Department of Computer Engineering

Government Polytechnic for Girls,Surat

November-2019 : Vol.-2

TechTrends

E-Newsletter

Vision :

To empower girls of diploma computer engineering to excel in IT Industries and serve the society.

Mission:

- To strive for academic excellence and professional competence among students and staff.
- To encourage innovative ideas among students to enhance their entrepreneurship skills.
- To provide high tech educational resources and supportive infrastructure.

Message from Head of Department

I am grateful to our institute principal sir, computer department faculties and all students to remain present in the inaugural function of our E-Newsletter "**TechTrends**".

I request all the students to work with great enthusiasm to make our E-Newsletter a great success.

I hope all the information published in this letter will help all of us to enhance our technical knowledge and to motivate us for achieving great heights in our lives.

Further, I wish all of you "**Happy Diwali**" and Prosperous New Year.

Thank you.

Mrs. Rekha M. Shah
Head of Department,
Department of Computer Engineering

Trending Technology

Kum. Mona M. Umaria
Lecturer,
Department of Computer Engineering

Technology is the sum of techniques, skills, methods, and processes used in the production of goods or services or in the accomplishment of objectives, such as scientific investigation.

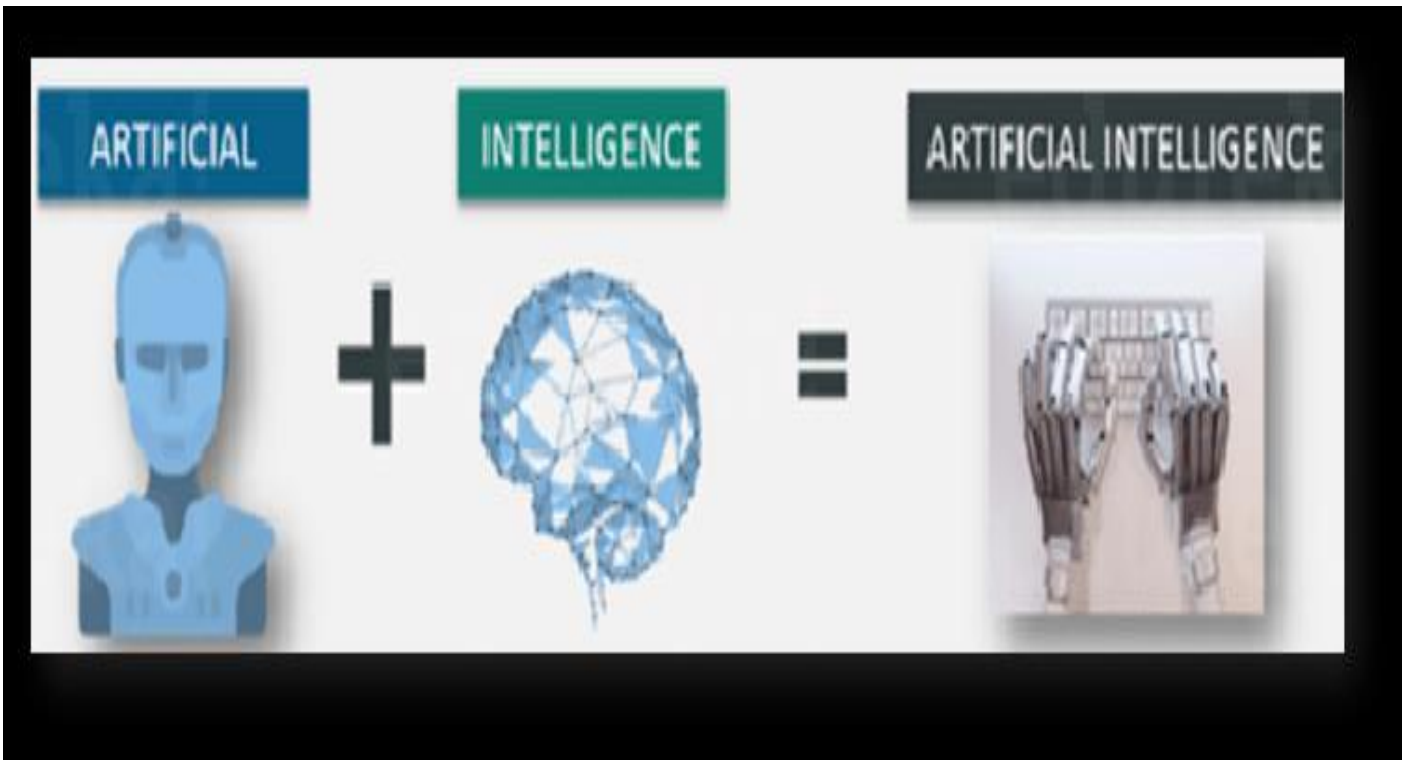
Top trending technology in computer science are as follow:

1. Artificial Intelligence
2. Blockchain
3. Augmented Reality and Virtual Reality
4. Cloud Computing
5. DevOps
6. Internet of Things (IoT)
7. Big Data

1. AI – Artificial Intelligence

Artificial Intelligence is a field of computer science in which a machine is equipped with the ability to acquire knowledge and understand through thought, experience, and senses of a human that can make decisions based on its past experiences.

- It will give a goal and it continuously tries improve its performance from its past actions to the best reach of the goal.

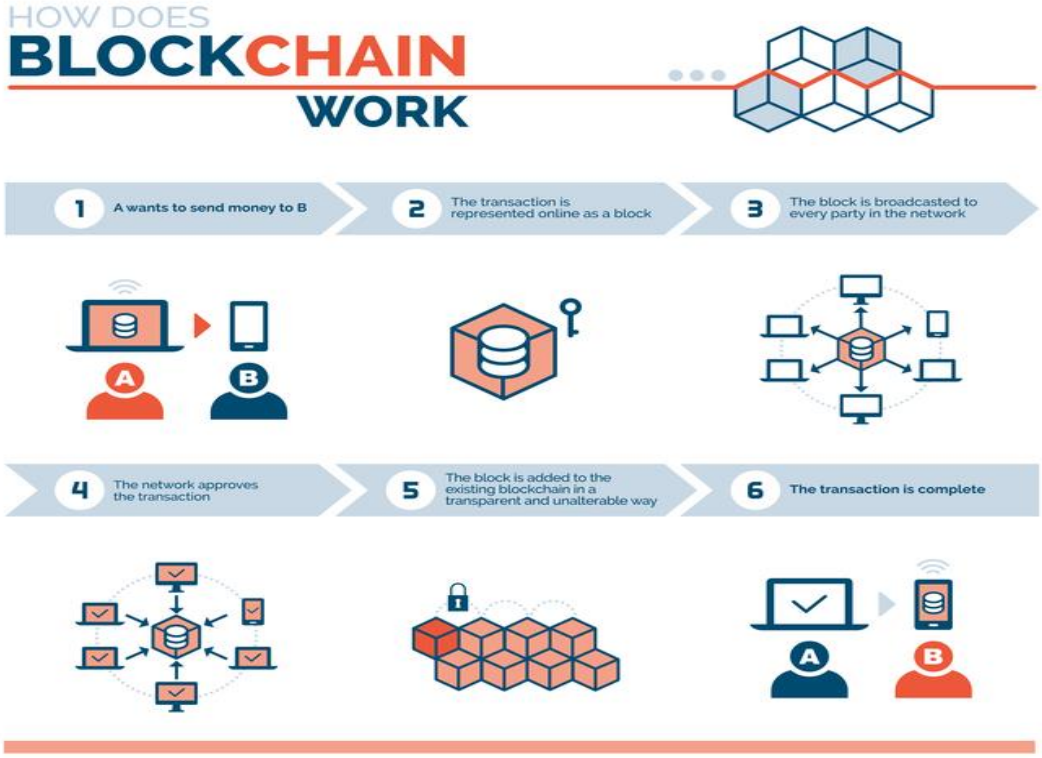


2. Blockchain

Blockchain is a system in which a record of transactions made in bitcoin or another cryptocurrency are maintained across several computers that are linked in a peer-to-peer network. OR

Blockchain: A blockchain is, an immutable time-stamped series record of data that is distributed and managed by cluster of computers.

- **Bitcoin** is a cryptocurrency. It is a decentralized digital currency without a central bank or single administrator that can be sent from user to user on the peer-to-peer bitcoin network without the need for intermediaries.
- Blockchain as a technology has far-reaching potential in everything from healthcare to elections to real estate to law enforcement.



3. Augmented Reality and Virtual Reality

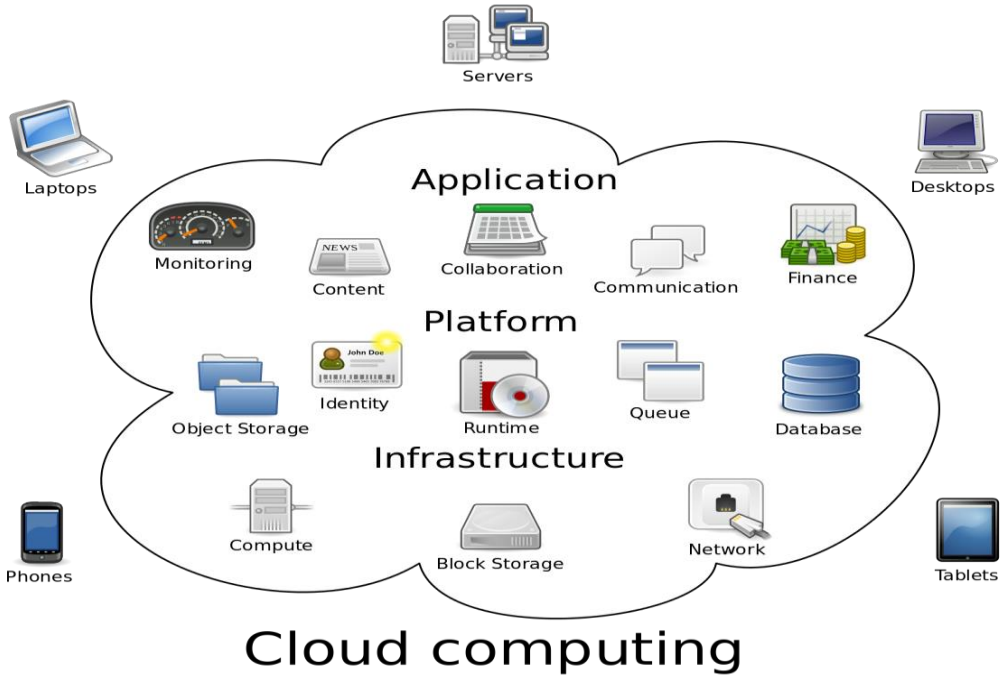
Virtual is real! VR and AR, the twin technologies that let you experience things in virtual, that are extremely close to real.

- **Augmented reality (AR)** adds digital elements to a live view often by using the camera on a smart phone. Examples of augmented reality experiences include Snapchat lenses and the game Pokémon Go
- Medical students use AR technology to practice surgery in a controlled environment.
- **Virtual reality (VR)** implies a complete immersion experience that shuts out the physical world. Using VR devices such as HTC Vive, Oculus Rift or Google Cardboard, users can be transported into a number of real-world and imagined environments on the other hand, opens up newer avenues for gaming and interactive marketing.

4. Cloud Computing

Cloud Computing is the on-demand availability of computer system resources, especially data storage and computing power, without direct active management by the user.

- The term is generally used to describe data centers available to many users over the Internet.
- These services are broadly divided into three categories: Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS) and Software-as-a-Service (SaaS)



5. DevOps

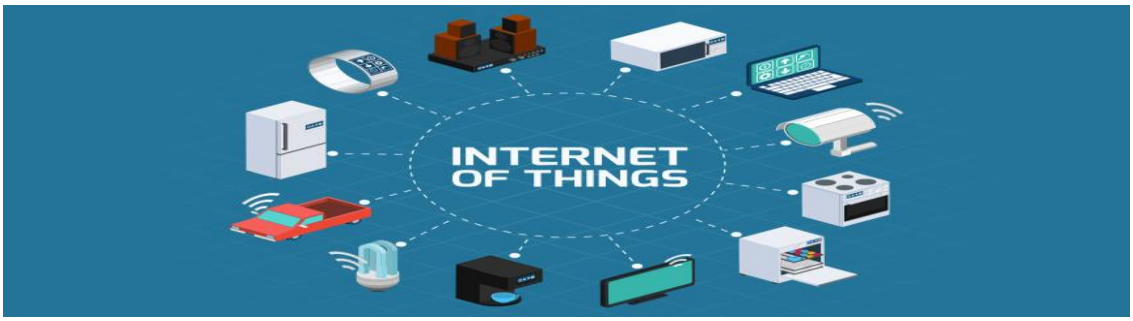
It is not a technology, but a methodology.

- **DevOps** is a methodology that ensures that both the development and operations go hand in hand.
- DevOps cycle is picturized as an infinite loop representing the integration of developers and operation teams by: automating infrastructure, workflows and continuously measuring application performance. It is basically the process of continual improvement.

6. Internet of things (IoT)

Internet of things (IoT) is a computing concept that describes the idea of everyday physical objects being connected to the internet and being able to identify themselves to other devices."

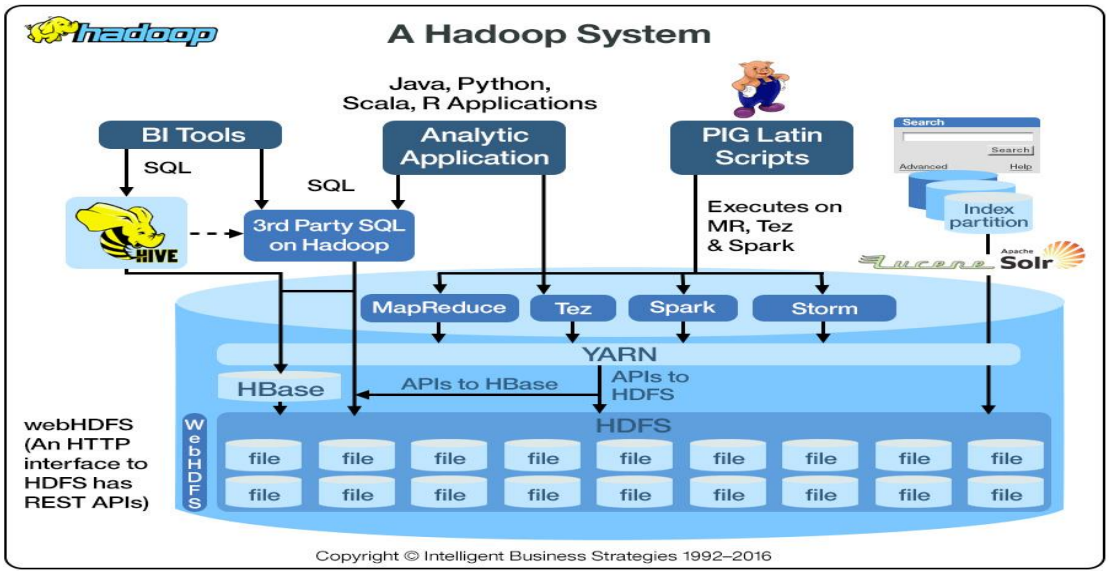
- IoT essentially is connecting many devices and creating a virtual network where everything works seamlessly via a single monitoring center of sorts.
- IoT is a giant network of connected devices – all of which gather and share data about how they are used and the environments in which they are operated.



7. Hadoop

Hadoop is a collection of open-source software utilities that facilitate using a network of many computers to solve problems involving massive amounts of data and computation.

- Big data refers to problems that are associated with processing and storing different types of data. Most of the companies today, rely on big data analytics to gain huge insight about their : customer, product research, marketing initiatives and many more.
- It provides a software framework for distributed storage and processing of big data using the Map Reduce programming model
- Hadoop and Spark are the two most famous frameworks for solving Big Data problems.



QUIZ (2)

Logical Reasoning

1. SCD, TEF, UGH, ____, WKL

   A. CMN

   B. UJI

   C. VIJ

   D. IJT

2. Look at this series: 2, 1, (1/2), (1/4), ... What number should come next?

   A. 1/3

   B. 1/8

   C. 2/8

   D. 1/16

Answer of Last Quiz (1)

1. **16** – Explanation : Starting with the top left number, and working down one row at a time, alternating between left and right, double the number each time.

2. **M** – Explanation : In each column, add up each number and put the letter with this sum in the bottom circle.

Photo Gallery

Student Corner :

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WHAT IS BRAINPORT V100 DEVICE ?

- "BrainPort v100 device" is a technology developed in US, which is making the world visible to the ones who lose their sight due to some accidental incidents.
- Neuroscientists at Wicab, has developed the BrainPort Vision Device that allows the blinds to "see" using their tougues.
- Craig Lundberg, 24, is the first British soldier to test the BrainPort system, which is billed as the next best thing to sight.
- The device which sends visual input through tongue in much the same way that seeing individuals receive visual input through the eyes is called the "Brainport v100 Device".

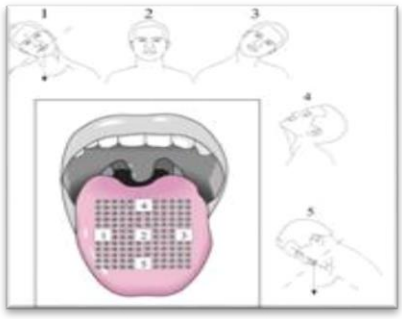
STATISTICS ON THE BLIND:

- 37 million: People in the world are blind India (9 million), Africa (7 million) and China (6 million)
- Every 5 seconds: One person in our world goes blind
- 75 million: People will be blind by 2020 (if trends continue)

WHY DEVICE SHOULD BE PLACED ON TONGUE

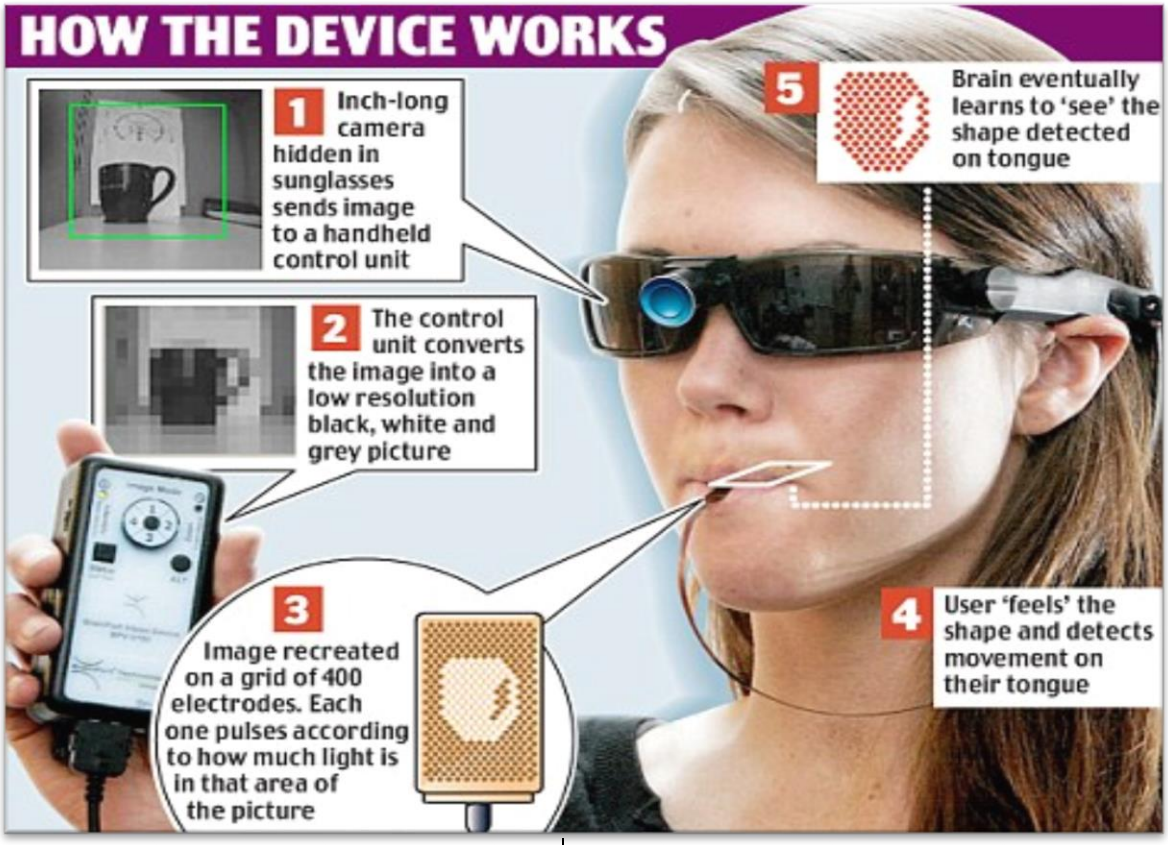
position of electrode array on tongue

- Other parts of the body, such as the back, were not sufficiently sensitive. The fingertips were sensitive enough, but people wanted full use of their hands to grip a cane or to grab objects.
- The key to the device may be its utilization of the tongue, which seems to be an ideal organ for sensing electrical current. Saliva there functions as a good conductor.



exact location of electrode array on tongue

- It requiersless voltage to stimulator nerve fiber in the tongue because in other parts an outer layer of dead skin cells to act as an insulator—5 to15 volts compared to 40 to 500 volts for areas like the fingertips or abdomen



ADVANTAGES

- ✓ Locating known objects such as shoes, cane, coffee mug, keys
- ✓ Brain Port device does not replace the sense of sight
- ✓ Users can operate it independently with a hand-held controller.
- ✓ It uses a rechargeable battery like in normal cell phone

DISADVANTAGES

- ✓ This technology can't be adapted to work on senses the brain doesn't already have.
- ✓ This brain port requires training the brain incrementally using daily practice session.
- ✓ Not affordable for common people.
- ✓ Occasionally it will produce weak metallic taste sensations, a minor side effects.

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