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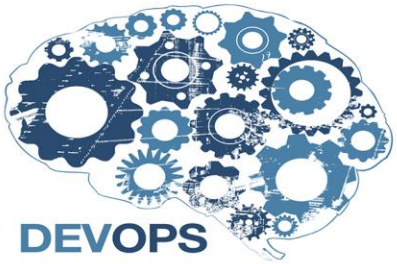
Contents

Thoughts of the Issue - 01

E- Bike - 02

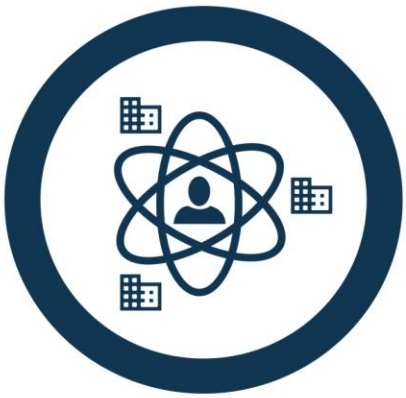
Wireless Charging - 04



DevOps - 06

5G Technology - 08

Edge Computing - 10



Quantum Computing - 12

Learn A Tool 14

Review Box 16

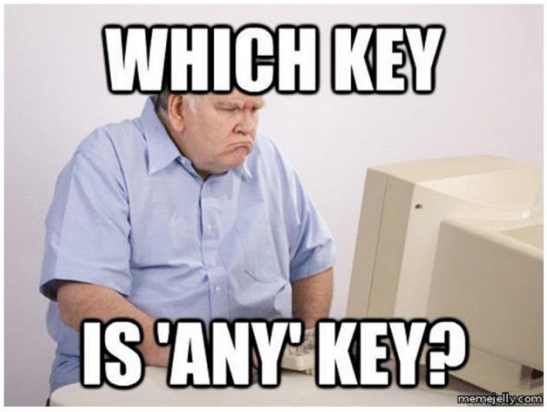
MindPunch 17

IT Vita 18

Famous and Favourite 19

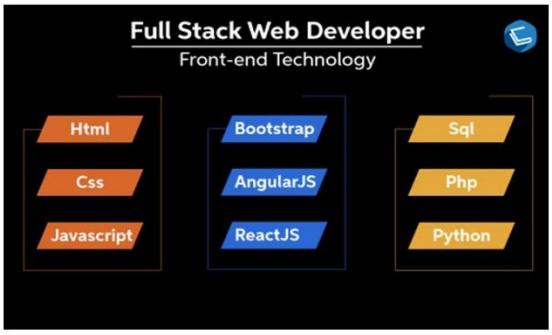
Solutions 20

Thoughts of the Issue

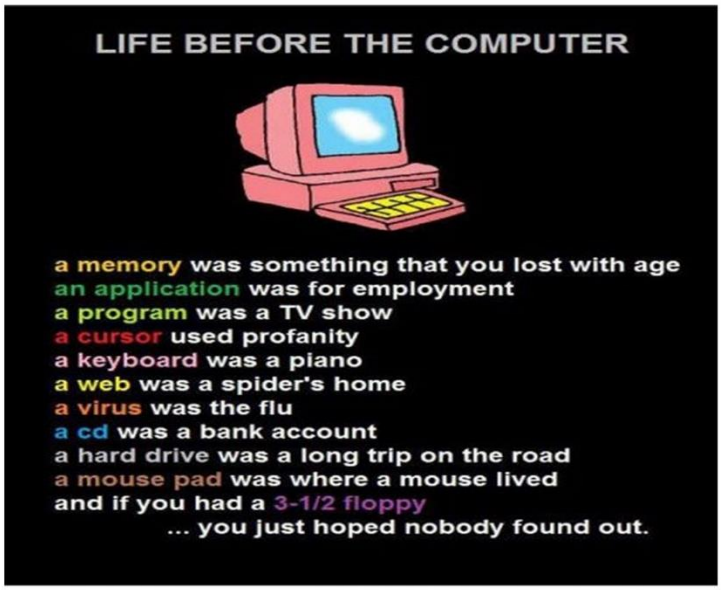


Remember

Just For Fun



Message



Free Advice

E-BIKE

The first thing you should know about e-bikes is that they're here to stay. Electric bike sales jumped by an incredible 240 percent over a 12-month period compared to two years prior, according to the market. It's a nearly $27 billion industry as of last year, and there's no sign of a slowdown.

Some view the rise of e-bikes as a threat, as though standard bikes will go the way of the penny-farthing once everyone goes electric. But fear not E-bikes aren't here to rob us of our human-powered way of life. In fact, they may very well enhance it especially as travel and commuting habits change following the pandemic situations and shift of work commuting. So as we roll our way into peak riding season, here's everything you need to know about the electric bike revolution.

E-bikes make pedaling easier:

Generally speaking, e-bikes are bicycles with a battery-powered "assist" that comes via pedaling and, in some cases, a throttle. When you push the pedals on a pedal-assist e-bike, a small motor engages and gives you a boost, so you can zip up hills and cruise over tough terrain without gassing yourself. Also called "pedelecs," they feel just like conventional bikes but better, says Ed Benjamin, senior managing director at the consulting firm eCycleElectric. "You control your speed with your feet, like with a regular bike," he says. "You just feel really powerful and accelerate easily."

They go pretty fast… to a point:

The harder you pedal, the bigger the boost, the faster you'll ride to a point. E-bikes let you hum along at a brisk clip, but the aren't motorcycles. You'll never hammer down the road at 45 mph. The motor is designed to stop propelling you further when you hit 20 to 28 miles per hour, depending on the bike. So you'll save time on your commute but still enjoy the scenery.

You can also control how big of an assist you get. Most e-bikes come with a power switch that lets you adjust the boost setting from “eco” (low) to “turbo” (high), for when you want a little more oomph to help you, say, up a steep hill.

There’s an e-bike for everything:

Name a type of riding, and there’s an e-bike for that. If you have zero interest in an electric road bike, you may find yourself head over heels for a high capacity e-cargo bike that can haul 400 pounds of stuff while still cruising at a cool 15 mph. E-bikes are available in fat, cargo, commuter, recreational, hardtail, full-suspension mountain, and even performance road bike styles.

They can replace driving:

“People are buying electric bicycles as a way to reduce car trips,” Benjamin says.

The data backs him up: 28 percent of survey respondents said they bought an e-bike specifically to replace driving a car. And many other reasons buyers listed for wanting an e-bike including carrying cargo and kids, avoiding parking and traffic, and environmental concerns also indicate a desire to get out from behind the wheel. Plus, you don’t need to change clothes or clean up when you arrive at your destination, because you don’t have to work up as much of a sweat.

Yes, you still get exercise:

E-bikes do some of the work for you, but they still count as exercise, especially for people who are otherwise sedentary. Colorado university researchers found that when 20 non-exercising men and women e-biked about 40 minutes three days a week, they improved their cardiovascular fitness and blood sugar in just one month. “Many people are not fit enough to ride long enough to get meaningful health and fitness benefits from biking,” Benjamin says. “Put them on an electric bike and they can go out and ride for an hour and get a significant amount of exercise.”

WIRELESS CHARGING

Wireless charging has been around since the late 19th century, when electricity pioneer Nikola Tesla demonstrated magnetic resonant coupling – the ability to transmit electricity through the air by creating a magnetic field between two circuits, a transmitter and a receiver.But for about 100 years it was a technology without many practical applications, except, perhaps, for a few electric toothbrush models.Today, there are nearly a half dozen wireless charging technologies in use, all aimed at cutting cables to everything from smartphones and laptops to kitchen appliances and cars.

How wireless charging works

Broadly speaking, there are three types of wireless charging, according to David Green, a research manager with IHS Markit. There are charging pads that use tightly-coupled electromagnetic inductive or non-radiative charging; charging bowls or through-surface type chargers that use loosely-coupled or radiative electromagnetic resonant charging that can transmit a charge a few centimeters; and uncoupled radio frequency (RF) wireless charging that allows a trickle charging capability at distances of many feet.

Both tightly coupled inductive and loosely-coupled resonant charging operate on the same principle of physics: a time-varying magnetic field induces a current in a closed loop of wire.

It works like this: A magnetic loop antenna (copper coil) is used to create an oscillating magnetic field, which can create a current in one or more receiver antennas. If the appropriate capacitance is added so that the loops resonate at the same frequency, the amount of induced current in the receivers increases.

This is resonant inductive charging or magnetic resonance; it enables power transmission at greater distances between transmitter and receiver and increases efficiency.

Coil size also affects the distance of power transfer. The bigger the coil, or the more coils there are, the greater the distance a charge can travel.

In the case of smartphone wireless charging pads, for example, the copper coils are only a few inches in diameter, severely limiting the distance over which power can travel efficiently.

Wireless charging over distance

PowerbyProxi was founded in 2007 by entrepreneur Fady Mishriki as a spin-out from the University of Auckland. PowerByProxi has showcased charging boxes and bowls into which multiple devices can be placed and charged at the same time.

The Aukland-based company got its start selling large-scale systems for the construction, telecommunications, defense and agriculture industries. One such product is a wireless control system for wind turbines.

PowerByProxi, a member of the WPC's Steering Committee, has also miniaturized its technology and placed it into AA rechargeable batteries, eliminating the need to embed the technology directly into devices. The wireless technology takes up about 10% of the AA battery height.

Apple could use PowerByProxi's technology to expand its use of wireless charging beyond just smartphones, using it, for instance, to charge TV remote controls, computer peripherals, or any number of devices that require batteries.

While the most visible use of wireless charging technology has been in mobile device charging pads, the technology is also making inroads into everything from warehouse robots to tiny IoT devices that otherwise would need to be wired or powered by replaceable batteries.

WiTricity and wireless charging in vehicles

The company, which is part of the AirFuel Alliance, expects a number of electric car manufacturers to announce wireless charging for their vehicles, according to WiTricity CEO Alex Gruzen.

DEV OPS

DevOps is a set of practices that combines software development (Dev) and IT operations (Ops). It aims to shorten the systems development life cycle and provide continuous delivery with high software quality. DevOps is complementary with Agile software development; several DevOps aspects came from the Agile methodology.

DEFINITION

Other than it being a cross-functional combination (and a portmanteau) of the terms and concepts for "development" and "operations", academics and practitioners have not developed a universal definition for the term "DevOps". Most often, DevOps is characterized by key principles: shared ownership, workflow automation, and rapid feedback**.**

GitOps

This section needs expansion. You can help by adding to it.GitOps evolved from DevOps.

The specific state of deployment configuration is version-controlled (using Git for example). Changes to configuration can be managed using code review practices, and can be rolled back using version-controlling.

Relationship to other approaches

Many of the ideas fundamental to DevOps practices are inspired by, or mirror, other well known practices such as Lean and Deming's Plan-Do-Check-Act cycle, through to The Toyota Way and the Agile approach of breaking down components and batch sizes. Contrary to the "top-down" proscriptive approach and rigid framework of ITIL in the 1990s, DevOps is "bottom-up" and a flexible practice, created by software engineers, with software engineer needs in mind.

ArchOps

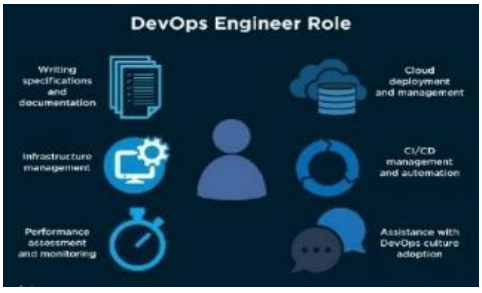
ArchOps presents an extension for DevOps practice, starting from software architecture artifacts, instead of source code, for operation deployment. ArchOps states that architectural models are first-class entities in software development, deployment, and operations.

CI/CD

Automation is a core principle for achieving DevOps success and CI/CD is a critical component. Plus, improved collaboration and communication between and within teams helps achieve faster time to market, with reduced risks.

DevSecOps, Shifting Security Left

DevSecOps is an augmentation of DevOps to allow for security practices to be integrated into the DevOps approach. Contrary to a traditional centralized security team model, each delivery team is empowered to factor in the correct security controls into their software delivery. Security practices and testing are performed earlier in the development lifecycle, hence the term “shift left” can be used. Security is tested in three main areas: static, software composition, and dynamic.



Checking the code statically via

Static Application Security Technique (SAST) in white box testing,the special focus on security.

Depending on the programming language, different tools are needed to do such static code analysis. The software composition is analyzed, especially libraries and their versions are checked against vulnerability lists published by CERT and other expert groups. When giving software to clients, licenses and its match to the one of the software distributed are in focus, especially copyleft licenses. Dynamic testing is also called blackbox testing. The software is tested without knowing its inner functions. In DevSecOps it is on one hand called dynamically (DAST), or penetration testing. The goal is to catch, amongst others, errors like cross-site scripting, or SQL injection early. Threat types are for example published by the open web application security project , e.g. its TOP10.

5G TECHNOLOGY

5G technology has a theoretical peak speed of 20 Gbps, while the peak speed of 4G is only 1 Gbps. 5G also promises lower latency, which can improve the performance of business applications as well as other digital experiences (such as online gaming, videoconferencing, and self-driving cars).

While earlier generations of cellular technology (such as 4G LTE) focused on ensuring connectivity, 5G takes connectivity to the next level by delivering connected experiences from the cloud to clients. 5G networks are virtualized and software-driven, and they exploit cloud technologies.

The 5G network will also simplify mobility, with seamless open roaming capabilities between cellular and Wi-Fi access. Mobile users can stay connected as they move between outdoor wireless connections and wireless networks inside buildings without user intervention or the need for users to reauthenticate.

The new Wi-Fi 6 wireless standard (also known as 802.11ax) shares traits with 5G, including improved performance. Wi-Fi 6 radios can be placed where users need them to provide better geographical coverage and lower cost. Underlying these Wi-Fi 6 radios is a software-based network with advanced automation.

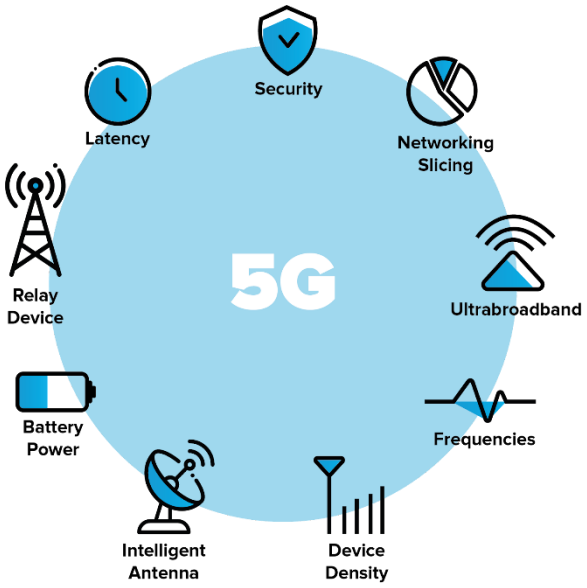
5G technology should improve connectivity in underserved rural areas and in cities where demand can outstrip today's capacity with 4G technology. New 5G networks will also have a dense, distributed-access architecture and move data processing closer to the edge and the users to enable faster data processing.

How does 5G technology work?

5G technology will introduce advances throughout network architecture.

5G New Radio, the global standard for a more capable 5G wireless air interface, will cover spectrums not used in 4G.

New antennas will incorporate technology known as massive MIMO (multiple input, multiple output), which enables multiple transmitters and receivers to transfer more data at the same time. But 5G technology is not limited to the new radio spectrum. It is designed to support a converged, heterogeneous network combining licensed and unlicensed wireless technologies. This will add bandwidth available for users.



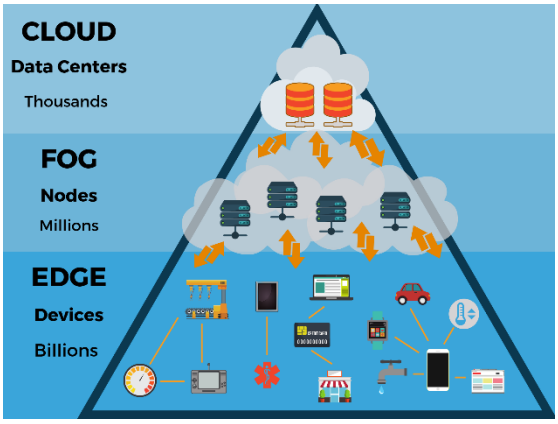
5G architectures will be software-defined platforms, in which networking functionality is managed through software rather than hardware.

Advancements in virtualization, cloud-based technologies, and IT and business process automation enable 5G architecture to be agile and flexible and to provide anytime, anywhere user access. 5G networks can create software-defined subnetwork constructs known as network slices. These slices enable network administrators to dictate network functionality based on users and devices.

5G also enhances digital experiences through machine-learning (ML)-enabled automation. Demand for response times within fractions of a second (such as those for self-driving cars) require 5G networks to enlist automation with ML and, eventually, deep learning and artificial intelligence (AI). Automated provisioning and proactive management of traffic and services will reduce infrastructure cost and enhance the connected experience.

EDGE COMPUTING

Today, the primary concern of every industry is the laggy approach that sometimes affects the overall management of the operations. Therefore, the industries are focusing more on the efficiency and the response rate of computing, through which data analysis is made. And here comes the role of edge computing.



Edge Computing, one of the top technological trends in 2022, brings data storage and computation closer to the businesses, and hence, reduces the time and saves the bandwidth. Also, this one is the growing technological trends of 2022 weighs more like the latest trend in technology because the industries are rapidly empowered with sophisticate and specialized resources, which is bound to reduce the latency.

Primary Advantages of Edge Computing:

Edge Computing enhances security to a new level by countering the issues of local compliance, privacy regulations, and data sovereignity. Although many vulnerable surfaces for attacks, it clearly nullifies the impact of an organization.

Speed Gets massively enhanced with the help of Edge Computing as it reduces the amount of latency under the current technology trends in the postmodern era. For example, autonomous vehicles require faster processing of data since every millisecond on the road matters. By confining data analysis to the edge, the speed of processing data can be massively improved.

Edge Computing reduces the cost of retaining the data significantly by categorizing each data from the management perspective. As data can be retained in edge locations , it significantly reduces the bandwidth cost while eliminating the redundant storage.

Without big data, you are blind and deaf and in the middle of a freeway.

As of now, Edge Computing is being fueled by the rapid evolution of the Internet of Things (IoT) and in the future, it will create an ustructured architecture over a set of distribute Cloud Services. For instance, we have drones that directly communicates with the enterprise IoT platform and conduct peer-to-peer exchanges. One of such examples is Amazon's latest package delivery drone.

Disadvantages of Edge Computing:

Even though cloud storage expenses are lower, there's an additional cost on the local end. Much of this comes from creating storage capacity for the edge devices.

There's also a cost component associated with Edge Computing as old IT network infrastructure is replaced or upgraded to handle edge devices and storage. Some companies may find that the cost of converting to an edge network rivals that of installing and maintaining a traditional IT infrastructure.

The advantage of Edge Computing carries with it a risk. When implemented, the system must be thoroughly planned out and programmed to avoid data loss. Many Edge Computing devices discard irrelevant data after collection- as they should- but if the data discarded is relevant, that data is lost and the analysis in the cloud will be flawed.

Just as there's a security advantage at the cloud and enterprise levels, there's a security risk at the local level. It does a company no good to have a cloud-based provider with excellent security only to have their local network open to breach. This issue is a problem that the IT departments have struggled with for years, but vigilance, or lack of it, extends to the new edge network as well

QUANTUM COMPUTING

Quantum computing is a type of computation that harnesses the collective properties of quantum states, such as superposition, interference, and entanglement, to perform calculations. The devices that perform quantum computations are known as quantum computers.I-5 Though current quantum computers are too small to outperform usual (classical) computers for practical applications, they are believed to be capable of solving certain computational problems, such as integer factorization (which underlies RSA encryption), substantially faster than classical computers. The study of quantum computing is a subfield of quantum information science.

IBM Q System One (2019), the first circuit-based commercial quantum computer

There are several types of quantum computers (also known as quantum computing systems), including the quantum circuit model, quantum Turing machine, adiabatic quantum computer, one-way quantum computer, and various quantum cellular automata. The most widely used model is the quantum circuit, based on the quantum bit, or "qubit", which is somewhat analogous to the bit in classical computation. A qubit can be in a 1 or 0 quantum state, or in a superposition of the 1 and 0 states. When it is measured, however, it is always 0 or 1; the probability of either outcome depends on the qubit's quantum state immediately prior to measurement.

Efforts towards building a physical quantum computer focus on technologies such as transmons, ion traps and topological quantum computers, which aim to create high-quality qubits. These qubits may be designed differently,

depending on the full quantum computer's computing model, as to whether quantum logic gates,

quantum annealing, or adiabatic quantum computation are employed.

There are currently a number of significant obstacles to constructing useful quantum computers.

It is particularly difficult to maintain qubits' quantum states, as they suffer from quantum decoherence and state fidelity. Quantum computers therefore require error correction.

Any computational problem that can be solved by a classical computer can also be solved by a quantum computer.

Conversely, any problem that can be solved by a quantum computer can also be solved by a classical computer, at least in principle given enough time. In other words, quantum computers obey the Church–Turing thesis.

This means that while quantum computers provide no additional advantages over classical computers in terms of computability, quantum algorithms for certain problems have significantly lower time complexities than corresponding known classical algorithms.

Notably, quantum computers are believed to be able to quickly solve certain problems that no classical computer could solve in any feasible amount of time—a feat known as "quantum supremacy." The study of the computational complexity of problems with respect to quantum computers is known as quantum complexity theory.

POTENTIAL APPLICATIONS

A notable application of quantum computation is for attacks on cryptographic systems that are currently in use. Integer factorization, which underpins the security of public key cryptographic systems, is believed to be computationally infeasible with an ordinary computer for large integers if they are the product of few prime numbers (e.g., products of two 300-digit primes).

LEARN A TOOL

Google Classroom is a learning management system (LMS) that aims to simplify creating, distributing, and grading assignments and engaging students in learning online or remotely. Google Classroom is a free application designed to help students and teachers communicate, collaborate, organize and manage assignments, go paperless, and much more! It was introduced as a feature of Google Apps for Education following its public release on August 12, 2014.

Type of Learning: Allows for streamlined feedback and online collaboration. Boosts the social learning aspect of online education, enabling learners to benefit from the experience and skills of their peers. Allows teacher to design digital team based learning activities.

Ease of Use: Quick and convenient set up, easy to log in, easy to receive and turn in assignments.

Accessibility: Allows for the use of screen readers for low vision users. Google classroom Mobile app works with VoiceOver on iOS and TalkBack on Android.

Access: Tool is accessible from all computers, mobile phones, and tablets.

Learning Activities

For Teachers

Work on the same lesson plan at the same time with a colleague using Google Docs. Store your lesson plans in your school's shared Google Drive so that anyone at your school can find and access them. Create a folder for your grade level to share resources.

For Students

Math

Model mathematics with Google Drawing: Collaboratively create virtual manipulatives, such as Algebra Tiles, in a Google Drawing. Distribute Google Drawings for students to build on.

Collaborative reasoning: Prior to providing students the algorithm for solving a problem, students can use a collaborative Google Document or Slides presentation to reason out possible solutions to a problem. Attach a document in Google Classroom as "Students can edit file."

Science

Create a Discussion on Specific Topic: In Google Classroom, you have a stream that appears by default when you login to your class. This stream can be utilized to collect student opinions by creating discussion topics and new posts.

Weather/environment lab. Science classes can connect with one or more classes in another city, state, province or country and gather data about the weather or environment around them. Log it in a Google Spreadsheet with a page for each location. Compare and contrast the world around you.

Reading

Weekly reading record: The students in the school usually have a reading diary that they use to record information about times that they read during the week. They take it home as well as using it at school. A form can be created (See example: Google Form) by the children as a place to enter data about their reading.

We hear "I haven't got my reading diary," so many times during the year, this way they have no excuses and can access it from any computer. Alternatively a class form could also be setup to gather together everyone's record.

Writing

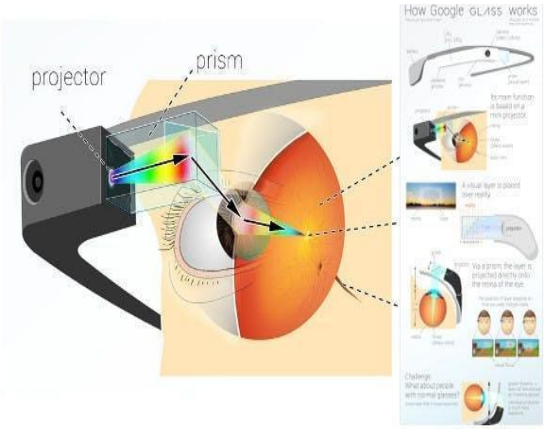
Student collaboration on writing projects: Google Classroom doesn't only support using e-portfolios, but with the power of Google Docs, the students can also work together in new ways on Google Docs.

Spelling Tests: For your weekly spelling test use simple 1-10 or 1-20 numbered Google Form (See example: numbered form) with a name question and ask the children to type in their answers as you read out the list of words. Once these are submitted apply formula to judge if they are correct or not and it becomes self marking.

GOOGLE GLASS TECHNOLOGY

Introduction

Google Glass is a wearable, voice- and motion-controlled Android device that resembles a pair of eyeglasses and displays information directly in the user's field of vision. Google Glass offers an augmented reality experience by using visual, audio and location-based inputs to provide relevant information. For example, upon entering an airport, a user could automatically receive flight status information.



How Google Glass Works?

The Google Glass operating system (OS) is based on a version of Android. The OS can run application virtualization tools called Glassware that are optimized for the device. Glassware allows the device to deliver an app to the user, instead of a full desktop. The glasses have built-in Wi-Fi and Bluetooth connectivity and a camera for taking photographs and videos. The smart eyewear uses motion and voice recognition to process commands from the wearer. A touchpad is also available on the glasses' rim. To provide the requested information, the device relies on sending small packages of information straight to the wearer through a micro-projector, using a private channel of communication that can only be accessed by the user.

Special features of Google GLASS

The key feature of Google Glass is the tiny semi-transparent screen located on the upper right hand side of the glasses. This display occupies only about 5 percent of the wearer's natural field of vision and is responsible for transmitting information to the user.

Mind Punch

1. A murderer is condemned to death. He has to choose between three rooms. The first is full of raging fires, the second is full of assassins with loaded guns, and the third is full of lions that haven't eaten in 3 years. Which room is safest for him?

2. How do you go from 98 to 720 using just one letter?

3. Guess the riddle

4. Jimmys mother had three children. She named the first Monday. She named the second Tuesday. What is the name of the third child?

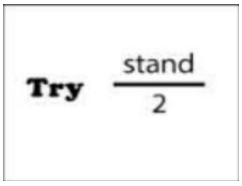
5. What day would yesterday be if Thursday was four days before the day after tommorow?

6. Guess the riddle

7. Two bodies with ribs, exposed? What am I?

8. Until I am measured, I am not known. Yet how u miss me, when I have flown. What am I?

9. Guess the riddle



10. Math Puzzles:

12	30	18
42	?	36
54	24	48

it vita

1. How many computer languages are in use?
2. Who founded Apple Computer?
3. A network designed to allow communication within an organization is called:
4. Who invented flexible photographic film?
5. When did the compact disc first appear on the market?
6. When was the DVD introduced?
7. What does fiber optic cable resemble, in terms of size?
8. Who was responsible for some of the earliest, widely influential development of military rockets?
9. '.BAK' extension refers usually to what kind of file?
10. Where is the headquarters of Intel located?
11. Who co-created the UNIX operating system in 1969 with Dennis Ritchie?
12. Modem stands for...
13. In a Digital circuit, what is 1 'AND' 1?
14. Your computer has gradually slowed down. What's the most likely cause?
15. The main computer that stores the files that can be sent to computers that are networked together is...

Famous and favorite

PEPULFOUNDER

SURESH KUMAR

Pepul Founder Suresh Kumar Gunasekaran is a very technical person who are build MacAppStudio & Pepul Social media network application. MacAppStudio is a software company which is located on Madipakkam, Chennai. This company services are like mobile app development, web applications and more software services.

In 2012 George and Suresh started MacAppStudio company,after going on few year they are get more valuable clients and give quality services. Both are Intel BlackBelt Software developers which award is very popular but George and suresh receive this award with their hard works.

MACAPPSTUDIO

G.Suresh Kumar helps lot of South Indian students because he respect & like that's why hire fully Tamil Nadu State students. He give more freedom and features for their employee so every workers are give quality results for their companies to grow on next level.

Regularly Suresh posting article & inspiration stories in LinkedIn network. Through that lot of business personalities, college students,working professionals are become a fan of suresh words.

Pepul

WHAT'S YOUR STORY ?

Pepul is one of the social media network like Facebook, Instagram but this app made fom Tamil Nadu,India. This is the primary reason for everyone should be and recommended to use this application. I have use the beta version of Pepul app & my personal suggestion was "need improvement for UX, slow performance etc.

SOLUTIONS

Mind Punch

1. The third room, because those lions haven't eaten in three years, so they are dead.
2. Add an "x" between "ninety" and "eight". Ninety x Eight = 720
3. Double vision
4. Jimmy of course, because Jimmy's mother had 3 children.
5. Friday
6. Apple pie
7. Ladder
8. Time
9. Try to understand

10.06 or 60

IT Vita

1. 2000
2. Steve Jobs
3. an intranet
4. George Eastman
5. 1982
6. 1995
7. human hair
8. William Congreve
9. Backup file
10. Santa Clara, California
11. Ken Thompson
12. Modulator Demodulater
13. 1
14. Adware/spyware is infecting your PC
15. File server

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