneer Grace Hopper goes , “If one ox could not do the job they did not try to grow a bigger ox , but used two oxen . When we need greater computer power , the answer is not to get a bigger computer , but... to build systems of computer and operate them in parallel .”





WE MUST FIRMLY RESOLVE

-*Mohit Shadadpuri*

With all the power,
We must firmly resolve,
From this very hour,
A better future we'll carve,
For the generations to come,
Will know no gaps,
No hatred and no tantrum,
Over someone's opportunistic traps.

Let's use our intelligence,
To grow and unite,
Instead, all we do is,
Find reasons to fight,
Race, caste, gender, nationality,
You'll find more and more,
These thoughts have captured,
Our conscious to the core.

Time for us to firmly resolve,
With all the power,
Intelligence and capability,
Bridging the gaps would be our responsibility.

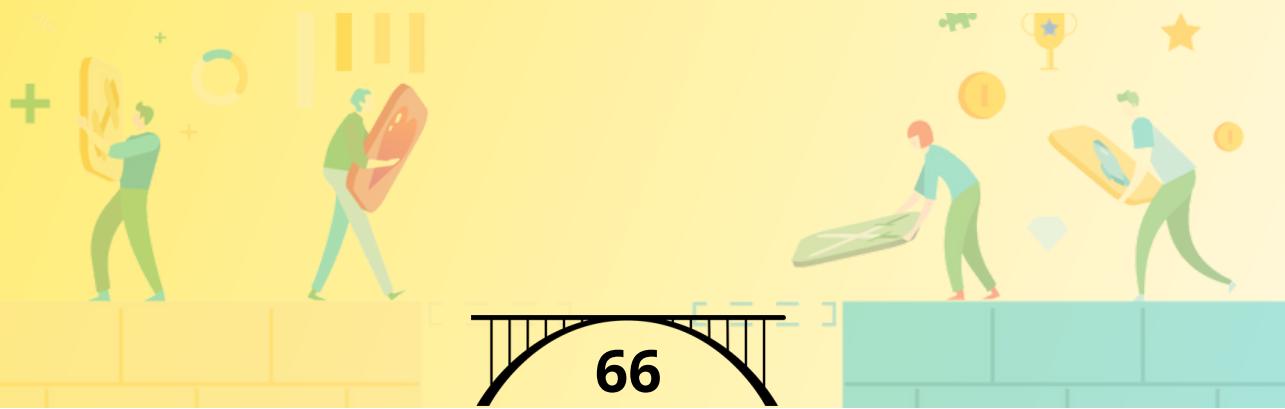
COLLEGE - PURSE AND DISCOVER

-Ruchika Dusija

What was your first thought when you came to college? Will I be able to survive, will I make friends, will I have fun, will I find a family I could cherish, how will the teachers be, how will I maintain my pointer, will I make a good impression, will people like me for me? Etc. After all of these thoughts in your mind, how was your first day, did you like it, was it how you wanted it to be? For some it would have been 'amazing', for some it would have been 'ok', but it doesn't matter how it was, be it good or bad you will always remember that day because that was the day your new journey began. Every time when you think of it, it will make you smile because that is the day you took your first step towards learning and discovering yourself along with loads of fun and way too many assignments.

How were your college days ? Did you find it boring because of continuous lectures? Or Did you have fun in the canteen with your friends ? Or Did you enjoy all the wonderful events that took place?

Well it's a mixture of everything. From completing assignments because we have to do submissions on time to keeping it for the end because the teacher will still accept it . From being stressed for the exams to having fun after the last paper with a relief that they are over. From starting your mini-projects with the enthusiasm that it's simple will be done easily to sitting late nights checking for errors in the code and designing how the website should look like and having the excitement of seeing what you have done for your project being appreciated by your mentor and other people.





From sitting in lectures with your friends near to your bench to sitting alone at your home and attending online lectures. From knowing all the famous foods of the canteen to actually sitting in the canteen with your friends and trying all the delicious stuff. From bunking lectures to sit in the library for completing assignments to bunking lectures and chilling in the amphitheater. From getting excited about the events to participating in the events. From being scared about auditions to acing the auditions and getting the part. From being nervous to performing on stage for the first time to going on stage to perform as you own the stage. From getting to know about different societies to becoming a part of the society. From standing in the student council elections to getting selected or knowing how politics works. From not knowing how to write an SOP to giving interviews for societies. From thinking about why we have BCE to learning the most important skills for interviews because of BCE. From thinking I could do it alone to realizing teamwork is important. From getting scared that I don't know these viva questions to coming out satisfied with your answers. From having mcq's in online exams to writing papers for 3 hours offline. From attending Freshers to attending Farewell !! College didn't just teach us ,it also gave us a place to grow ourselves into becoming better ,being creative and being spontaneous. Here we learnt how to get a good cgpa, how to ace interviews, how to work in a team, to participate in competitions, to be the seller of your product, we learnt communication skills , how to present ourselves. This was on the academic part.

But college also gave us the best of friends that we would cherish for years to come, it gave us opportunities to make ourselves known in the skills we are good at, it gave us a place to discover we could be good at things we didn't think we would be good, and last but not the least it gave us the best memories, memories that will forever be ours to remember !

The place with immense opportunities and talent - COLLEGE.



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