

Infotech

2021-22

into the future

Discover new applications and tech devices for you.

Volume

6

Issue 1

NEW Tech Devices

Best technology inventions of the year

AMAZING Applications Join
the craze and implement these technologies

Vision and Mission

Vision of the College:

“To satisfy the aspirations of the youth force, who wants to lead the nation towards prosperity through techno-economic development.”

Mission of the College:

“To provide, nurture and maintain an environment of high academic excellence, research and entrepreneurship for all aspiring students, which will prepare them to face global challenges maintaining high ethical and moral standards.”

Vision of the IT Department:

“To be a nucleus nurturing learner to cater current & future digital needs.”

Mission of the IT Department:

1. Educating aspirants to fulfill technological and social needs through effective teaching learning process.
2. Imparting IT skills to develop innovative solutions catering needs of multidisciplinary domain.

PEOs and PSOs

PEOs:

PEO1: Graduate shall have the ability to exhibit excellence in professional career by demonstrating a positive representation of their brand.

PEO2: Graduate shall have the ability to learn latest trends coping present and future needs.

PEO3: Graduate shall have sense of social responsibility by balancing the emotional quotient and strengthening the personal traits.

PSOs:

PSO1: Apply appropriate technologies and employ suitable methodologies by managing the information technology resources of an individual or organization for betterment.

PSO2: Anticipate the ever-changing trends in information technology and assess the likely utility of new technologies.

PSO3: Develop IT systems that would resolve issues related to socio-economic development and build the nation through digitization.

Chief Editor And Student Coordinators



Chief Editor,
Prof. Bhagyashree Kadam.
IT Department



Student Coordinator,
Mr. Ashutosh Lahase.
IT Department



Student Coordinator,
Ms. Janhavi Patil.
IT Department

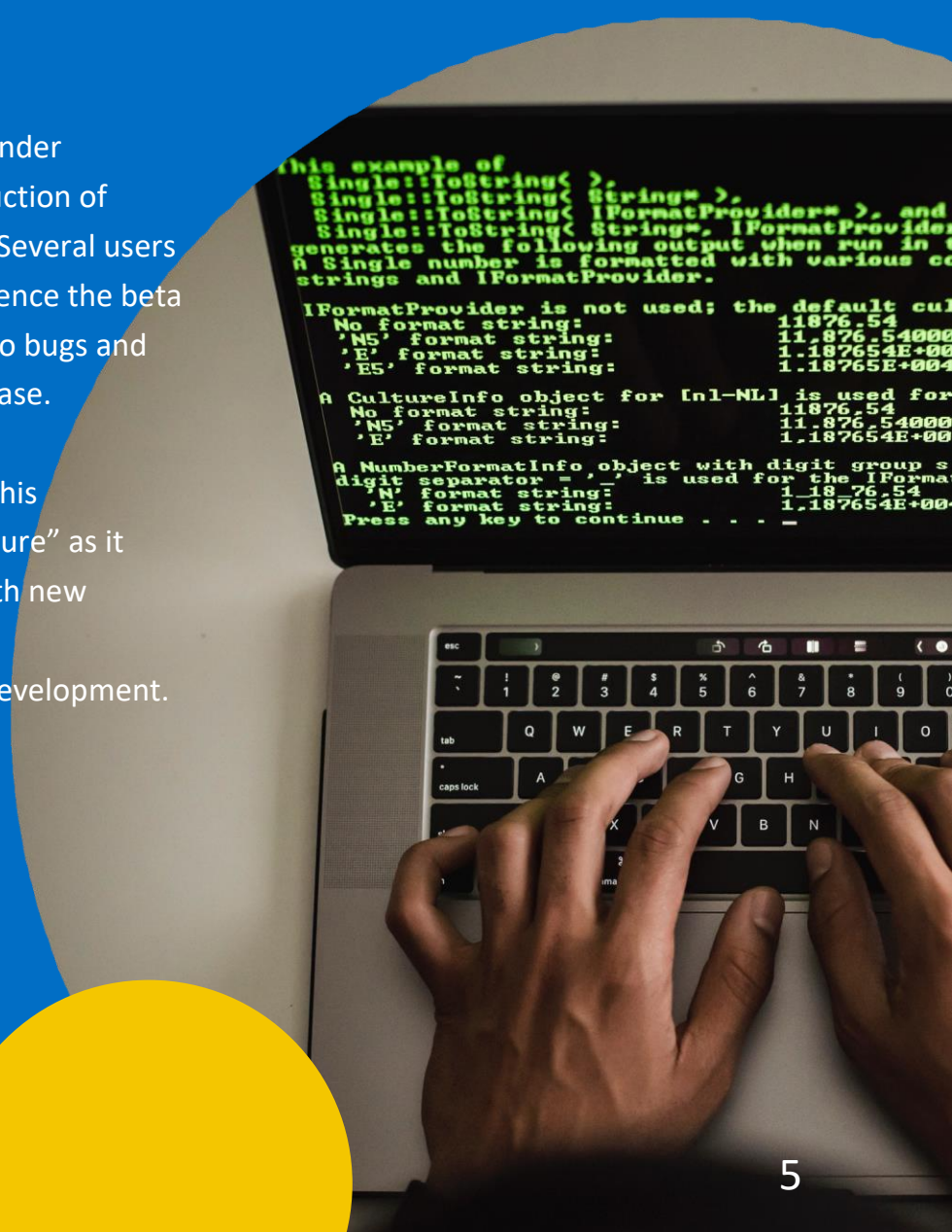


Online Augmented Reality

By, Mr. Omkar Deokar (SE – IT)

One of the biggest developments under computer technology is the introduction of augmented reality in social media. Several users have gathered to personally experience the beta testing of the platform so little to no bugs and issues will arise upon its public release.

Fellow web developers are calling this movement a “step ahead to the future” as it provides small-scale developers with new platforms to practice their skills in computer programming and web development.



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Single::ToString< >,
Single::ToString< String* >,
Single::ToString< IFormatProvider* >, and
Single::ToString< String*, IFormatProvider* >
generates the following output when run in t
n Single number is formatted with various co
strings and IFormatProvider.

IFormatProvider is not used; the default cul
No format string: 11876.54
'N5' format string: 11.876.54000
'E' format string: 1.187654E+00
'ES' format string: 1.187654E+004

A CultureInfo object for [nl-NL] is used for
No format string: 11876.54
'N5' format string: 11.876.54000
'E' format string: 1.187654E+00

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'E' format string: 1.187654E+00
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A Thought on Blockchain Technology...

Blockchain technology is the water from which all future businesses will feed and grow. Business leaders must embrace the blockchain, or they risk dying out like the railroads and the cotton mills of the last commercial revolution. The time is now to seize the initiative and take your business into the digital era by recording all transactions to a blockchain ledger. From front office sales and trading, to back-office accounts and reporting all the processes of a commercial organisation can be committed to blockchain. This will lead to autonomy, transparency, instant auditability and fluidity across the whole enterprise.

Most people are beginning to wake up the phenomenon of Bitcoin, as the price has risen consistently over the last 5 years. But what most of these new converts don't yet realise is that there is also a growing ecosystem of incredible financial innovation, that is being built in layers upon the blockchain foundations.

This freedom to experiment and innovate is essential to allow the fledgling projects to build and spread like a coral reef into a diverse collection of niche adapted organisations, who all co-exist in a semi-utopian collective. Each has their own goals and aspirations, to make money, help the world, or just show off their ingenuity. Bravo to my fellow innovators of the new world!

- By, Priyanka K. Sonawane (TE – IT)

**BLOCK CHAIN
TECHNOLOGY**





DIGITAL TWIN

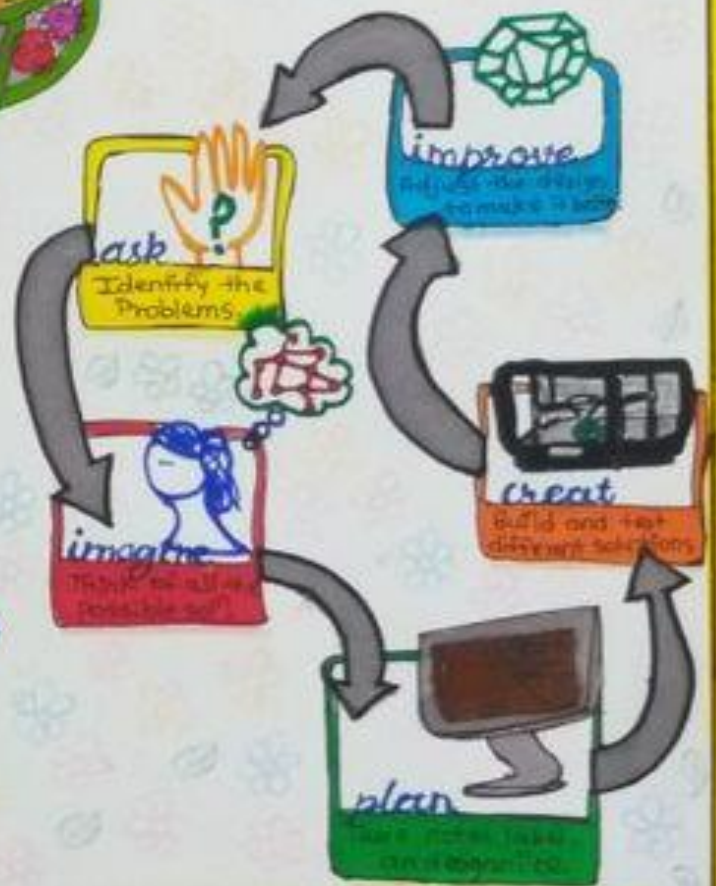
By, Anuja Dnyaneshwar Jadhav (TE – IT)

A Digital Twin is a digital replica of a living or non-living physical entity. Many times, it is compared to other concepts such as cross-reality environment, co-spaces and mirror models. Adding to above point Mr. El Saddik has said that: "By bridging the physical and the virtual world, data is transmitted seamlessly allowing the virtual entity to exist simultaneously with the physical entity." In essence, a digital twin is a computer program that takes real-world data about a physical object or system as inputs and produces as outputs predications or simulations of how that physical object or system will be affected by those inputs. Considering the upcoming technologies in the industry digital twin integrates Internet of Things (IOT), Artificial Intelligence (AI), Machine Learning and Software analytics with spatial network graphs to create living digital simulation models that update and change as their physical counterparts change. Talking about the updates in the technology a digital twin continuously learns and updates itself from multiple sources to represent its near real-time status, working condition or position. This learning system learns from itself using sensor data. The promised benefits of digital twin are to optimize the operation and maintenance of physical assets, systems and manufacturing processes. In the context of the Internet of Things, it can also be referred as 'Cyber-objects' or 'Digital avatars.

By,
Chetna Patil
(SE - IT)



Use systematic thinking
to solve everyday challenges
& unlock the inherent
values in them.



The things that are the
things that are the hardest
to live with.

Data breach prevention ranked top global cybersecurity priority

Cybersecurity leaders ranked preventing data breaches and ransomware defence among the top security priorities organizations strive for, according to a recent cybersecurity report. A survey from WithSecure, formerly known as F-Secure Business, polled 3,072 information technology (IT) decision-makers and business leadership from organizations in 12 countries about a variety of business and cybersecurity topics, including their top priorities and challenges in the near future.

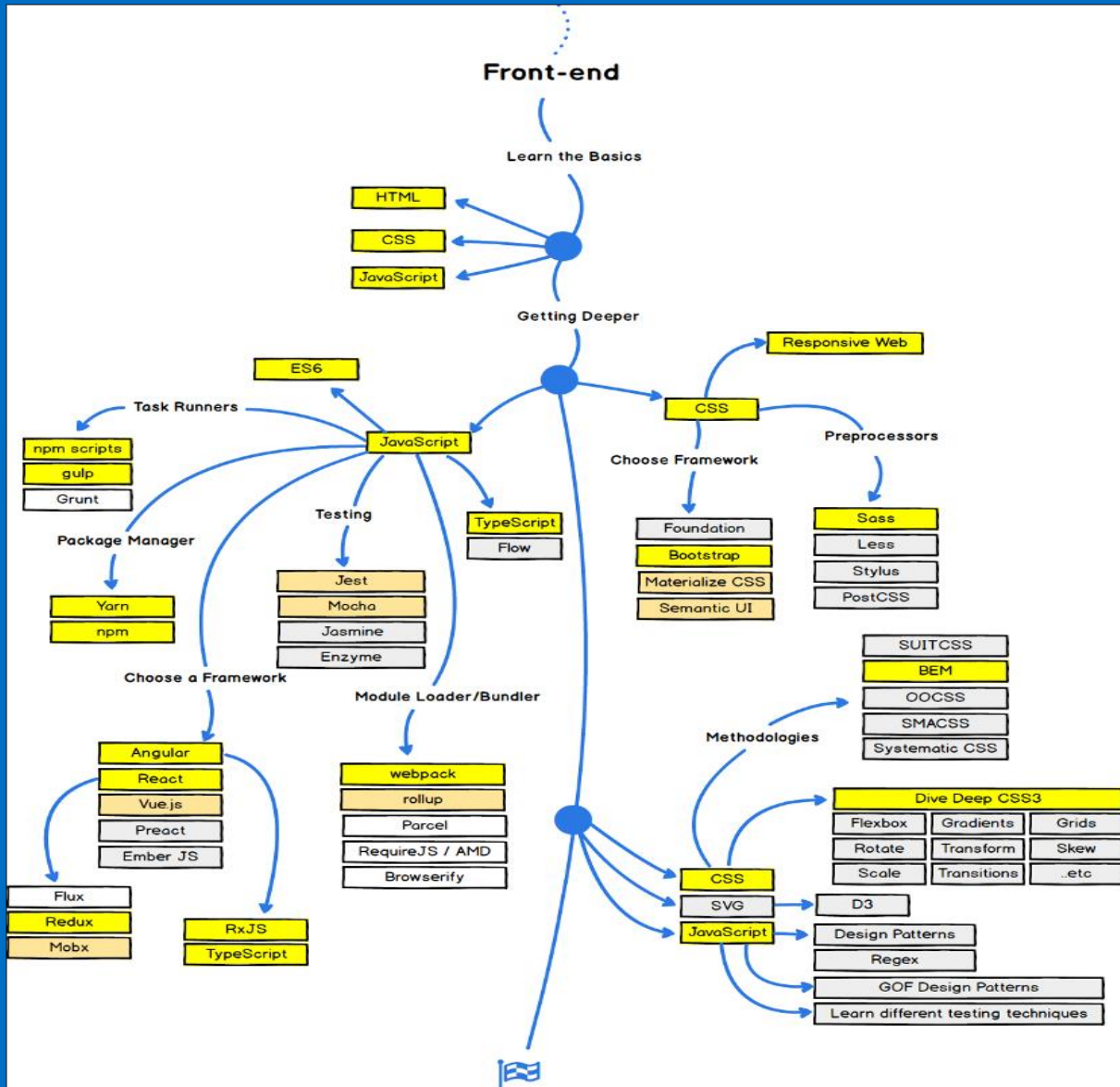
Top cybersecurity priorities by sector

Preventing data breaches was the most common technical security priority for respondents, with 33% of respondents ranking it a priority. Certain sectors prioritize data breach prevention higher than others, with healthcare, IT, manufacturing, the public sector and education, and trade and commerce ranking it as their top security priority. Other common priorities included ensuring protection against malware/ransomware, preventing advanced email-based threats such as phishing or business email compromise, ensuring security of cloud-based collaboration applications, and ensuring the security of an increasingly diverse pool of devices, services and software.

Common security outcomes

Safeguarding their remote/hybrid workforce was the most common business security outcome sought by organizations. It was the most identified outcome by survey participants from Canada, Finland, the U.K. and the U.S., as well those working in manufacturing, public service and education, and professional services (such as media and advertising, tourism, etc.). While safeguarding remote workers was the most frequent business security outcome identified by respondents, creating a strong “security-first” culture was also in the top five. Other common outcomes highlighted by respondents included increasing the speed and effectiveness of their response to cybersecurity incidents, increasing their understanding of cyber security threats/risks and awareness across the organization, and securing business continuity without interruptions.

The Web Developer Roadmap



This is not just an article but a fantastic resource on what it takes to become a Web developer. It lists all the technologies and tools a Web developer should be familiar with. I really liked those mind-maps which appear now in many other places on the web. It effectively complements The Web Developer Bootcamp courses, which teaches you most of the technologies mentioned in this roadmap.

-By, Sahil Yadav (SY - IT)

To the Future Developers

- By Mr. Ashish Bidve (SE – IT)

While this year gave us the best technological inventions of the decade, the people's hopes are up with the new generations of developers and computer specialists who are given better platforms to apply their skills to forward the tech community.

"I created this platform not just for all people. Most especially, I created this for every rising developer who dreams of creating something big. I stand as a testament that we can and that you will in the right time."

—Ms. Ellery Morales, 32, proposed the concept of online augmented reality.

Artificial Intelligence vs. Authentic Intelligence

The robots are coming for us, they say. Programmers, data processors and loan adjusters beware: in a few years A.I. or “Artificial Intelligence” may completely disrupt your industry, leaving you under-qualified and unemployed. Truly in many industries, computers can do jobs just as well if not better than humans. We already trust Siri and Alexa with so many important aspects of our lives... soon they may be doing our taxes and refinancing our mortgages as well.

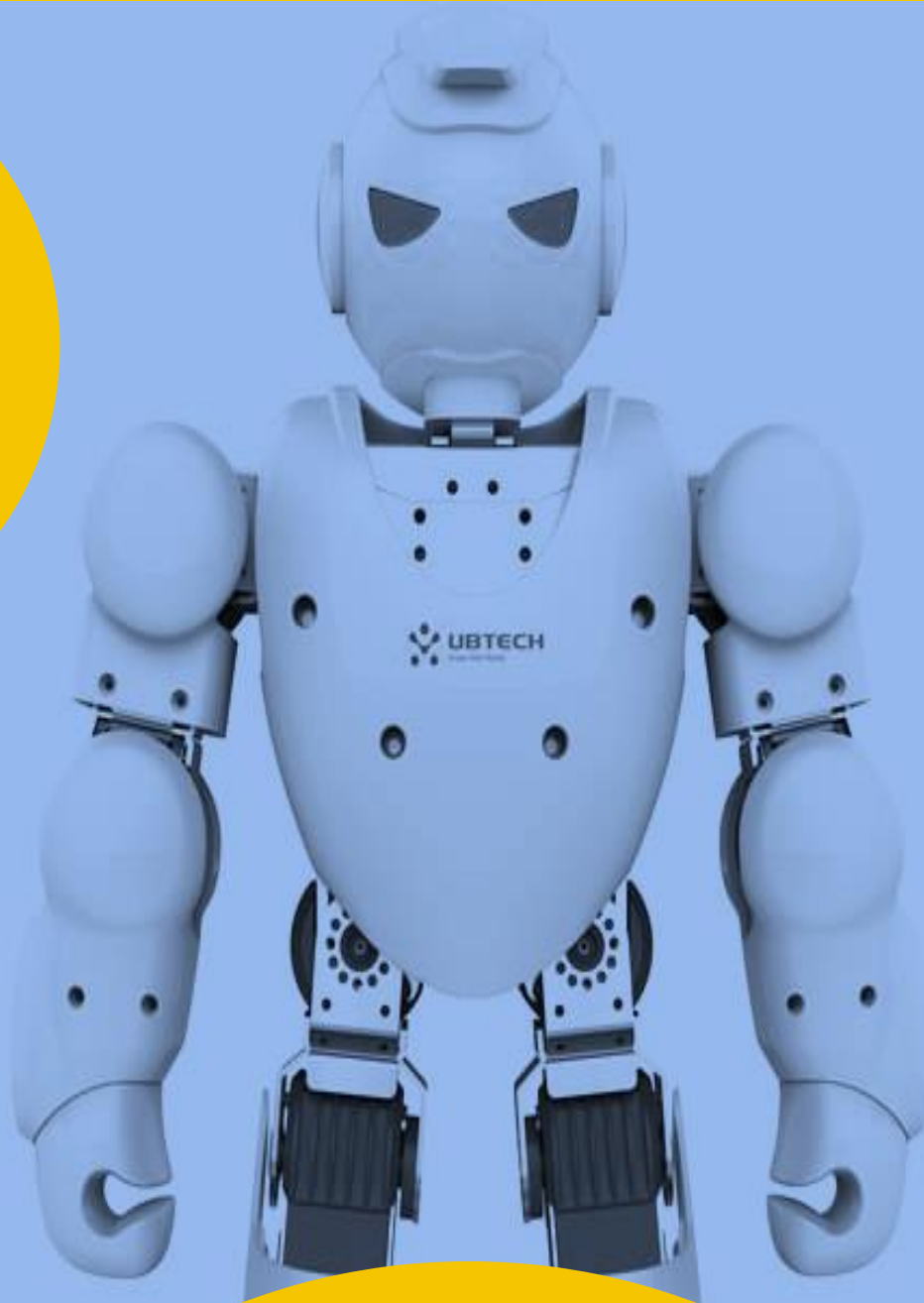
So where does that leave us? We, simple humans without the accelerated brainpower of a Google-powered device or the ability to work 24/7 without rest or a reboot? What skills, traits and resume builders must we have to remain valuable and with a roof over our heads? What qualities do we possess that A.I. can't do better and more expediently?

Authenticity. Literally, the “human touch”. In the Hospitality industry where I've spent the last 12 years of my career, bright-eyed entrepreneurs are always coming along with new apps, widgets and websites that seek to streamline and simplify our daily workload. Sometimes they are useful but rarely are they enough. Sure, these digital platforms make certain aspects of our lives easier but they do not replace the nuanced expertise of a real live person. They don't offer thoughtful suggestions or anecdotes from past experiences. They can't give an honest opinion or reassure you that the choices you are making are good ones. An app isn't giving you a firm handshake at the culmination of a big deal or raising a glass to toast a new business relationship.

In other words, to stay relevant, we as gainfully employed human beings need to stop relying so exclusively on artificial solutions. Pick up the phone. Meet for coffee. Crack a smile or tell a joke for goodness' sake! If a client, customer, or prospect is getting nothing more from you than a canned, copied + pasted, emailed response, what actually DOES make you different or better than an app or a bot? How can you seek to make your professional interactions more authentic, more personal, and less automated? Where can you sacrifice efficiency to increase your authenticity?

This will be the mission for all of us cubicle-dwelling mammals looking to survive the dawning of the A.I. era.

By,
Pooja Kale,
TE - IT



CA Humanoid may be defined as something that resembles or looks like a human and having characteristics like opposable thumb, ability to walk in upright position, etc. These robots are called Humanoid Robots or may be simply "Humanoids". In general Humanoid robots have a torso with a head, two arms and two legs, although some forms of humanoid robots may model only part of the body, for example, from the waist up. Some humanoid robots may also have a face, with eyes and mouth.

WEB DEVELOPMENT

A web developer's job is to create websites. While their primary role is to ensure the website is visually appealing and easy to navigate, many web developers are also responsible for the website's performance and capacity.

Web developers usually fall under one of three categories: back-end developers, front-end developers, and full-stack developers. Some web developers also work as webmasters.

*A **Front-end web developers** work on the visual part of the website—the pages visitors see and interact with (also known as the user interface). They design the physical layout of each page, integrate graphics, and use HTML and JavaScript to enhance the site.*

***Full-stack developers** do the work of both a back-end and front-end developer. These developers have the knowledge to build a complete website and may work for organizations that don't have the budget for a large website team.*

***Back-end web developers** create the website's structure, write code, and verify the code works. Their responsibilities also may include managing access points for others who need to manage a website's content.*

***Webmasters** are essentially website managers. Their primary responsibility is to keep the website updated, ensuring that the links and applications on each page work properly.*



CYBER SECURITY

A strong cybersecurity strategy has layers of protection to defend against cyber-crime, including cyberattacks that attempt to access, change, or destroy data; extort money from users or the organization; or aim to disrupt normal business operations. Countermeasures should address:

- ❖ **Critical infrastructure security** - Practices for protecting the computer systems, networks, and other assets that society relies upon for national security, economic health, and/or public safety. The National Institute of Standards and Technology (NIST) has created a cybersecurity framework to help organizations in this area, while the U.S. Department of Homeland Security (DHS) provides additional guidance.
- ❖ **Network security** - Security measures for protecting a computer network from intruders, including both wired and wireless (Wi-Fi) connections.
- ❖ **Application security** - Processes that help protect applications operating on-premises and in the cloud. Security should be built into applications at the design stage, with considerations for how data is handled, user authentication, etc.
- ❖ **Cloud security** - Specifically, true confidential computing that encrypts cloud data at rest (in storage), in motion (as it travels to, from and within the cloud) and in use (during processing) to support customer privacy, business requirements and regulatory compliance standards.



Step-By-Step Guide On How To Start Freelancing As A Student

Step 1 – Define Your Goals For Freelancing

It is necessary to have a clear idea of your goals before you embark on this journey of freelancing. Would you get in a car and start driving without knowing your destination? (Leave the wanderlust feeling aside) No, right? Don't do that with your first (probably) business either. Start by asking the question WHY. Why do you want to start freelancing? Knowing the answer to these questions at the beginning will help you in the long run.

Step 2 – Choose Your Best Skills With Which You'll Start

The first most important thing on how to start a freelance business would be recognizing your skills. Your unique skills are your greatest asset. Whether you're set to become a full-time freelancer or a part-time, your business will be built around the unique skills you have to offer. Identify the different skills you've polished over the years that other people may not have. This is why they will pay you. Consider starting freelancing with skills from previous jobs, hobbies or self-taught skills.

Step 3 – Bundle Your Skills Into A Service

Once you have identified the skills you wish to start with, just try to consolidate them into one unique service. Clubbing together multiple skills will help you maximize the revenue and increase the value of your offering.

Step 4 – Define Your Target Customer

In any business, it is important to understand your target market extremely well. Think about who is going to pay you. Set your bar for an ideal client. Make sure you target these ideal clients who respect the skills you possess and offer sufficient compensation for the same.

Step 5 – Decide Reasonable Rates

Pricing your service according to market standards is critical. You would be straight away out of the competition if you set an impractical cost. Start slow and increase your rate when you have achieved a decent reputation in the industry.

Step 6 – Legally Incorporate Your Business

Make sure you abide by the laws at all times. Research if there are any specific laws pertaining to the domain you are working in and manage your taxes well.

Step 7 – Reach Out To Potential Clients

Next step in the process of how to start freelancing as a student would be to reach out to the clients. You could start by letting your friends and family know about your service and request them to spread the word for you. Basically, just tap into your existing network and you'll do fine.

- By, Shruti Kuwar (SE – IT)

Nick Vujcic

Nick Vujcic was born with tetra-amelia syndrome, a rare disorder characterized by the absence of all four limbs. His videos on YouTube have inspired millions and millions of people with his message to love life and live without limits. He was tormented to such an extent that at the age of 10 he attempted suicide. After years of feeling alone and worthless, he had an epiphany one day while reading an article.

He read about a disabled man who refused to let physical limitations dictate his life. At that moment, Nick says, he realized he had the ability to take control of his life. Instead of looking at everything he lacked, he decided to look at everything he could have. Now a famous author and international speaker, Nick inspires the world every day to live a life without limits. His message is brilliantly sobering and electric.

- By, Vaishnavi Hinge (TE – IT)

“ THE MOTIVATION CORNER





More often than not, product development starts with a UX designer making a wireframe or a UX writer working on the text. The first step determines what happens after that. If your writers have wireframes full of lorem ipsum, they can try to create influential text for landing pages, blog posts, and other products. If your UX designers have text intended for the target audience, they need to find ways to incorporate those words into the overall product experience.

No matter which approaches you take, product managers lose the opportunity for UX copy and UX design experts to collaborate to discover options that could dramatically improve functionality, usability, and accessibility. The following strategies should help you break down the barriers between your writers and design team so they can develop better digital experiences that attract more users.

1. Make the product manager responsible for breaking down silos
2. How to integrate UX writing into your design process
3. Improve your digital products with UXPin and make UX writing easier!

Project Maintainer(s):
Maintainers are one or more people who start the open-source project, manage it, make decisions.

Source Code and Documentation Repository:
The maintainer keeps the project source code in a centralized source code repository (for example, GitHub).

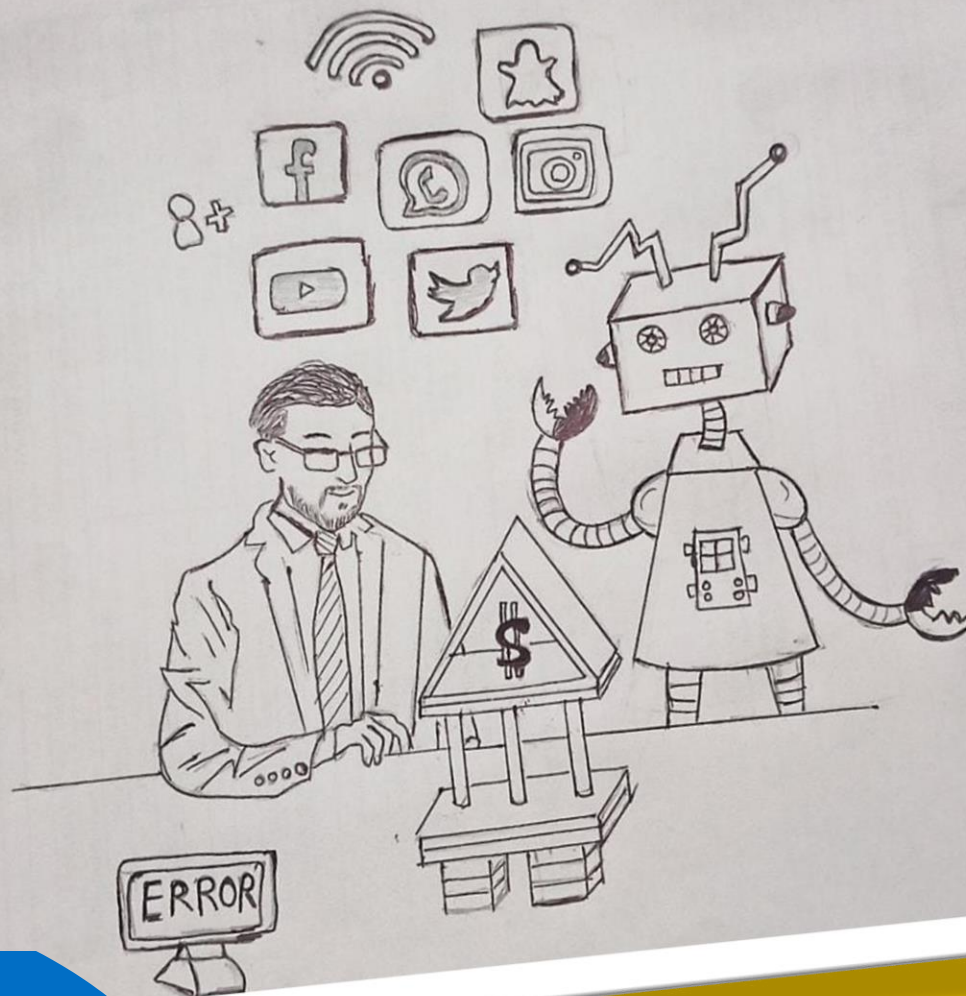
Hacktober 20 fest 21

Project Contributor(s):
When the maintainer(s) start an open-source project, they are the early contributors. As the project grows and more people learn about it, the willingness grows to contribute to it.

Users/Customers: The users or customers are the consumers of the product the open-source team builds using the source code.

Community: As the project grows, the community builds around it. Tools like GitHub Discussions and Discord are famous for organizing community-based interactions.

Code of Conduct Guide:
The code of conduct guide discusses various guidelines, collaboration, behavior expectations from the contributors, and how to escalate and resolve issues.



Robotics is an interdisciplinary branch of computer science and engineering.

Robotics involves design, construction, operation, and use of robots. The goal of robotics is to design machines that can help and assist humans. Robotics integrates fields of mechanical engineering, electrical engineering, information engineering, mechatronics, electronics, bioengineering, computer engineering, control engineering, software engineering, mathematics, etc.

- By,
Sakshi Khapare
(TE - IT)

Vishen Lakhiani

For anyone who thinks running a business could never be a spiritual pursuit – please study Vishen. He started the multiple 8-figure empire Mindvalley from scratch with a single vision: to empower people to live extraordinary lives. Vishen founded Mindvalley Academy that has dozens of personal growth courses that have impacted over 3+ million students. From courses on happiness to energy management to wealth to meditation, Mindvalley Academy is an oasis to unleash your potential.

They have apps like 'omharmonics', a mastermind called "Evercoach" and an award-winning office with statues of superwoman, colorful bean bags, pool tables and a life-size honeycomb with the quote, "Life isn't about finding yourself, it's about creating yourself". Vishen even created, what I think might be the coolest name of anything on earth – Awesomeness Fest.

- By, Tushar Patil (TE – IT)



THE MOTIVATION CORNER

NANO ROBOTICS

Nano robotics is concerned with manipulation of Nano scale objects by using micro or macro devices, and construction and programming of robots with overall dimensions at the Nano scale (or with microscopic dimensions but nanoscopic components) [Requicha 2003]. This covers both of these aspects. Nano manipulation is the most effective process developed until now for prototyping of Nano systems, and rapid prototyping is important to validate designs and optimize their parameters. Nano manipulation is also useful to repair or modify structures built by other means. Nano robots have dimensions comparable to those of biological cells, and are expected to have remarkable applications in health care and environmental monitoring. For example, they might serve as programmable artificial cells for early detection and destruction of pathogens. The initial research is biased towards Nano manipulation. Work on Nano robot construction has begun at a low level and will increase as the project evolves.

The reliable and accurate methods for Nano manipulation are by using the tip of a Scanning Probe Microscope (SPM) as a sensory robot, in ambient air or in liquids and at room temperature. These methods involve a human in the loop to compensate for the many spatial uncertainties involved in the manipulation and which are due to such phenomena as thermal drift or piezoelectric creep and hysteresis. Experience at LMR with assembling single electron transistors, nanowires, Nano waveguides and other Nano device prototypes has shown that automation is needed if SPM manipulation is to be used for building the complex patterns required by new nano devices and systems. The current project addresses automation issues across the board, from high-level path planning for the assembly of nanoparticle patterns, to error compensation for SPMs.

Nano manipulation is being studied in the context of concrete tasks such as assembling chemical sensors, or building of 3-D nanostructures by Layered Nanofabrication, a patented process invented in a previous NSF grant to LMR. The theoretical and experimental results of this work will contribute to the understanding of robotics in domains with large spatial uncertainties, and to the development of NEMS (Nanoelectromechanical Systems). The software will be very useful to scientists and engineers involved in nano manipulation and nanolithography.