

SRM VALLIAMMAI ENGINEERING COLLEGE

COMPUTER SOCIETY OF INDIA

STUDENT BRANCH

MAGAZINE - 2020

VOLUME - I ISSUE - I



LIMELIGHT



OUR SINCERE THANKS TO

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INTER COMMUNICATION MAGAZINE LimeLight

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(Autonomous Institution)**

SRM Nagar,
Kattankulathur ,
Chengalpattu District,
Tamil Nadu – 603203.

About SRMVEC CSI-SB :

SRM Valliammai Engineering College Student Branch was started in the year 2007. For the past 13 years, SRMVEC organised various events and contributed many technical articles to CSI. It is one of the active Student Branch of CSI and Since 2015 for four consecutive years, it has received “Best Accredited Student Branch Award” at every Annual CSI Convention from Computer Society of India. The student branch currently hold more than 370 Student members.

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PREFACE

It gives us a great pleasure to release the first issue of 2020 “LimeLight”. The SRMVEC CSI-SB members have been enthusiastic to show their talents. This magazine gives desired opportunity and a platform to publish students’ thoughts and creativity. We strongly believe the purpose of the knowledge is fulfilled only when it is transferred to another person. In this manner this magazine would serve as a collection of the knowledge. With the technology growing leaps and bounds day by day it is very important for the people to get aware of the on-going development in the technology. We appreciate each and every hand who has joined with us.

Regards
SRMVEC CSI-SB Team



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Miss. M. Subhashri (CSE, Final year)

Miss. R. PerachiSuja (CSE, Final year)


Miss . S. MoneysaahVarshaw (CSE, Final year)



EVENTS

WEBINAR – PERSONAL BRANDING AND ETIQUETTE'S

The SRMVEC CSI Student Branch organized a Webinar on 28th of April, 2020. It was an efficient way to make use of the time in the quarantine period. The webinar was about “**Personal Branding and Etiquette's**”. Nearly 70 students have registered and got benefited. The speaker was **Ms. K. Srividhya, CEO, Mathy Consultants**. She is also a soft skill and technical trainer with 8 years of experience. The students got to know about creative communication, emotional intelligence, SWOT analysis, presentation and negotiation. The students got the opportunity to clear the doubts on personal branding and etiquette.

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SPEAKER SRM VEC COMPUTER SOCIETY OF INDIA
STUDENT BRANCH PRESENTS

FREE WEBINAR ON
PERSONAL BRANDING AND ETIQUETTE'S

On **28** **APRIL** **2020**
At 10.00 am – 11.30 am

register NOW! E-CERTIFICATE will be provided
Limited seats (maximum 100 members)

For further details:
Somali.S - 9080470686
Sabarish.J - 8526-199905
csiastb@vallihammai.co.in

FOR REGISTRATION
Scan or visit the link below
<https://tinyurl.com/srmvecsiwebinar3>

WEBINAR – Machine Learning & Deep Learning - A Project Approach

The SRM Valliammai Engineering College Computer Society of India Student Branch in association with Computer Society of India, Kancheepuram chapter organized a Webinar on 2nd of May, 2020. It was an efficient way to make use of the time in the quarantine period. The webinar was about “**Machine Learning & Deep Learning - A Project Approach**”. More than 50 students have registered and got benefited. The speaker was **Mr. Sumod Sundar, Machine Learning Trainer, and Additional Skill Acquisition Programme**. He has more than 3 years of research and more than 4 years of academic experience in field of Machine Learning. He has trained more than 400 professionals, employees, students in Machine Learning. The students acquainted about Machine Learning, Supervised – Unsupervised – Reinforcement, platforms for Machine Learning, SVM – basic theory, Clustering, Regression and Deep Learning. They also had basic hands on training too.




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IN ASSOCIATION WITH
COMPUTER SOCIETY OF INDIA
KANCHEEPURAM CHAPTER

PROUDLY PRESENTS
WEBINAR ON
MACHINE LEARNING & DEEP LEARNING
A PROJECT APPROACH
(ONLY FOR STUDENTS)

SPEAKER Mr. Sumod Sundar
Machine Learning Trainer
Additional Skill Acquisition Programme
India

Note the date!!!
E-CERTIFICATE will be provided
(limited seats) (100 maximum)
2nd May, 2020
At 6.00 pm to 7.30 pm

FOR REGISTRATION
Scan or visit the link below
Entry fee: 100/- per head

FOR PAYMENT
GPIR :
SABARISH.J
8526199905

FOR FURTHER DETAILS:
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Sabarish.J - 8526199905

EVENTS

WEBINAR – Data Analytics

The SRM Valliammai Engineering College Computer Society of India Student Branch in association with Computer Society of India, Kancheepuram chapter organized a Webinar on 16th May, 2020. It was a efficient usage of time during the pandemic. The webinar was about “**Data Analytics**”. More than 65 candidates have registered and got benefited. The speaker was **Ms. K. Srividhya, CEO, Mathy Consultants**. She is also a soft skill and technical trainer with 8 years of experience. The candidates got to know about Data Analysis using excel. The candidates had a basic hands on training too. The students got the opportunity to clear the doubts based on Data Analytics.



The screenshot shows a Zoom meeting in progress. The top part displays a grid of participants with their initials and profile pictures. The bottom part shows a presentation slide with the following text:

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IN ASSOCIATION WITH
COMPUTER SOCIETY OF INDIA
KANCHEEPURAM CHAPTER

PROUDLY PRESENTS
WEBINAR ON
DATA ANALYTICS
(HANDS-ON TRAINING)

SPEAKER

Ms. K. Srividhya
CEO
Mathy Consultants

SAVE THE DATE!
16th May, 2020
6.00 pm to 7.30 pm

E- CERTIFICATE will be provided

FOR PAYMENT
Entry fee : 100/- per head
Gpay or Phonepay
J.SABARISH
8526199905
UPI - sabarish3235@okicid

FOR REGISTRATION
Scan or visit the link below

tinyurl.com/srmveccsiwebinar2

FOR FURTHER DETAILS:
S. Sonali - 9080470686
J. Sabarish - 8526199905

ONE WEEK ONLINE COURSE BASIC PROGRAMMING SKILLS FOR ENGINEERING BEGINNERS

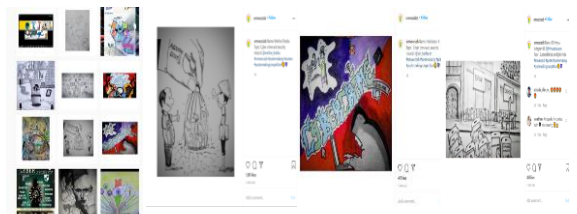
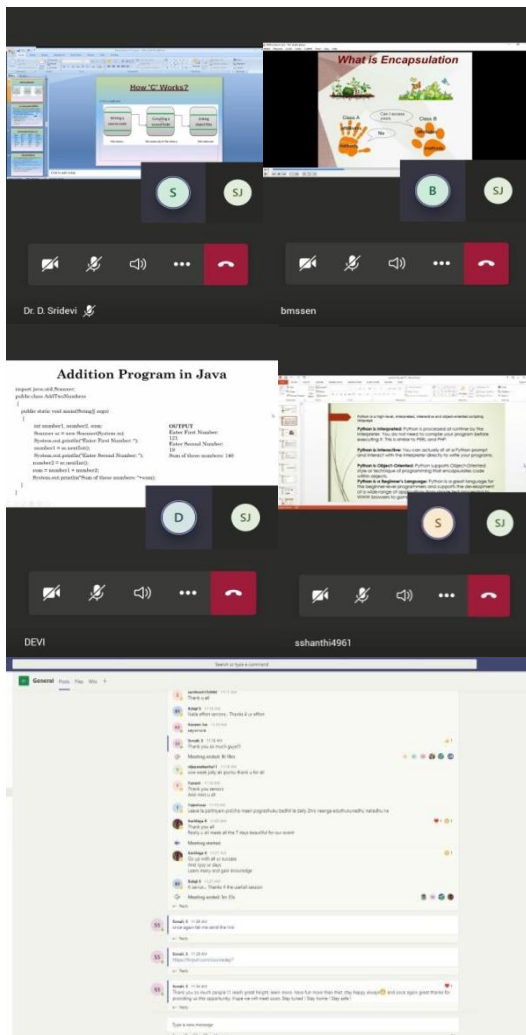
The SRM Valliammai Engineering College Computer Society of India Student Branch organized a **One week online course on Basic Programming Skills for Engineering Beginners** from 1st June, 2020 to 7th June, 2020. Over 100 students took part and got benefited. It was an interactive class on MS Teams platform. It was a efficient usage of time during the pandemic. The students had basic hands on training too. Session 1 was on 1st June, 2020 which was handled by **Mr. S. K. Saravanan (Assistant Professor, HOD(I/c), Department of GE)**. He gave a brief and mightful introduction to basic programming. Session 2 was conducted on 2nd June, 2020 which was handled by **Dr. D. Sridevi (Assistant Professor, Department of GE)** who gave a detailed note on C programming. Session 3 was on 3rd June, 2020, it was handled by **Dr. B. MuthuSenthil (Associate Professor, Department of CSE)**. He Enlightened the students about OOPs Concepts and its applications in engineering. Session 4 was on 4th June, 2020, students enjoyed the visualization of data using python by **Ms. S. Shenbagavadivu (Assistant Professor, Department of IT)**. Session 5 was on 5th June, 2020, a comparison study of C, C++, Java and Python was given by **Ms. K. Devi**

EVENTS

(Assistant Professor, Department of CSE). Session 6 was on 6th June, 2020 which was handled by **Ms. S. Shanthy** (Assistant Professor, Department of CSE). She conducted interesting activities and questions for the students. The session was interactive. She engaged the students by asking questions. Session 7 was on 7th June, 2020. An exam was conducted for 50 marks by **Dr. M. Senthil Kumar** (Associate Professor, Department of CSE).

POSTER DESIGN CONTEST – 2020

The SRM Valliammai Engineering College Computer Society of India Student Branch conducted a web designing contest. It was a good way to make use of the time in the quarantine period. 15 students participated and got benefited. The poster design were based on “Sustainable Future Digital India”, “Cyber Crime and Security”, “Digital India”, “E-school and E-governance”, “OS World”. The posters were posted on “SRM VEC CSI SB” instagram page. Top 3 places were selected with respect to the number likes the poster has got during the stipulated time. **Merline Shelsia** secured the first place for her design on “Cyber Crime and Security”. **B.Dhivyaa** secured the second place for her design on “Sustainable future digital India”. **K. Hariharan** got the third place for his design on “Cyber-crime and security”. Cash prize were awarded to these students for their achievement.



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FOR REGISTRATION
QR Code
tinyurl.com/csiposter
Last date of Submission : 27-06-2020

The Themes are
1.Sustainable Future Digital India
2.Cyber Crime and Security
3.Digital India
4.E-School and E-Governance
5.OS World

PROUDLY PRESENTS
POSTER MAKING
COMPETITION
only for +1 and +2 Students

CASH PRIZES
FOR PAYMENT
Entry fee : 50/-per head

E- CERTIFICATE will be provided to all Participants

Pay or PhonePe
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Mr. N.Raghavanandhan - 8939479047

EVENTS

WEBINAR – PACKAGING AND DEPLOYING A WEB APPLICATION

The SRMVEC CSI Student Branch organized a Webinar on 25th of July, 2020. It was a good way to make use of the time in the quarantine period. The webinar was about “**Packaging and Deploying a Web Application**”. Around 90 students have registered and got benefited. The speaker was **Mr. R. Vijay, Full Stack Developer (Freelancer), Alumnus of CSE Department & Past Event Manager of SRMVEC CSI Student Branch.** He was working as an associate Software Engineer in Gamasome Company. The students got to know about packing and deployment of a web application by a domain.



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SPEAKER
SRM VEC COMPUTER SOCIETY OF INDIA
STUDENT BRANCH
PRESENTS

FREE WEBINAR ON
PACKAGING AND DEPLOYING A
WEB APPLICATION
(HANDS ON SESSION)

Mr. R. Vijay
Full Stack Developer (Freelancer)
(Alumnus of CSE Department & Past
Event Manager of SRMVEC CSI
Student Branch)

FOR REGISTRATION
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visit the
link
below

E-CERTIFICATE will be provided

For further details:
Ms. S. Sonali - 9080470686
Mr. J. Sabarish - 8526199905

<https://tinyurl.com/srmvecsiweb6>

NATIONAL LEVEL WEBINAR HACKING AND ITS PREVENTIVE TECHNIQUES

The SRM Valliammai Engineering College Computer Society of India Student Branch organized a **National Level Webinar on Hacking And Its Preventive Techniques (Hands - on Training)** on 8th August, 2020. It was a good way to make use of the time in the quarantine period. More than 25 candidates have registered and got benefited. The speakers were **Dr. M. Senthil Kumar**, Associate Professor, SRM Valliammai Engineering College, **Mr. R. Sankaranarayanan**, Assistant Professor, SRM Valliammai Engineering College, **Mr. G. Vivekanandan**, Assistant Professor, SRM Valliammai Engineering College. The candidates got to know about how data are hacked. The candidates had a basic hands on training on various tools and techniques used to prevent hacking.



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PROUDLY PRESENTS

NATIONAL LEVEL WEBINAR ON
HACKING AND ITS PREVENTIVE
TECHNIQUES
HANDS-ON TRAINING
RESOURCE PERSONS

Dr. M. Senthil Kumar
Associate Professor
Department of CSE
SRM Valliammai Engineering College

Mr. R. Sankaranarayanan
Associate Professor
SRM Valliammai Engineering College

Mr. G. Vivekanandan
Associate Professor
SRM Valliammai Engineering College

E-CERTIFICATE will be provided

We will meet you on
8th August, 2020
at
10:30 AM – 12:30 PM
FOR PAYMENT
Registration fee - Rs. 100/-
Copy of Phonese
JSABARISH
8526199905
UPI - sabarish3235@okicpi

FOR REGISTRATION
Scan or
visit
the link
below
<https://tinyurl.com/ssiweb7>

FOR FURTHER DETAILS:
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Mr. J. Sabarish - 8526199905

DATA STORIES

INTRODUCTION

Data is a collection of facts or information, such as numbers, values, measurement or just description of things. Since world's becoming more digitalized, organizations tend to deal with zettabytes and yottabytes of data's everyday. 40 zettabytes of data will be created in 2020 alone because of everything we do online such as stream/download etc. All these data are collected, analysed, processed for business purpose.

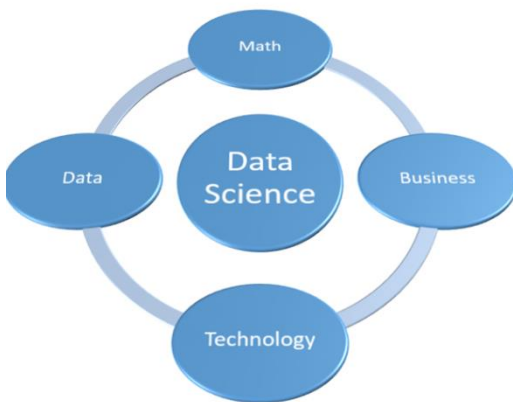


Figure 1 : Data Science

DATA SCIENCE

Data science is a disciplinary field which uses various scientific methods, algorithms to extract information from structured and unstructured data. It has been emerged because of the evolution of mathematical statistics, data analysis and big data.

The major components of Data Science are Statistics, domain enterprise, visualization, data engineering and advance computing. It also related to data mining, machine learning and deep

learning.

Data science is used to achieve some major goals either were not possible or take more amount of time and energy, just within few years.

FINANCE

The financial industry is one of the first industry to introduce data science in their field. Financial companies are information-driven such that data science would help to get actionable insights and obtain a sustainable development for financial institutions such as banks. It keeps eye on fraudulent behaviour, risk assessment, monitoring, customer analysis and payments. It creates a stable financial environment.

HEALTH CARE

Data science has led to a number of breakthroughs in healthcare centres. With large amount of data available from EMRs to clinical database to personal fitness tracker helps to understand disease, diagnose disease faster and explore new treatments.

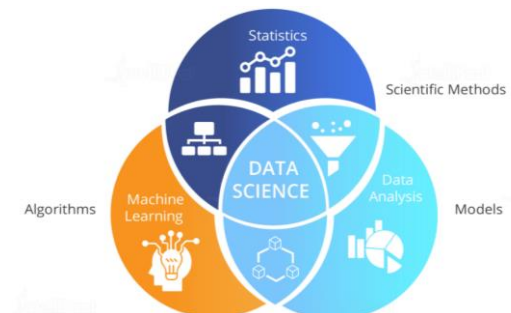


Figure 2 : Venn Diagram for Data Science



DATA STORIES

LOGISTICS

UPS Tracking implements data science to maximize efficiency for both internally and along its delivery routes. It creates optimal routes for delivery drivers based on weather, traffic, construction, etc.

INTERNET SEARCHING

There Is a lot of search engines such as yahoo, Bing, google etc. All the search engines use data science to provide various information based on our searched query in few seconds. Google processes more than 20 petabytes of information daily. If there has been no data science, Google would not have been the one which we know today.

CYBER SECURITY

Data science is useful in every industry, but it may be the most important in cyber security. International cyber security firm Kaspersky is using data science and machine learning to detect over 360,000 new samples of malware on a daily basis. Being able to instantaneously detect and learn new methods of cybercrime, through data science, is essential to our safety and security in the future.

GAMING

Games are designed using Machine Learning algorithms such that it upgrades the player moves up to next level. It analyze the previous moves of your opponent and accordingly designs its game further.

RECOMMENDER SYSTEMS

There is a lot of company implies this system to promote their products via suggestions in accordance with user's interest and relevant searches. Internet monsters like Amazon, twitter, Google play, LinkedIn and many more uses this to improve user experience.

MARKETING WITH PERSONAL INFORMATION

Various social medias like Facebook, Instagram, Tinder uses data science to target its sponsored post, and shows everything to everyone based on their recent search information. The company's data scientists use data with exhaustive web infrastructure and detailed information on many users, including their age, profession and personal details. For tinder, it uses specific algorithm for boosting the probability of matches based on their previous swipes.

CONCLUSION

Today, Data Science is effectively used in almost all industries to leverage its potential, makes more reliable and cost effective. However to capitalize on data science opportunities, you need to understand industry specific challenges, understand data characteristics of each industry and match market needs with custom capabilities and solutions.



DATA STORIES

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4. <https://www.edureka.co/blog/data-science-applications>
5. <https://www.upgrad.com/blog/a-beginners-guide-to-data-science-and-its-applications>



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Privacy Exploitation

Face behind the mask of Surveillance in the name of Security

This is the era of technology that often becomes intimidating to most. Technological wonders pop up around the globe at all times and people seem to be embracing them without thinking of their ill side of effects. Technology we possess in this era has become the repository of all our information. Things we say and do online, pictures we post, protests we support, and the calls we make, including their duration, time and people we have contacted, as well as our personal information, all is registered in our mobile and you don't care about that being exploited. But would you, if you knew that there's a chance that all of that all of that information is being monitored by someone from somewhere? Especially if it's the government itself? I doubt it. Everything I have said so far isn't just another thesis of being spied by governing bodies but rather it is the reality's truth that

has been hiding in the gallows for a long time before being cast into light by none other than the famous whistleblower Edward Snowden in 2013! He was a top security analyst at NSA when he founded this truth of mass surveillance. NSA used a lot of tools to spy on people while stating it was to monitor terrorist activities but the surveillance list had more American commoners than terrorist organizations. They were being spied upon without consent by the government and this isn't just in America. Even India has such a system. NSA's system was called PRISM that has a global search system known as XKeyscore which is capable of searching global online content with a few specifications mentioned by the user. Snowden released documents relating to such systems used by the government for which he was declared a criminal and was



Privacy Exploitation

Face behind the mask of Surveillance in the name of Security



Figure 1 : Edward Joseph Snowden forced to exile to Russia where he currently lives. They also shared this power with UK in exchange for surveillance records of the UK citizens and many other countries as well. Also, Ex-President Obama denied this and NSA denied this in multiple trials held against it. They used ties with organizations like Google and Facebook and a few others to gain the information of individual peoples.

Almost every country has such a Mass Surveillance system in order including our own India as well as China. China's Mass Surveillance program was named "Golden Shield Project" which is made with reference to NSA's PRISM so that US can't comment on them. You would have heard of the Chinese app bans. While it is true that was done to boycott China, it was also to stop China spy on Indian citizens. But even India has their own system called the "Central Monitoring System", CMS in short, that is also similar to PRISM enabling the Government to intercept Phone calls, emails and text messages and also Social Network posts and your google searches. Not just this but there are also other systems in place for online communications tracking as well as a network grid that connects all those databases.

Also recently, on September 3, a Federal Appeals Court ruled out that the NSA's bulk collection of phone record were illegal against the people's Privacy rights. Victory for Snowden after almost 7 years, so as to say. If you still don't believe what I have been saying all along, would you believe Facebook's CEO Mark Zuckerberg?



Figure 2 : Mark Zuckerberg's Facebook

This was a post made by Mark on Facebook in 2016 to celebrate reaching 500 million user milestone on Instagram. If you look closely, he has his camera and mic blocked with tape. Mark, who owns an organization that collects data, himself fears privacy exploitation. But today's microphones are too sensitive to be blocked by just tape but still, the point is made. Even when being confronted about this, the governments around the globe still state this is a measure of security for our people while its just a matter of illegal mass surveillance. This isn't just for social media and government doesn't have the entire control. Instead it has access to information that are collected by organizations like Google, Adobe, Facebook etc.. More on this, I would like to give another case, or another place, where your privacy is once



Privacy Exploitation

Face behind the mask of Surveillance in the name of Security

again, misguided. Am talking about the most used Operating system used for computers, Microsoft Windows! Microsoft has been accused of collecting unnecessary user “metadata”, as they call it, for a long time and people found methods to remove them. But with the latest editions of the OS, these data collection systems are now deeply rooted. They are collectively called as ‘Telemetry’ and this collects data on everything the users do and send this ‘metadata’ to Microsoft from time to time, mostly with the update pings. Now, you might ask if there’s no way of preventing it and I assure you, there is. An user made edition called “Windows 10 Ameliorated Edition” strips down all those systems, at an humongous cost. The word ameliorate means to make something better and its clear why it has been chosen. This edition straightforwardly removes some major components like Cortana, Edge browser, Windows Media Player, Windows Activation, and all .appx UWP applications that are part of the telemetry. This comes at a cost though. With Cortana gone, windows search literally dies, also crashing the start menu and explorer with it. To fix this, the current shell is replaced with the classic shell which is now dubbed as ‘OpenShell’ This brings the Windows7 style start menu with a structure suited to Windows10 and the old explorer replaces the new telemetry one. Even though, the search bar is messed up due to Cortana, and also Windows is fooled to believe there is no internet connection and so it doesn’t have the need to call the telemetry systems. This, however also disables it from using most proprietary

drivers and also DirectX12 as they have extensions that come through Windows Update and without those, it isn’t fully functional. Moreover, these doesn’t only provide privacy but also superior performance boost and it is way more snappier than it normally would be. But you can see that some important things are gone, like drivers and security patches, making this an unreliable option at times. This data collection and manipulation doesn’t end with just authorities spying us but this can also be exploited by ‘terrorist hacker’ so as to speak. Just a quick example called the “BlackRock” malware which is a fork of Xerxes malware which is once again a fork of the infamous LokiBot Trojan. Android being the target system, it becomes a hidden application that later requests a fake ‘Google Update’ for acquiring Accessibility privileges. Once approved, it can execute privilege escalation to get permissions for contacts and messenger etc.. This malware can derive bank information from as much as 300 apps, as per the report submitted by CERT-India. Like this, many applications double up as trojans and almost every pirated application you use would have some malware embedded in it. I myself have witnessed ransomware attacks twice and believe me, it isn’t something to be meddled with! So my final verdict of this article is this, beware of applications you install and use, be careful with sensitive information, like not using them in public networks as such, never opt for piracy and if you can’t afford it, there are always open-source alternatives for everything. And



Privacy Exploitation

Face behind the mask of Surveillance in the name of Security

finally, be careful and entirely aware of what you do online, as every act you make, is their word against yours! With saying that, I believe I have helped you readers understand that your privacy is yours alone and selling is your own choice to make. Thank You!

References

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AWS: A Biggest Bloom In Cloud Technology

Cloud Computing is one of the blooming technologies with an on-demand services on the current computers systems and its corresponding resources along with the valuable of large power of data storage and its computer power. In this digitalized world cloud services were used in the data centers around the world.



Figure 1 : Application of Cloud



AWS: A Biggest Bloom In Cloud Technology

Cloud computing underpins in various services which generally includes consumer services such as back-up storage of Photos and messages in mail and with this service which has developed to host the website for users services and all their data and run all of their applications. Netflix is one of the Giant OTT platforms uses cloud services to stream their videos for their registered customers and also for the other business systems too. Due to this largest bloom different services companies are transforming their services towards cloud because of Safe, Secure and Safety. A cloud services platform which owns and maintains the network-connected hardware which required for these application services, and use what you need via a web applications.

AWS -A Big Part in Cloud Computing

AWS is one of the comprehensive, on-demand, evolving cloud computing platform provided and Initiated by Amazon. Amazon is one of the highest-yielding Multi-national companies along with Google, Apple and Facebook. It focuses basically on cloud, e-commerce, digital Streaming and Artificial intelligence. As a part of cloud, AWS provides various services to the users.



Figure 2 : AWS Logo

Sectional Services in AWS	Services in AWS
Compute	<ul style="list-style-type: none"> • EC2- Virtual Services in Cloud • EC2 Container Service- Run and manage Docker Containers • Elastic BeanStalk- Run and Manage WebApps. • Lambda-Run Code in response to events.
Storage and Content Delivery	<ul style="list-style-type: none"> • Amazon S3-Scalable level of storage in the cloud • Cloud Front-Global Content Delivery in AWS cloud for verification. • Elastic File System-Fully Managed Sharable File System for EC2 instances. • Amazon Glacier-Archive Storage to Cloud. • AWS SnowBall-Large Scale Data Transport for Delivery and Sharable. • AWS Backup -Centralized backup across AWS Services
Database	<ul style="list-style-type: none"> • Amazon Relational Database Service-Manages Relational Database Service for Matching and Storing. • Amazon DynamoDB - Dynamic Databases for faster Retrieval of Data in Cloud • Amazon Aurora- Combination of MySQL and PostgreSQL Compatible Relational Database for the cloud.

AWS: A Biggest Bloom In Cloud Technology

<p>Database</p>	<ul style="list-style-type: none"> • Amazon Elastic Cache- In-memory Caching Service for Storage. • Amazon Neptune- Fast Reliable graph database. • AWS Database Migration Service- Migration of Database to AWS within down time. 	<p>End user computing</p>	<ul style="list-style-type: none"> • Amazon Workspaces- Which is considered as Desktop-as-a Service(DaaS) and provides with Windows, Linux OS.
<p>An Networking and Content Delivery</p>	<ul style="list-style-type: none"> • Amazon CloudFront - Global Content Delivery Network. • AWS Direct Connect- Dedicated Network Services and Connections to AWS. • Amazon Route 53- A reliable and a Cost-effective way to route users towards internet Applications. • AWS Private Link – Access Services Hosted on AWS easily with secure connecting and tries your network access and connection within AWS network. • Elastic Load Balancing- Distribute the inter level trafficking across the multiple targets. 	<p>Analytics</p>	<ul style="list-style-type: none"> • Amazon Elastic Search Service – Fully managed, reliable and scalable Elastic Search Service. • Amazon Elastic Map Reduce- Web services which enables businesses ,researchers, data analytics for a large vast amount of data. • Amazon Kinesis Data Streams- For real-time data processing for the distributed System. • Amazon Kinesis Data Firehose- Realtime data streams into data stores and analytics tools.
		<p>Application Services</p>	<ul style="list-style-type: none"> • Amazon Simple Workflow- Task Coordination and State management services. • AWS Step Functions- Building distributed Applications using visual workflows. • Amazon Event Bridge- Serverless events connects all applications together using data.
		<p>Messaging</p>	<ul style="list-style-type: none"> • Amazon Simple Queue Service- Fast, reliable, scalable, fully managed queuing service.



AWS: A Biggest Bloom In Cloud Technology

Features of Amazon Web Service

Amazon Cloud Directory automatically scales on most of hundreds of million of objects. In amazon web services it directly eliminates time-consuming and expensive administrative tasks, such as Scaling infrastructure and managing servers. As a user to the AWS, we just simply define the schema, create a directory and then populate your directory by making calls to the Cloud Directory API.

- 1. Powerful data and Relationship management:** We can able to define the differentiated attributes for objects and relationships to create multiple schemes and set custom inheritance.
- 2. Flexible Schema Management:** This Feature enables each and every user to add any type of attributes to directory objects and their corresponding relationships.
- 3. Fully-managed infrastructure:** Since it is a fully-managed Services, it eliminates the time-consuming and expensive administrative task.
- 4. Build-in data Encryption:** In an Cloud directory, it encrypts the details and transit by using 256-bit encryption.
- 5. Object Policies:** In AWS, one of the special features is Object Policies, which enables you to define and attach application-specific policies to object along different hierarchies.

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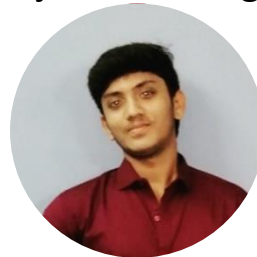


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EVOLUTION OF DATABASE

ABSTRACT

Database is a salient factor that reduces the manpower in today's world. The storage of all the information and its accessibility, and its updates can be done manually, but sometimes it ends up in error as maintainability is much important. That maintainability is the key factor in the database sector. So gradually manual work is moved towards machine's work. This is the reason for the introduction of database. This article deals with the database from where it started and what are all the new technologies introduced in database and its usage. From this article the reason for the arrival of database can be viewed clearly.

INTRODUCTION

Database is the collection of organized data that are being stored, which can be accessed, updated and maintained from the computer [3]. This maintenance is an important factor is data storage and accessibility [2]. Computer databases consist of aggregations of data records or sometimes called as files containing information about sales transactions, and the user interaction with specific customers [1]. Most of the databases contain multiple tables, which may include fields and records often referred to as columns and rows. Databases have evolved dramatically since 1960s [3]. In this article the introduction of database, followed by its history can be viewed.

DATABASE DURING 1890'S

During 1890's punch cards were used for input and output to the computer and also for data processing.

Herman Hollerith adapted the punch cards which is being used for weaving looms to act as the memory for tabulating machines. The usage of punched cards influenced Charles Babbage, who decided to use punched cards to control the sequence of computations in analytical engine.

DATABASE DURING 1960'S

Charles W. Backman in 1960 designed Integrated Database System, the "first" DBMS. Many of them had started using it, as a result of which customer started demanding for a standard database for its security and availability and also for its accessibility. In response for the customer's demand, the new standard language called Common Business Oriented Language (COBOL) has introduced.

DATABASE DURING 1971

(COBAL) common business-oriented language which was introduced by database task group in 1971 which is also known to be "CODASYL approach". This consist of manual navigation techniques with linking using dataset. This dataset can be organized using some of the techniques such as: by using primary key, by finding relationship between tables or by scanning records sequentially.

ARRIVAL OF RDBMS IN 1976

Edgar Codd worked for IBM for developing hard disk system, was not satisfied with the search engine in CODASYL process. And IMS model. So, he started to do research and released a



EVOLUTION OF DATABASE

paper called “Relational Model of Data for Large Shared Data Banks”. The main aim of this paper is to tell that as records cannot be stored in free-form list of linked records in CODASYL, the introduction of this RDBMS can store data in table with “fixed length records”. SQL or DBMS is an efficient way for storing Structured data. But doesn't support unstructured data.

DATABASE MANAGEMENT SYSTEM-SQL

Database management system is the collection of interrelated data and a set of programs to access those data. It is also defined to provide a way to store and retrieve database information in a convenient and efficient way. In DBMS there is no data redundancy, centralization is achieved. Data inconsistency is less when compared to File system.it follows ACID property- (Atomicity, Consistency, isolation, durability). DBMS is broadly classified as relational and non-relational database. [SISENCE]Some of the popularly known DBMS is Microsoft SQL, Oracle, MySQL, and postgres.

PURPOSE OF DBMS

The main purpose of the DBMS is to overcome the drawbacks of the above-mentioned file system such as: data redundancy and inconsistency, difficulty in accessing data, data isolation, integrity problems, atomicity problems, concurrent access anomalies and some of the security problems.

NoSQL DBMS

This is called as non-relational database. NoSQL is “not only” structured query language. NoSQL can process unstructured data also which is the huge difference when compared to SQL.it uses ad-hoc method for organizing data. and can process high volumes of different kinds of data.

COMPARISON OF SQL AND NoSQL

SQL	NoSQL
Low level of scalability	High level of scalability
It considers only structured data	It considers both structured and unstructured data
Cost is higher when compared to NoSQL	Cost is lower
SQL has fixed or pre-defined schema	It has flexible schema
SQL is table-based database.	NoSQL databases can be document based, key-value pairs, graph databases, cloud database.
It uses ACID (Atomicity, Consistency, Isolation, and Durability) property	It uses Base (Basically Available, Soft state, Eventually Consistent) property



EVOLUTION OF DATABASE

NoSQL- Document Stores

A Document Store which is often called to be document-oriented database, can manage, store, and retrieve semi-structured data which is also known as document-oriented information. Document Stores eventually come with a query engine and indexing controls that make queries fast, easy and manageable. Some of the examples of Document Stores are: Mongo DB, Amazon Dynamo DB.

NoSQL- Column Stores

A DBMS using columns is different from traditional period itself. It stores data in terms of columns, rather than rows. There was a change in focus, from row to a column, comparing with row database column has good efficiency to store data. Some of the examples of column-style databases are Cassandra, and HBase (Hadoop based).

NoSQL- Key-value Stores

A key-value pair database is useful for storing the shopping cart data. access to the database can be done using a primary key. Actually, there is no fixed schema or flexible schema available. this could be done using a random lump of data. some of the examples of key-value stores are: Riak, Berkeley DB.

NoSQL-Graph Data Stores

These are based on graph theory, and it works efficiently with data which is further displayed as graphs. It differs from some of the databases like relational databases, hierarchical databases, etc. by storing relationships in the form of

actual database. It has linkage between elements, some of the examples of Graph Databases are: Neo4j, Graph Base.

CONCLUSION

From this article, an evolution of database and its overview of the technologies which are being introduced till date are mentioned. so from this the importance of database and the term maintainability is discussed clearly.

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Software Piracy Spreading with the Virus

The Pandemic caused by spreading of corona virus has really made a destructive reach that goes beyond that has really made a highly contagious and reached to a high level and which leads to a deadly illness. This situation is also shattered by rapid spread of piracy which is considered as spreading an illegal software which captures and transfers of user's information to an illegal person. Software piracy involves much more than values for the businesses and consumers using some of the illegal form pirated programs. Big and Giant Software companies are reporting that piracy has increased from 20 to 30 percent during this pandemic situation. Some of the pirated softwares which has provided a five consequence issues which were caught or infected, noted Miracco

1. Remote working environments are creating a situation where hackers can breach an online fortress and has a rights to seize a company's intellectual property.
2. Unemployed workers are buying pirated software over the Internet to provide or generate an income.
3. WFH employees are making illegal copies of the software because they need for their jobs.
4. The ubiquity of the Internet and the wholesale move to cloud computing and they were sometimes as secure as they could be.
5. Software pirates and hackers are resourceful at hiding their identities

and evading anti-piracy technologies to that consumes users in terms of malwares.

The reports which were published in the world news channels and they expressed that "More than 30 countries, is an international organization represented that the leading software developers and foremost advocate for the global software industry before governments and in the international markets.

Software Piracy Hotspots



Figure 1 : Piracy Hotspots

Some compliance companies specialize that the helping enterprise software users voluntarily comply with the corresponding commercial software licensing requirements. Other firms seek out illegal software users. BSA and other various organizations in recent years took their efforts as an uncooperative offenders to court to pay up Globally, 37 percent of business users are not paying for software, making it a \$46.3 billion problem. But 83% of these unlicensed users in mature markets are legally-inclined victims



Software Piracy Spreading with the Virus

of software piracy who will pay for software. The company also claims that the commercial value of unlicensed software in North America and Western Europe was \$19 billion. The rest of the world totaled \$27.3 billion last year.

The Piracy Scheme

Software attackers reverse engineer the target software with their previous of acceptance with the resembled software's, which tries to be invaded in it. They identify their areas of code that handle the security controls. Then they simply modify that code to bypass or disable them within the software. In other words, if I have your software then, I can understand how it works and modify it to run completely under my control which also includes communication with your backend application servers. Without the appropriate protection in place in which the softwares were purchased contains some part of piracy, these attacks are trivial to carry out for an experienced software pirate," With this level of background as a reformed as a child hacker and former software pirate. We continue to struggle with software piracy today because the same inherent software exposures which was utilized in the 80s and 90s still exist in plain sight," Particularly in the age of mobile apps and IoT devices and AI and ML, the stakes go well beyond financial loss due to software piracy.

An APT Solution for Piracy

Nothing is ever completely

secured in this digitalized world, especially software. But if software companies focus on software protection that frustrates and deters the types of attacks and which leads to enable piracy (and beyond), that effort can effectively eliminate a substantial subset of potential attackers due to their lack of necessary technical skills and motivation. Hackers' and pirates' motivations vary very wildly. But they are often financial in nature. The better protected your software, the more likely an attacker will choose to move on and find a less protected application that requires fewer resources to attack, severely diminishing the attacker's in which it returns an investment which is an effective risk mitigation strategy that can reduce the occurrence of piracy and other attacks against your software.

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Tech world

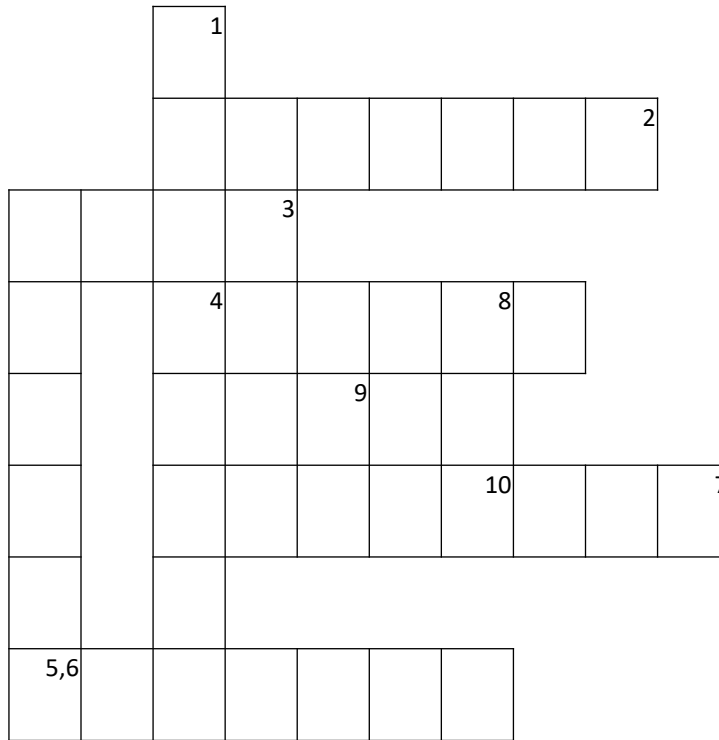


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Word Fun



* Answer will be shown in the next issue.

Questions :

Up to Down :

1. For holding a piece or tool in robot.
8. Company which first introduced hard disk.

Down to Up :

5. "S" in HTTPS.

Left to Right :

4. In this type of cloud, an organization rents cloud services from cloud providers on-demand basis.
6. This metal is used for IC chips.
9. It is used to find and fix bugs in the Java programs.

Right to Left :

2. First computer virus.
3. Number of pin in serial port.
7. Stuxnet is a _____.
10. This protocol is lightweight.



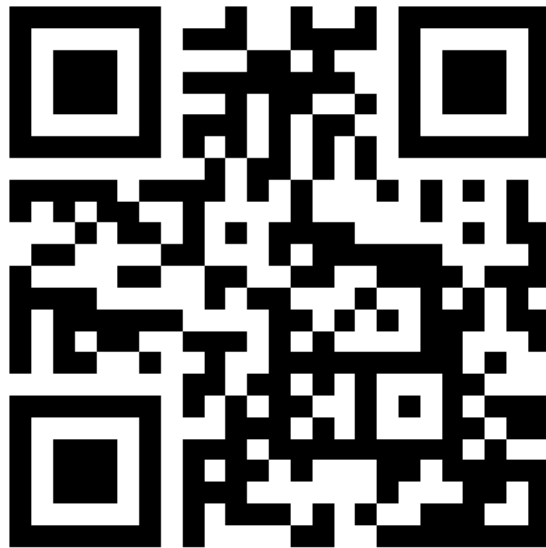
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