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Technical magazine of Information Science & Engineering department

DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

VISION

To be a center of excellence in Information Science and Engineering through the interactive teaching learning process, research, and innovation.

MISSION

M1. Creating competitive ambience to enhance the innovative and experiential learning process through state of the art infrastructure.

M2. Grooming young minds through industry-institute interactions to solve societal issues and inculcate affinity towards research and entrepreneurship.

M3. Promoting teamwork and leadership qualities through inter-disciplinary activities in diversified areas of information science and engineering.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO1: Possess theoretical and practical knowledge to identify, scrutinize, formulate and solve challenging problems related to dynamically evolving information science.

PEO2: Inculcate core competency, professionalism and ethics to cater industrial needs and to solve societal problems.

PEO3: Engage in Lifelong learning and stay intact to the transformation in technologies and pursue research.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Exhibit competency and skills in distributed computing, information security, cyber security, data analytics, and machine learning.

PSO2: Able to provide sustainable solution to implement and validate information science projects.

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INVENTORS SPACE

1. BILL GATES

Founder of Microsoft

NAME
Bill Gates

BIRTH DATE
October 28, 1955

EDUCATION
Lakeside School, Harvard College

PLACE OF BIRTH
Seattle, Washington

ZODIAC SIGN
Scorpio

DID YOU KNOW?
Bill Gates is one of the richest men alive.

DID YOU KNOW?
Bill Gates dropped out of Harvard to create Microsoft with friend Paul Allen.

DID YOU KNOW?
In 2014, Gates stepped down as Microsoft's chairman to focus on charitable work at his foundation, the Bill and Melinda Gates Foundation.

"Success is a lousy teacher. It seduces smart people into thinking they can't lose."

— Bill Gates

Entrepreneur Bill Gates founded the world's largest software business, Microsoft, with Paul Allen, through technological innovation, keen business strategy and aggressive business tactics and subsequently became one of the richest men in the world.

Gates was born William Henry Gates III on October 28, 1955, in Seattle, Washington. Gates grew up in an upper-middle-class family with his older sister, Kristianne, and younger sister, Libby. Gates was a voracious reader as a child, spending many hours poring over reference books such as the encyclopaedia. He blossomed in nearly all his subjects, excelling in math and science, but also doing very well in drama and English. Also he wrote a tic-tac-toe program in BASIC computer language that allowed users to play against the computer.

Gates and Allen, who was two years his senior, in high school at Lakeside School wanted to start their own company, but Gates' parents wanted him to finish school and go on to college, where they hoped he would work to become a lawyer. Allen went to Washington State University, while Gates went to Harvard University in the fall of 1973, though the pair stayed in touch. Gates spent more of his time in the computer lab than in class. He did not really have a study regimen; he got by on a few hours of sleep, crammed for a test, and passed with a reasonable grade. After attending college for two years, Gates and Allen dropped out of college to pursue the business. Both young men were fascinated with the possibilities of what this computer could create in the world of personal computing.

In 1975, Gates and Allen formed Micro-Soft, a blend of "micro-computer" and "software" (they dropped the hyphen within a year). The company's first product was BASIC software that ran on the Altair computer. Microsoft wrote software in different formats for other computer companies, and, at the beginning of 1979, Gates moved the company's operations to Bellevue, Washington.

In November 1980, IBM was looking for software that would operate their upcoming personal computer (PC) and approached Microsoft. Following the development of software for IBM, between 1979 and 1981 Microsoft's growth exploded. In mid-1981, Gates and Allen incorporated Microsoft, and Gates was appointed president and chairman of the board. Allen was named executive vice president.

- CRISEL MATHIAS
4SF17IS015

2. STEVEN PAUL JOBS

Founder of Apple Inc.

NAME
Steve Paul Jobs

BIRTH DATE
February 24, 1955

DEATH DATE
October 5, 2011

EDUCATION
Homestead High School, Reed College

DID YOU KNOW?
Growing up, Steve Jobs had a hard time with formal schooling (due to boredom) and often had to be bribed to do his work.

DID YOU KNOW?
One of Jobs' first jobs was with Atari as a video game designer.

DID YOU KNOW?
If Jobs had not sold his Apple shares in 1985, when he left the company he founded for over a decade, his net worth would have been a staggering $36 billion.

"Being the richest man in the cemetery doesn't matter to me. Going to bed at night saying we've done something wonderful. That's what matters to me."
—Steve Jobs

Steven Paul Jobs was an American business magnate, entrepreneur, industrial designer, investor, and media proprietor. He was the chairman, chief executive officer (CEO), and co-founder of Apple Inc., the chairman and majority shareholder of Pixar, a member of The Walt Disney Company's board of directors following its acquisition of Pixar, and the founder, chairman, and CEO of NeXt. Jobs is widely recognized as a pioneer of the personal computer revolution of the 1970s and 1980s, along with Apple co-founder Steve Wozniak.

Jobs was born in San Francisco, California. Jobs and Wozniak co-founded Apple in 1976 to sell Wozniak's Apple I personal computer. Together the duo gained fame and wealth a year later with the Apple II, one of the first highly successful mass-produced microcomputers. Jobs saw the commercial potential of the Xerox Alto in 1979, which was mouse-driven and had a graphical user interface (GUI). This led to development of the unsuccessful Apple Lisa in 1983, followed by the breakthrough Macintosh in 1984, the first mass-produced computer with a GUI.

The Macintosh introduced the desktop publishing industry in 1985 with the addition of the Apple LaserWriter, the first laser printer to feature vector graphics. Jobs was forced out of Apple in 1985 after a long power struggle with the company's board and its then-CEO John Sculley. That same year, Jobs took a few of Apple's members with him to found NeXT, a computer platform development company that specialized in computers for higher-education and business markets. In addition, he helped to develop the visual effects industry when he funded the computer graphics division of George Lucas's Lucasfilm in 1986. The new company was Pixar, which produced the first 3D computer animated film Toy Story (1995).

Apple merged with NeXT in 1997, and Jobs became CEO of his former company within a few months. He was largely responsible for helping revive Apple, which had been at the verge of bankruptcy. He worked closely with designer Jony Ive to develop a line of products that had larger cultural ramifications, beginning in 1997 with the "Think different" advertising campaign and leading to the iMac, iTunes, iTunes Store, Apple Store, iPod, iPhone, App Store, and the iPad. In 2001, the original Mac OS was replaced with a completely new Mac OS X, based on NeXT's NeXTSTEP platform, giving the OS a modern Unix-based foundation for the first time. Steve Jobs was an innovative mastermind with visions that helped change the world.

- DEEKSHA
4SF17IS017

3. TIM BERNERS-LEE

Inventor of World Wide Web

NAME
James A. Gosling

BIRTH DATE
May 19, 1955

EDUCATION
University of Calgary

PLACE OF BIRTH
Calgary, Alberta, Canada

DID YOU KNOW?
Java language project earlier called "The Green Project"

DID YOU KNOW?
James Gosling announced on his blog that he had been hired by Google. Five months later, he announced that he joined a start-up called Liquid Robotics.

DID YOU KNOW?
Java has become the most popular programming language used today, with applications as diverse.

"You affect the world by what you browse."
--Tim Berners-Lee

Dot coms, bloggers and Google all have one man to thank for their place in the 21st century world. In 1990, Tim Berners-Lee made the imaginative leap to combine the internet with the hypertext concept, and the worldwide web was born.

He was born in 1955 in London. Berners-Lee's parents were both mathematicians. After attending school in London, Berners-Lee went on to study physics at Queen's College, Oxford, where he built a computer with a soldering iron, TTL gates, an M6800 processor and an old television. While at Oxford, he was caught hacking with a friend and was subsequently banned from using the university computer.

He worked at Plessey Telecommunications from 1976 as a programmer and in 1980 began working as an independent contractor at the European nuclear research centre Cern. In December 1980, Berners-Lee proposed a project based on the concept of hypertext, to facilitate sharing and updating information among researchers. While there, he built a prototype system called Enquire. He joined Cern on a full-time basis in 1984 as a fellow. In 1989, Cern was the largest internet node in Europe, and Berners-Lee saw an opportunity. "I just had to take the hypertext idea and connect it to the TCP and DNS ideas," he said and the worldwide web was born.

He wrote his initial proposal in March 1989, and in 1990, with the help of Robert Cailliau, produced a revision which was accepted by his manager, Mike Sendall. He used similar ideas to those underlying the Enquire system to create the worldwide web, for which he designed and built the first web browser and editor – called World-wide Web and developed on Nextstep and the first web server called Hypertext Transfer Protocol Daemon (HTTPD).

The first website built was at http://info.cern.ch/ and was put online on 6 August 1991. The URL is still in use today. It provided an explanation of the worldwide web, how one could own a browser and how to set up a web server. It was also the world's first web directory, since Berners-Lee maintained a list of other websites.

In 1994, Berners-Lee founded the World Wide Web Consortium (W3C) at the Massachusetts Institute of Technology. It comprised various companies willing to create standards and recommendations to improve the quality of the web.He is also a professor at the Massachusetts Institute of Technology (MIT) in the US, and will continue to work on shaping the future of the web through his work with the W3C and the WWW Foundation.

- JASIRAH
4SF17IS031

4. JAMES GOSLING

Founder of Java Programming Language

NAME
James A. Gosling

BIRTH DATE
May 19, 1955

EDUCATION
University of Calgary

PLACE OF BIRTH
Calgary, Alberta, Canada

DID YOU KNOW?
Java language project earlier called "The Green Project"

DID YOU KNOW?
James Gosling announced on his blog that he had been hired by Google. Five months later, he announced that he joined a start-up called Liquid Robotics.

DID YOU KNOW?
Java has become the most popular programming language used today, with applications as diverse.

"Java is C++ without the guns, clubs and knives."

--James A. Gosling

James Gosling is the true geek and one among the most influential people in IT. He completed his PhD in computer science and contributed to software innovation at a technical level.

Born in 1955 near Calgary in Canada, Gosling is best known as the father of the Java programming language, the first programming language designed with the internet in mind and which could adapt to highly distributed applications.

Gosling received BSc in computer science from the University of Calgary in 1977, and while working towards his doctorate he created the original version of the Emacs text editor for Unix (Gosmacs). He also built a multi-processor version of Unix, as well as several compilers and mail systems before starting work in the industry. In 1984, Gosling joined Sun Microsystems, where he is currently working as the chief technology officer in the developer product group.

In the early 1990s, Gosling initiated and led a project code-named Green that eventually became Java. Green aimed to develop software that would run on a variety of computing devices.
Sun formally launched Java in 1995. Gosling did the original design of Java and implemented its original compiler and virtual machine. Gosling's success in the Computer Weekly polls is precisely because Java has allowed the creation of robust, reusable code which runs on devices as diverse as mobile phones, PCs and mainframes.

- GLENISHA CAROL SEQUEIRA
4SF17IS029

TECHNOLOGY TRENDS

1. SOCIAL MEDIA AND ITS DATA

The usage of social media has penetrated into the life of individuals worldwide at an astonishing rate. Initially, all the social media sites were web based on contrary to the proliferation of smartphones the social media has now moved onto 'app' (mobile apps) based. The most sought after social media apps include Facebook, Twitter, LinkedIn, Instagram, YouTube, and WhatsApp and so on. The users of these social media create content such as text posts or comments, digital photos or videos, and data generated through all online interactions are the lifeblood of social media.

As far as the data creation is concerned, a worldwide total of 2.5 quintillion data is generated every day and is expected to grow more over the years. Reports suggest that by 2020 1.7 MB of data will be generated per minute by a person living in the earth. It is also reported that over 90% of the world's data was created in the last two years.

Fig. 1 represents the data generated by famous social media sites per minute. Now, we have to wonder where these many amounts of data are stored. The solution is revolution is data storage techniques such as Cloud Computing, data centres, etc.

One more interesting fact about social media sites is that most of them are free for the user. Then how do they generate revenue? The answer is our user data itself. But how? These companies can sell our data for other business organizations for their marketing purposes. The conclusion is that the amount of data generated is at all time high and the data is precious now as it can add financial value the social media organizations.

- DR SHAMANTH RAI B
Asst Professor, Dept of ISE

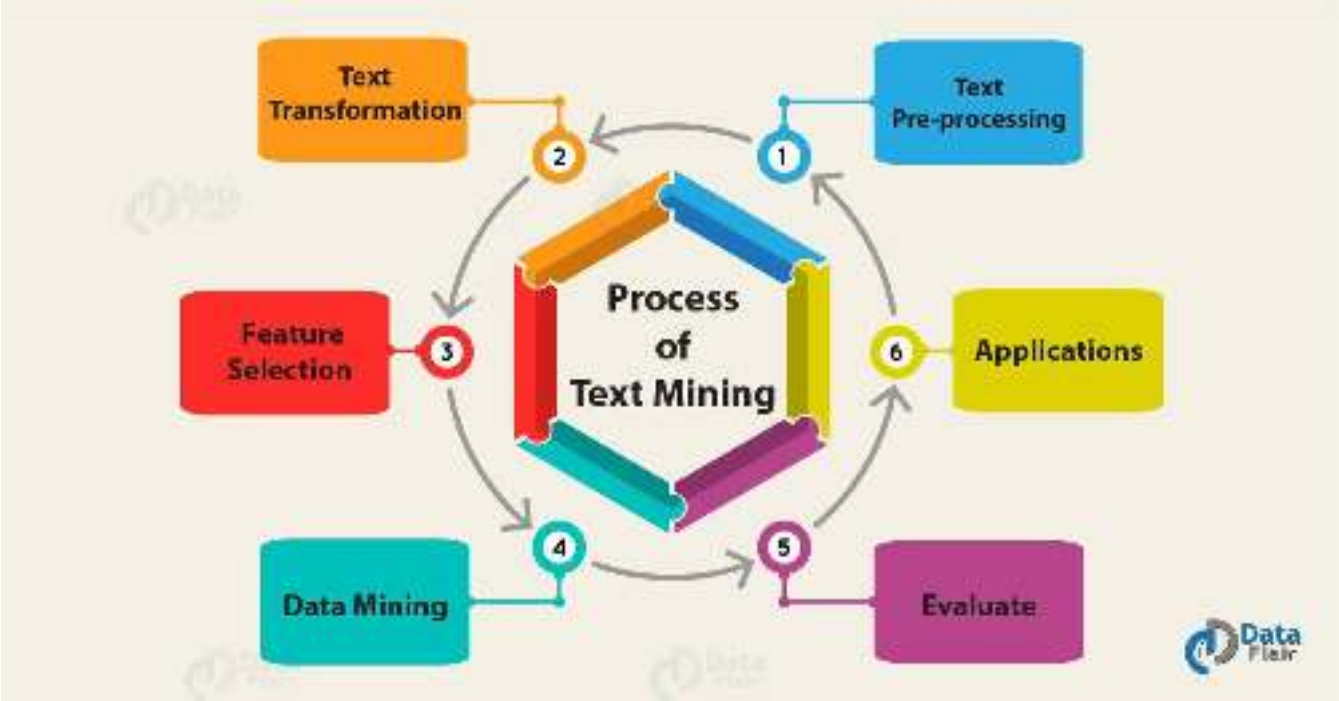
2. TEXT MINING

Text mining, also referred to as text data mining, roughly equivalent to text analytics, is the process of deriving high-quality information from text. High-quality information is typically derived through the devising of patterns and trends through means such as statistical pattern learning. Text mining usually involves the process of structuring the input text (usually parsing, along with the addition of some derived linguistic features and the removal of others, and subsequent insertion into a database), deriving patterns within the structured data, and finally evaluation and interpretation of the output. 'High quality' in text mining usually refers to some combination of relevance, novelty, and interest. Typical text mining tasks include text categorization, text clustering, concept/entity extraction, production of granular taxonomies, sentiment analysis, document summarization, and entity relation modelling (i.e., learning relations between named entities).

Text analysis involves information retrieval, lexical analysis to study word frequency distributions, pattern recognition, tagging/annotation, information extraction, mining techniques including link and association analysis, visualization, and predictive analytics. The overarching goal is, essentially, to turn text into data for analysis, via application of natural language processing (NLP) and analytical methods.

A typical application is to scan a set of documents written in a natural language and either model the document set for predictive classification purposes or populate a database or search index with the information extracted.

The five fundamental steps involved in text mining are:



- Gathering unstructured data from multiple data sources like plain text, web pages, pdf files, emails, and blogs, to name a few

- Detect and remove anomalies from data by conducting pre-processing and cleansing operations. Data cleansing allows you to extract and retain the valuable information hidden within the data and to help identify the roots of specific words
- Convert all the relevant information extracted from unstructured data into structured formats
- Analyse the patterns within the data via Management Information System (MIS)
- Store all the valuable information into a secure database to drive trend analysis and enhance the decision-making process of the organization

APPLICATIONS OF TEXT MINING:

Text mining techniques are rapidly penetrating the industry, right from academia and healthcare to businesses and social media platforms. Here are a few applications of text mining being used across the globe today:

- **Risk Management:**

One of the primary causes of failure in the business sector is the lack of proper or insufficient risk analysis. Adopting and integrating risk management software powered by text mining technologies such as SAS Text Miner can help businesses to stay updated with all the current trends in the business market and boost their abilities to mitigate potential risks. Since text mining technologies can gather relevant information from across thousands of text data sources and create links between the extracted insights, it allows companies to access the right information at the right moment, thereby enhancing the entire risk management process.

- **Customer care service:**

Text mining techniques, particularly NLP, are finding increasing importance in the field of customer care. Companies are investing in text analytics software to enhance their overall customer experience by accessing the textual data from varied sources such as surveys, customer feedback, and customer calls, etc. Text analysis aims to reduce the response time of the company and help address the grievances of the customers speedily and efficiently.

- **Fraud Detection:**

Text analytics backed by text mining technologies provides a tremendous opportunity for domains that gather a majority of data in the text format. Insurance and finance companies are harnessing this opportunity. By combining the outcomes of text analyses with relevant structured data these companies are now able to process claims swiftly as well as detect and prevent frauds.

- **Business Intelligence:**

Organizations and business firms have started to leverage text mining techniques as part of their business intelligence. Apart from providing profound insights into customer behaviour and trends, text mining techniques also help companies to analyse the strengths and weaknesses of their rivals, thus, giving them a competitive advantage in the market. Text mining tools such as Cogito Intelligence Platform and IBM text analytics provide insights on the performance of marketing strategies, latest customer and market trends, and so on.

- **Social Media Analysis:**

There are many text mining software packages designed exclusively for analysing the performance of

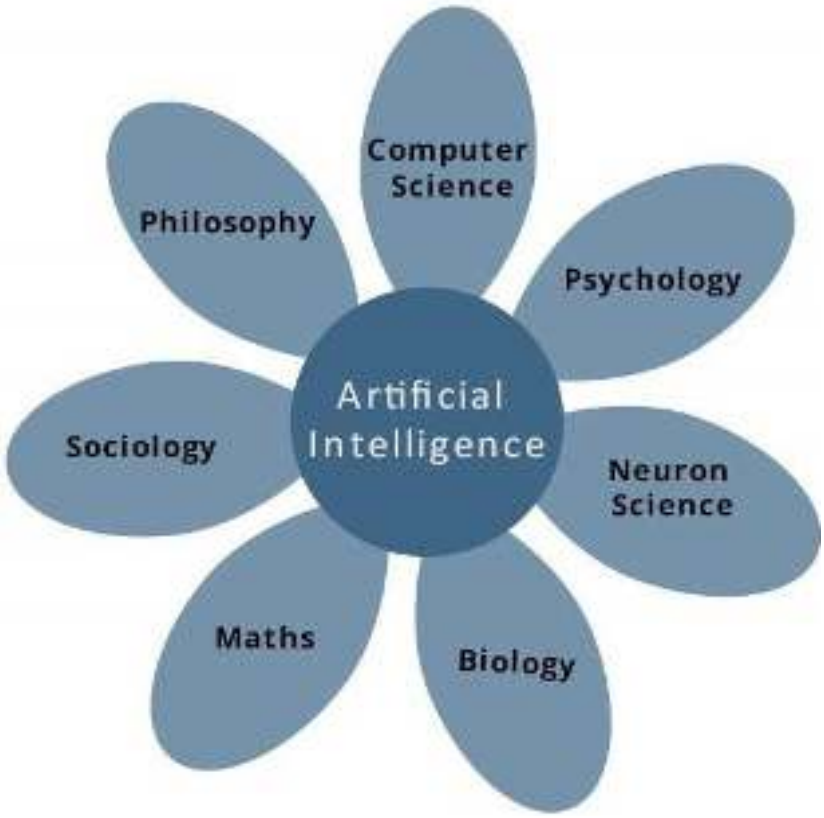
social media platforms. These help to track and interpret the texts generated online from the news, blogs, emails, etc. Furthermore, text mining tools can efficiently analyse the number of posts, likes, and followers of your brand on social media, thereby allowing you to understand the reaction of people who are interacting with your brand and online content. The analysis will enable you to understand 'what's hot and what's not' for your target audience.

- Mr Prakhyath Rai
Asst Professor, Dept of ISE

3. ARTIFICIAL INTELLIGENCE

Artificial intelligence is a branch of computer science that aims to create intelligent machines. It has become an essential part of the technology industry. The modern definition of artificial intelligence (or AI) is "the study and design of intelligent agents" where an intelligent agent is a system that perceives its environment and takes actions which maximizes its chances of success.

John McCarthy, who coined the term in 1956, defines it as "the science and engineering of making intelligent machines." Other names for the field have been proposed, such as computational intelligence, synthetic intelligence or computational rationality. The term artificial intelligence is also used to describe a property of machines or programs: the intelligence that the system demonstrates.



AI research uses tools and insights from many fields, including computer science, psychology, philosophy, neuroscience, cognitive science, linguistics, operations research, economics, control theory, probability, optimization and logic. It also overlaps with tasks such as robotics, control systems, scheduling, data mining, logistics, speech recognition, facial recognition and many others. Research associated with artificial intelligence is highly technical and specialized. The core problems of artificial intelligence include programming computers for certain traits such as:

- Knowledge
- Reasoning
- Problem solving
- Perception
- Learning
- Planning
- Ability to manipulate and move objects

Artificial Intelligence is also used in day-to-day activities. It assists in every area of our lives, whether we're trying to read our emails, get driving directions, or start a new business. Some of the activities such as

- Email communications
- Social media
- Web searching
- Stores and services
- Offline experiences

Artificial intelligence can be classified into three different types of systems: analytical, human-inspired, and humanized artificial intelligence. Analytical AI has only characteristics consistent with cognitive intelligence; generating cognitive representation of the world and using learning based on past experience to inform future decisions. Human-inspired AI has elements from cognitive and emotional intelligence; understanding human emotions, in addition to cognitive elements, and considering them in their decision making. Humanized AI shows characteristics of all types of competencies (i.e., cognitive, emotional, and social intelligence), is able to be self-conscious and is self-aware in interactions with others.

- Mr Janardhana D R
Asst Professor, Dept of ISE

4. BIG DATA, BIG DATA ANALYTICS ITS SCOPE AND APPLICATIONS

Big data is data that exceeds the processing capacity of conventional database systems. The data is too big, moves too fast, or does not fit the structures of traditional database architectures. In other words, Big Data is an all-encompassing term for any collection of data sets so large and complex that it becomes difficult to process using on-hand data management tools or traditional data processing applications. To gain value from this data, you must choose an alternative way to process it. Big Data is the next generation of data warehousing and business analytics and is poised to deliver top line revenues cost efficiently for enterprises. Big data is a popular term used to describe the exponential growth and availability of data, both structured and unstructured.

Every day, we create 2.5 quintillion bytes of data — so much that 90% of the data in the world today has been created in the last two years alone. This data comes from everywhere: sensors used to gather climate information, posts to social media sites, digital pictures and videos, purchase transaction records, and cell phone GPS signals to name a few. This data is Big Data.

The Definition of Big Data:

Big data usually includes data sets with sizes beyond the ability of commonly used software tools to capture, create, manage, and process the data within a tolerable elapsed time. Big data is high-volume, high velocity and high-variety information assets that demand cost-effective, innovative forms of information processing for enhanced insight and decision-making.

Where is this "Big Data" coming from ?

Big data is often boiled down to a few varieties including social data, machine data, and transactional data. Social media data is providing remarkable insights to companies on consumer behaviour and sentiment that can be integrated with CRM data for analysis, with 230 million tweets posted on Twitter per day, 2.7 billion Likes and comments added to Facebook every day, and 60 hours of video uploaded to YouTube every minute (this is what we mean by velocity of data). Machine data consists of information generated from industrial equipment, real-time data from sensors that track parts and monitor machinery (often also called the Internet of Things), and even web logs that track user behaviour online. At arc plan client CERN, the largest particle physics research centre in the world, the Large Hadron Collider (LHC) generates 40 terabytes of data every second during experiments. Regarding transactional data, large retailers and even B2B companies can generate multitudes of data on a regular basis considering that their transactions consist of one or many items, product IDs, prices, payment information, manufacturer and distributor data, and much more. Major retailers like Amazon.com, which posted $10B in sales in Q3 2011, and restaurants like US pizza chain Domino's, which serves over 1 million customers per day, are generating petabytes of transactional big data. The thing to note is that big data can resemble traditional structured data or unstructured, high frequency information.

Big Data Analytics

Big (and small) Data analytics is the process of examining data—typically of a variety of sources, types, volumes and / or complexities—to uncover hidden patterns, unknown correlations, and other useful information. The intent is to find business insights that were not previously possible or were missed, so that better decisions can be made.

Big data analytic applications

Big Data Analytic Applications

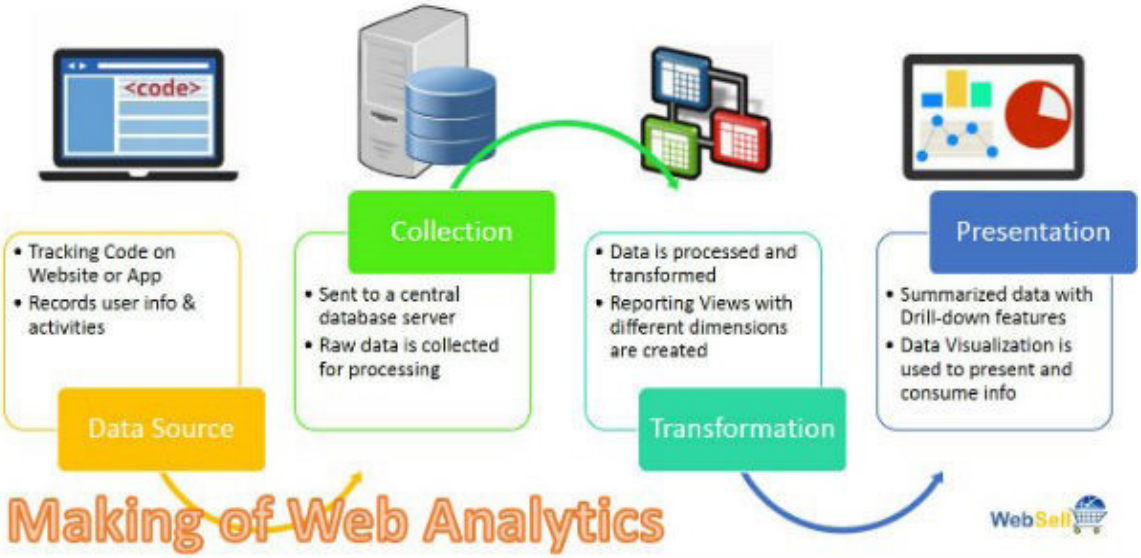
	Improve Operational Efficiencies	Increase Revenues	Achieve Competitive Differentiation
Mature Analytic Applications	■ Supply chain optimization ■ Marketing campaign optimization	■ Algorithmic trading	■ In-house custom analytic applications
Maturing Analytic Applications	■ Portfolio optimization ■ Risk management ■ Next best offer	■ Ad targeting optimization ■ Yield optimization	■ In-house custom analytic applications
Emerging Analytic Applications	■ Chronic disease prediction and prevention	■ Customer churn prevention	■ Product design optimization ■ Design of experiments optimization ■ Brand ■ Product Market

- Mrs Ramya BS
Asst Professor, Dept of ISE

5. A REVIEW ON WEB ANALYTICS

The internet has changed the way we live and conduct our different activities in so many ways and the World Wide Web is one of the most essential services that the internet provides. According to the definition of the World Wide Web is: "The Web is a global set of documents, images and other resources, logically interrelated by hyperlinks and referenced with Uniform Resource Identifiers (URIs). URIs symbolically identifies services, servers, and other databases, and the documents and resources that they can provide. Hypertext Transfer Protocol (HTTP) is the main access protocol of the World Wide Web. Web services also use HTTP to allow software systems to communicate to share and exchange business logic and data."

Web analytics technologies are usually categorized into on-site and off-site web analytics. On-site web analytics refers to data collection on the current site. It is used to effectively measure many aspects of direct user-website interactions, including the number of visits, time on site, click path, etc. Off-site analytics is usually offered by third-party companies such as Twitalyzer (http://twitalyzer.com) or Sweetspot (http://www.sweetspotintelligence.com). It includes data from other sources such as surveys, market report, competitor comparison, public information, etc. This chapter provides an overview of on-site web analytics, with a focus on categorizing and explaining data, sources, collection methods, metrics and analysis methods.



The fundamental basis of web analytics is the collection and analysis of website usage data. Today, web analytics is used in many industries for different purposes, including traffic monitoring, e-commerce optimization, marketing/advertising, web development, information architecture, website performance improvement, web-based campaigns/programs, etc. Some of the major web analytics usages are:

1.Improving website/application design and user experience.

This includes optimizing website information architecture, navigation, content presentation/layout, and user interaction. It also helps to identify user interest/attention areas and improve web application features. A particular example is a heat map that highlights areas of a webpage with a higher than average click rate and helps determine if intended link/content is in the right place.

2. Optimizing e-Commerce and improving e-CRM on customer orientation, acquisition and retention.

More and more companies analyse website usage data to understand customers' needs to increase traffic and ultimately increase their revenue. Different sites can have different goals like selling more products and attracting more users to generate more income through advertisements. Websites want to keep visitors longer (reducing bounce rate) to encourage users to return and to make every visit ends with the completion of targeted action (conversion).

3. Tracking and measuring the success of actions and programs such as commercial campaigns.

To bring value, web analytics must differentiate between a wide variety of traffic sources, marketing channels, and visitor types. A common question is: "where did visitors learn that information?" For example, parameters used in tracking direct traffic from email, social media, or mobile devices allow correlation of traffic sources with marketing campaign cost, which helps to evaluate the return on investments.

4. Identifying problems and improving the performance of web applications.

The study performed by Tag Man shows a significant correlation between page-load time and the likelihood of a user to convert (TagMan, 2012). Web analytics helps to address this issue. Page loading metrics such as average page load time by the browser and geographic location are used to measure performance. Both real-time and historical performance analysis allow proactive detection, investigation, and diagnosis of performance issues. Improvements may range from simple image optimization to modification of the expiration date in the HTTP headers to force browsers to use cached website content. A heat map might help to reveal website errors, such as that users click on buttons or images without links. The same techniques can be used by developers of web-based applications and games to add/ modify software features.

According to the Web Analytics Association, the official definition of Web Analytics is: “The measurement, collection, analysis and reporting of Internet data for understanding and optimizing Web usage. Also, it is important to notice that Web Analytics is not a technology to produce reports; but rather it is a process that proposes a virtuous cycle for website optimization. As Figure 1 shows, the Web Analytics process starts with defining goals for the Website, then there should be concrete KPIs (Key Performance Indicators) that will help understand the different metrics used in the Web Analytics process. After step 1 and 2 has been clearly defined, it is time to collect the data, and there are several ways to collect data in the context of Web Analytics that we will look at in detail in the Data Collection Section. After collecting the data comes analysing the data part, and finally implementing the changes based on the analysis results which corresponds to the goals.

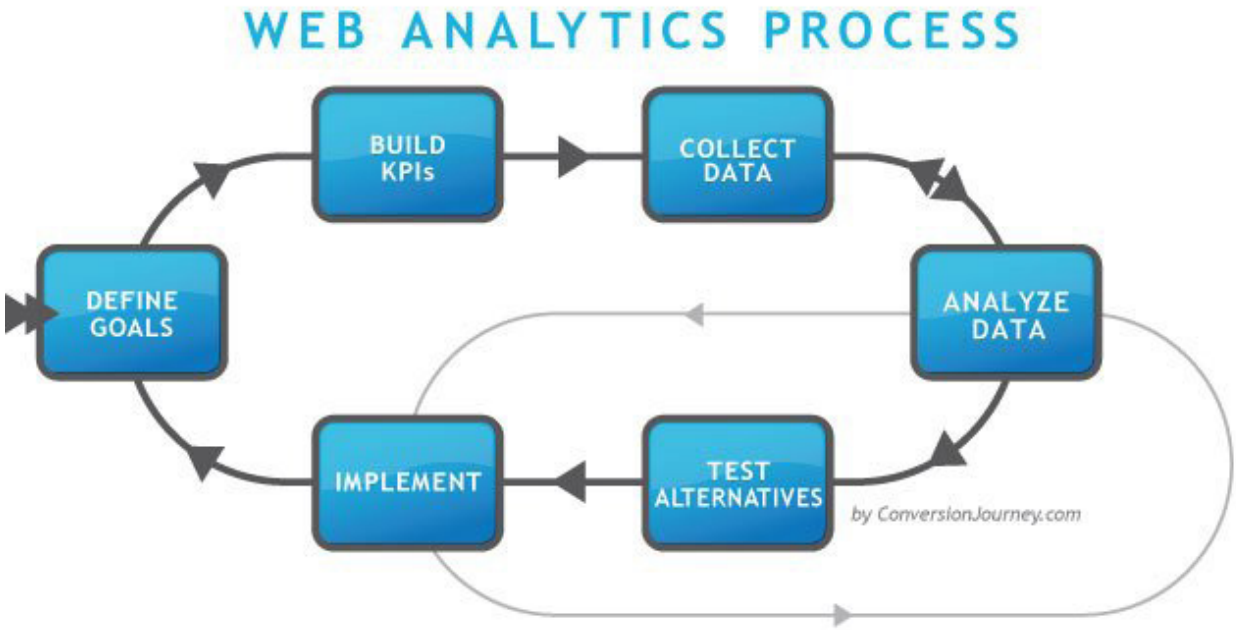


Figure 1: Web Analytics Process

Web 2.0 has brought many changes to the Web analytics industry. AJAX changed how users interact with websites, and future analytics will be more focused on event data rather than just based on HTTP requests. This made page tagging method a dominant collection method for the future. Mobile web has also become a major trend in the last two years (Meeker, 2012). However, there are several challenges in measuring mobile web access (Rapoza, 2010). For example, JavaScript is poorly handled by many mobile browsers and collected statistics are not very reliable. Therefore, there is a need for a more robust method of mobile web data collection and analysis.

Higher application level analytics will not only collect generic HTTP request data or user action data but also domain and application specific data. Web analytics traditionally was used for e-commerce sites, but recently expanded into other areas such as social media and education. The collection and analysis of such application-level data are usually labelled using application names, like learning analytics, video analytics, search analytics, social media analytics, etc. For example, Google provides search and advertising analytics; YouTube provides video analytics; LinkedIn and Facebook provide social analytics; Blackboard provides learning analytics. Most of these application-specific analytics combine on-site web usage data and external data. This trend will continue with the introduction of more application-specific analytics.

- Mr Rithesh Pakkala P
Asst Professor, Dept of ISE

SOCIAL MEDIA GIANT

1. LINKEDIN

LinkedIn has become the de facto platform for all business professionals on the planet, but not many appreciate its roots, the journey it has taken and where it came from and how did it flourish.

LinkedIn started out in the living room of co-founder Reid Hoffman and the site officially launched on May 5, 2003. Reid has previously been on the board of Google, eBay and PayPal, so had a proven track record before taking the first round of funding and eventually floating on the New York stock exchange. This also goes some way to explaining the great integration between Google and LinkedIn.

LinkedIn is one of the oldest mainstream social platforms, older then YouTube, Facebook and Twitter. The mission statement was keyed to connecting the world's professionals to make them more productive and successful. LinkedIn took a major step forward when it added in the ability to upload your address book to invite your colleagues, introduced groups to start building communities and even embraced partnership with American Express to promote their offerings to its clients. LinkedIn has topped 315 million users globally which statistically is the majority of professionals. Hve research is not conclusive but I have seen estimates between 350 to 600 million business professionals on the planet, so over 50% of the business professionals on the planet are on LinkedIn!

The platform has grown steadily since day one with the current rate at two new user accounts being created per second and that's more than one million new users each week joining.
LinkedIn continues to grow, they add (and remove) features to keep the experience delivering for the users (paid and free) and it has become the default look up for all serious business professionals. They continue to be acquisitive purchasing CardMuch, Connected, Rapportive, Pulse, SlideShare and more recently newsle and bizo.
Today LinkedIn is one of the most used social Media Platform by Professionals and employers worldwide.

- Navya BL
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2. FACEBOOK

Facebook is a popular free social networking website that allows registered users to create profiles, upload photos and video, send messages and keep in touch with friends, family and colleagues, post links to news or other interesting content on the web, chat live, and watch short-form video. You can even order food on Facebook if that's what you want to do. Shared content can be made publicly accessible, or it can be shared only among a select group of friends or family, or with a single person.

Facebook began in February of 2004 as a school-based social network at Harvard University. It was created by Mark Zuckerberg along with Edward Saverin, both students at the college. It wasn't until 2006 that Facebook opened to anyone 13 years or older and took off, rapidly overtaking MySpace as the most popular social network in the world. Facebook's success can be attributed to its ability to appeal to both people and businesses and its ability to interact with sites around the web by providing a single login that works across multiple sites.
Facebook is user-friendly and open to everyone. Even the least technical-minded people can sign up and begin posting on Facebook. Although it started out as a way to keep in touch or reconnect with long-lost friends, it rapidly became the darling of businesses that were able to closely target an audience and deliver ads directly to the people most likely to want their products or services.

The site is entertaining and a regular daily stop for many users. Unlike some social network sites, Facebook does not allow adult content. When users transgress and are reported, they are banned from the site. Facebook provides a customizable set of privacy controls, so users can protect their information from getting to third-party individuals.
If you want to see for yourself why 2 billion monthly visitors can't stay away from Facebook, sign up for a free Facebook account online, add profile and cover photos, and search for people you know to start your friends list. You'll be part of the social media juggernaut before you know it.

- Prakhyath
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hod.is.engg@sahyadri.edu.in | +91 99864 07821