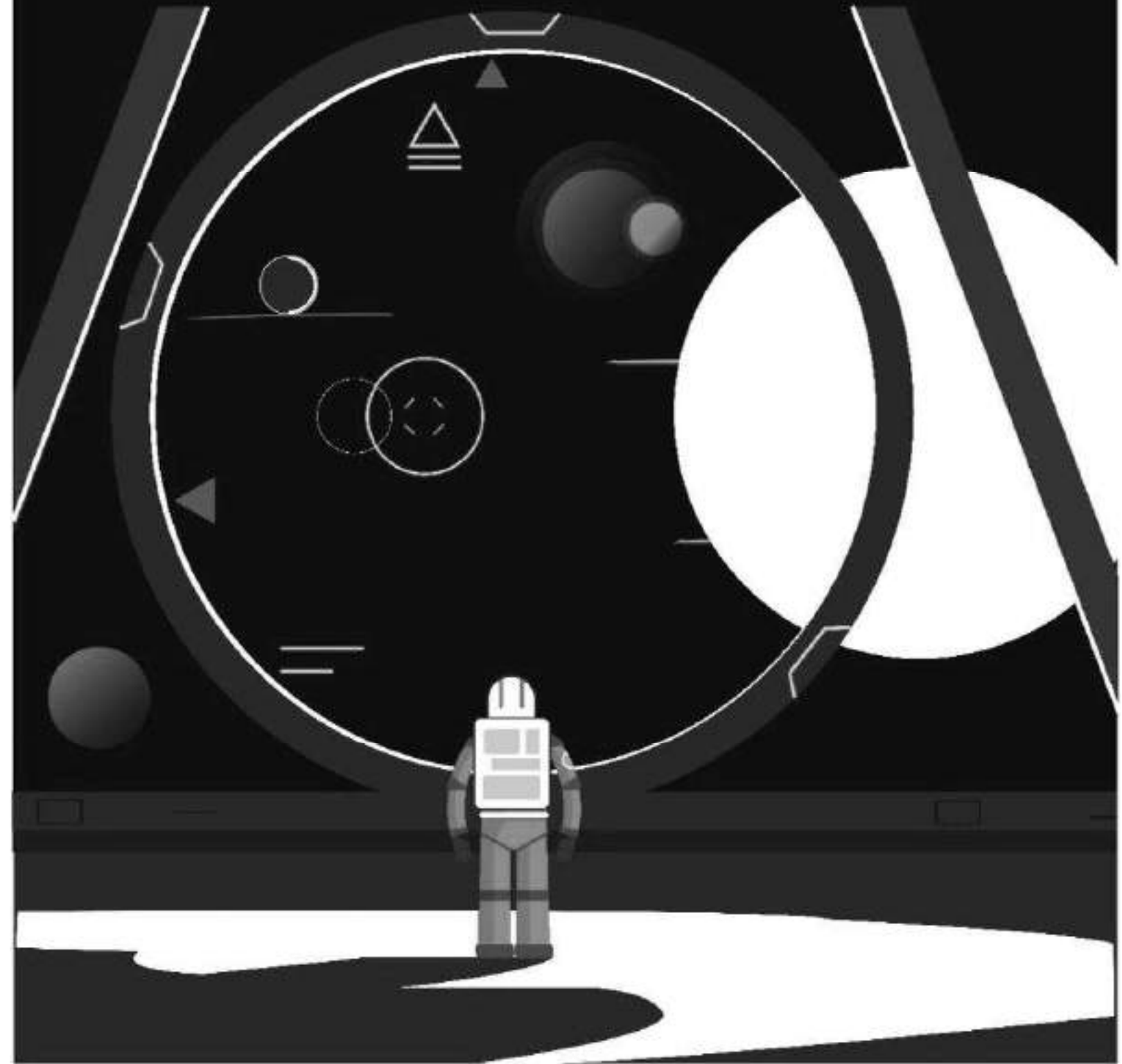


BITS AND BYTES

DEPARTMENT OF COMPUTER SCIENCE
AND ENGINEERING



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Message from HOD



It gives me immense pleasure to lead the dynamic team of department of Computer Science and Engineering. Since its inception, the department has strived to produce excellent academicians, scientists and industrialists who have brought laurels to the department and institute. The main focus of the department is to nurture students with multi-dimensional skill set.

The department has encultured Outcome Based Education (OBE) through innovative pedagogy, industry-academia interaction and live projects. The department is committed to provide not only technical education to students but also is helping them to build skills and qualities through which they can create employment to others.

The department has been funded by various organizations such as AICTE, VGST & VTU which has led to extensive improvements in creating infrastructural and research facilities. The department has been able to allow an inflow of around 30 lakhs of funds from these avenues over the last 3 years.

The department is well equipped with state of art laboratories and infrastructural facilities. The department holds the highest number of student placements in par with other departments and about 80% of our students are well placed in top organizations such as Mercedes-Benz, Tata Elxsi, Infosys, TCS & many more. We have excellent higher education credentials where most have them and are pursuing their Masters/Ph.D programme in Universities like MIT, Texas, Illinois etc.

The department has V.T.U recognised research centre for carrying out research work leading to M.Sc.(Engg) by Research and Ph.D degrees. The department holds a record of more than 200 research publications over the last 5 years. The department has contributed in obtaining copyrights, patents and book chapters for the research work undertaken.

The Department continuously organises seminars, workshops and conferences to help the faculty and students to update their knowledge about the latest developments. Based on the contributions made by the department in terms of its academic innovations, research contributions, consultancy activities and excellent placement statistics, the department has been accredited by the National Board of Accreditation twice.

I appreciate the magazine team of CSE department for the efforts put in to preserve the achievements and publish all its activities in the department magazine "BITS AND BYTES" which will be published annually.

I wish Good luck and best wishes to the editorial team of the magazine in thriving to bring the achievements of the department in a well-defined manner.

Regards,
Dr. Geetha Kiran. A,
Professor and HOD,
Dept of Computer Science and Engineering.

Developed a web application for monitoring COVID-19 patients in-home quarantine.

In the COVID-19 pandemic, third-year CSE students- Adarsh D and Manoj Kumar H R have developed a web application for monitoring COVID-19 patients in-home quarantine. Under the

guidance of Dr. Geetha Kiran A. On April 2nd, 2020 the application was handed over to Mr. Srinivas Gowda R, Superintendent of Police, Hassan District.



Mr. Srinivas Gowda R, Superintendent of Police, Hassan issued an appreciation certificate to fellow students and Dr. Geetha Kiran A for the application developed.



Ph.D. Awarded to Mr. Gururaj H L



The research scholar of Computer Science and Engineering research center Gururaj H L worked on the thesis "QoS Aware TCP Congestion Control Variants for Processing

Multimedia data in Mobile Ad-hoc Networks" under the supervision of Dr. Ramesh B, Professor, Department of Computer Science and Engineering, MCE, Hassan.

AICTE MODROB grants sanctioned to setup the Data Analytics Lab



The AICTE sanctioned funding of Rs. 5,00,000/- for the initiation of "Data Analytics Lab" under Modernization and Removal of Obsolescence (MODROB) scheme on the

14th of March 2020 and this project was coordinated by Dr. Chandrika J, Professor, Department of Computer Science and Engineering, MCE, Hassan.

Granted with TEQIP Competitive Research Fund, VTU, Belagavi

The TEQIP Competitive Research fund of Rs. 1,30,000/- was granted to the research work entitled "Fruit Crop Yield Estimation Using Machine Vision Techniques" by VTU, Belagavi in the year

2019-20. This project was undertaken by Dr. Geetha Kiran A, Professor, and Head, Department of Computer Science and Engineering, MCE, Hassan.

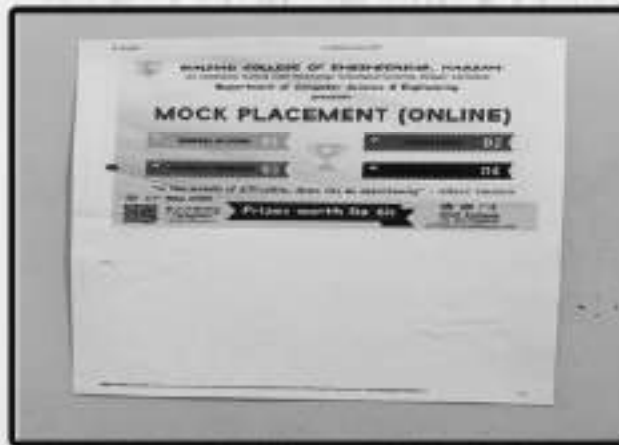
KSCST Sponsored Project



The KSCST Sponsored Project 2019-20 was approved for the project entitled "Swarm intelligence for effective energy management in MANET". The team members are Dhruva Sankalp H K,

Harshith H M, Poorvith Gowda G D, and Vikas H S. This project was done under the guidance of Dr. Ramesh B, Professor, Department of Computer Science and Engineering, MCE, Hassan.

Mock Placement Event



During the COVID-19 pandemic, the Department of Computer Science and Engineering organized the "MOCK PLACEMENT" test on 11th May 2020 for the students of MCE to create awareness on placement activities. This

event was conducted in online mode and the winner of the competition was awarded cash prize of worth RS. 5000/-. This event was coordinated by Dr. Geetha Kiran A and Mr. B B Neelakantappa.

A State-level coding challenge "CODE-IT"

Department of Computer Science and Engineering had organized a state-level coding competition "CODE-IT" on 24th of May 2020. In collaboration with New Age Incubation Network (NAIN). This

This event was coordinated by Dr. Geetha Kiran A. The winner of the competition was awarded cash prize of Rs. 5000/-..

Two Weeks Computer Training Program for Ministerial Staff

The department of Computer Science and Engineering had organized two weeks program from 20th July to 31st July 2020. The CS&E department, staff gave hands-on training on MS Word, MS Excel, Google Forms Creation, Baraha Kannada



typing, Gmail Account Creation and usage, WhatsApp Web. Many ministerial staff utilized the opportunity and attended this training program. This training program was coordinated by Dr. Kavitha A S, Associate Professor, CS&E, MCE, and Mrs. Margaret R E, Assistant Professor, CS&E, MCE.



The valedictory function was organized on the last day of the training program and the chief guest for the program was Dr. C V Venkatesh, Principal, Malnad College of Engineering. In this function,

the importance of technology adoption in the work was emphasized and participation certificates were given to the participants by Dr. Geetha Kiran A, Professor & Head.

Ten days workshop on “Elevate Your Programming Skills: A Visualized Approach”

Department of Computer Science and Engineering had organized ten days workshop called “Elevate Your Programming Skills: A Visualized Approach” from 1st September to 11th September 2020 for second and third-year students of MCE. More

than 200 students actively participated in this workshop and improved their programming skills. This workshop was coordinated by Mrs. R. E Margaret, Assistant Professor, CS&E, MCE, and Mrs. P Sunitha, Assistant Professor, CS&E, MCE.



Orientation Program for Second Year Students

A virtual Orientation program for the second year students of CS&E was convened on 23rd September 2020 for the academic year 2020-21.

The program was started with an invocation by Kum. Pratheeka, fourth-year student followed by a welcome note by Mrs. Nityashree R, Assistant Professor. On this occasion, Dr. A Geetha Kiran, Professor, and Head of CS&E introduced all the faculty and staff members of the department and then briefed them about Prothe infrastructure, achievements, the innovation of teaching and learning, research and development, funds for research activities from AICTE, UGC, KSCST and also facilities available in the department.

Dr. Ramesh B, Professor, Dr. Chandrika, Professor & Mr. H. V. Shashidhar, Associate Professor addressed newly joined students of our department.

Mr. B. B. Neelakantappa, Associate Professor & Training, and Placement officer briefed about the required qualities for campus interviews and facilities provided for students. During the program Kum. Raksha M Bharadwaj shared her opinion about choosing the CS&E department. Finally Mrs. Harshitha, Assistant Professor presented the vote of thanks.

"RED PENCIL - The Event of Debugging"

The Department of Computer Science and Engineering in association with the Computer Society of India (CSI) conducted an event of debugging titled "RED PENCIL" on 3rd December 2020 for Engineering Students. Many students across the country had participated. Mr. Prajwal H P, student of Mechanical Engineering, Malnad College of Engineering, Hassan

bagged the 1st prize of Rs. 3000. Mr. Adithya H R, student of Information Science Engineering, Malnad College of Engineering, Hassan bagged the Second Prize of Rs. 2000 and Mr. Rozer Kshetrimayaum, student of Dronacharya College of Engineering, Delhi bagged the third prize of Rs. 1000.

MALNAD COLLEGE OF ENGINEERING
HASSAN-573201, KARNATAKA, INDIA, ESTD. 1960
An Autonomous Institution of the Government of Karnataka

in association with
COMPUTER SOCIETY OF INDIA
STUDENT CHAPTER
Institution Membership Number: M10628
presents

{ RED PENCIL }

"An Event of Debugging"

📅 THURSDAY, DECEMBER 3RD 2020, at 11 am
📄 Registration: ₹50 per Candidate
Prizes- 1st: ₹3000, 2nd: ₹2000, 3rd: ₹1000
OPEN FOR ALL ENGINEERING STUDENTS

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CS 2nd Laboratory was inaugurated

The Computer Science and Engineering CS 2nd Laboratory was inaugurated by Dr. C V Venkatesh, Principal, Malnad college of Engineering 24th October 2020.

In this inaugural function Dr. A Geetha Kiran, Professor and Head, Dr. Ramesh B, Professor, and all the staffs of the CS&E department were present.



First-Year Programming Lab was setup.

The Computer Science and Engineering Department made setup a new Programming lab for First Year students financed by TEQIP III and this lab accommodated 70 Computers with other facilities like UPS, Network, and Broadband Connectivity.



Startup by CSEins

DEVELOPERS COMMUNITY

- Developers Community is a student led startup aimed to improve and uplift budding developers by building solutions to the problems that most of us are facing everyday
- Developers Community develops interest in the students to learn coding in the industry standard and contribute to the college and society

Projects completed

- Home quarantine monitoring system for COVID-19 pandemic
- Leave management system for Karnataka Police Department
- Online System Service Tracking Portal for MCE
- MCE Certificate Generator
- MCE-FDP Blog Site
- ME-RIISE website
- Micro-Certification Engineering Program Registration portal
- Beats Management System for Karnataka Police Department (Ongoing)

Co- Founders

Adarsh. D (4th Year CSE)

Manoj Kumar H R (4th Year CSE)

Faculty Members



Dr. Ramesh B
Professor
B.E.(CSE), M.Tech(CSE),
Ph.D.(CSE)



Neelakantappa B B
Associate Professor,
Training and Placement
Officer(TAP).



Dr. Chandrika J
Professor
B.E., M.Tech., Ph.D



Dr. Geetha Kiran .A
Professor and Head,
Co-ordinator ME-RIISE,
B.E, M.Sc(Engg) by
Research, Ph.D



Shashidhara H V
Associate Professor
B.E. M.Tech



DR. Kavitha A S
Assistant Professor
M.Tech., Ph.D



Sunitha P
Assistant Professor
B.E., M.Tech.



Mrs. Margaret R.E.
Assistant Professor
MCA



Mr. Prasanna K S
Assistant Professor
MCA.



Priya Neelkanth
Assistant Professor
MCA.



Mr. Vinod A M
Assistant Proffesor
MCA M.Tech(CSE).



Vasanth Kumar N.T.
Assistant Professor,
MCA.



Keerthi K S
Assistant Proffesor
B.E, M.Tech.



Tejonidhi M R
Assistant Proffesor
B.E, M.Tech



Ayeesha Siddiqha
Associate Proffesor
B.E. M.Tech



Kavyasri M N
Assistant Proffesor
B.E., M.Tech(PhD)



Shobha Chandra K
Assistant Proffesor
B.E., M.Tech.



Shruthi.T.R
Assistant Proffesor
B.E., M.Tech.



Sumanth CM
Assistant Proffesor
B.E, M.Tech.



Nithyashree R
Assistant Proffesor
B.E, M.Tech.



Harshitha S
Assistant Proffesor
B.E., M.Tech

Faculty Publications

Dr. Ramesh B, Mrs. Pushpalatha R, Thippeswamy, "Pre-eminent Strategy for Effective Utilization of Power in Data Center", International Journal of Recent Technology and Engineering (IJRTE), January 2020.

Dr. Ramesh B, Mrs. Kavyasri M N, "Survey of access control techniques based on CP-ABE scheme to ensure secure access of multimedia data in cloud storage", International advanced research journal in science, Engineering and technology, January 2020.

Dr. Chandrika J, Mrs. Sunitha R, "Evolutionary Computing Assisted Wireless Sensor Network Mining for QoS-Centric and Energy-Efficient Routing Protocol", International Journal of Recent Technology and Engineering (IJRTE), January 2020.

Dr. Kavitha A S, "Identification of Scene Images using Convolutional Neural Networks- a survey", International Research Journal of Engineering and Technology, Feb 2020.

Mrs. Shruthi T R, "Political Tendency Identification in Twitter Using Naive Bayes Classification", International journal of computer science and mobile computing, April 2020.

Mrs. Kavyasri M N, "Ranking Websites in Search Engines Using Big Data Plat-form", International Journal of Innovative Research in Technology, April 2020.

Dr. A Geetha Kiran, "Student Centric Pragmatic Approach to Impart Concepts of Python Applications Programming", Journal of Engineering Education Transformations, July 2020.

Dr. A Geetha Kiran, "The Significance of Melody in Music Therapy", Bulletin of the Transilvania University of Braşov, Series VIII: Performing Arts, Vol. 13 (62) No. 1 – 2020.

Dr. A Geetha Kiran, "Folk Music: An integral part of everyday life in Southern Karnataka", Bulletin of the Transilvania University of Braşov, Series VIII: Performing Arts, Vol. 13 (62) No. 1 – 2020.

Dr. Kavitha A S, "Music Genre Classification using Machine Learning Algorithms: A comparison 2 Suspicious Email Detection System", International Research Journal of Engineering, and Technology, 2020.

Dr. Kavitha A S, "Suspicious Email Detection System", International Research Journal of Engineering, and Technology, 2020.

Articles by CSE students

Gaming

Gaming has always been a major part in our lives. It is a way to get out of your real life and enjoy a virtual world filled with full of surprising elements. It has played a major role in curing depressions and made you come out of anxiety attacks. Games have helped many in reducing pressure and stress.

We have grown up from playing SNES classics like Mario, Legend of Zelda , Donkey Kong , Castlevania , Mortal Kombat to games like Counter strike , Call of duty , Valorant and other consoles games . Every single game has its own world in which we end up exploring everything. Remember when we used to go to gaming cafes and ended up playing for hours and getting scolded after you return home, those were the best days of our lives. Back In the days , people used to have Windows 98 or Xp machines in their homes and they used to get the floppy disks filled with DOS games like prince of Persia , Aladdin , Dangerous Dave etc but now everything is digital , you just have to buy the game through digital distributions like Steam , Epic , Blizzard , Origin , Uplay , Gog and download it then start playing it without wasting any time .

Although we came across many titles which made us play for hundreds of hours, still some games remain as special ones which we would love to visit when we are bored or whenever we want to cherish old memories.

Now Coming to today's situation, gaming has become a major thing in India. Since the release of Dota, League of Legends and counter strike, we have seen so many people going professional and competing in big tournaments. Although League of Legends, Dota didn't do much in India, Counter Strike was the one where people started getting into E-sports.

They started competing in LAN tournaments and won several trophies. Nowadays, E-sports is a huge thing in India, thanks to Pubg Mobile although it was a big thing earlier when CSGO was in spotlight. Pubg Mobile brought major Indian audience into gaming as people were not able to afford pc's. As it banned now, people are shifting to PC gaming by getting into games like Valorant, COD Warzone , Minecraft.

So, there are many genres in gaming like Action, Adventure, Roleplaying, Simulation, Sports, Strategy etc. But nowadays people are after FPS (first person shooter) games like CSGO, Rainbow Six Siege, Overwatch, Destiny 2, Call of Duty Modern Warfare and Battle Royale games like Pubg , Fortnite , Warzone , Apex legends , EFT and survival games like Minecraft , Rust , ARK . Besides these games, most of us enjoy playing story mode games which include AAA titles like GTA V, Witcher 3, Skyrim, Assassins creed, Far Cry series, Red Dead Redemption 2 , Just Cause . All of these games are really worth trying once. there are many games which you can try and you may end up grinding it for hundreds or thousands of hours.

So, everyone nowadays is enjoying games either on PC, Console or mobile. Those who don't have consoles are emulating it on pc and enjoying the console exclusives on their PC and mobile gamers are getting into gaming through Call of Duty mobile and LOL Wildrift as PUBGM has been banned in India. We may have come across so many streamers on platforms like Twitch and Youtube, who are just playing games all day long and entertaining viewers, these guys are educating people about games and helping them in coming out of depression and anxiety. So as of now gaming is one of those things where you can enjoy it as well as earn from it. You can either be a game developer or a streamer or an e-sports player, whatever you want to be, social media and gaming have led to so many things from which you can settle down for rest of your life. So for example , you have heard about Ninja and Shroud , they were both e-sports player before becoming big names at streaming , Ninja used to play halo and has won so many trophies and Shroud used to play for Cloud 9 and has won major tournaments by playing CSGO but shroud had already made a name in this scene , Ninja got the fame when he played Fortnite with Drake and after that celebrities also started playing with streamers and now after last years quarantine , even they started streaming and got huge number of followers.

So, as of now, gaming has become a major part of our lives, whether you play on mobile, console or pc . In upcoming years , we can see gaming as a culture of our lives and whether you have played games in your childhood or in your teenage or you are playing it now , you are a gamer and having a online persona and living it differently than your usual life is way better than wasting your time on useless things. Nowadays people are connecting through online games and end up becoming best buddies in real life.

So, enjoy playing games and I can assure that you will enjoy each and every moment while playing that game and if you feel lonely in this world, try PvP games, in that you will find many people who will end up being friends with you.

Happy Gaming ☒

Gagan S.G.

2nd year CSE

PC Gamer and streamer

(Youtube Channel - SpideyZone)

History of Baking

Baking is a process of cooking by dry heat, especially in some kind of oven. It is probably the oldest cooking method. Bakery products, which include bread, rolls, cookies, pies, pastries, and muffins, are usually prepared from flour or meal derived from some form of grain.

The oldest known ovens were unearthed in Croatia in 2014. They are estimated to be 6,500 years old. The Egyptians were also pioneers in baking as the first recorded civilization to use yeast in their bread as long ago as 2600 BC.

Then, there was the Roman Empire's Baker's Guild established around 168 BC. This organization, called the Pistorum, recognized bread bakers as skilled artisans. In fact, baking was held in such high regard that a festival was held once a year to celebrate Fornax, the oven goddess.

In the Middle Ages, wheat bread was reserved for wealthy people. Poor people stuck with rye and black bread and, if they could afford it, meat pies.

The introduction of saffron and other expensive spices helped baking take off in Britain in the 15th century. Sweetened dough buns, mincemeat pies, and gingerbread all entered the scene at this point in the history of baking.

Economic growth and globalization in the 16th and 17th centuries led to more decadent treats with butter, cream, and raisins. Baking became more accessible to the average person at this time, so families started to bake cakes and biscuits together.

The development of the semi-closed oven and the publishing of *The Art of Cookery* in 1747 provided budding chefs with the tools and ideas they needed to try an array of cake recipes. In 19th century baking powder transformed the dense, yeast-based cakes of centuries past into the light, fluffy baked goods we know today.

Ananya K P,
2nd year CSE.

Epidemic Diseases Act 1897

What is Epidemic Diseases Act 1897?

It is an act to provide for the better prevention of the spread of Dangerous Epidemic Diseases. Epidemic Diseases Act 1897 was rarely used before it found huge significance because of the Coronavirus spread in 2020.

Previous implementations of this act

The Act was first enacted to tackle the bubonic plague in the then Bombay State.

In 2009 it was invoked in Pune to combat swine flu.

In 2015 it was used to deal with dengue and malaria in Chandigarh.

In 2018 it was enforced to contain the spread of cholera in Gujarat.

Since the last week of March 2020, the act is being enforced across India to limit the spread of COVID-19.

Sections under the act

This act has 4 sections:

To control an epidemic, some powers have been given to the State Governments and Central Government under Section 2 and Section 2 (A) of this act respectively.

Section 3 of this act deals with Penalty while Section 4 deals with the protection to persons acting under Act.

Section 2-Power to take special measures and prescribe regulations as to dangerous epidemic disease

Section 2(1) When at any time the [State Government] is satisfied that [the State] or any

person to take, such measures and, by public notice, prescribe such temporary regulations to be observed by the public or by any person or class of persons as [it] shall deem necessary to prevent the outbreak of such disease or the spread thereof, and may determine in what manner and by whom any expenses incurred (including compensation if any) shall be defrayed.

Section 2A-Powers of Central Government

When the Central Government is satisfied that India or any part thereof is visited by, or threatened with, an outbreak of any dangerous epidemic disease and that the ordinary provisions of the law for the time being in force are insufficient to prevent the outbreak of such disease or the spread thereof, the Central Government may take measures and prescribe regulations for the inspection of any ship or vessel leaving or arriving at any port and for such detention thereof, or of any person intending to sail therein, or arriving thereby, as may be necessary.

Section 3-Penalty.

Any person disobeying any regulation or order made under this Act shall be deemed to have committed an offence punishable under section 188 of the Indian Penal Code (45 of 1860).

Section 4-Protection to persons acting under Act.

No suit or other legal proceeding shall lie against any person for anything done or in good faith intended to be done under this Act.

Following the 2019–20 coronavirus pandemic the Center announced that all states and Union territories in India should invoke provisions of Section 2 of the Epidemic Diseases Act, 1897

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https://en.wikipedia.org/wiki/Epidemic_Diseases_Act_1897

Augmented Reality

Augmented reality may not be exciting as a virtual reality rollercoaster ride, however, it may prove to be a very useful tool in our everyday lives. It holds this potential because it brings elements of the virtual world, into the real world, enhancing the things we see, hear, and feel. Among the other reality technologies, augmented reality lies in the middle of the mixed reality spectrum, being between the real and virtual world.

What is Augmented Reality (AR)?

Noun

An enhanced version of reality where live direct or indirect views of physical real-world environments are augmented with superimposed computer-generated images over a user's view of the real world, thus enhancing one's current perception of reality.

The origin of the word augmented is augment which means to add something. In the case of augmented reality (also called AR), graphics, sounds, and touch feedback are added into our natural world. Unlike virtual reality, which requires you to inhabit an entirely virtual environment, augmented reality uses your existing natural environment and simply overlays virtual information on top of it. As both virtual and real worlds coexist, users of augmented reality experience a new and improved world where virtual information is used as a tool to provide assistance in everyday activities.

Applications of augmented reality can be as simple as a text notification or as complicated as an instruction on how to perform a life-threatening surgical procedure. They can highlight certain features, enhance understandings, and provide accessible and timely data. Cell phones apps and business applications are a few of the many applications driving augmented reality application development. The key point is that the information provided is highly topical and relevant to what you want you are doing.

called location-based, position-based, or GPS) augmented reality, uses a GPS, digital compass, velocity meter, or accelerometer which is embedded in the device to provide data

Types of Augmented Reality Augmented Reality (AR) Categories

Marker based Augmented reality

As one of the most widely implemented applications of augmented reality, markerless (also called location-based, position-based, or GPS) augmented reality, uses a GPS, digital compass, velocity meter, or accelerometer which is embedded in the device to provide data based on your location. A strong force behind markerless augmented reality technology is the wide availability of smartphones and location detection features they provide. It is most commonly used for mapping directions, finding nearby businesses, and other location-centric mobile applications.

Projection based Augmented Reality

Projection based augmented reality works by projecting artificial light onto real world surfaces. Projection based augmented reality applications allow for human interaction by sending light onto a real-world surface and then sensing the human interaction (i.e., touch) of that projected light. Detecting the user's interaction is done by differentiating between an expected (or known) projection (caused by user's interaction). Another interesting application of projection based augmented reality utilizes laser plasma technology to project a three-dimensional (3D) interactive hologram into mid-air.

Superimposition Based Augmented Reality

Superimposition based augmented reality either partially or fully replaces the original view of an object with a newly augmented view of that same object. In superimposition based augmented reality, object recognition plays a vital role because the application cannot replace the original view with an augmented one if it cannot determine what the object is. A strong consumer-facing example of superimposition based augmented reality could be found in the Ikea augmented reality furniture catalogue. By downloading an app and scanning selected pages in their printed or digital catalogue, users can place virtual Ikea furniture in their own home with the help of augmented reality.

Achal J

2nd year CSE