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**Department of
Computer Science and Engineering**
&
i - Grow Association

THE BYTE



SYNOPSIS

φ **Messages**

φ **Student Editors**

φ **About Department**

φ **PEOs and Pos**

φ **Student Innovative Ideas**

φ **About KFC**

φ **Alumni Talks**

MESSAGES



VICE CHAIRMAN'S MESSAGE



**Er.E.V.Kumaran M.E.,
Vice-Chairman**

“The Byte” is particularly important as it encourages the students to share the knowledge they have acquired. Writing articles for the magazine also improves the communication skills of the budding engineers of the CSE department. It is common knowledge that representation of an idea is as important as, if not more important, than the idea itself. “The Byte” represents a cloud with a silver lining for the world of technology. It aims to inspire and nurture upcoming engineers to bring a revolution in this ever-evolving world of technology. The magazine captures the current technological advancements.

It is my pleasure to congratulate the team that has taken the initiative for producing this magazine. It is great to find a considerable number of technical articles that certainly prove that our staff and students are adequately equipped and possess necessary skill sets to express their talent.

Reading this magazine would definitely be an inspiration and motivation for all students and staff to contribute even more to the forthcoming issues. I hope that everyone would continue to give their full efforts to keep the momentum and continue to enhance the standards of the magazine

In the words of Our Great Visionary Former President of India Dr.APJ.Abdulkalam

“Learning gives creativity, Creativity leads to thinking,

Thinking provides knowledge, Knowledge makes you great.”

May the **QUALITY EDUCATION** we impart to our students and enlighten their minds and hearts towards always aiming high.

REGISTRAR'S MESSAGE



Dr. R. Sathiyaseelan
Registrar

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Reading this magazine would definitely be an inspiration and motivation for all students and staff to contribute even more to the forthcoming issues. It is our effort to make AEC of Computer Science a top educational institution that can create IT professionals,

who blend effectively, technological skills with management perspectives and to impart an inherent discipline that will help them face challenges in the future.

I hope that everyone would continue to give their full efforts to keep the momentum and continue to enhance the standards of the magazine

PRINCIPAL'S DESK



Dr.L.Jayakumar
Principal

It is our effort to make AEC of Computer Science a top educational institution that can create IT professionals, who blend effectively, technological skills with management perspectives and to impart an inherent discipline that will help them face challenges in the future. Consequently, the true education should deepen our insight, widen our horizon and create a meaningful outlook. Equally the students are fortunate enough to have born in a free nation, with all the facilities to shape their career in such a way, that they should be part of a good and healthy society with progressive attitude towards divinity.

HOD'S MESSAGE

It gives me immense pleasure to lead the department of CSE. The department has well qualified and eminent faculty. The main objective of department is to develop the students both personally and professionally to achieve successful career in Industry, Research and Academics. Consequently, great advances have taken place in the field of computer science and engineering, bringing together the understanding of the scientific and technological foundations of computing, the concepts of software and hardware as well as those of Computer Science and Engineering endeavors to contribute to these advances through teaching and research in this field. It gives us a great contentment to bring it to you the department magazine of CSE. This magazine is a platform to exhibit the innovative ideas of teachers and students. The E-magazine attempts to present the Department and its activities for general information to all concerned.

"The secret of success is to do the common thing uncommonly well."

-John D. Rockefeller Jr

"**The Byte**" magazine offers an existing platform for the students as well as faculty members to exhibit the knowledge they possess and a good change to develop the same.



Dr.M.Jothish Kumar
HOD/CSE

SPECIAL MESSAGE



CSI CHAIRMAN'S DESK



Dr. Suresh A Shan
Chairman Computer Society of India
CSI Mumbai Chapter.

Letter from Educator Leaders Desk on Innovation and Technology for the Future... Post Covid...

An unknown Ethics to understand from known Epics.

Future Technology – More & More Ideology about to Change our world. The future as always feels like its running fast. Reach and speedy services with Human intelligence focused on virtual imagination works harder than human enterprise. The reality of such elements framed at any given moment, researcher, faculty, student's engineers are redesigning future technology restructured the global thoughts around us in some big biggest ways.

We have to believe it using the gazettes behaviour' s is going to change, by the time we would realise IT, we would live through it. But the rate of digital transformation from post covid progress is multi-fold and has been abnormal staggering in fields as broad as computing, medicine, health, media, finance, automobile, pharma, aviation, education, with communications and collaborations using the materials science.

The real industry transformation keeping futurologist's far seeing googles on and put together the entire human life with huge complicated list of major activities performed individually will raise the living life style Rise bar, such technology will change our world of seeing, listening, hearing, eating, thinking from bionic human beings to transformed technology human. The way these are the biggest of big ideas which will change us into new era of technology.

Proven and tested model of Artificial eyes, even blind can fix and feel the view system internally, the digital twins that track our health and entire generations family health will be verified and checked using the AI big data focus data insight systems. Smart sutures that detect infections through health monitory systems.

Using our DNA to create clones and living Robots, powered smart watches will do all the sensors fit in to execute our day to day life information receive and send back to connects using alternate transformation systems, self-healing living concrete created out of hybrid robots made using the living stem cells. The real value on the Tactile virtual reality using the field communication NFC technology to transfer the data insights on automatic Artificial intelligence programmed part of it.

From our ISRO the hiber micro satellite vessels are planned to deploy for More and more mobility and IOT internet of things which will be made available to all the part of our country to depend on strong internet infrastructure. The corporates like google Facebook, hiber, with different approach by launching their own network of micro satellites into low earth orbit. Which wake up a modern plugged into our own computer mobile IOT networks when it flies near us and delivers our data with insights.

The future of learning builds out of the Emerging Technologies using Cloud Computing, Augmented Reality (AR) & #3D printing, the future extrapolate of new era information is promising technologies. The Natural Language Processing build through Augmented Reality(AR) using the Google glass gaming and future learning Apps for all the subjects used on white boards, projects and visuals. The AR experience for the faculty and students must be immersive enough to blend information readily with the current reality.

The next generation social experience is featured a new way to learn and teach particularly very much Promising for the students to collaborate in the projects and assignments. Especially for the engineering students and teachers #3D printing with multiple dimensions working mini models to test out the design and principles guides students to create design actual prototypes, together with CAD (Computer Aided design) modeling software, it allows these students to experiment freely with their designs, abstract thought real life models, without expending considerable costs efforts and time.

The physical presence of the student and faculty is watched constantly by the biometrics eye tracking to find every 10 minutes both are active or not communicating. Fingerprints, facial recognition iris patterns voice, maps and captures all the movements happing in the college.

What we Learnt & know is handful, what we yet to Learn & UN know is world full.
Happy reading – Dr. Suresh A Shan Chairman Computer Society of India CSI Mumbai Chapter.

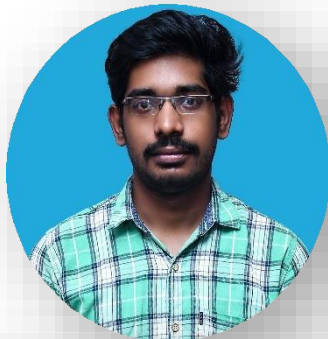
THE TEAM



KALAI ARASU K - IVth YEAR CSE



RUTHNA KUMAR S – IVth YEAR CSE



ANBARASAN A– IIIrd YEAR CSE



KARTHIKEYAN S– IIIrd YEAR



AADHI NARAYANAN– IIIrd YEAR CSE



MEIYAZHAGAN V– IInd YEAR CSE



HEMANTH – IInd YEAR CSE



To be a National Leader in Research and
Technical Education

Strive to prepare computing graduates who are highly wanted for productive and well-respected work to contributed in the field of computing areas in tune with state of art technology. Strive to carry out innovative research which adds to understanding of basic concepts. Strive to provide services to hardware and software industry through technology transfer and applied research.



ABOUT DEPARTMENT

Computer Science and Engineering was established in the year 1993. Currently the Department offers an under-graduate program (B. E) in Computer science and engineering with an intake of 120 students and post graduate program (M.E) in computer science and engineering with an intake of 18. The primary goal of CSE is to provide best IT infrastructure, world class learning & research environment, adopt industry practices through industry collaborations and inculcate moral and ethical values. The department also focuses on infusing confidence in the minds of students and to develop them as entrepreneurs. The department endeavors to produce confident professionals tuned to real time working environment. The department offers excellent academic environment with a team of highly qualified faculty members to inspire the students to develop their technical skills and inculcate the spirit of team work in them.

PEOS

PEO1-Graduates will have successful career in Computer Science and related industries or pursue higher education and research or evolve as entrepreneurs

PEO2-Graduates will have the ability and attitude to adapt to emerging technological changes.

PEO3-Graduates will excel as socially committed engineers with high ethical values, leadership qualities and empathy for the needs of society

Program Outcomes Pos

Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems

Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations

Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

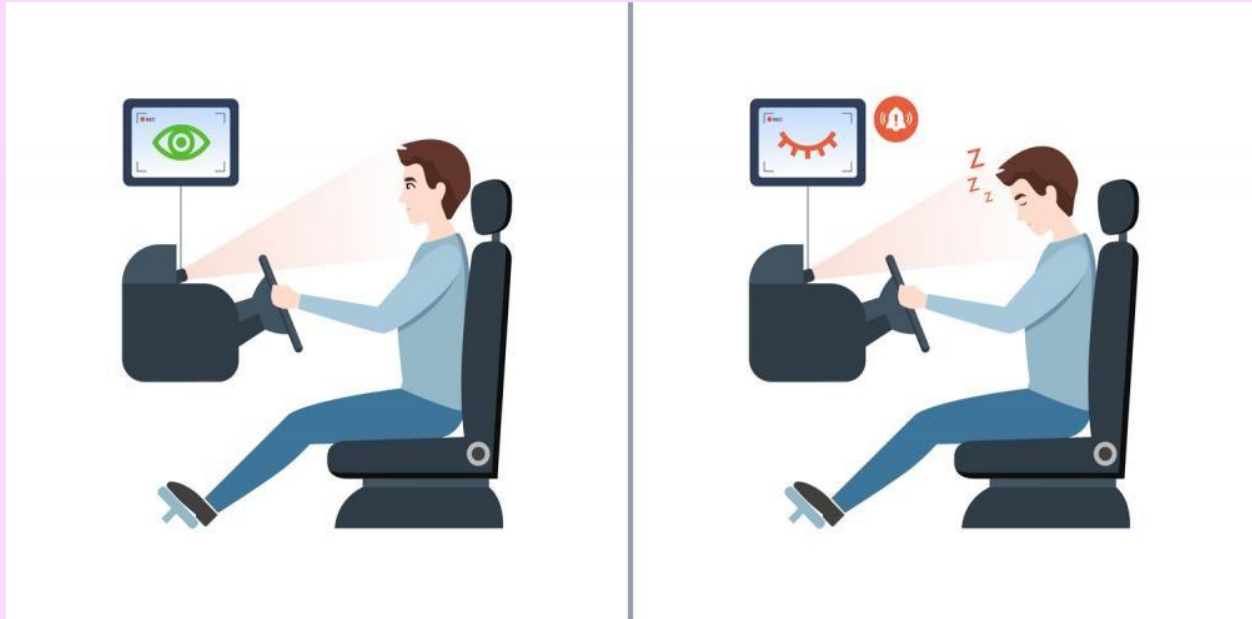
Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

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

Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

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.

Drowsiness Detection using OpenCV



The new way of security system which will be discussed in this project is based on machine learning and artificial intelligence. Passenger security is the main concern of the vehicle's designers where most of the accidents are caused due to drowsiness and fatigued driving in order to provide better security for saving lives of passenger's airbag is designed but this method is useful after an accident is an accord. But the main problem is still we see many accidents happening and many of them are losing their lives. In this project we are using the OpenCV library for image processing and giving input as user live video and training data to detect if the person in the video is closing eyes or showing any symptoms of drowsiness and fatigue then the application will verify with trained data and detect drowsiness and raise an alarm which will alert the driver.

Anbarasan A
THIRD YEAR, CSE

Online Lawyers Application Website Project Synopsis



We need to design and develop a website for lawyers and their service. Customers can register and search for lawyers basing their requirement. Info related to lawyers will be there in website which customers can browse through and view their profile before contacting them. Customers can book a schedule for meeting with lawyer. We also had a discussion in regard to few clarifications and inputs from your side specifically to understand the project flow. Search by lawyer location, lawyer services like criminal, divorce, affidavit, civil, and then schedule a meeting with the same. In this document we present our understanding of what needs to be accomplished in the project along with the budget and time estimation.

Gurugnanakumar B
FINAL YEAR, CSE

Students and Staff Automation System Java Project



The Project “Students and Staff Automation System Project” targeted for the College Students and for faculty members integrates the transaction management and inventory management of the College for better control and timely response. The College is provided with better control over the transactions like entering the admission details, maintaining the staff details, providing course and admission details, maintaining fee details. This project’s main motto is to reduce the effort of the college administrator and provide better service to students and Faculty. The Basic functionalities of a college are to maintain its information in an orderly manner such as student admission details, staff details, course details and so on. “Students and Staff Automation System” has enabled to maintain the information on a computerized system. As a result of this method, the college management has maintained the information in an orderly manner and the information can be retrieved quickly within a less time period. This system also enables to modify and update the information whenever they require. This application enables the college to maintain the college details in a secure manner avoiding forgeries.

Reehana A R

FINAL YEAR, CSE

Loss Control System for Insurance companies

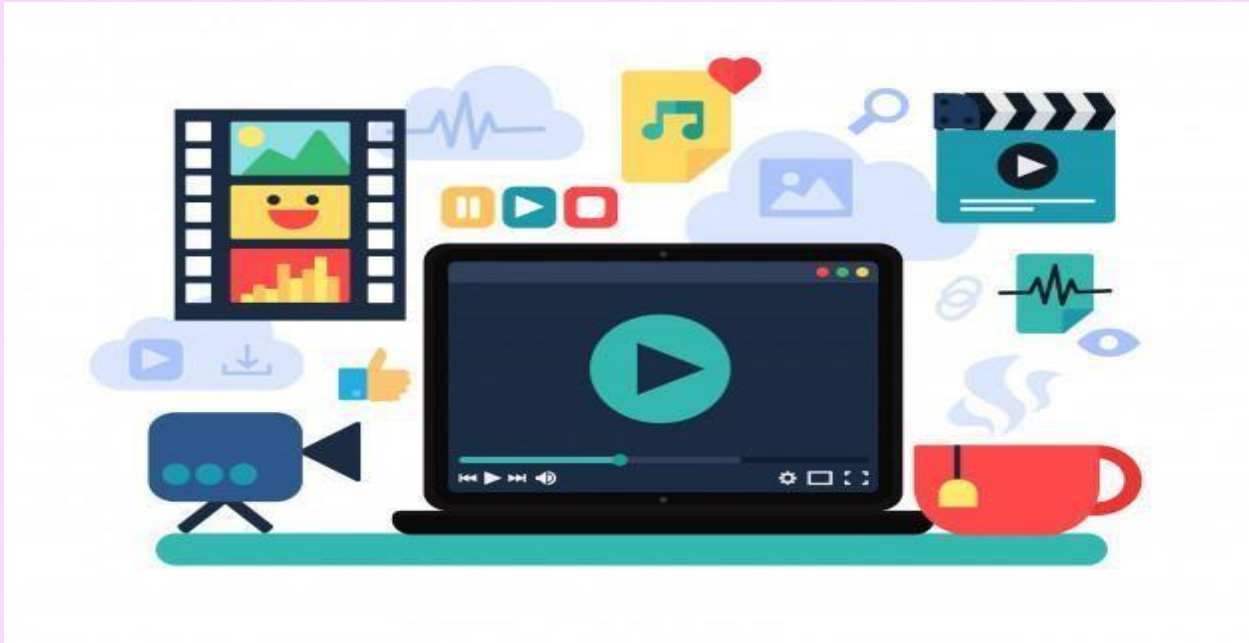


Insurance companies issue various types of policies to protect home and business owners from various types of unforeseen calamities such as fire, floods, theft etc. However, prior to issuing or renewing a policy, the insurance company conducts a field survey of the property to ensure that the property is adequately secured and is not vulnerable to damage. Thus the insurance company that the chances of damage or loss are controlled. For example, if a petrol pump has to be insured, the petrol pump owner should provide for adequate fire safety equipment, signboards prohibiting smoking near the fueling area etc.

In order to conduct these surveys, the insurance company enlists the services of independent surveyors residing near the property. These surveyors are trained personnel and are pre-approved for certain types of activities. The aim of the project is to develop a system used by insurance companies and surveyors to record the surveys to be done, assigning a surveyor to conduct the survey, capture, and approval of survey results, recording and approving of the surveyor's Time and Expenses (T&E) Report.

Nivethaa E
THIRD YEAR, CSE

Online Entertainment Portal Java Project

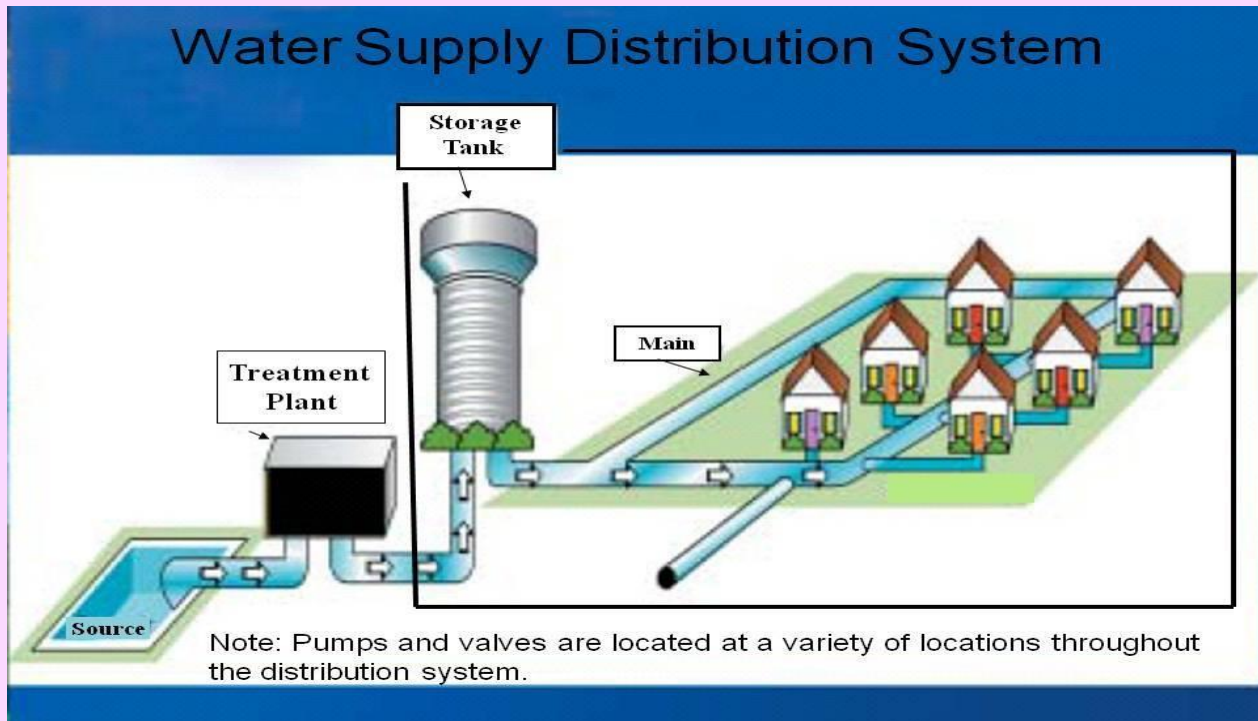


Online Entertainment Portal is a web application which is used to provide services of Movies With options like online Streaming, buy option. It's a good Platform Which Connects Sellers with customers who are Movie Lovers. Apart from this we have books section for book lovers and a customer Buy from Seller. They use the site to stream movies/videos and read books and try to Register for an event. Users have two options either they can buy a Movie if they buy it a DVD will be delivered to them for which prices are to be paid. They use the site to sell their products like movies, books. They decide the price of their products and regularly need to update about the quantity of product present with them.

Joel Chandra Paul S

FINAL YEAR, CSE

Secure Web Portal for Water Distribution and Quality Assurance



Water Distribution and management is a web application which enhances and emphasizes the way water is distributed and maintaining the quality. The people who are in search of water for their regular uses can contact us by using this application. We Provide water to different areas in the city with monthly packages at affordable rates. We also construct the harvesting pits based on square feet in different areas. In this application, there are two modules. The Water Distribution and Quality Assurance Web application used for water distribution and quality assurance. The users can order water tankers. This portal also helps the user to check the amount of water distributed in each locality of the city limits. The water distribution is reachable to many users they can just login into the application and complete the process in an easy manner and they can also see the quality assurance of the service provided by admin.

Abarna k
THIRD YEAR, CSE

Training and Placement Cell Java Project

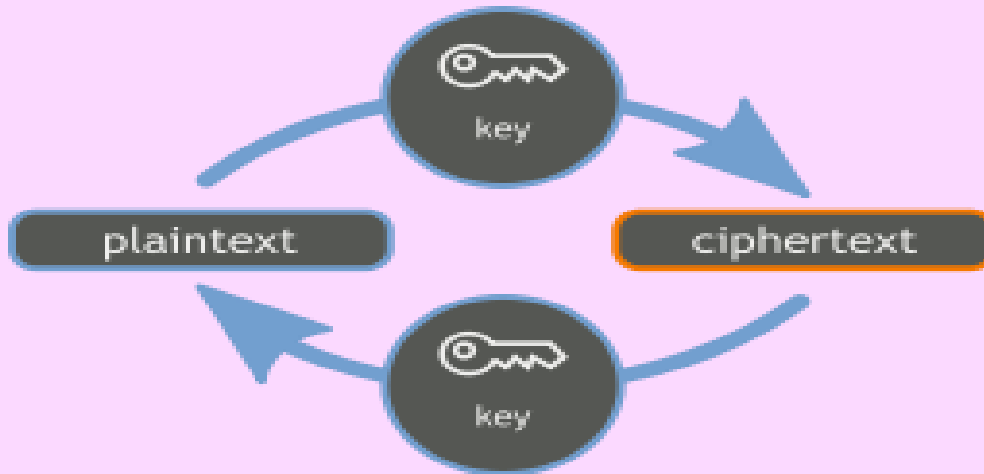


Training and placement cell is smart java-based web application used to find the placements around you and this final year project allows you to directly apply for the drive and the company who is conducting the drive will see your request and if they interested in your profile, they will accept the request. This procedure is very much easy and time saving for those who are attending drives. In this application, the admin will log in and add the companies by giving all the necessary details. The admin can view the user requests if any registered user's login and view the drives and send a request for a drive.

Now the admin can accept the user requests by seeing his details in user details like his percentage in Engineering etc. Before accepting the user, admin will search the user by the name, he can find the details of user like Resume etc. This application will help the user in finding right jobs to apply. The registered user can directly view the jobs, which are posted by admin. If the user is interested, he can directly send the request. If the recruiter wants to see the user resume, he can just directly search the user and he can find the username.

Sangavi A
FINAL YEAR, CSE

Image Encryption and Decryption using Blow Fish Algorithm



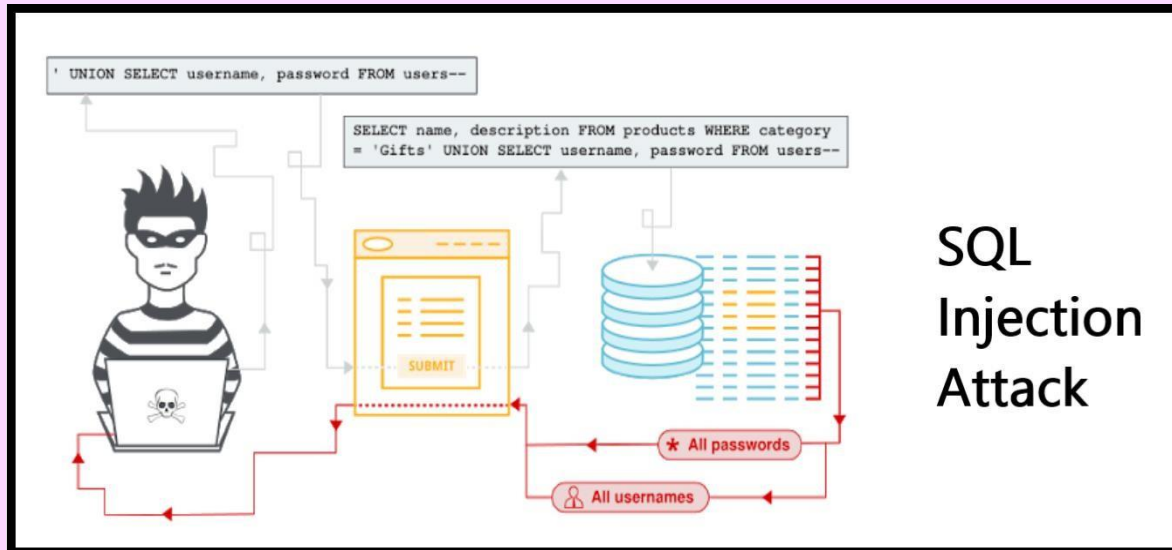
Generally, we send many pictures to our friend's relatives and others. The photos that may contain personal information so keeping them to at most secure is the important thing. So in this project, we implement the idea of encrypting and decrypting the image using "BLOWFISH" algorithm. Data image as a plaintext and the encryption key are two inputs of the encryption process. The encrypted image is divided into the same block length of Blowfish algorithm from top to bottom. The first block is entered to the decryption function and the same encryption key is used to decrypt the image but the application of subkeys is reversed. The process of decryption is continued with other blocks of the image from top to bottom.

In this application user will register and log in with the username and password, after logging in the user will upload the image which is to be encrypted and then after encrypting the user will get a secret key to the user registered email id using the key and encrypted image. Blowfish to be a publicly available cryptographic algorithm with the potential to replace DES. Blowfish is a 64-bit symmetric block cipher that uses a variable-length key from 32 to 448-bits (14 bytes). The algorithm was developed to encrypt 64-bits of plaintext into 64-bits of ciphertext efficiently and securely. The operations selected for the algorithm were table lookup, modulus, addition and bitwise exclusive-or to minimize the time required to encrypt and decrypt data on 32-bit processors.

Karthikeyan S

THIRD YEAR, CSE

Detecting Data Leaks Using SQL



Data Leaks have become common in this pandemic era and their consequences are hazardous to innocent users. This is because they may occur in a known or unknown manner since it has many types. Either your password gets stolen when any of your friends get successful in remembering the keystrokes or some ransomware starts taking charge of your system as well as mind, all these are a variety of data leaks. In this project, a system will be prepared through cloud technology whose security will be AESX Encryption based. Are you thinking about how this will prevent the existing security vulnerabilities (like an SQL Injection)? For doing the same successfully, the software detecting the data leaks will do the content inspection and contextual analysis both. Through them, the users (which may either be an assaulter) will be categorized in accordance with the messages or activities they are performing over the internet. Later, if the messages sent by a user are inviting security vulnerabilities in a knowing or unknowing manner, such messages and the users are identified and the software (packed with DLP i.e. Data Loss Prevention solutions) will intelligently restrict those users or take some strict actions against them for preventing such losses in terms of money or mental health. On an overall basis, this project will ideally ensure the privacy and security of your information stored on the e-commerce platforms at which you may log in daily or frequently.

Meiyazhagan
SECOND YEAR, CSE

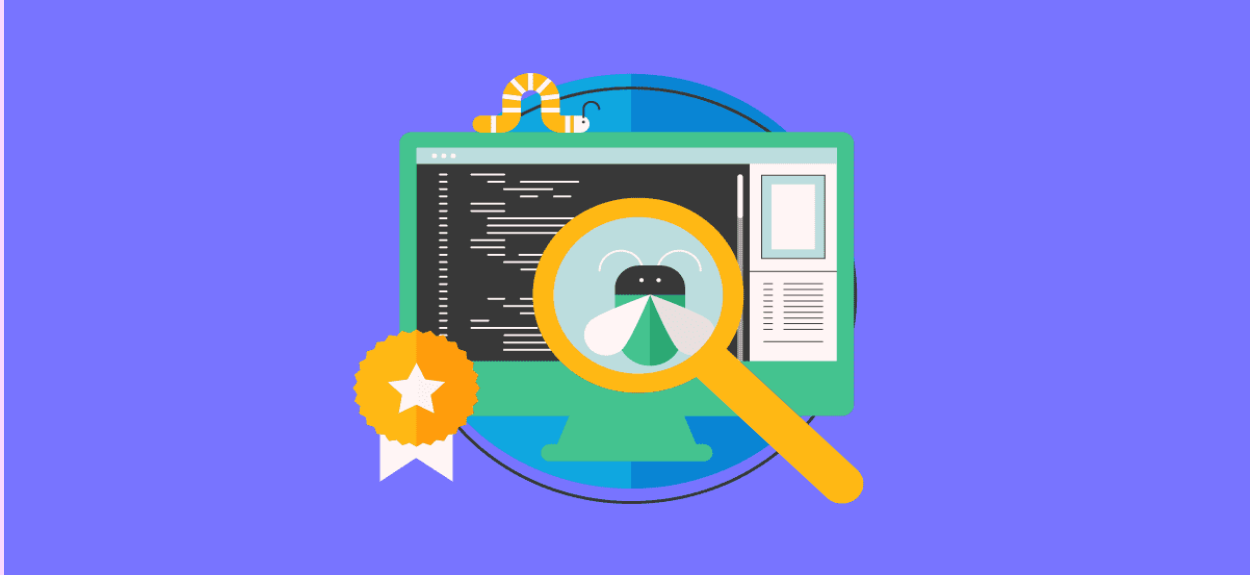
Rural Banking System



This project supports the service of rural banking for smaller rural communities constantly looking for robust and strengthened deposit mobilization mechanisms. The reason is obvious – the collection of cash or other funds during emergency situations. Thinking about how this will boost up the overall rural development! With this rural banking system, villagers may effectively engage themselves with online banking activities and understand the importance of online transactions promisingly using cloud servers. The prime benefit is that students will show their active participation in enlightening the rural people about the benefits of transfer and withdrawal of cash deposited in their registered bank accounts. Indeed, these project ideas boost the demands of banking institutions up in rural areas because the villagers are now confident about the one-touch online transactions they can do with this rural banking system and keep themselves away from poverty and unemployment.

Rajasimman P
THIRD YEAR, CSE

Bug Tracker



Bug Tracker isn't only simple but effective to use for identifying and killing a variety of bugs. Those bugs may occur due to errors in communication, syntax, calculations, or commands. Thinking how such bugs may be identified in a shorter span! For doing the same, a person using this tracker (who may either be an administrator, staff member, or some customer) will determine the type and source of the bug just by logging in to this application via a valid username and strong password. Then, the person may review the details regarding the bug like the date of bug creation, the time for which the bug lasted in the system, and so on. In case the bug isn't related directly or indirectly to the administrator, he/she may transfer its details to a staff member or vice versa. If required, the bug details may also be sent to the customers if the same (i.e., bug) is troubling them. The benefit will be that the customers not able to find solutions for that bug will directly by contacting the administrator for the much-required solutions. In this manner, the customers need not waste their time analyzing the searches and labels of this Bug Tracker as the administrator has provided the solutions that can detect and eliminate a bug in a shorter span.

Ruthna Kumar S

FINAL YEAR, CSE

Online College Bus Record Supervising System Java Project



“Online College Bus Record Supervising System” is a web application developed in java. This application enables students to apply for bus pass online. Admin will add the details of the buses. Students can view all the details of the buses and can select a route to apply for a bus pass. This application also allows students. It is an automatic system which allows students to view all the details of the buses and apply for a bus pass from anywhere and at any time. This system saves a lot of time and physical effort. All the information is stored in the database where there is no question of losing or misplacement of data. This System satisfies all the requirements of both admin and students in the process of applying for a bus pass. This application made the process of applying for a bus pass, renewing the bus pass and view details of the buses easy and simple. Admin can easily know the details of the buses and students.

Sneha K
THIRD YEAR, CSE

Review-Based Rating Prediction Java Project



“Review Based Rating Prediction” is a web application developed in java. This application relates to the features obtained by analyzing textual reviews. In this application the information retrieval retribution to analyze a utility function over a product. A product utility is a measure that shows how much it is preferred according to user’s current context. This context inference is distinguished from the user’s review history and the item review history. Based on the users purchased history and the rating history the present product rating will be automatically predicted. The predicted ratings can generate recommendations that are product-based and will appear at the recommended items list in the product page. This project predicts the rating score that a user will rate an item. This system considers users history and predicts the product rating. Users can get recommendations similar to the selected products which save a lot of time and effort to users. All the details of the users and purchased data will be available. This system compares the similarity with the item reviews and users performance.

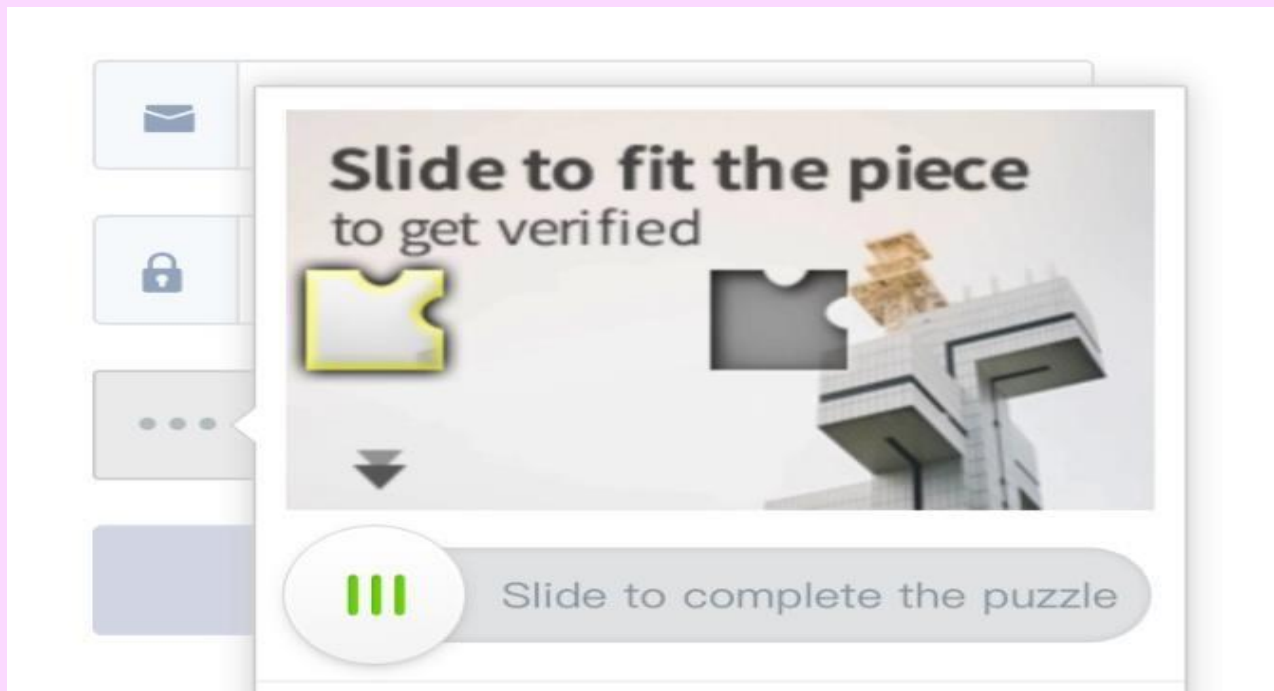
Sivashakthi D
THIRD YEAR, CSE

Advanced Slider Captcha Project



Completely Automated Public Turing test (CAPTCHA) is a way of differentiating humans and computers. As the technology is growing exponentially in this fast-moving world, it is highly important to complicate the process of differentiating. The current approach of using distortions to an image will only complicate the understanding skills of a human more than a machine. So, in this paper, we propose a new approach of slicing an image in such a way that only by overlapping one will be able to understand what is inside a captcha. This will make sure that robots cannot understand or cannot use a brute force to crack the captcha and achieve access to the system. This attempt will prove that the slicing of an image is more effective than distortions as more and more image processing techniques are available. The user has to use the slider to see the image, which most of the people know nowadays because of the smartphones. Experiments and security analysis proved that human users can complete the CAPTCHA verification quickly and accurately, but computers rarely can, this will be one of a kind of captcha which will be even interesting to the users.

Today it is commonly used by types based on the recognition of alphanumeric characters, on existing framework, these tests need aid getting to be an ever-increasing amount muddled for people, but, on the different hand, they would get to be Actually simpler for bots with some effort added by the hackers.



In this project, I will make an idea with a chance to be in view of a totally distinctive guideline in Endeavour through Puzzle based captcha Algorithm, to be secure I have actualized this Puzzle based CAPTCHAs, which gives more security. That paper depicts on point of interest these Puzzle based CAPTCHAs innovative principle, system for distinguishing humans from robots. Image selection the image used to generate slider CAPTCHA are randomly selected, carefully chosen from the available set of images from the database. It is very important that the images will not affect the usability of the code.

Saran Raj M
FINAL YEAR, CSE

Kentucky Fried Chicken

The real-life story of Colonel Harland Sanders who was disappointed umpteen times in his life and still made his dream come true late in his life is really inspiring.



He is a seventh grade dropped out who tried many ventures in life but tasted bitter every time. He started selling chicken at his age of 40 but his dream of a restaurant was turned down many times due to conflicts and wars.

Later he attempted to franchise his restaurant. His recipe got rejected 1,009 times before the final approval. And soon the secret recipe, “Kentucky Fried Chicken” became a huge hit worldwide. KFC was expanded globally and the company was sold for 2 million dollars and his face is still celebrated in the logos.

Moral: Have you stopped your attempts to a venture just because you were rejected or failed a few times? Can you even accept a failure of 1009 times? This story inspires everyone to try hard and believe in yourself until you see success despite how many times you have failed.

Alumni Talk

I encourage you to think of Arunai Engineering college as a new beginning. It is a time to rewrite or enhance your life story. Challenge yourself to take on something new and out of your comfort zone. Dive into your studies and soak up every moment of higher learning with the knowledge that your education will serve you for many decades to come. Reach out to new friends who will enrich your life in ways you can't even imagine. This is your time embrace it.

Devanathan N

2015-2019(BATCH)

When I joined here in my 1st Year, I had lot of expectations from college and also career but this college has given me more than What I have expected and today I am Proud to be an Arunai Engineering College. We have spent almost 4 years of our life which make us learn everything which is important for rest of my life. I explored my life in that building, played with my fate and still able to win. I would thank my principal and all my lecturers who made me eligible to achieve success. Best wishes to my college and my college students.

Shahul Hameed

2015-2019(BATCH)

It is my great pleasure to be a part of this college which has achieved excellence in providing the nation with such talented youth. From the very beginning, this college has gained the distinction between sports, academics and even extra-curricular activities. I know that it was not easy for you to bid for college life because you have made such sweet impressions here. It was equally difficult for us; faculties took part in the great minds taught by us. As all of you are now in a completely different world after coming out of your college days, you will find many lessons in life. I wish you courage and patience to deal with the conflict and want to be strong and more determined. You can achieve your goals and be victorious in every sphere of life!

Dhivesh B

2016-2020(Batch)

**THE
BYTE**

INNOVATION NEVER ENDS...