

VIRTUALITY

VS REALITY

Simplius
2021
EDITION 10.1

COMPUTER ENGINEERING DEPARTMENT

Vision

"To become the department of national relevance in the field of Computer Engineering"

Mission

To nurture students with sound engineering knowledge in the field of computing through effective use of modern tools with a focus on global employability by imbibing leadership qualities, ethical attitude, lifelong learning and social sensitivity.

Programme Educational Objectives (PEOs)

Students of BE Programme in Computer Engineering will be able to:

PEO 1: Atain Sound Engineering knowledge and use of modern tools effectively to solve real life problems (KNOWLEDGE)

PEO 2: Atain need based skills and life long learning to ensure global employability (SKILL)

PEO 3: Become successful professionals and responsible citizens with good leadership qualities and strong ethical values (PROFESSIONALISM)

Programme Outcomes (POs)

PO 1: ENGINEERING KNOWLEDGE: Apply Knowledge of Mathematics, Science, engineering fundamentals and an engineering specialization to the solution of complex.

PO 2: PROBLEM ANALYSIS: Identify, Formulate, Research Literature and Analyze Complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

PO 3: DESIGN/ DEVELOPMENT OF SOLUTIONS: Design solutions for complex engineering problems and design system components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations.

PO 4: CONDUCT INVESTIGATIONS OF COMPLEX PROBLEMS: Using research based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of information to provide valid conclusions.

PO 5: MODERN TOOL USAGE: Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modelling to complex engineering.

PO 6: THE ENGINEER AND SOCIETY: Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural

PO 7: ENVIRONMENT AND SUSTAINABILITY: Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

PO 8: ETHICS: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practices.

PO 9: INDIVIDUAL AND TEAM WORK: Function effectively as an individual, and as a member of leader in diverse teams and in multi-disciplinary settings.

PO 10: COMMUNICATION: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions.

PO 11: LIFE-LONG LEARNING: Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PO 12: PROJECT MANAGEMENT & FINANCE: Demonstrate knowledge and understanding of engineering and management and leaders in a team to manage projects and in multi-disciplinary environments.

Programme Specific Outcomes (PSOs)

PSO 1: Develop academic aptitude and apply knowledge of computing and mathematics to computer science problems and thereby design and develop Software and Hardware Systems.

PSO 2: Enhance research skills and utilize advanced computing tools for analysis, design and implementation of computing systems for resolving real life / social problems.

PSO 3: Utilize multi-disciplinary knowledge required for satisfying industry / global requirements and hence develop an attitude for life long learning.

PSO 4: Have all round personality with skills like leadership, verbal and written communication, team work, sensitivity towards society in order to become valued and responsible professionals.

TEAM 2021



Kunal Bhatt
Head of Art design



Gurleen Pannu
Chief Editor



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Chief Editor



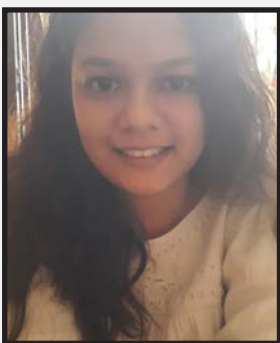
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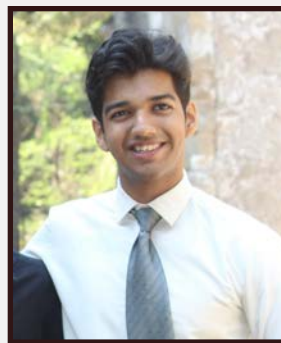
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Raj Desai
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MESSAGES

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HOD's Message

"A magazine is a combination of art and intellect as everything in life begins with an idea."

The primary focus of our department is to empower our students with overall development. Creation and Innovation are the two pillars that focus on shaping young minds with their ideas.

With Nimbus- our departmental magazine, we preserve the best ideas from students and faculties in the form of articles, we provide everyone with an exquisite platform to transform their thoughts and research into knowledge. We are encouraged to see the enthusiastic participation of students which reinforces our belief in the effectiveness and sustainability of the quality of our magazine.

In this edition, we bring to you our new theme "Virtuality Vs Reality". We know that the crises, difficulties, and challenges faced by thousands of sectors during the Covid Pandemic gave rise to distinctive digital platforms. Online platforms gave the world a lot of convenience and flexibility.

However, we can't ignore the fact that the offline world encourages innovation and meaningful ideas too. Both, the virtual and the real world have some of its own pros and cons. Although, online is a new normal, people certainly face a lot of differences when it comes to comparison between online and offline. We hope to convey our ideas and messages to the students through the articles and interviews in this magazine.

Lastly, we would like to congratulate and thank the committee and the students, and faculty for their exemplary contribution, valuable time, and effort.



**Dr. Harshali Patil,
HOD, Computer Department.**

Faculty Incharge's Message

"No matter how much falls upon us we keep ploughing ahead. That's the only way to keep the roads clear."

-Greg Kincaid

It's been over two years since the storm of Covid-19 hit our world; it posed significant challenges for our lives ahead, but it couldn't stop us; we quickly learned to move forward in the midst of the torrential downpour. This new way of life was enormously facilitated by the advancements in the field of technology. The covid-19 life saw the surge of what millennial call the virtual world. As the world strives to bridge the gap between the digital and real worlds, the NIMBUS 2021 edition investigates the interplay between virtuality and reality. This edition aims to deepen our awareness of technologies such as virtual reality and augmented reality, as well as how deeply they will be interwoven into our lives in the future.



The goal of NIMBUS is to link people to new emerging technology.

As fascinating as these developments are, they have progressively altered the fundamental functions of human life, from how we work to how we socialise and communicate. The pandemic is undoubtedly the key reason for its abrupt appearance in people's imaginations. It has also taught us that data is the new gold. Through NIMBUS we follow its journey and analyse its integration with several different sectors, as well as how it influences each of our daily lives. One of the most important consequences of the rise of the "digital universe" is that it has forced young minds to consider the unthinkable. It requires today's students to be not only skilled, but also innovative, and to be unafraid to take a different path. In the current situation, creative and imaginative solutions to challenges that will make human life easier are required. This necessitates a comprehensive approach to the learning process.

Even if the pandemic is thankfully coming to an end, the newly embraced digital lifestyle is here to stay. NIMBUS delves at themes such as digital addiction and examines every prospect, i.e. the good and bad of this digital solar system that the society has created.

As we transition to a hybrid lifestyle and become digital citizens, maintaining a balance between the two worlds is essential. Disconnection from or dependency to either one of the worlds can prove to be fatal to the human intellect and psychology. What is obvious is that this shift to a digital world will only contribute to human empowerment if it is effectively managed, and this obligation rests with us and our future generations.

**Mrs. Veena Kulkarni,
Faculty Incharge, Nimbus.**

Editor's Message



The pandemic caused a sea change in the world around us, and despite the difficulties, humanity came together to fight it and achieve inconceivable feats in a few year's time. In light of this, the theme for this edition was decided to be Virtuality vs Reality. The ever-evolving technology and breakthroughs in numerous industries have been crucial in bringing about such massive changes in such a short period of time.

It is our obligation as humans to not only learn from our mistakes in the past, but also to anticipate and implement inventive solutions in the future. The theme is consistent with the department's philosophy, which emphasises the use of creative solutions and looking ahead to the next decade of innovations and possibilities.

Under this subject, as the editorial team we ventured to introduce a variety of subjects of interest from Blockchain to Artificial Intelligence and their interrelationship with the current theme of Nimbus.

We would like to extend a heartfelt gratitude to our Principal Dr. BK Mishra Sir, the Vice-Principal Dr. Deven Shah Sir, the Branch Councilor Dr. RR Sedamkar Sir, our department's HOD Dr. Harshali Patil ma'am and our Faculty In-charge Mrs. Veena Kulkarni ma'am for giving the students this platform and guiding us throughout the process from ideation to bringing this magazine to fruition.

As the editors, we've thoroughly enjoyed the making and editing of the magazine. We hope you find the 2021 edition of Nimbus fun and enthralling to read yet an insightful read throughout.

**Gurleen Pannu, Kunal Bhatt,
Siddharth Thorat, Tarique Ahmad**

Contents

01

Student Articles
Page 10



02

Faculty Articles
Page 47



03

Compendium
Page 54



04

Interview
Page 55



05

Acknowledgements
Page 59



Student Articles

01 **Digital Addiction**
The New Drug Crisis

02 **Virtuality VS Reality**
Communication

03 **New Learning Tools Or**
Challenges to Face

04 **Service**
Personalisation

05 **Improving Cyber Security**
For Better & Safe Future

06 **Internet**
Bliss Or Cruse

07 **Online VS Offline**
World

08 **Digital Addiction**
The New Drug Crisis

09 **Virtual Labs**
With Us & Will Be With Us

10 **E - Health**
A New Future

11 **Digital Addiction**
The New Drug Crisis

12 **Dark Web**
The Other Side Of The Internet

13 Virtual Doctor

14 VR Headset
Killing Daydream

15 Virtuality In Education
Landscape Of Imagination

16 AR & VR Technology

17 Online Self &
Offline Self

18 Online Learning
A substitute for Classroom Learning

19 Digitalizing Business


20 The Loss of EQ &
Human Skills in Students

21 Business Going
Digital

22 Is Online Learning Better
Than Offline Learning

23 The Future
Of Service Personalisation

24 Digital Addiction
The New Drug Crisis

A person is wearing a white VR headset. The background is dark with some blue light patterns. A large teal rectangle is overlaid on the image, containing the text 'STUDENT ARTICLES' in white, bold, sans-serif font. The text is centered within the teal rectangle. There are some decorative elements: a thin white line on the left side of the teal rectangle, and a pattern of white lines in the top right corner of the teal rectangle.

STUDENT ARTICLES

DIGITAL ADDICTION

The New Drug Crisis.

- Vandita Gopal SE Comp A

Long gone are the days when the stereotypical aunty would criticize her child for spending time playing video games because she herself now receives updates about her relative's child via Facebook, and even the father now reads his daily news online. Overall, it would be incorrect to deny that our lives revolve around a 5 -inch LED screen, producing the digital solar system unknowingly. But how do we tell the difference between addiction and dependence? The ease of life and comfort of the Internet era is truly hypnotic, binding us and fascinating our minds daily.

Essentially, technology facilitates or enhances our ability to learn. With its ongoing growth and intrusion in human life, however, we must take a step back and consider whether it affecting our mental ability and thinking power. We have answers to all of our questions in a single tap, and we have applications that tell us how we should or shouldn't spend our lives. If you ask any millennial, they'll tell you that people are now making a living off of their addiction. We have become slaves to devices that were designed to better our lives, preferring immediate knowledge and low-quality entertainment to real-world connections and experiences. We spend a lot of time on social media.

Our laptop and computers burst with images and downloads more than we have ever been able to handle in life. Digital "things" occupy our time with non-essential duties, its virtual world sets unrealistic expectations on our real lives, makes us question our appearance, intelligence leading us to a state of unrecognizable disorder and, like any physical

disorder, digital

disorder generates distress, irritation, and overwhelm.

It's true that we can't entirely avoid technology, but we do need to disconnect from our virtual lives from time to time to reconnect with our true selves. It's referred to as a digital detox. A period of time during which a person refrains from using digital devices such as cellphones, computers, and social media platforms is referred to as a digital detox. We all need a technological detox; instead of utilizing our phones and computers as solution for everything, we should toss them away for some time.

We need to be amongst real people with real hearts and real life, and not have anything to distract us from it. Furthermore, we need to be alone in order to understand how we truly feel. If we continue to distract ourselves so that we never have to face the realities in front of us, we will be in tremendous trouble when the time comes, and we are confronted with something bigger than what our phones, food, or friends can cure. In the end, social media's whole existence is founded on humanity's desire for attention.

And if they are successful in monetizing our attention, they will make billions of dollars while we will have a messed up mental state. And if we don't act now, the future generation will suffer as a result. As a result, with every technological step forward we must ensure that the core of human existence i.e. our emotions, our own cognitive intellect and mental wellbeing, the empathy inside us for ourselves and for others prevails. After all as humans our aim is to change the world for our better and not to turn

VIRTUALITY

REALITY ^{v/s}

Communication

- Amruta Bodhankar SE Comp A

“Virtual reality is a self-created form of chosen reality. Therefore, it exists.”

-Joan Lowery Nixon

Humans are by nature social creatures. Mingling and engaging with others is nearly as critical as food, water and air to our survival. The way we converse has been growing rapidly in recent years. With the advancement of technology, the internet, instant messaging, social media platforms and smartphones, there are many channels to interact with others.

These applied sciences have parted the communication into virtual and face to face communication. But can this lead-edge virtual communication can replace face-to-face communication and encourage same level of contentment as the traditional face-to-face communication?

Our evolutionary mind is adapting with different overpowering forms of communication. This virtual communication can save resources and avoids wasting of time. Virtual communication tools are a cost-effective way to significantly reduce our operating costs. Hosting long-distance meetings eliminates travel, accommodation, parking, and meal expenses associated with conventional meetings, resulting in considerable cost savings. But socializing online takes time away from offline interactions.

It leads to inactive participation as there are loads of distractions that distort one’s mind as well as disrupt mood and overall well-being. Real communication can flow naturally and easily but online conversations are restricted resulting in short responses and improper mes-

saging. Conversational topics may be of a superficial nature. Even with video options, tracking facilities virtual communication can be distorted or hidden making interpretation and credibility of the communication is difficult. Without being able to judge a person’s reaction or frame of mind, misapprehension and miscommunications are likely to occur which can lead to conflicts.

In addition, it is easier to misrepresent oneself online than it is during a face-to-face encounter. Overall, face-to-face communication promotes higher quality interactions than online communication. It does not mean that the virtual world has nothing to offer in terms of socializing and entertainment. Online communication and social media should be in addition to one’s social life. It should not, however, be main focus or the only source where one socializes and interconnects with others. In order to amplify our well-being, we need a healthy stability between our virtual and real worlds.

NEW LEARNING TOOLS OR CHALLENGES TO FACE

- Anisha Prajapati, Comp B

'Decisions determine destiny.'

The decision to go into an offline business, an online business, or a combination of the two, is one of the most important decisions you can make. Each one has its advantages and disadvantages to consider. A business is an organization where a group of people works together to grow more.

An online business is any form of business that takes place through online mode over the internet whereas an offline business sells in-store prod-

ucts or limited local services. An offline business allows the customer to see or browse the products and purchase them at their discretion, it brings a sense of trust to the customer as it shows that the business owner is financially stable enough to own a store or shop. It also adds an element of professionalism that makes it popular among customers. Along with all these advantages, an offline mode has the major disadvantage of cost involvement along with supervision. People are making money through online businesses in various ways such as content-based websites, product-related marketing, and product marketing. The reasons one can consider going for an online business are they are always open, provide the best customer support, 24x7 availability, and many more.



Making money through online mode is also easier and cost-effective. The business paradigm has changed dramatically. New technologies are emerging and things are evolving at a faster rate and to survive in this industry one has to go hand in hand with the upcoming technologies. Ever-increasing technology can be a challenge to many but seeing today's scenario, an online business is the best for one and everyone's growth. Although some businesses can't go offline completely or completely online-offline business with an online touch can increase the overall condition of the market by providing the best services to the customer.

New Learning Tools or Challenges to Face, we are the ones who decide and turn the challenges into a reality is what we should believe in as it is said 'Challenges are gifts, learning opportunities.'

The recent rumours that mongering about racial riots in Kuala Lumpur which created furores just goes to show how this tool, with its unrivalled reputation as data assassinations and company reputations can suffer if the web services are abused, especially by those with an ax to chore. Surveys conducted over the years have found that the majority people that suffer from Internet addiction disorder are young adults, who easily drop into the necessity of discovering everything that's available on the internet. the web focused on the negative effects, it in no way means that we are undermining the importance of the web in Our lives.

Children might not be mature enough to know this, but we as parents, teachers, and guardians got to make sure that we inculcate the right behaviour in our youngsters. Lastly, we've to require the responsibility to guide our youngsters to use the net wisely and ensure they get the proper information from the net.



SERVICE PERSONALIZATION

- Vedika Mandre, Comp B

The lockdown, although being criticized for not being a very pleasant time around has led to the growth of digitalization of many products and sales services and even general services. Ranging from the delivery of selected groceries to the doorstep to the personalization of a car to the exact spec as a person wants it with the correct colours and materials. Services offered by various organizations were earlier concrete and hence had a greater calling to a particular crowd who could afford it. Although with the idea of personalization the services started calling a bigger audience.

The cause is the ability to customize or modify a service according to one's needs. The induction of technology in the field of services and the ease with which one can customize. The fact that the service is tailor-made for your sole purpose based on your needs and wants. The process includes a hefty study of the needs and expectations of the customer base. Once the study helps in personalizing the service in a better way allowing us to provide a better palette of options to the customer.

The adaptability of the service increases greatly due to the availability of personalization as it helps people to modify the service according to the requirement hence providing the desired product for a suitable cost allowing them to spend on only what they wish to. The profit of this tendency is the willingness of the customer to spend a little greater than he wishes to consider the experience is seamless and the product delivered is up to par.

The provider although needs to maintain the general standards and price aggressively. Following some of these basic ethical morals,

one can easily expand the reach of the services to a large extent. When done right the personalization of services can allow a retailer to do more than just survive it helps to grow. While considering number over 90% of people consider personalization appealing, they claim to have an optimal customer experience targeted to their specific needs.

To sum it all up as rightly said by John Jnntsch: "personalization is when a marketer can take a piece of content and make it useful for a prospect or customer."



IMPROVING CYBER SECURITY FOR A BETTER AND SAFE FUTURE

- Aditya Mogare, Comp B

The modern world is moving at a rapid pace and new technologies are invented and implemented on a day-to-day basis. With the entire world moving towards digitalization the necessity to enhance cybersecurity is at an all-time high. There is a huge misconception among people, cyber-attacks only happen to big corporations. The education industry, including universities, colleges, and public-school districts, should be even as prepared to stop a cyberattack. We all live two lives: the offline life and therefore the online

life. The offline life has become tons safer in recent times although our online life is getting riskier day by day. If someone hacks our online presence, he /she can have the power to measure our online life. Many governments and academic websites have also been susceptible to cyber-attacks. The education industry is ranked the worst at cybersecurity out of 17 majors industries. this suggests that there's a requirement for preventive measures to enhance Cybersecurity within the Education System.

There are various preventive measures that organizations can fancy improve their cybersecurity. the primary step is to acknowledge that cyber threats are a true thing and plan considering that at some point to could also be attacked.



Many banks have implemented 2 step verifications to scale back vulnerability. within the tech world two-step verification has become a typical for many big software services, including Google, Microsoft, and Apple. It takes a moment to put in and takes less time to use than you'd think. It also fails plenty of the foremost common, opportunistic cyber-attacks. Two-step verification is one among the simplest ways to stay trouble far away from your precious work. Simple things like never sharing your password, regularly backing up your data, keep changing your passwords, don't open unsafe websites can go an extended way.

In conclusion, creating awareness about cybersecurity and implementing easy solutions are going to be tons helpful within the end of the day.

"Cyber-Security is much more than a matter of IT."

The recent rumours that mongering about racial riots in Kuala Lumpur which created furores just goes to show how this tool, with its unrivalled reputation as data assassinations and company reputations can suffer if the web services are abused, especially by those with an ax to chore. Surveys conducted over the years have found that the majority people that suffer from Internet addiction disorder are young adults, who easily drop into the necessity of discovering everything that's available on the internet. the web focused on the negative effects, it in no way means that we are undermining the importance of the web in Our lives.

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INTERNET

Bliss or Curse?

- Eshan Kalra SE Comp-B

The Internet has turned our life the wrong way up. It's revolutionized communications, to the extent that it's now our chosen medium of everyday communication. In almost everything we do; we use the Internet. Ordering food, buying a TV, sharing a flash with a friend, sharing an image over instant messaging.

Today, a click or two is enough to read your newspaper from anywhere within the world, updated up to the minute. Huge quantities of information are uploaded and downloaded over this electronic leviathan, and therefore the content is extremely much our own, for now, we are all reporters, publishers, and creators. The rise of the web has sparked a debate about how online communication affects social relations, the web frees us from geographic chains and brings us together in topic-based communities that aren't tied right down to any specific place.

Personal communication has also become relaxed because of e-mail. Chat rooms, video conferencing are a number of the newest additions during this technology and these have allowed people to the conversation in real-time. Besides, there are tons of messenger's services within the market. With the assistance of such services, it's become very easy to determine a kind of global bond where you'll share your thoughts and find out other cultures, the web also allows people within an organization to simply connect and share information.

Ours is a networked, globalized society connected by new skills. the web is the tool we use to interact with others, and accordingly poses new challenges to privacy and safety. The Internet has changed business, education, gov-

ernment, healthcare, and even the ways during which we interact with our precious ones—it has become one among the key drivers of social evolution. Modern life has become easier and therefore the people of the planet need to thanks to the immense contribution of internet technology to communication and knowledge sharing. a day the web continues to supply a replacement ability, something new that's vastly convenient which makes life easier for web users.

The search engines like Google, Bing are at your service through the internet, there's an enormous amount of data available on the internet for almost every subject known to man, reaching from government law and services, trade fairs and conferences, market information, new ideas, and technical support, the lists are just endless. However, for all its advantages and optimistic aspects, the web has its dark and ugly side too.

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ONLINE vs OFFLINE WORLD

- Harshita Mishra, Comp B

Never had we imagined that one day many of us would be graduating sitting at our homes, studying without going to school, or celebrating festivals in the absence of our friends and relatives. With the spread of Coronavirus, also referred to as Covid - 19 there has been a drastic change in the lifestyle of everyone. Due to the nationwide lockdown to stop the spread of the virus everything became online from meeting people to conducting classes, grocery shopping, etc. This has become the "New normal".

Though many sectors have been affected due to the pandemic, the educational sector is the one that has faced severe impact. Schools and universities are conducting classes, exams, presentations, viva, etc., all online. Although online learning has its advantages and is preferred by most of us, the perks of offline learning should not be overlooked. There are numerous advantages to online learning, including flexibility, a wide range of options, cost savings, a comfortable learning environment, etc. Whereas classroom learning is necessary for encouraging and motivating skills like collaborative learning and critical thinking. When compared to virtual learning, one-on-one engagement with teachers delivers greater knowledge.



Even though offline learning takes more time, most of us would rather study with friends than sit alone in a room with a laptop and attend a zoom class. This online lifestyle has had a mental and physical impact on individuals. People have become less socially active as a result of it.

We can all agree that living an online lifestyle was initially enjoyable, but after a while, we felt compelled to visit places offline, meet up with friends, and go shopping rather than buy things online. To conclude the most essential thing, whether online or offline, is how one organizes their time.

The recent rumours that mongering about racial riots in Kuala Lumpur which created furores just goes to show how this tool, with its unrivalled reputation as data assassinations and company reputations can suffer if the web services are abused, especially by those with an axe to grind.

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DIGITAL ADDICTION

The New Drug Crisis.

- Raj Mazgaonkar, Comp B

Digital addiction is defined by the American Society for Addiction Medicine (ASAM) also because the American Psychiatric Association (APA) is "... a primary, chronic disease of brain reward, motivation, memory, and related circuitry. Dysfunction in these circuits results in characteristic biological, psychological, social, and spiritual manifestations, this is often reflected in a private pathologically pursuing reward and/or relief by substance use and other behaviours." with examples like internet gaming or similar behaviours. Symptoms of digital addiction such as increased loneliness (also called "phoniness"), anxiety, and depression was observed during a sample of university undergraduates who completed a survey about smartphone use during and out of doors of sophistication. Other observations included observations of "I Neck" (poor) posture also as how multitasking/semi taking was prevalent within the sample. Implications of continued digital addition is discussed.

SIGNS OF TECHNOLOGY ADDICTION: -

- Inability to moderate or abstain from technology or a specific digital medium.
- Preoccupation with brooding about using technological devices.
- Compulsive technological use or experiencing cravings and urges to use digital devices.
- Neglecting important life areas like work,

school, or relationships at the expense of technology.

- Continuing to use digital devices despite it contributing to consequences in your life.
- Losing interest in social and leisure activities that you simply once enjoyed at the expense of technology.
- Using digital devices in dangerous situations like while driving a car or walking across a city street.
- Experiencing unwanted psychological state symptoms like depression, anxiety, stress, or irritability at the expense of technological usage.
- Using digital devices to induce pleasure or experience gratification.
- Lying or hiding digital usage from family, friends, or colleagues as a result of guilt or shame.
- Using digital devices for extended durations than intended or finding yourself using digital devices with increased frequency over time.

HOW TO STOP DIGITAL ADDICTION: -

1. close up push notifications.
2. Schedule times to see your phone, or a minimum of being mindful about it.
3. Use a timer to dam your usage.
4. Replace smartphone use with something you value.
5. Don't take your phone to bed.
6. Set expectations around email response times.

VIRTUAL LABS

With Us & Will Be With Us

- Sudanshu Rai, Comp B

After the lockdown, all the schools and colleges were shut because of which the students were not able to perform the practical in the labs. And studying is not all about theory knowledge, one should also have practical knowledge of the same. But because of the lockdown due to the pandemic, it was not at all possible. But the colleges wanted to find a way for this. And after some time there came a wonderful solution, and it was that the students will now perform the practical virtually. At the same time the

colleges also wanted to make sure that the platform was the practical will be performed should be accurate there should not be any loopholes or errors in that. And to help here all the IIT's and NITs came forward and built a fantastic platform named IIT Virtual Lab. And IIT's made this platform open to everyone. And now it was time to see a change in the style of performing the practical. Now it was much easier. No one has to college to apparatus from different drawers and boxes, everything was just available on click of the mouse. We don't have to run from one floor to another to go to the lab, now on a click a new tab gets opened up and we are in the lab.



It became easier when we did not have to mark all the points in the graph paper and make the graph now it's also here with a click. The virtual lab also gave us an opportunity that we can perform the practical as many times as we want there is no wastage of wire or other such apparatus.

And the main point is that we can perform it whenever we want. But getting used to this virtual lab's not an easy task for both teachers as well as the students. A took a little bit of time to learn that how does it work and how does it work. And after knowing it completely the practical started. And now it was a task to complete all the practical which we have missed, but it was quite easy because we just had to open a tab and we can start with the lab.

But even after everything has become so easy, we miss the physical lab. Because the feel of it is very different. These virtual labs are going to be with us till the end of our college life. And it's going to help us a lot as it is doing now to get the correct reading, graphs, the ease in using it, etc. Even when the colleges reopen, we are in the lab physically we can use it to check our reading. The virtual lab is with us and going to be with us.



E-HEALTH

A New Future

- Aayushi Jha SE Comp B

With new technology, the online market has emerged and embraced in an expanded manner. Not only in education or job sectors but online market has taken a new space in healthcare facilities too. Pharmacies adopted the online method for selling medicines.

On the other hand, doctors too adopted the method of online consultation. E-Health has become an emerging industry. Digitalization affects almost every aspect of modern life including healthcare sectors. This service allows patients to use internet for online communication with physicians.

Doctors and other medical practi-

tioners serve their help to patients in a virtual mode. More than 5,000 healthcare- services, online applications and healthcare service platforms are available worldwide.

Online health consultations are currently one of the most popular health services and is growing rapidly. Also, system of online consultancy is easier and less hectic. In terms of doctor's appointment, the question is which is better. The offline platform has become very strenuous. The growing busy lifestyle has somehow made online appointments more preferable. The offline-system has paper registers and staff members. It is possible that sometimes it becomes difficult to remind the people for their follow-ups manually, whereas in online appointments you get the regular follow ups. One of the major drawbacks of offline appointments is people stand in long queues and still they don't get an appointment. With the world running so fast, no one really likes to wait for



In case of online healthcare platforms, you get an on-call consultations too. Rescheduling your appointments have become too easy in online mode. India's healthcare industry is one of the largest industries in the world and is growing much faster after COVID19. One of the major advantages is, the rise of digital healthcare has also created a bridge between the doctors and patients while overcoming geographical barrier.

In conclusion, a good E-healthcare system must focus on providing information and services to give the best outcome for the patient's health. Online consultancy not online reduces the staffs stress but also makes an effective and accessible patient record. Online method adaptability is easy.

"What we find more exciting about the online world is that, It's the future."

DIGITAL ADDICTION

The New Drug Crisis.

- Aman Jaiswal SE Comp A
 - Anand Jaiswar SE Comp A
 - Pawan Jha SE Comp A

In today's digital age, access to digital devices and incentives is greater than ever. The technology that is coming in our life makes easier to do any work, wouldn't it be surprising that many feel they cannot live without it? With such reliance on technology devices, we seem to be seeing a generation of adolescents suffering from digital addiction (also known as "technology addiction").

But what is Digital Addiction? The term "addiction" is not taken seriously, especially when describing children. In fact, the idea that our children are under substance abuse or addiction is one of the most frightening thought of parents. The consequences of a biochemical invasion can permanently change a child's life, and poisoning is one of the scariest thoughts a parent can have.

The use of the Internet and computers is deeply entrenched in modern society and has changed the way we live more than any other technological means. In the past year alone, data from the Pew Research Centre shows that 77% of 4,444 Americans connect to the Internet every day. While many people think that surfing the Internet or watching 4,444 cat videos on YouTube is a relatively harmless activity, there are those who spend too much time on the computer or on the Internet and start disrupting their day-to-day lives.

Addiction can be classified when behaviour or desire becomes an obstacle and takes precedence over the most important aspects of a person's life, such as relationships, work, or school. Internet Addiction is not yet included in the latest edition of the DSM5. But a two-year study funded by National Institutes of Health

could change that. Research, launched in August 2017, could provide ample evidence that the problems caused by Internet abuse deserve serious attention from the American psychiatric and psychiatric community. Professionals working in

Internet addiction is commonly distinguished as obsessive compulsive disorder or impulse control disorder to aid treatment. Internet addiction is also known as computer compulsive use, pathological Internet use, and Internet addiction.

What Causes Computer or Internet Addiction? Whenever an internet addict feels depressed, lonely, anxious, internet is used to find solace and escape. According to a study from the University of Iowa, Internet addiction is very common among men between the ages of 20 and 30 with depression.

For example, there are people suffering from anxiety and depression. A lack of emotional support means turning to the Internet to meet these needs. Some people have a history of other addictions, such as alcohol, drug, sex, and gambling addictions. Stressful situations and unhappiness can also contribute significantly to the development of computer or Internet addiction. People who cannot communicate easily with their colleagues or classmates are also at higher risk of computer or Internet addiction. How

Digital Addiction Affects Children: Did you know that digital addiction can have the same chemical attenuation as drugs?

Screen Time can make a big difference in your child's life. Your child can start with skill rather than something as simple as:

- Playing and exercising outdoors
- Developing social and interpersonal relationships with friends
- Spending time with family
- Learning housework and basic life skills
- Finding and obtaining a job Life experiences
- Developing new skills and talents

As a parent, it is terrible to think of a child deprived of only these simple things!

Technology Addiction can seriously disrupt and interfere with your child's ability to lead a healthy, successful and productive life.

5 Ways to Stop Technology Addiction:

According to a study, at least 64% of people currently spend to 3 – 5 hours a day in front of a mobile or a digital screen. Just watching TV is associated with higher rates of obesity and diabetes, so such extra sedentary time is bad news for our health.

1. Choose outdoor activities over technology

Make it a rule to not connect to the Internet when the sun is shining when you are at home. Instead, you must walk, bike, or engage in other healthy physical activity for at least few hours

2. Rearranging Family Room Furniture

Design the family room so that the TV is no longer the centre of attention in the living room. However, there is a secondary idea that requires turning or rearranging the chair to view.

3. Try to less use of social media.

Social media has changed computer and mobile device use by Canadians of all ages.

Avoid aimless browsing and spend your time on the goal of studying holidays on the internet, finding the news of the day, or finding answers to random questions that have been bothering you for a long time. Then log out!

4. Take the time to read.

Make the task of reading at least 30 pages of a good book before checking your computer or mobile device. Pick the right reading material, and you'll soon find out that we've made a new fun!

5. Create a project for yourself

It's amazing how much you can do when you're not tied to a screen. List one hour evening projects. List everything you can think of: organizing 4,444 kitchen cabinets, painting bedroom walls, sharpening knives, organizing 4,444 sewing materials. Then try this every night.

Conclusion:

Modern technology is advancing at the fastest rate, so there are many advantages to people using the. But at the same time, more and more people are finding that they have problems using the new technology. In the course of our research, we found that it was there.

There are always two sides of the story. Addiction to technology may just be a habit, it can make others suffer, and some people worry about it. Finally we would conclude that despite the technological advancements a balance must be maintained.

DARK WEB

The Other Side Of The Internet

- Sakshi Sharma SE Comp C

- Diya Vora SE Comp C

The dark web is that portion of the deep web which has been intentionally hidden and is inaccessible through standard Web Browsers. It serves as a platform for Internet users whose anonymity is essential. As it not only provides users protection from unauthorized users but also usually includes encryption to prevent monitoring. But, just like any other thing, the Dark Web also has its pros and cons. Apart from protection purposes, the dark web can also be used for illegal activities and cause a big blunder.

Here are some of the fields that are affected by the dark web:

Money laundering

Money laundering occurs online to a large extent as the Dark Web allows the transfer of illicit funds to anonymous accounts where criminals secure ill-gotten profits. A criminal who wants to steal money from a bank account is not tech-savvy enough to hack an account can contact a skilled hacker who can do the job for the client.

The hacker will sell the stolen wealth for a percentage or a fixed fee in bitcoins, then wire the money to the criminal's preferred bank account. The hacker gets rid of the stolen amount and receives compensation, while the criminal gets a fixed sum of money in their bank account.

Constitutional agencies are deepening their efforts against buyers and dealers of illicit drugs, false identification, and other illegal activities on dark web global marketplaces.



Frauds

The stealing and selling of credit card credentials and personal information refer to Card fraud. It is the most common type of crime that happens on the Dark Web. Darknet markets offer the sale of credit and debit cards. These sites have multiple URLs that divert the user to the same page. The vendors from various forums post ads in which they specify what they have. Live chat facilities are available with different rules. Vendors offer cards at lower prices. Some money transfer platforms are also susceptible to carding fraud. One should always be cautious before sharing confidential information to any website, company, or they may get trapped in a scandal

Cybercrime using Dark Web

"This cyberwar will be a continuous marathon war that will only compound and hyper-evolve in stealth, sophistication and easy entry due to the accelerated evolution of "as a service" attack strategies for sale on the dark web."

-James Scott,

Cybercriminals share dark sites and eliminate unknown persons to reach their site accidentally via a Google search. Most cyberattacks cost anywhere between \$66 and \$500 on the dark web. Success rates of these crime attempts are boosting at a large scale these dates, allowing criminals to earn thousands of dollars from a single intrusion. According to Atlas VPN, the dark web imposes special software to access that assists criminals in protecting themselves from unwanted attention.

Conclusion

Limiting the sharing of assertive information, staying apprised of recent cyber threats like ransomware, and following steps to mitigate risk in the wake of high-profile data breaches are crucial steps in a proactive approach and keeping ourselves safe from the Dark Web.



VIRTUAL DOCTOR

- Jatin Vishwakarma SE Comp C
- Saurabh Vishwakarma SE Comp C

When Covid-19 hit, the entire world has faced many problems such as public health issues, food systems, and the world of work. Each of them in the world has started to follow the quarantine protocol. This pandemic has affected the economy that resulted in a decline in the GDP. As a solution, the entire working culture shifted online, and also education has adopted virtual mode. It forced the whole world to accept the online culture and gave birth to Virtuality.

Day-to-day activities such as office, school, shopping grocery, and many things have shifted to online. Due to covid in field of healthcare there led to many challenges and problems. Like, diagnosing the patient, treatment of the existing patient, and patients with mini-medical problems were getting neglected.

So, by setting up a virtual doctor, the patient will get a one-to-one session or consultation with a doctor in their comfort zone. This consultation will have some limitations. But in the upcoming era of technology, these will keep on improving. Many websites are available which guide patients regarding their problems, there are many doctors whom patients can contact, according to their needs.

If a patient is consulting a doctor online, they usually ask questions regarding the symptoms. If they feel the condition is not improving, then they can ask for an offline appointment.

Virtual doctors help in great focus on a patient!

The help of available super-fast and reliant technology can help doctors to have a greater focus on patients. In offline mode, the

patient has to travel long distances to see a doctor, while having the virtual doctors, they need a video-conferencing app to see the doctor. It not only saves their time, of doctor and patient but also saves their traveling expenses.

The doctor can focus more time on the patient. It is very much similar to the concept of video conferencing, a website with many certified doctors having their contact details. Anyone willing to visit the doctor contact through direct video conference and get diagnosed from the clinic.

Diseases like a common cold, headache, stomach pains, skin diseases, burns, tongue diseases are identified easily through a video call. Once the problem is recognized, the doctor can give a proper prescription. The prescribed medicines can be couriered directly to the door of the patients. It will save time and also increase job opportunities for many people. We realize this is not the best way of medication. But a virtual doctor can help people in remote areas, and also it can help with its private appointment option.

Future of virtual doctor.

The role of AI (Artificial Intelligence) and ML (Machine Learning) can enhance virtual doctor systems. For example, an app or a smart device can diagnose the patient by simply checking the symptoms and asking questions. For example, First, it will ask the patient, How are they feeling? What problems are they facing?. Based on the replies, it will diagnose some common diseases. Then start asking the question regarding the symptoms of those problems.

Along with the diagnosis, it will let them know the result, also prescribe the medicine with the necessary test they require.

Conclusion.

In this pandemic time, the whole world has suffered a lot economically & socially. Then too, we have tried our best to stay sane through this turbulent time. The healthcare community has faced many problems for doctors and patients to get relief from their health issues. A doctor's primary job lies in preserving and protecting life. But in this ongoing health crisis, it has become a difficult task to serve their duty in rural areas to provide healthcare support. And many of the patients had a negative feeling about visiting hospitals physically. In this system, patients can diagnose the diseases at an early stage. Understand their symptoms, and they can further consult the doctor. The healthcare sector integrated with AI & ML, the future of a new era of technology.



VR HEADSET

Killing Daydream

- Sparsha Shetty SE Comp C
- Maitri Vaghasiya SE Comp C

“Virtual Reality -The world every tech-nophile desire.”

3D simulated environment involvement can be the same as existing here and now. VR simple terms mean a real experience using animation. The fastest way to travel the world. A device is known as a VR headset or helmet is used to experience it. A virtual reality headset is a wearable device that allows users to experience and interact in a first-person view of simulated environments. One can experience all the natural elements within this headset.

The headset is so flexible enough to view 360-degree video content by just rotating our body or neck. The trends in 2019 include Oculus releasing the Oculus Rift S and a stand-alone headset called the Oculus Quest. These headsets make utility inside-out tracking compared to external outside-in tracking seen in earlier used headsets.

Ahead of 2019, many companies came up with effective production. Valve released the Valve Index. The inbuilt features a 130° field view, off-ear headphones for submersion and luxury, open-handed controllers for individual finger tracking, front-facing cameras, and a front expansion slot meant for extensibility. In 2020, Oculus released the Oculus Quest 2 with a sharper screen, reduced price, and increased performance is new features included. Facebook is now known as Meta.

So one requires a Meta account to use the new headset. In 2021, EASA approved the first Virtual Reality (VR) based Flight Simulation Training Device. The practice of risky maneuvers in a virtual environment, we open a space for rotorcraft pilots.

VR makes you immerse into a new world. However, there are many other concepts used to make the VR headset work. VR headsets like PlayStation VR and Oculus Rift have head-mounted displays, also provide PC-based operations, though major players like Google and Samsung offer cheaper, smartphone-based headsets.

It feels like the screen is following you whenever you move your head. For a particular VR headset like the HTC Vive and the Oculus Rift, you may need to have a console or computer to work. Sony also has its console scene in their PlayStation VR. When your headset and power source and all connections are proper, you may require some input to connect the entire setup, whether this is through head tracking, controllers, hand tracking, voice, on-device buttons, or trackpads.

Everyone desires to have Total immersion while making a VR headset. They aim to make the experience so realistic that we forget the computer, headgear, and accessories and act as we are in the real world. So how do we get there? The input video is shipped from the console or computer to the headset via an HDMI cable this method, headsets used are HTC Vive and the Rift. Some headsets, such as Google Daydream and the Samsung Gear VR, already have an inbuilt smartphone slot into the headset.

VR headsets have two feeds sent to one display or two LCDs, one per eye. The device adjusts lenses between the eyes and the pixels, due to which these are often called goggles. In some instances, they fit to match the distance between eyes, varying from person to person.

These lenses focus and reshape the picture for each optic and create a stereoscopic 3D image by angling the two 2D images to mimic how each of our two eyes views the world ever-so-slightly differently. VR may be fascinating thanks to traveling using nothing quite the facility of technology. VR can be applied in many sectors, like in medical studies, to enable students to know the functionality of the human body. It can be exploited in scientific research laboratories so that scientists can effortlessly research on a specific topic.

It can be brought into play in entertainment like games and movies to make the gaming experience more realistic and allow isolates to experience adventures under extreme conditions. In driving schools as it gives a living of roads and traffic. It enables users to explore places. Through computer games, users can experiment with a custom environment.

VR makes education easy and comfortable. In an expeditious and globalized business world, meetings in VR create an environment during which interactions with people (like colleagues, customers, partners) can feel more natural than a phone call or video chat. In the customizable meeting rooms, all parties can join using the VR headset and interact as if they are in the same room. Presentations, videos, or 3D models (like products or prototypes) are often uploaded and interacted using it. Sony is already ahead on the VR front with magnificent products such as the PlayStation VR headsets.

Concerns:

VR headsets may regularly cause eye fatigue, as does all screened technology, because people tend to blink less when watch-

ing screens, causing their eyes to become more dried out. There have been some concerns about VR headsets contributing to myopia, but VR headsets sit close to the eyes, which may not necessarily contribute to near-sightedness.

If the focal length of the image displayed is sufficiently far away. Regardless of the fun experience provided by VR technology, it is not affordable. Irrespective of the decrease in its price over the years, his technology still hasn't been cheap enough to be affordable to most populations. VR is addictive like a drug, users who have VR headsets already will most possibly understand the pain of going through this addiction.

As you spend more time using VR, this not only cuts you from the real world but also makes you addicted to VR. You'll never know how many hours you have piled up using the VR headsets and how much time you have mis-spent already. One should remind himself that it is not happening; it is all virtual. It is time to come back to reality. Virtual reality creates a realistic world but virtually.

“Virtual Reality is a fascinating way to travel using nothing more than the power of technology”

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VIRTUALITY IN EDUCATION

- Landscape of Imagination.

- Asim Vaibhav SE Comp C

Today, technology is taking over many aspects of our day-to-day lives. It has led to drastic changes in the lifestyle of the people. This advancement has ushered development in health-care, learning, job, sports, and many more sectors. The old terms are getting modified into E-health, E-learning, E-sports, and E-book that clearly shows the involvement of technology in them.

The supreme change discerns in the educational field, too. The incorporation of VR (Virtual Reality) technology has been privileged in the education sector. This advancement in this field has revolutionized and improved the classroom environment and learning

experiences of the learners. It is a creative development that helps in sharing majestic accomplishments with the learner. This tech shortens the communication gap in online learning between the learner and the teacher by integrating them with the learning curriculum that helps a student experience a seamless transition of getting information.

VR has developed an immersive solution to some opinions on the learning content and boost the learning experience. This remedy can assist a learner in concentrating on various disciplines with a better experience. All of this was made possible with the use of 3D tech.

These chip in them to engage more in learning and make sessions more interactive and fascinating. The teacher-student simulation muck in with them to connect more, making the learning process mainstream entertainment.



This high potential solution has made the users easily recall the content learned visually. The unbounded scope of VR helps the learner to even master complex structures effortlessly.

Interaction through VR has made the learning process hassle-free. In the upcoming future, this tech will achieve the bigger goals of fabricating the foundation of e-learning through virtualization.

"Virtual reality is the first step in a grand adventure into the landscape of the imagination."

-FRANK BIOCCA, TAEYONG KIM, & MARK R. LEVY



AR & VR TECHNOLOGY

- Achyutmanas Tiwari SE Comp C

Augmented reality (AR) adds digital principles to a live view of real-world objects frequently using a smartphone camera. On the other hand, Virtual reality (VR) is the complete enthrallment of the virtual atmosphere based on the real world. Augmented reality (AR) and Virtual Reality (VR) predicate the digital and physical worlds. They allow you to take in information and content visually in a similar process you take in the world without it.

The term "Augmented Reality" wasn't chased until 1990. Augmented reality (AR) and Virtual Reality (VR) have contributed to the growth of technology. AR and VR are leading the heightening the rise technologies, which has affected admiringly in different artificial sectors. Machine conscientiousness has evolved due to these technologies. From virtual showrooms and testing scripts, virtual reality has started to make its mark on automotive diligence. The adding demand for AR and VR technology is driving the stoked reality and virtual reality request growth.

Though factors analogous as high development costs associated with AR and VR apps may circumscribe the request growth. Pitfalls with AR and VR operations and their limitations are likely to challenge the request merchandisers. AR and VR technology has also covered a wide range of sectors in health diligence due to advancements in technology. Healthcare companies use VR and AR technologies to improve their customer exploits by convincingly engaging them in healthcare activity.

Medical scholars, croakers, or surgeons can learn how to treat their cases more or perform complex operations without the risk of making

any surgery slipups. VR and AR can help croakers explain how the procedure will execute in their case or majors for further effective recovery. Besides that, VR and AR-based applications are for tone-guided treatment.

For visual, contending daily pains, having contemplation sessions to overcome anxiety, or planning recovering common dysfunctions exercises. There is a wide range of operations of this technology in the health sector. Also, AR and VR have served polychromatic sectors other than health and machine diligence. Shortly, the growth of technological advancement will lead by these technologies. Due to increasing demands, AR and VR add up the values to a particular product of conscientiousness.

"I do suppose that a significant portion of the population of developed countries, and ultimately all countries, will have AR gests every day, nearly like eating three refections a day. It'll come that much a part of you."

- Tim Cook

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ONLINE SELF

And Offline Self

- Nikhil Pal SE Comp-B

How do you present yourself to the world online and offline? Are you the same person in Online & Offline?

As we all know all the youngsters spend most time connected to our digital devices, we now live in two worlds. Living digital double lives. Inherently, we want to be more like ourselves, we want to be healthier, we want to be better but a better version of who we are and try to represent in the best possible way whether it is online or offline. In particular, my online self; my personal information is included in an online world and that includes my name, my birth date and my place of living and also my traits such as my hobbies, my interests as well as my general information i.e. outgoing, shy at times, happy, sad, and all other feelings that I feel. That's how I perceive myself on the internet in an online world.

But, on the other hand, a person is always different when it comes to offline. His online behaviours did not reveal much about his real-world person. As for me, I am free to differently define and express myself as I wish in an online mode. From social media we have different avatars, we connect and communicate with the people and create parallel selves living parallel lives in the same person. In offline mode, there is no face-changing you being the real you who you are and not the person that is changed using some filter or some avatars. Moreover, some say social media gives you confidence and helps you to express yourselves, make u deal with the people online others say it gives you self-esteem as usual which can lead to being good down the line. The people have their different points of view

which all depends on how we use it.

On the internet, we can say and post anything that we want online and maybe we feel less shy on social media because we are not interacting with others face to face. But in an offline mode we deal with the people in person we talk to them in front of them which is good in its way as the person is in front of you, we can say what we feel or thinks about them. As for online, we have the choice to pick and decide which characteristics of ourselves should be shared with others, which creates an environment where true thoughts and feelings cannot be expressed. Given those points, we are creating a completely separate identity online. The way we represent ourselves online can be different than the way we represent ourselves offline. We can keep a piece of information only for ourselves and I'm sure that every person has a secret that he or she wishes to keep to themselves and not let others know. You will be admired in real life and not only online. I can move freely without pretending in real life. But I can also say that real life is so messy.

Our perception and awareness of something are influenced by a lot of factors that happen at the same time and some are contradictory. The way we are being conscious of ourselves can be diversified from our clothes, our expressions, through the tone of our voice, the social judgments towards us, and many more which is not being judged online for it's the benefit for a person. I would like to conclude that the real version of ourselves is better than being fake using fake smiles and living a fake life. Being a real person is the only way to succeed and letting go of others thinking for us.

Online Learning

A substitute for Classroom Learning

- Nandkishor Mishra SE Comp-B

In the ongoing covid pandemic everything is operating in digital and online mode from small scale enterprises to large industrial giants and similarly, our education is also operating in online mode for the last 1.5 years nearly and this question is in everyone's mind that which mode is better for education online or offline so let's try to analyse this in detail.

Offline education which we are following for ages has several advantages like students having their teacher in front of them so they can ask their doubts without any hesitation. Students also communicate with each other more efficiently in offline mode and they don't have any distractions in offline mode like Instagram, WhatsApp, etc. Teachers also can see the faces of students to understand are the students able to understand the concepts properly or not and there is nothing like network or other technical issues in offline mode. But the offline mode is not suitable for those who reside away from their school or college and also there are no recordings etc, available for offline lectures.

Online education which is new normal in this covid times has many advantages like students can study from the comfort of their home with comfortable clothes and the only thing they need is an internet and mobile/laptop/pc etc., and if for any reasons they can't attend lecture then they can watch the recordings so there won't be any loss of their studies. And there will be no time lost in traveling especially for students who reside too far from their institutes. But the major disadvantage of online is that not everyone has access to good internet connectivity, especially those who are not in

urban parts so there are some inevitable network issues during the lectures be it from the teacher's side or the student's side. Another issue is by attending online lectures their screen time increases and this leads to eye problems and several health and mental issues.

As every coin has two sides here is also the same thing both online education and offline education has some advantages as well as some disadvantages so we have to choose one for long-term keeping in mind factors like suitability, requirements etc.

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Digitalizing

Businesses

- Jyeshtha Patil SE Comp-B

The most efficient way of business? Most found it the only way for business as we, dare I say are about to recover from the terrors of the Chinese touch to the health and economy of the world. What has digitalization done to the business world, has it improved, destroyed, or just set it up at the next level? We saw E-learning take centre stage in the life of the next generations while seeing the grocery stores close and private transport replacing the trains. We saw a change in the functioning of people's lives from telling kids to get off their phones and go study to take their phones and go study. The transformation all of us saw was a smooth shift from the traditional business model to the newly invented "digitalized business model". The process of digitalization could well be called one of the bigger steps towards progress. The different ways people adapted to the various online business, from a walk to the grocery store straight to getting it delivered fresh to their doorstep all at the tap on a piece of glass shows the brilliance of the business entrepreneurs to adapt to the change and profit from it. Considering people sold not only groceries but everything from knowledge to cars virtually from the comfort of one's seat.

Growing penfold in mere months with companies like Zoom claiming up to 70x increase in the user base and 350 million participants/day. Amazon claims 220% profits and many more sectors that have products that people liked and were delivered to the people even during the tough times. The major reason for these feats is the ability of the management to turn their products and services into digital variants of themselves and make them available largely hence offering an advantage over tangi-

ble products.

The success although depends on the digital maturity of the companies which is directly proportional to the understanding of what kind of an audience the companies cater to and also have an in-depth understanding of a specific regional market segment. When put together with a good network of promotions can easily lead to the peak. These being the factors within the borders while globalization remains a bigger factor to multiply the earnings of digital businesses. Helping bring in relevant changes in the system to function across borders of various countries and around the globe following economic benefits and increasing participation and allowing growth in collected data to provide an accurate and broader analysis on growth via digital platforms worldwide.

The process hence allows a large span from governments to freelancing talented individuals to participate and gain global reach and help their ideas touch new highs to help the world digitalizes by accelerating the data flow. Standing true to the word of Judy Goldberg, digitalizing business does not need a digital strategy it needs a business strategy for the digital age.

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The loss of EQ

and Human skills in students

- Adityavikram Pandey SE Comp-B

In March of 2020, the entire world was faced with a new challenge that no one could have predicted. We had been hit with the COVID- 19 pandemic. Starting in December 2019 in China it spread throughout the world, as it is highly contagious it didn't take much time before it became deadly. The only way to avoid it was through distancing everyone from everyone else. It meant that there was no more possibility to live and do things the same way as we had known all our lives. Everything had to be in a way so that people could not come in contact with one another, and the work also gets done. Hence was the shift of everything online. People all around the world found a way to do almost everything virtually. This meant that now we had to adapt to this new normal. Though there was a bit of a learning curve, we managed to get everything online, this includes all the colleges going virtual to teach their students. Keeping all the positives and the negatives to the side of the online vs offline debate, we happen to miss one bigger concern that was presented to us, it was the loss of development of EQ (Emotional quotient). Most of us go about our schools, our college, and graduate but what we didn't realize while studying through all these stages was that we were not only building our IQ and gaining knowledge, but we were also learning the way to deal, handle and communicate with humans.

According to helpguide.org EQ stands for Emotional intelligence (otherwise known as emotional quotient or EQ) is the ability to understand, use, and manage your own emotions in positive ways to relieve stress, communicate effectively, empathize with others, overcome challenges, and defuse conflict. So, it is

EQ that makes a difference in getting a promotion. It is what is needed to make fruitful friendships and it is EQ that helps us make a more meaningful connection as a human with other humans. We had already been living in an age where social media apps are trying to fight for our attention and to create a false sense of status through the number of likes and followers. Now more on that we are also stuck with our child behind a screen trying to learn the necessary content to pass their classes, but they are lacking human connections, and it is human connections that lead to one building EQ.

With the graduate student also learning online, these students are lacking many soft skills that are the need of the industry in the current world. It has always been seen in every field the person with greater EQ apart from their IQ is the one who can get his or her way through the world and it is the person who is continuously improving his EQ is the one that is always seen progressing further in life. The best way to build EQ, according to many sites on Google, is to be more socially aware. This social awareness comes from communicating with people old and new, face to face as it helps us get feedback from the person in front of us also we get experience about many different situations in conversations with different people we tend to have totally different kinds of conversation and moments, this is what happens automatically in school as the children have different division almost every year they meet new people of the same age they need to communicate with many different people to make projects to be able to get through school without failing. This all got lost when things went online.

Business

Going Digital

- Aruna Nishad SE Comp-B

Right from the late 18th century and early 19th century, the first industrial revolution ushered in the new age of mass production and factory work, followed by the second and third industrial revolution wherein rapid revolution of efficient production and transportation methods took place and digital computers to supply chains came into the picture, and all these dramatically transformed how the businesses run. Finally, right now, we are in the ongoing fourth industrial revolution where technologies like 3-D printing, quantum computing, autonomous machines, gene editing, the Internet of Things, and much more are emerging, which might result in even more drastic changes in the ways businesses run and how productive companies can become.

With cloud computing technologies, now businesses from small scale to large scale can eliminate the capital expense of buying hardware and software and setting up and running on-site data centres. With just a few clicks, they can get a lot of flexibility by accessing the self and on-demand services, thereby taking the pressure off capacity planning. Unlike the offline businesses that are fixed at one location, providing services only for specific hours, with cloud computing technologies businesses get the ability to scale elastically with minimum network latency, delivering the right amount of IT resources and services – right when it is needed and from the right location.

With the help of APIs, businesses can communicate with all their customers and provide them with an email, SMS, push notifications, chat, etc. enabling them to track their services in real-time. The employees can collaborate on

projects, content, communicate in real-time, and work from any location while remaining secure and productive. With the help of automation, AI/ML and data analytics, the manufacturing processes are becoming more efficient, agile, rapid, and productive. With infrastructure cloud services, organizations can manage human resources without hiring staff. Looking this far, by revolutionizing nearly all industries with newfound technologies working alongside physical capital and labour, the businesses going digital and the fourth industrial revolution promises a significant increase in productivity.

But, despite all of these immensely positive effects, businesses going digital brings many challenges for businesses, individuals as well as society. One of the major concerns is security. As businesses rely more on technology, collaboratively consuming the resources from various services, businesses don't have much control over who sees their personal information, how their data is being used, and how protected the data is. And with this, intellectual property has become the most valuable asset of many companies and if they cannot protect themselves from intrusions, their growth would be stunted.

As customers are the major aspect of a business, the information security of businesses also affects the privacy of individual customers. With more and more technology embedded in individuals' lives, privacy becomes harder and harder to maintain. The most popular examples of such privacy issues are the data leaks from Facebook, Air India and Dominos. In a similar vein, there is concern about jobs.

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Online Learning

Is Better Than Offline Learning?

- Dhara Modi SE Comp-B

Education may be a process of gaining and implementing knowledge wisely. Due to the Covid-19 pandemic, there has been a dynamic change within the education system. To stop the pandemic, offline education is transformed into e-learning where teaching is administered on digital platforms. Online classes provide the teacher with several online learning tools including videos, audios, animations, virtual whiteboards, virtual conference rooms, and live chats with students. The simplest thing that ever happened thanks to online education is that there has been a drastic growth in technology.

Online education has become a versatile instructional method of teaching wherein students can easily gain access to review material within the comfort of their homes. It helps a learner to largely determine their pace of learning. Since online classes provide the advantage of self-paced learning, students might not have a correct schedule and should succumb to the habit of procrastination. On the contrary, it saves the time of travel of scholars, the sole thing that ought to be taken care of is time management.

As there are two sides to a coin, thus every topic has its advantages and disadvantages. The disadvantages of online education would be better understood if we compare it to offline education. The main advantage of offline education is that one gets practical knowledge, Through the offline the study, the teacher is going to be ready to understand if each student is getting the point correctly by asking them to try to activities associated with the work. The other advantage of the offline study is that it

helps the scholars to clear their doubts and clarify their mistakes when a specific subject is taught at an equivalent time. Whereas, for online study mostly lectures are pre-recorded so it makes it difficult for college kids to question their doubts. There's much scope for social interaction among students thanks to face-to-face recognition. The most important use of offline study is in dance and physical exercises because the teacher needs to check the scholar whether or not they are correctly doing the exercises or not. Doing the exercises within the wrong way can cause physical injury and cannot cause the specified result.

As stated above both online and offline study has their benefits and shortcomings. which is why an education system, including both sorts of study, can indeed create a compelling education in society. As nowadays new technologies are easily accessible to the young generation which may be used for the more visual and interactive study. But still, some prefer offline study over online studies because it only depends on the understanding power of scholars and which method, they like the foremost.

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THE FUTURE

Of Service Personalization

- Ishika Sharma SE AI/DS

Knock Knock, anyone there? The delivery man waited for 5 mins and took the parcel back since no one answered the door and wasn't able to contact the consumer either...

Here if the consumer had an option that if he/she/they are not available, then the parcel can be dropped by the neighbor or can be delivered at a particular time, it would make the consumer more valuable and might benefit the brand too. What's the point if the customer is not satisfied with the service? This is where personalized service comes into the picture.

Personalized service is adding value to a customer's choice in simple words. It is not only for online but for offline too. 76% of survey respondents expect personalized experiences, which could include engagement over their preferred contact method, account type or status, and product recommendations based on purchase and search history.

Here the customer service team plays an important role. It happens many times when we want something we search about it on the web and later on we find similar recommendations popping up on our social media accounts or through advertisements. Personalization benefits the company in multiple ways such as by tracking the customer's preferences, account history, etc. the customer service team can solve the queries of the consumer easily and conveniently.

Personalization is impossible if marketers don't have the means to understand the needs of high-value customers on an ongoing basis. It is predicted that Personalization will be the prime driver of marketing success within five years. Due to the COVID-19 pandemic, every-

thing went online, from shopping to parliament meetings, from ordering foods to education, and hence the expectations of the customers have reached heights. It is one of the human tendency, to get things done in their desired way. In financial services, Paytm and google pay have launched personalized QR codes for easy bank transfers. Social media apps like Snapchat have launched an app named Bitmoji which allows users to design cartoon avatars of themselves that can be featured as their Snapchat profile picture and or on the Snap-Map if permitted. revolution. Many of the physical shops are getting online in order to provide both services. Macy's, Starbucks, and Sephora are using GPS technology and company apps to trigger relevant in-app offers when customers near a store.

Machine Learning holds the capability to create opportunities from data and therefore has emerged as one of the fields of the industrial. The next level of in-store personalization is likely to include providing more advanced AR features to help customers experience products and services in different environments. Amazon has patented new features that will enable its Echo device to detect when someone is ill - such as nasal tones that indicate a stuffy nose. It will then offer a suitable recommendation, such as a chicken-soup recipe or cough drops, some of which could then be purchased over the device for at-home delivery. In time, these advances could help marketers communicate with customers in a way that's tied to specific moods, offering specifically curated promotions for music or movies.

DIGITAL ADDICTION

The New Drug Crisis.

- Mitali Mandge, SE AI/DS.

"Life was much easier when Apple and Blueberry were just fruits."

In these unprecedented times of a global pandemic, our world has gone through a lot of changes, some positive and some negative. Over the past few years, with advancements in technology, our dependence on the internet has increased drastically. Owing to the pandemic, it has grown exponentially, and that raises the question of 'Is digital addiction the new drug crisis?'

There is a fine line between addiction and mere dependence, and the line seems to be getting less defined day by day. However, developing a compulsive need to use your digital devices, to the extent where it interferes with your life and stops you from doing things you need to do, is the hallmark of addiction. Internet addiction is a severe disorder that affects a person's ability to think rationally. Even though internet addicts often know the harmful consequences of this addiction, they do not make much effort to beat it. This often results in severe problems like depression, anxiety, and other psychological disorders.

Due to the unexpected Covid-19 situation prevailing for the past two years, most of the daily workings of our lives were digitized, including payment methods and schooling. This caused a drastic, almost twofold, growth in the use of digital gadgets and the internet. Suddenly, the number of internet users increased worldwide, resulting in problems and predicaments. The reported cases for increased stress,

decreased mental health, depression and anxiety have been increasing in number every passing day due to excessive usage of digital gadgets and electronics. It has also caused a significant loss in physical real-world relationships amongst people, especially in the younger generation. Studies conducted by the Department of Adult Psychiatry in the Poland Medical Universities show that digital addiction is seen to be quite popular among young people, especially among children. Studies also claim that one in four children are addicted to the internet. Nowadays, everywhere you go you can see youngsters either gaming on their mobile phones, or fidgeting with their mobiles instead of interacting one on one with others and growing their connections. This has caused increased anti-social behaviour in the younger population of our world since they are not getting enough exposure to build their social skills and work on their real-life personality skills. This is an alarming situation that needs to be addressed as soon as possible.

Some may ask, what causes this addiction? What is the mechanism behind it? Well, let me enlighten you. Whenever people feel a lack of emotional support and attachment, they tend to turn to the internet to seek comfort and solace. It is their form of escape. Just like any other form of addiction, internet addiction also releases a rush of dopamine which promotes the false sense of pleasure and happiness one feels at the release of this chemical.

Over time, the person feels the need to experience more and more of this euphoric feeling, creating a type of dependency on the activity. That is, if you find online gaming or online shopping a pleasurable activity and you suffer from an addiction to the Internet, you will need to engage in more and more of the behavior to institute the same pleasurable feeling before your dependency.

Biological predispositions to Internet Addiction Disorder may also be a contributing factor to the disorder. In this, your natural levels of dopamine and serotonin may be less than average, which would make you feel compelled to spend more and more time on the internet to satisfy that constant euphoric feeling. This increases the chances of addiction. Predispositions of Internet addiction are also related to anxiety and depression. Oftentimes, if you are already suffering from anxiety or depression, you may turn to the Internet to relieve your suffering from these conditions, to fill the empty void inside. Similarly, antisocial people or shy people may feel more comfortable in the virtual world than the real world, as it does not require social interaction but will always be emotionally rewarding.

Originally, the digital addiction disorder or the internet addiction disorder was declared as a "hoax", but the recent times have made researchers reconsider the decisions. The increased digitization has propelled us face first into the digital age which in turn has made the previously coined "hoax" disorder into a real thing. Instead, a new question has taken its place: 'Is Internet/Digital Addiction a real disorder, or is it the symptom of some underlying disorder?'

The real challenge in today's times is how to tackle this addiction. Nowadays, everything is online. You start the day by logging in into online school, and end the day by submitting assignments in the online classroom. Even when you step out of the house for fresh air, or to go for an outing with your friends, you will find yourself in need of using the digital services, be it to order food or to pay your shopping bills. The real challenge of the hour is to figure out how to balance your offline and online worlds. Will the world really let digital addiction turn into the new drug crisis?

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FACULTY ARTICLES



Faculty Articles

01

**The Covid-19 Event
Triggered the Digital &
E-Commerce Revolution**

02

Digital Addiction

*Are the new technology, internet or
smartphones are new drug crisis?*

The COVID-19 Event Triggered the Digital & E-Commerce Revolution.

- Dr.Harshali Patil (HOD-COMP)
Mr.Loukik Salvi(AP-COMP)

Disruption caused by the ongoing COVID-19 pandemic is far reaching, effects of which can be seen in every field. It has prompted a sensational loss of human existence world-wide and presents a remarkable test to general wellbeing, food frameworks and the universe of work.

There have been some sectors for whom this pandemic has been eventful. Such sectors have become dynamic and self-reliant over the course of the pandemic. E-commerce is one such sector which has blossomed in the due course, when the lockdown was made mandatory all over the world the entire economy came to a standstill. The businesses,shops,restaurants and all the service providers were closed for a substantial period of time, with a little to no hope of resurgence.

There was a dire need to make the E-commerce space more dynamic to ensure survival at the least. It was for-given that even though the world was at standstill there would be demand for the day to day commodities which would then create a chain of demands for every other commodity. The advent of technological advancement in various business had begun to take shape since the early 2000's but its relevance and need for felt during the Pandemic. The likes of IBM who were the early regressors in the field of E-business development unleashed their E commerce models to the fullest and made the most of the pandemic situation. Internet shopping arrived at levels last year that it wasn't projected to until 2025.The Christmas shopping season will be no special case. Online business is projected to represent a record 18.9% of the all-out \$206.8 billion in occasion

deals anticipated during the current year. Even in India the Ecommerce has shown a steady up-curve after the lockdown restrictions were partially upheld. "The Indian E-commerce industry (sic) has witnessed a huge upsurge due to COVID-19 and there is substantial room for future growth," said Phil Pomford, managing director of Asia Pacific, Worldpay from FIS. The new E-commerce models has enabled the business to excel in all the possible ways giving a new dimension to customer behaviour and the level of control that the vendors can have over their business.E-commerce has now become more adaptive and no longer seems traditional with the emergence of new hassle free shopping options, increased inventory and over all convenient shopping experience. The availability of every possible commodity on the E-market has helped it to replace the physical markets which were shut throughout the pandemic. The social media has now become the most prominent marketing platform, it has empowered the ecommerce in many ways by making it more accessible for the masses. The E-commerce has now reached a new horizon as its capabilities are no longer just limited to the physical retail and orthodox websites, it has become more user friendly and appealing. The reward of customer service is now more prominent as customer reach has increased with the surge in online payment platforms the process has become even more convenient.

Many new business have emerged and a lot of existing businesses have increased their volume many fold. One such example in India is that of the Amul group, the pandemic meant no hotel and industrial demand for milk and its products, still Amul recorded a growth of 2 % in

its business revenue which soared to ₹39,248 crore for 2020-21. Amul not only operated its factories in full capacity but also procured the facilities of other competitors who had to shut down their facilities due to the heavy losses. Amul knew that even though people were house-ridden they would need milk and its product for their daily diet, but the major issue was to procure and transport the milk throughout India and then produce the end product and make it available for the users with limited platforms open for selling their products.

Amul targeted the online platforms to sell their products and even increased their availability in the market by manufacturing double the amount of their usual production. Once the markets and physical platforms were open only Amul dairy products were sold because of its high availability, moreover Amul heavily invested in their advertisements knowing that everyone at home must have become a couch potato by the first half of the pandemic which would then create a sentimental demand for their products. Amul used the web integrated platform developed by IBM labs to analyse their business.

This very merger with IBM helped Amul to operate their number of ventures to achieve best out of it, one such instance was about their ice-cream venture which was partially closed and its resources were used to manufacture those products which were in demand. This cognizance and dynamic approach was a result of web integrated platform used for business analysis. The fact that technology could up scale and down scale the business requirements was at the heart of the surge in the Ecommerce during the pandemic.

It can surely be said that the pandemic has brought dynamicity and a new dimension to the Ecommerce sector. The Ecommerce sector has become more customer centric and rewarding for the vendors as their reach has increased by many folds. The technological advancements in the Ecommerce were made since the early 2010s but were never tested against such crisis, the pandemic has served as testament for all the existing technological tools and methods and has helped us to get the best out of them. This growth surely will not stop here, it's just a beginning of something that could change the face of Ecommerce for good and make it more efficient and reliant, moreover the advent of artificial learning makes this field even more interesting for the customers.



DIGITAL ADDICTION

Are the new technology, internet or smartphones are new drug crisis?

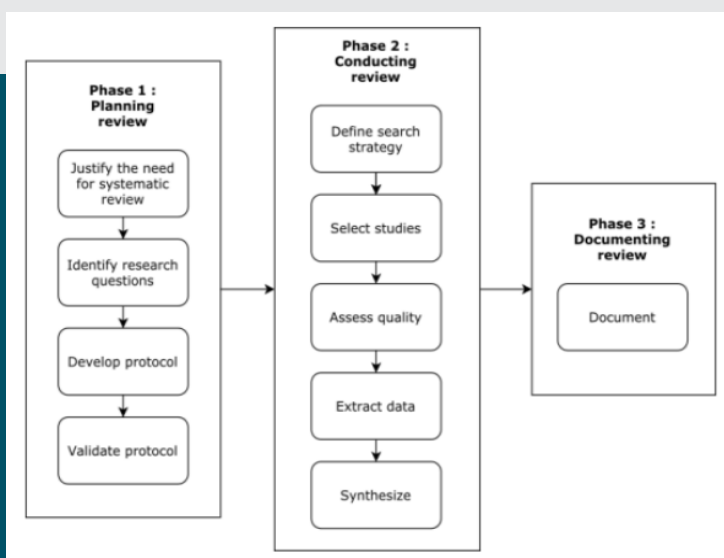
- Ms.Niki Modi (AP-COMP)

Problematic computer use is a growing social issue which is being debated worldwide. Internet Addiction Disorder (IAD) ruins lives by causing neurological complications, psychological disturbances, and social problems. Despite the negative role of IT in digital addiction development, IT may have a positive role in dealing with digital addiction.

Technology or digital addiction is an impulse control disorder that involves the obsessive use of mobile devices, the internet or video games, despite negative consequences to the user of the technology. The disorder may also be referred to as digital addiction or

internet addiction. The results show that addiction detection using IT is the most researched topic in digital addiction research. Digital addiction is a new phenomenon that has arisen as a consequence of digital technology advancement.

Digital addiction is considered to be a type of technological addiction. Technological addiction is a nonchemical (behavioral) addiction involving human-machine interaction. Digital addiction has several forms, including (1) cyber-relationship addiction, (2) net-compulsions (online gambling, online gaming, obsessive shopping, or day trading), (3) information overload (excessive web surfing or database searching), and (4) computer addiction (obsessive non-online computer gaming) [5]. With the increase in the use of new digital technologies, such as smartphones and social media, new types of addiction have emerged.



Signs & Symptoms:

In 1998, Dr. Kimberly Young developed "The Internet Addiction Test." It includes a 20-item questionnaire that is administered to the client by a proctor. These items include questions like:

How often do you find that you stay online longer than you intended?

How often do others in your life complain to you about the amount of time you spend online?

How often do you find yourself anticipating when you will go online again?

So the responses can be: Not Applicable, Rarely, Occasionally, And Frequently, Often, and Always. Each answer has a numerical value assigned to it. At the end of the test all the answer's values are added together and a score is calculated and used to determine the presence or severity of an internet addiction.

We used a systematic review approach to find the existing ground-work on the use of IT in digital addiction research. A systematic review identifies, appraises, and synthesizes all the empirical evidence that meets pre-specified eligibility criteria to answer a given research question.

How is IT used in digital addiction research? What are the research directions in the use of IT digital addiction research?

This present study has extracted 15 papers that meet predefined criteria as seen in below table. These 15 studies show various IT used for combating digital addiction. A previous papers on

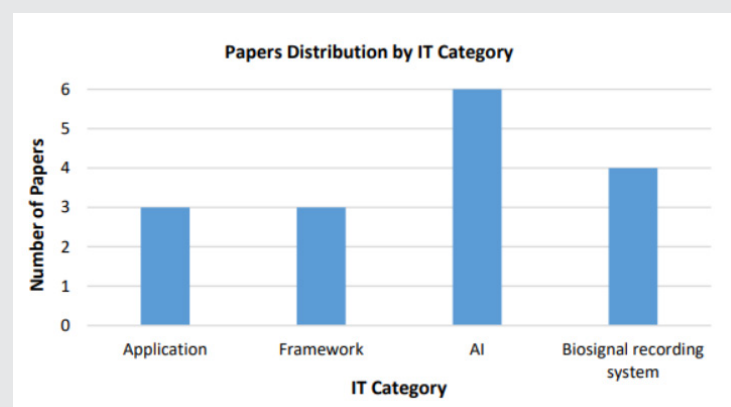
e-health intervention for problematic internet use conducted in 2016 only found three papers that meet prespecified criteria. The IT used for intervention in those three papers are an online expert system, application, and virtual reality. The selected papers from this present study show more various IT use. The IT used in the extracted studies can be classified into four groups. Those are mobile applications.

Internet and game addiction can lead to neuro adaptation and structural changes in the brain. The marker of game addiction can be observed from particular areas of the brain, such as the occipital, parietal, temporal, and frontal lobes. So we found that the distinctive pattern of addiction was found in the occipital region of the brain. The use of IT in digital addiction has three main purposes, namely to detect/measure digital addiction, to prevent digital addiction, and to intervene in digital addiction.

Based on the trend found in this two main research directions are suggested as follows: (1) the utilization of IT for digital addiction prevention and intervention with various approaches may be further investigated in the future, and (2) the utilization of human physiological parameters and AI technology may still be further explored for developing an effective, reliable, and real-time system for combating digital addiction.

The borderline between software which is legitimately immersive and software which can be seen as "exploitation-ware" remains an open question. Transparency of digital persuasion design and education about critical digital literacy could be potential solutions.

So, Internet addiction is a huge disaster, and everybody is at the risk of encountering it. However, there are two groups of people under the category of internet addicts.



First, there are winners who have the ability to control themselves from overusing the websites, and the losers who are the people who cannot control themselves and let themselves fall under INTERNET ADDICTION.

Therefore, while internet addiction is an enormous disaster, humans should think how the websites got to be addictive, analyze the websites addiction effects and the reasons why individuals do not put strict measures address this catastrophe. People and researchers should work on this disaster because it is dangerous for children more than the adults. Even though, the life will stop if the internet stops working.



COMPENDIUM

Since the epidemic began in 2020 in India and throughout the world, the transition from an offline to an online world has been a hot subject of debate. While many sectors were already operating on a hybrid model, it caught many firms and individuals off guard, especially those who were heavily dependent on the offline style of working. We've decided that the topic of this year's Nimbus would be "Virtuality Vs. Reality" because of the difficult times we've had with Covid-19 and as we progressively return to the offline mode of working. Throughout the magazine, you'll discover a variety of fascinating pieces on this topic authored by students and faculty from the Computer Engineering department. This publication is likely to have you thinking the insights, with a multitude of perspectives and answers.

The primary question was whether a new normal had emerged for everyone and if forced alterations could survive long-standing patterns and procedures. Digital learning has been a key aspect in the preceding year, signalling a considerable shift in traditional learning methodologies. Despite the pandemic's consternation and anxiety, technology has often proved its use in restoring global normalcy. Nimbus elucidates its implications in today's environment, as well as how it has helped us overcome adversity. The times we are living in will go down in history, and we must not forget to pass on our lessons to future generations. Nimbus not only investigated how to deal with a worldwide epidemic, but also what lessons we may pass on to future generations.

INTERVIEW



WHAT'S NEW WITH CLOUD AND STORAGE?

Humaira Alam

Associate System Engineer at IBM, Hyderabad

Q1) We are very glad to have you on board for our magazine. Can you tell me about your profession and your day-to-day office work?

A) Thank you. I am currently working as an Associate System Engineer at IBM, Hyderabad. I work as a backup and recovery administrator. My day-to-day task is to execute data backup policies, optimize data backup procedures, design business data recovery protocols, offer solutions to technical challenges in performing backup and recovery of client's data. There are various backup and recovery technologies that are used in my environment but IBM TSM(Tivoli Storage Manager), Veeam(Virtual Machines), NetWorker are among the most commonly used.

As we are aware of the boom of cloud technologies, I am also working on migration of client's data to Microsoft's Azure cloud backup.

Q2) It has been almost two long years since the pandemic started. How do you see employees normalizing working virtually and "Work from Home" becoming a new norm?

A) I think it would be easier for companies to hire more people when they can offer them work at any time. This is one of the biggest issues in India, and it's difficult for employers to offer flexible hours because there are not enough employees to do everything. I think there will be more emphasis on virtual collaboration. With technologies like Skype, FaceTime, Slack etc., communication is easier than ever. We can communicate easily with people across the world, and this will allow for more efficient collaboration. People have become very habitual to working virtually in the past two years and it is bound to increase and thus become a norm for new generation to adapt.

Q3) What trends did you recently notice in the cloud sector and what's your take on those trends?

A) The trend that I recently noticed is that backup and recovery systems are being integrated with the existing infrastructure. So, it is now possible for a network administrator to restore a VM, a virtual machine from backup without restarting the server. In the past, the network administrator had to restart the server to restore a VM from backup.

Q4) How do you see the Indian IT industry going forward in terms of cloud computing?

A) It is a good question. I think that this is going to be an exciting time in India. It is a trend that is taking a lot of prominence and will also be a big factor in the future of the IT sector. There are so many young people who have been raised on the cloud and now they will have to embrace it and take their knowledge and skills with them. And the cloud is going to change the way we do business in

India. Cloud computing is a big focus area now and in upcoming years, but I think it is also very important for India to keep up with other emerging markets like China, South Korea and Japan.

Q5) Can you tell us about how much work goes into maintaining the current data backup systems?

A) It really depends on the environment and type of clients you are serving. As I mentioned earlier, there are various kinds of backup and recovery technologies that we use to perform this job. But more often than not, it does not require much work. The technology is designed in a way to make this job easy for us.

Q6) How is the software industry adapting to new trends and technologies in recent times?

A) I think the most interesting trend is the rise of JavaScript. A lot of people are transitioning to JavaScript more and more, even if they're not actually programming in it, such as front-end developers, but it's still especially big for programmers who end up using their JS skills in another language like Java or C++ (and sometimes through other languages like Perl or PHP).

Q7) Can you tell me something about the market for developers?

A) I think there's a lot of uncertainty in terms of what jobs will be available in the future, but I think the most important thing is that there will be more energy put into creating applications that can be used by more people. Part of this is because more people are taking courses, and part of it is because there's a lot more online software available for free like GitHub and StackOverflow, which make it easier to learn new things.

Q8) Can you tell me about the motivation to start studying computer science? What do you like about programming?

A) I started learning programming because I wanted to solve problems with technology. I was always interested in how things work, and when I finally got to do programming professionally, I really began to understand how something like a search engine works (I even worked on Project Webster, which is Google's attempt at solving the problems of searching large amounts of content efficiently).

Q9) Do you have any advice or suggestions for new programmers?

A) I don't know about the future, but if I had to give some advice right now, it would be this: learn as much as you can. Start with something that interests you and then go from there. Also, go to as many conferences and meetups as you can so you get a good sense of what's going on in the industry.

Q10) Do you think that the market for programmers will be more stable in the future?

A) I don't think there will be any major changes in the job market, but it will continue to be a good time to be a programmer.

Q11) We would like to thank you for your time. Is there anything else that you would like to tell our readers?

A) I want to say thanks for this opportunity. The fact that you're asking me these questions is awesome and I'm happy to give my opinion on the industry.

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ACKNOWLEDGEMENTS

Perfection, hard work, and determination are the keys to success. Every semester, Team Nimbus has worked hard to provide you the finest Nimbus ever. We've worked hard to deliver this edition to you with the same zeal. We would like to express our heartfelt gratitude to Thakur Educational Group's Chairman, Trustees, and CEOs. We are also grateful to the Principal Dr. B.K. Mishra, Vice-Principal Dr. Deven Shah, and IQAC Coordinator Dr. R.R. Sedamkar for their constant encouragement and support.

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- Team Nimbus 10.1



Estd in 2001

Nimbus 10.2

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