SHRI SHANKARACHARAYA INSTITUTE OF PROFFESSIONAL MANAGEMENT AND TECHNOLOGY, RAIPUR
COMPUTER SCIENCE & ENGINEERING

CYBER TRINITY

SSIPMT RAIPUR

NBA — NATIONAL BOARD OF ACCREDITATION — ACCREDITED BY

CONTENT

VISION

"To produce value based quality Engineers with the knowledge of latest trends and research technologies to meet the developing needs of industry and society"

MISSION

- To impact quality education in line with quality teaching-learning process.
- To provide a better encvironment to encourage and support innovative research and development.
- To strength linkage between industry-academia for overall improvement of students

SSIPMT believes the most important thing is to try and inspire people so that they can be great in whatever they want to do. SSIPMT provides you a place to develop your strengths and do what you desire and are ambitious about. We try our level best to provide students a better environment, knowledge, and experience for their academic upliftment, better understanding, and progress.

I appreciate the efforts made by the CSE Department for their students whose efforts help them every time to enhance their skills and knowledge in every field of recent technology and world. The exposure of students to the corporate and industrial world not only provides a great learning experience but also helps them in their placement.

I heartily congratulate the batch 2016-2020 for their placements in renowned companies and wishing them a bright future. And best wishes to the upcoming batches for their placements. Wishing them all the good wishes!

Shri Nishant Tripathi
Chairman, SSIPMT

SSIPMT always focuses on bringing the best for its students and provide the best facilities to them. We have grown up to the best in recent years and are doing great to achieve even better. The success rate is increasing each year and the students are getting the best opportunities to start their careers.

My heartiest congrats to the students of batch 2016-2020 for their astounding triumph to get put in the best organizations. This is an open door for all of you to spread your wings.

My all the best to the students of cluster 2017-2021 for the up and coming situations. You all have the ability to achieve greater heights. Remember nothing is impossible in this universe, "If you can dream it, you can do it", only one should put all our efforts to achieve that dreamed goal. So work hard and let your success shines.

Dr. Alok Kumar Jain
Principal, SSIPMT

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Dear Students,
Nelson Mandela says, "The power of education extends beyond the development of skills we need for economic success. It can contribute to nation-building and reconciliation."

True to this quote, education plays a crucial role in shaping the youth for better future of the country. "It is beyond our power to create a world in which all children have access to a good education. Those who do not believe this have small imaginations." Education plays a leading role as the source of inspiration and transfiguration.

It gives me immense pleasure to lead the department of computer science and engineering at Shri Shankaracharya Institute of Professional Management and Technology, Raipur. The department is placed in a sprawling environment with a motivated and highly experienced faculty maembers and well-equipped laboratories. The department faculty works with excellent team spirit in different technical teams like cloud computing, data structure and algorithm, embedded systems, cyber security, artificial intelligence, machine learning which leads to key research publications and guidance in this area. Computer engineer can work in various fields like computer hardware, cyber security and ethical hacking, data science and data analysis, cloud computing, software developer,web developer, application architect, system architect. Mobile app development etc. and most important is computer research scientist. The department endeavour to provide the conductive environment for the student to develop analytical and practical skills to apply them to real world problems. To nurture the students with multidimensional sets. To motivate student's department organizes regular workshops like ML, IOT, PCB design, robotics, React JS, colon breakers, cyber security and competitive coding. To all the students I would like to state that always stick with your decision and think positive.

I wish good luck to the entire team of editors and wait for your kind patronage to our newsletter. Don't be nervous or get discouraged in any critical situation of life. I would say that "Dear Students keep on doing hard work and definitely you all will achieve your goal successfully."

"ALL THE BEST."

Dr.JP Patra
Head of Department, CSE

I'm just glad to see our students taking part in several technological events and coming up with new-new ideas making us proud. We always try to motivate them to be updated according to the recent demand of the industry and one of these recent demands which are spreading throughout the industry like a wildfire is "Augmented Reality (AR)".

AR is an increment to the reality giving new dimensions to the reality itself.AR is the latest technology which is an enhanced version of reality created by the use of technology to overlay digital information on an image of something being viewed through a device. AR is currently a rapid growing technology in market targeting the areas like education, medical, robotics, military and many more.

So, Congratulating! All the students for their achievements so far I want to suggest them to undertake certification course of AR and they can also opt AR technology as their minor/major project.

Deepak Rao
Assistant Professor

My heartiest congratulations to the students of batch 2016-2020 for their fabulous victory to get placed in the best companies. This is an opportunity for you all to spread your wings.

I truly appreciate your efforts and perseverance and am gratified for your success. My best wishes to the students of batch 2017-2021 for the upcoming placements.I believe in your hard work and diligence and aspire that your hard luck will sincerely pay off.You havethe talent and blessings from all of us. Believe in your dreams and let your spirits show.

Kaveri Kar
Assistant Professor

Augmented Reality

Augmented reality – addition to reality

Over the years, technology has revolutionized our world and daily lives. One such technology is **"augmented reality"** .Augmented Reality turns the environment around you into a digital interface by placing virtual objects in the real world, in real-time. These objects may range from sound to video, to graphics to GPS overlays and more. The most common means by which AR has encountered our lives is through mobile phones. There are various applications which are AR based like apps which help you place virtual furniture on your real environment which gives you an idea about its appearance.Another popular use of AR in our daily lives is in gaming. Snap chat, the popular photo sharing app, has picked up the trend too, integrating AR and used it in face filters. Despite of the many recent advances in AR, much work remains to be done. The future will belong to AR when it improves the quality of output of an experience for the user. *"Technology should enhance the user experience," ~ Steve Horowitz*

-Sachi Saraf 4th 'B' CSE

Implementation of AR:

Without us actually knowing it augmented reality has already become a part of our daily life, from using filters in snap chat to wandering ways with Google maps its one of the biggest technology aids we have right now. AR is used to enhance reality in many ways some of them are:-

• Enhancement of navigation systems by super imposing a live view of the root over the road.

• For the 3D projection of brain to aid neurosurgeons in surgeries
• For the live representation of projects in a floating digital window

• To modify the view of real world through a smart phone camera that can be for fun as well as for industrial purposes.

-Musab Hashmi 4th 'B' CSE

WHAT ARE THE DIFFERENCES AND SIMILARITIES OF

AR vs VR

AUGMENTED REALITY — Augmented Reality devices layer digital items on top of elements from the real world

VIRTUAL REALITY — Virtual Reality is a complete immersive experience, altering your perception to make you feel like you exist in that world

Enhances what you see by adding computer-generated images to the view using different devices | Provides users with a fully digital environment with no elements from reality

Only requires an AR-compatible smart device to enjoy the experience | Requires wearing a VR headset or additional equipment to get fully immersed in the experience

Users can add or change their perception of the world in real-time while easily distinguishing virtual items from existing ones | Users might experience issues with mobility while remaining fully immersed in the virtual environment, such as the inability to feel objects when 'picking' them up

Needs lower costs increating apps, therefore making more headway into mainstream media | Adoption to technology is still limited, but inventors are looking for ways to make VR content more suitable for practical applications

Why Augmented Reality Is Making Its Mark?

Augmented Reality, an uprising technology with lots of features and adventures that excites you to get more into the other world. It is a technology which superimposes a computer-generated image on user's interface and providing it a real look. The basic two terms which combinedly form the **Augmented Reality are- AUGOGRAM and AUGOGRAPHY.** Augogram implies to a computer-generated image which is used while designing the AR and Augography is the science and process of making augograms. Augmented Reality can be summarized using the three basic features-
1. Combination of real and virtual world.
2. Real-time interaction.
3. The precise and unique 3D representation real and virtual objects.

-Bhumika Bhandari 4th 'A' CSE

What Augmented Reality Actually Is??

"When you think about big things, you think about AR".

Augmented = To increase the length, amount or size of something.
Reality = To experience something in real.

•By combining these two words, we can conclude that augmented reality is to increase the length or size of any real object. Augmented reality is a technology in which a real world object is combined with the virtual world and the result is an enhanced look of the object with extra layers of digital information.
•The principle of augmented reality is to superimpose virtual images over the real world object and apply digital layers over it to make it look real.
•This is achieved by the camera of any device which augments the video, graphics and other sensor based inputs of any real world object.
•SNAPCHAT-The most trending example of augmented reality!

-Vaibhavi Pathak 4th 'B' CSE

5G opens new possibilities for VR and AR

Super-fast mobile networks will further boost the potential of XR to strengthen its presence in entertainment and make further inroads into industry during 2020.

The potential for data transfer speeds of up to 3 gigabits per second – by comparison, the average home broadband delivers well under 100 megabits per second – means 5G should be fast enough to stream VR and AR data from the cloud. Rather than needing to be wired up to powerful PCs, or encumbered by on-board hardware, viewing devices will upload tracking data to data centers where the heavy processing will be done. The rendered images can be delivered back to the user in real-time thanks to the speed of 5G and other advanced networks. Streaming VR has been possible in a limited way for a few years now – Facebook lets you do it with your phone, but the experience is limited due to data transfer speeds and low on-device processing power. Combining it with the cloud and 5G technology means designers of VR and AR tools will be unencumbered by the need to deliver their experiences into a low-bandwidth, low-powered environment. The result will be cheaper headsets and viewing devices and more realistic VR simulations.

-Abhishek Singh 6th 'B' CSE

HISTORY

In 1968, a computer scientist name Ivan Sutherland innovated what he called The Sword of Damocles. The concept of Sword of Damocles was modified over time and this is currently known as Augmented reality. Augmented is a word derived from a latin word augere which means "to increase" augmented reality is also known as mixed reality and is one of the biggest technology trends at this moment and with its implementation on the smart phone its spread like wildfire.

WHEN WAS AR FIRST USED?

In 1998, **Augmented Reality** was first used for navigation in NASA's X-3 spacecraft.

AUGMENTED REALITY

FIELD OF APPLICATION OF AR:
- Aviation Industry.
- Plant maintenance.
- Mechanical maintenance.
- Consumer Technology.
- Nuclear industry

APPLICATION OF AR:
- Medical
- Manufacturing
- Hazard Detection
- Military training
- Robotics & Telerobotics

GOAL OF AR:
- To enhance a person's performance and perception of the world.
- The ultimate goal of AR is to create a system such that no user cannot tell the difference between the real world and the virtual augmentation of it.

FUTURE OF AR:
AR can transform our lives for the better. Google glass is being used in work environment in industry as mean of efficiency. AR has more potential than it is given credit for. The use of game Pokémon Go has been huge success stories.

-Mounica Thakar &Vishal Yadav 4th 'B' CSE

Exciting Facts You Didn't Know About AR

1. AR will cure Phobia.AR isn't all about games and entertainment. It cures Phobia.AR has become one of the most famous forms of therapy that are practiced worldwide.
2. AR is being used in the healthcare field to treat depression, anxiety, autism, PTSD and even nicotine addiction with Mindcotine.
3. Disney is using AR-A Disney Research team has developed technology that projects coloring book characters in 3D while you're still working on coloring them.
4. Though Augmented Reality and Virtual Reality started gaining success at the same time and are expected to generate billions of dollars, but Augmented Reality is believed to have extreme potential to become one of the popular technologies for the mainstream use.
5. AR technology could be a real benefit for NASA, as it can help in augmenting the effectiveness of navigation devices.

-Istuti Singh 6th 'B' CSE

Augmented Reality: Wrapping It Up

Augmented Reality is a type of virtual reality that desires to duplicate the real world's environment in a computer. This system generates a blended view for the user that is the mixture of real scene which is viewed by user and virtual scene generated by the computer that enhance the scene with additional information. The main objective of Augmented reality is to create a system in which the user can't explain the difference between real world and virtual enhancement of it. Nowadays augmented reality is used in entertainment, robotics, industries like manufacturing, telecommunications, healthcare are adopting AR for variety of uses including maintenance and repair, education and training and diagnostics. AR is a technology that enhances your experience of the world around you.

-Prachi Sharma 6th 'B' CSE

Online Classes by CSE during COVID19

The unpredicted lockdown in the country resulted in the lockdown on the studies and the teaching-learning process as well. So, our department found out a way to overcome this lockdown on the teaching-learning process. The faculties struggled day and night and finally, the successful conduction of Online lectures was carried out on 25th March 2020 through the ZOOM app. And as said each day marks the beginning of a new thing, the day of 25th March has come with new sunshine for the department. The joint effort of teachers and students made this online teaching-learning process a great success which helped the students to stay connected to their studies and teacher during the days of social distancing. Apart from these online lectures, the students were regularly monitored based on their performance in the online test uploaded on the college online exam portal. The students were given assignments after completion of each unit so that they can practice and learn the unit more efficiently. The students were made to solve the previous year question papers of semester exams which was regularly checked by the respective subject teacher. This not only helped the students to gain the knowledge given by the teacher but also test themselves by giving the tests and solving papers. This set a remarkable mark on the students and encouraged them to continue their learning process.
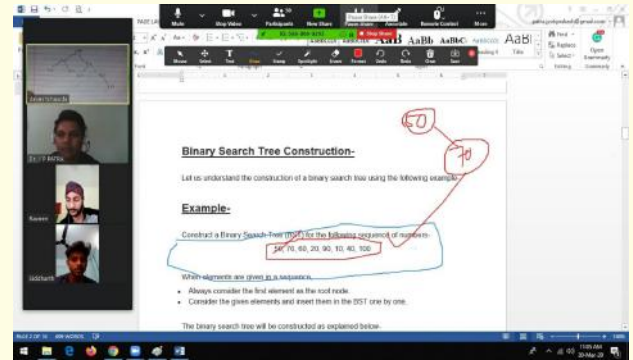
Lets Have Some Fun!

CROSSWORD PUZZLE

1				20	2	8		3		10	21	22	14
5	16					4		7					
26		25	18		23								
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6									■				
17								13					
9							24						
11						12							
19													
15													

SUDOKU

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	2	1						
					9			8
9				2			4	1
2								7
4		6			1		8	9
				1				
			4				5	
				8				

ACROSS :
1. Make larger by addition
4. Subsidy.
5. Appalled.
6. Blockage.
9. Thought.
11. Installed.
13. Webpage.
15. Aggregation.
17. Pragmatic.
19. Judgement.
24. Computer storage.

DOWNWARDS:
2. Pharseology
3. Hacker
7. Remedying
8. Festival
10. Manuscript
12. Picture Element
14. Wiki
16. Way-in
18. Plausible
20. Rekoning
21. Conclusion
22. Vowel
23. Detector
25. Papaeazzi's Device
26. Target of high-tech mining

Events organized by CSE

Our department always inspire to improve its students and tries to take out the best out of them. The department organises many events to further enhance the ability of students and make them familiar with the current on goings in today's world. The department conduct many workshops and seminars so that the students can enhance their learning skills.

The CSE department successfully organised one-week workshop on Internet of Things (IOT) which covered topics of application of IOT, software and sensors, connected devices, etc. and workshop on Printed Circuit Board (PCB) Designing to teach students the design and structure of circuit boards. Also, a workshop on Robotics was conducted to make the students familiar with the topic and interact with the artificial version of human beings. A workshop on Machine Learning followed by a workshop on React JS and Node JS for the students of 3rd year to provide them a basic knowledge about the topics. The team Colon Breakers also organized a workshop on Interview Preparation and Competitive Programming which was delivered by the final year students in which the participants were from both the 2nd and 3rd year. A workshop on GIT and Cyber Security by the final year students for the students interested in the particular field.

Accomplishment by our bright minds

Some of our students took part in different online competitions, gave their best and won prizes.

1. *SATWIK SHRIVAS, CHAHAT TEKWANI, SHUBHAM JAIN* of the 4th semester took part in **GOOGLE CODEJAM** and qualified for the next round.

2. *PRAKHAR PANDEY* of the 6th semester got certified for **MUSIC PRODUCTION by IMC.**

3. *KULDEEP SINGH THAKUR, APURVA SHUKLA* of 6th semester stood 1st and 2nd in International Speech Contest conducted by the Toastmasters International

4. *APURVA SHUKLA, KULDEEP SINGH THAKUR, SHARVESH SHARMA* won the Table Topics Contest conducted by **SSIPMT SPELLBINDERS TOASTMASTERS CLUB**

5. *TEAM ILLUMINATORS* of the 4th semester developed an android application named **HND-KnockCOVIDout.**

6. *Kartikey Pandey* of the 6th Semester developed an android application named - **"Pathshala"** for the students in which they can watch online video lectures of different subjects and they can even clear their doubts.

7. *Abhishek Singh & Kartikey Pandey* of the 6th semester made an official website of **Colon Breakers**. A team of expertise where from building a resume to developing a website is done by the best owning students of our department.

India Fights Against Covid-19

Corona virus disease abbreviated as covid-19 is an infectious disease caused by the newly discovered corona virus. Its major symptoms can be seen through mild fever, sore throat, dry cough and problem in breathing. This virus attacked its first target in Wuhan, china in December 2019 and then it gradually spread almost in 208 countries around the world reporting around 13 lakhs of confirmed cases. The disease can spread from person to person through small droplets from the nose or mouth which are spread when a person with covid-19 coughs or exhales. These droplets land on objects and surfaces around the person. Other people then catch covid-19 by touching these objects or surfaces, then touching their eyes, nose or mouth. Protect yourself and others from infection by washing your hands or using an alcohol-based rub frequently and not touching your face. Maintain at least 1 metre (3 feet) distance between yourself and anyone who is coughing or sneezing. Stay home if you feel unwell. Self-isolate by staying at home if you begin to feel unwell, even with mild symptoms such as headache, mild fever and slight runny nose, until you recover. To protect ourselves and the nation from this virus the country went into lockdown on March 25, 2020, restricting 1.3 billion people to stay inside their homes for 21 days.
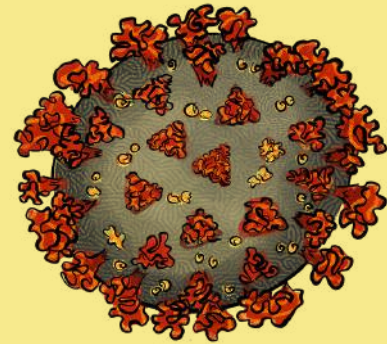
MYTHS BURSTING

• Exposing yourself to the sun or to temperatures higher than 25c degrees does not prevent the corona virus disease (covid-19)
You can catch covid-19, no matter how sunny or hot the weather is. Countries with hot weather have reported cases of covid-19. To protect yourself, make sure you clean your hands frequently and thoroughly and avoid touching your eyes, mouth, and nose.
• You can recover from the corona virus disease (covid-19). Catching the new corona virus does not mean you will have it for life.
Most of the people who catch covid-19 can recover and eliminate the virus from their bodies. If you catch the disease, make sure you treat your symptoms. If you have cough, fever, and difficulty breathing, seek medical care early – but call your health facility by telephone first. Most patients recover thanks to supportive care.
• Being able to hold your breath for 10 seconds or more without coughing or feeling discomfort does not mean you are free from the corona virus disease (covid-19) or any other lung disease.
The most common symptoms of covid-19 are dry cough, tiredness and fever. Some people may develop more severe forms of the disease, such as pneumonia. The best way to confirm if you have the virus producing covid-19 disease is with a laboratory test. You cannot confirm it with this breathing exercise, which can even be dangerous.
• Drinking alcohol does not protect you against covid-19 and can be dangerousFrequent or excessive alcohol consumption can increase your risk of health problems.

Consumption of lockdown period by self learning

This semester was gifted with an unpredicted lockdown that made all of us Quarantine ourselves from this world, develop new skills and enhance our knowledge. During this Quarantine Period, our students of all the semester didn't let the time go in vain. They did various online courses on their field of interest such as C, C++, Java and Python programming language, Machine Learning. Many learned about Digital Marketing, Android Application Development, Music Production, and Web Development. They did all this self-leaning process from the websites which know about every field that is UDEMY, COURSERA, NPTEL, ALISON, INTERSHALA, and YOUTUBE. They consumed their time very well by these online courses.

The upcoming cover theme for July 2020 issue is: **Lifi Technology**. Students may submit their articles in categories such as Technical Trends, Interesting Facts, Small Technical Game. Deadlines of the submission will be informed soon. Please note that Cyber Trinity is a Newsletter for members for large and not a journal for publishing full-fledged research papers. Therefore, we expect articles written at the level of the general audience. Please send your article in MS-Word format to Editor in Chief **Abhishek Singh**, in the email id **cse.newsletter@ssipmt.com** with the details of the sender(name, semester, branch).Issued on behalf of the Computer Science Department.

Mentor - **Asst. Prof. Taniya Jain**

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