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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

VVIT - BBC– Department Magazine

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METAVERSE

HOW WILL IT TRANSFORM OUR WORLD?

Despite hype about "the" metaverse, it isn't yet a single entity. Rather, a metaverse today comprises multiple emerging technologies — and organizations should be careful when investing in a specific metaverse as it is too early to determine which investments are viable for business in the long term.

Nevertheless, metaverse technologies promise the next level of interaction in the virtual and physical worlds, providing innovative new opportunities and business models. In fact, Gartner expects that by 2026, 25% of people will spend at least one hour a day in a metaverse for work, shopping, education, social media and/or entertainment.

What is metaverse?

Technically, a metaverse is a collective virtual shared space, created by the convergence of virtually enhanced physical and digital reality. For simplicity's sake, think of a metaverse as the next iteration of the internet, which started as individual bulletin boards and independent online destinations. Eventually these destinations became sites on a virtual shared space — similar to how a metaverse will develop.

A metaverse is not device-independent, nor owned by a single vendor. It is an independent virtual economy, enabled by digital currencies and non-fungible tokens (NFTs).

As a combinatorial innovation, metaverses require multiple technologies and trends to function. Contributing trends include virtual reality (VR), augmented reality (AR), flexible work styles, head-mounted displays (HMDs), an AR cloud, the Internet of Things (IoT), 5G, artificial intelligence (AI) and spatial computing.

Why is there hype around the metaverse?

There is a lot of excitement around metaverse, driven by technology companies preemptively claiming to be metaverse companies or creating a metaverse to enhance or augment the digital and physical realities of people.

Eventually, metaverse will provide persistent, decentralized, collaborative and interoperable opportunities and business models that will enable organizations to extend digital business. But metaverse opportunities are already emerging — for enterprises as well as individuals. For example:

J.P. Morgan has become the first bank to establish a presence in the metaverse, predicting a market opportunity of $1 trillion and eyeing virtual real estate.

Automobile dealerships could keep limited stock on hand of particular vehicles and use spatial computing, specifically the AR cloud, to seemingly change interior and exterior attributes digitally in real time to showcase more options.

Games can be created to train employees on how to handle hazards without actually exposing them to those hazards.

DToCs and digital humans can interact with customers to aid in areas, such as financial transactions, concierge shopping experiences or patient health monitoring.

Virtual workspaces can enable organizations to develop better engagement, collaboration and connection opportunities for employees. (Virtual meetings, powered by metaverse technologies, are already a fixture of hybrid work.)

Important Technologies behind the Metaverse

Artificial Intelligence

Artificial intelligence or AI is an important component for understanding how metaverse works and how it could improve in the future. The combination of AI and metaverse technology could ensure stability of the metaverse infrastructure while also facilitating actionable information to user-facing layers. The NVidia Omniverse is one of the top examples which showcase the productive implementation of AI for developing digital spaces within the metaverse to facilitate social interactions.

Internet of Things

Internet of Things could serve as a significant booster for the metaverse, and top metaverse companies should capitalize on the opportunity. The IoT ecosystem could play a vital role in bridging the gaps between metaverse and the physical world. You can think of IoT as a three-dimensional user interface suited for IoT devices with a personalized IoT experience. The combination of metaverse and IoT could help organizations in reaching important decisions based on data with minimal effort.

3D Modeling

3D modeling basically refers to the use of computer graphics for developing a three-dimensional representation of any object or surface.

You cannot ignore how 3D modeling is an important technology for metaverse as it supports one of the basic propositions of the metaverse. As a matter of fact, the metaverse can be developed by converting images and graphic designs into 3D representations. On top of it, the effectiveness of 3D modeling can also provide assurance for immersive experiences on metaverse platforms.

Spatial and Edge Computing

The final and most disruptive change in the metaverse would evolve in the form of spatial computing. It means that users don't have to follow a specific template for accessing the services or experiences they want. For example, you don't have to rely on VR headsets every time you want to access the metaverse.

Spatial computing basically refers to the use of physical space in the form of a computer interface. The advancements in AR have answered 'how does metaverse work' with references to spatial computing. In addition, edge computing can help users in accessing computation, storage and many other solutions without any concerns of interoperability.

Want to understand the fundamentals of the Internet of Things (IoT)? Join the Standard & Premium Plans and Enroll Now in IoT Fundamentals Course!

Article By
Dr. N. Sri Hari
Assoc. Prof

ROBOTIC PROCESS AUTOMATION

What is robotic process automation (RPA)?

Robotic process automation (RPA), also known as software robotics, uses automation technologies to mimic back-office tasks of human workers, such as extracting data, filling in forms, moving files, et cetera. It combines APIs and user interface (UI) interactions to integrate and perform repetitive tasks between enterprise and productivity applications. By deploying scripts which emulate human processes, RPA tools complete autonomous execution of various activities and transactions across unrelated software systems.

This form of automation uses rule-based software to perform business process activities at a high-volume, freeing up human resources to prioritize more complex tasks. RPA enables CIOs and other decision makers to accelerate their digital transformation efforts and generate a higher return on investment (ROI) from their staff.

RPA and intelligent automation

In order for RPA tools in the marketplace to remain competitive, they will need to move beyond task automation and expand their offerings to include intelligent automation (IA). This type of automation expands on RPA functionality by incorporating sub-disciplines of artificial intelligence, like machine learning, natural language processing, and computer vision.

Intelligent process automation demands more than the simple rule-based systems of RPA. You can think of RPA as "doing" tasks, while AI and ML encompass more of the "thinking" and "learning," respectively. It trains algorithms using data so that the software can perform tasks in a quicker, more efficient way.

How does RPA work?

1. Low-code capabilities to build automation scripts

2. Integration with enterprise applications

3. Orchestration and administration including configuration, monitoring and security

Automation technology, like RPA, can also access information through legacy systems, integrating well with other applications through front-end integrations. This allows the automation platform to behave similarly to a human worker, performing routine tasks, such as logging in and copying and pasting from one system to another. While back-end connections to databases and enterprise web services also assist in automation, RPA's real value is in its quick and simple front-end integrations.

The benefits of RPA:

1. Less coding

2. Rapid cost savings

3. Higher customer satisfaction

4. Improved employee morale

5. Better accuracy and compliance

6. Existing systems remain in place

Article By
21BQ1A05D0
MUDAYKRISHNA VENKATASAI PRAKASHGUPTA

Theatre's day

 Vasireddy Venkatadri Institute of Technology organized Theater Day celebrations on 30th April 2022 at VIVA indoor Auditorium, amidst all students and staff in an esteemed manner with all fresh ecstasy under the aegis of Theater Club. Sri Vasireddy Vidya Sagar, Chairman of VIVA-VVIT Institutions firmly believes that, any institute that gives ample scope and platform for extracting innate talents may be in sports or in fine arts that elevate their soft skills.

 Sri VasiReddy Vidya Sagar garu emphasized that, it's been accepted and practiced by the International Educational Universities, to inculcate the art of drama and theatrical action in their students to bring out the innate talents in them which prop up their professional life while expressing themselves before the people for roles they play. He also added that, the ancient renowned universities also kept their academic processes inter-mixed with the art of drama to carve the full–blown personalities of their students. Sri Sagar reminded that drama is also the most efficient medium for disseminating the highly complicated critical information in a simpler manner to the common public as believed by the elders. Keeping in view of all these aspects about the art of drama and theatrical action, Sri Sagar informed that their Institute has been conducting Theatre club for the past decade along with other tens of clubs in different streams

Farewell Meeting for Final Year Students

 Department of CSE in specific and VVIT in general, were emotionally bound to the activity of farewell to outgoing batches of students every year. In this regard all the students of penultimate year of study arranged a magnificent stage for their seniors and share views about their sojourn with CSE and VVIT.

Online Bootcamp on Basics of Android App Development

L4G In Collaboration withthe Google Developer Relations team selected Vasireddy Venkatadri Institute of Technology, to offer Google's Android Developmentwith Kotlin course for Faculty andStudents entitled with the name called "Android with KotlinBootcamp".
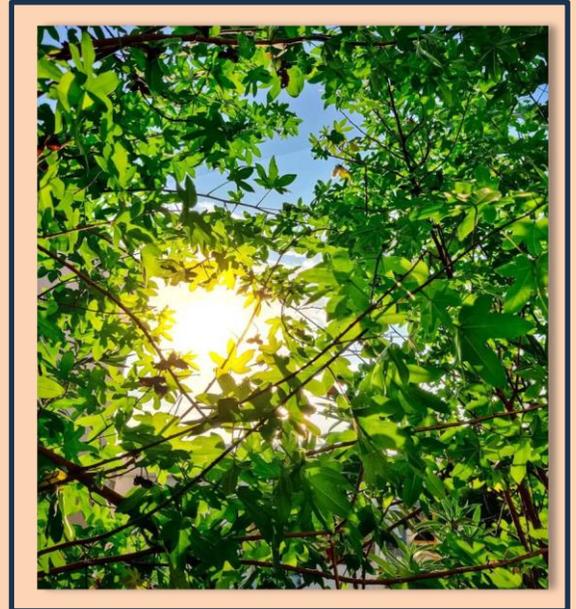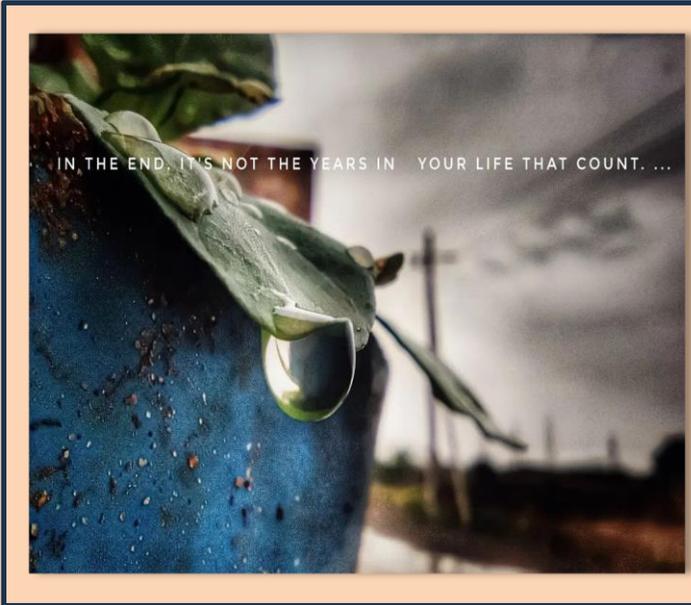
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**19BQ1A05C2
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photographer

IN THE END, IT'S NOT THE YEARS IN   YOUR LIFE THAT COUNT. ...

20BQ1A05I9
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21BQ1A05L7
SHAIK
SIRAJUDDIN

20BQ1A05L9
SHAIK SAJID AMEER

19BQ1A05M7
TATA ANIRUDH

Thrilling and rewarding is how I'd describe my time at Vasireddy Venkatadri group of era. at some stage in my four years of engineering at VVIT, I had lot of opportunities to develop analytical abilities, management and proactive wondering via various packages and events.

those attributes were the important thing motives due to which I was correctly positioned at MNC. I'm very satisfied to my college Vasireddy Venkatadri institute of technology for each school and training and location department. I'm thankful to VVIT-both the college and the schooling & Placement branch. they have got made efforts making sure maximum variety of located college students. The university commenced grooming us for placements inside the first few months consisting of publications.

The university has suitable surroundings to look at and play. The first-rate part of the VVIT is SAC. I was absolutely assured and cracked the aptitude and technical exams and interview rounds because of the mock exams and interviews performed by way of the training & Placement department and our faculty contributors of our university. this school offers an awesome platform for capabilities enhancement and to get a tremendous studying experience

17BQ1A05G2
N.T. ANAND

Journey at VVIT turned into one of the fine studies of my existence. it's difficult to sum up the recollections and enjoy of 4 years in few lines. The campus has top infrastructure and could be very stunning with perfect combo of nature. there is something motivational and special in this environment and infrastructure which made us observe and revel in co- curricular activities. all the school and group of workers participants are very helpful and they guided us all the time. different activities and classes did increase my confidence to a great quantity that I can experience at my workplace now. those four years have given me buddies for lifestyles. it has been an unforgettable adventure.

at first, I want to proportion my views on technical scholar chapters. In my college each department have their student bodies or chapters like civil body organizing by college students of civil department frame organizing via college students of civil branch and ACM body organizing by means of college students of computer science and records era departments. In our university we've got Student Activity council (SAC) that's responds for each aspect folks.

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P. LAKSHMI PRASANNA GREESHMA

Department Vision:

Providing quality education to enable the generation of socially conscious software engineers who can contribute to the advancement in the field of computer science and engineering.

Department Mission:

1. To equip the graduates with the knowledge and skills required to enable them to be industry ready.
2. To train socially responsible, disciplined engineers who work with good leadership skills and can contribute for nation building.
3. To make our graduates proficient in cutting edge technologies through student centric teaching-learning process and empower them to contribute significantly to the software industry
4. To shape the department into a Centre of academic and research excellence

Program Educational Objectives (PEO'S):

PEO-1:

To provide the graduates with solid foundation in Computer Science and Engineering along with the fundamentals of Mathematics and Sciences with a view to impart in them high quality technical skills like modeling, analyzing, designing, programming and implementation with global competence and helps the graduates for life-long learning.

PEO-2:

To prepare and motivate graduates with recent technological developments related to core subjects like Programming, Databases, Design of Compilers and Network Security aspects and future technologies so as to contribute effectively for Research & Development by participating in professional activities like publishing and seeking copy rights.

PEO-3:

To train graduates to choose a decent career option either in high degree of employability/Entrepreneur or, in higher education by empowering students with ethical administrative acumen, ability to handle critical situations and training to excel in competitive examinations

PEO-4:

To train the graduates to have basic interpersonal skills and sense of social responsibility that paves them a way to become good team members and leaders.