

QUIPS ON I.T.

*LEARNING GIGABYTES & TERABYTES,
A BIT AT AT TIME!*



BY KULBIR SINGH

QUIPS ON I.T. is brought to you
by InfoRange IT Inc.

Suite 889, Unit 234, 5149 Country Hills Blvd NW,
Calgary, AB, T3A5K8, Canada.

To my parents.

My mother, Mrs Avtar Narindar Singh who taught Economics at Guru Gobind Singh College, Chandigarh and retired as Head of Economics department from there, was always an inspiration, a support, a guide and a mentor in any matter. Whether it was school, college or university, she was always a guide and a support. I miss your physical presence, mother!

My father, Prof. Narindar Singh has served as head of Zoology department at Government College, Chandigarh, Director of State Institute of Science Education Chandigarh, Principal of Government College Ropar and Syndic Punjabi University, Patiala, all spanning a period of three decades. I enjoy my Dad's outgoing and social nature, his anecdotes and humor, his guidance and above all I bask in the love that he has for me!



My father, Principal Narindar Singh (on the extreme right) at one of his college events, welcoming the chief guest.

My mother, Prof Mrs Avtar Narindar Singh always remained a highly regarded faculty among her students. Serving the cause of education, she retired as head of Economics department at SGGGS College, Chandigarh. She is remembered as a very dedicated and sincere colleague among the faculty at the institution.



What people say:

At first glance, Kulbir's articles appear reader/people friendly and accessible for the beginner in the IT world. Keep up the good work, Kulbir.

- Louise Foster (Friend/ IT beginner/ Respiratory Therapist)

Kulbir has a knack for attracting interesting and sage people which is reflected in the many contributors to his publication, IT Quip. The articles are informative, straight forward, relevant and educational. Kulbir clearly never shies away from a challenge and undertakes everything he does with tremendous energy and zeal.

- Kim Adolphe, President and CEO, Gemini SWIFT Learning

Kulbir is one of those unique individuals who easily interacts with all strata of society and forms bonds quickly due to his ethical, honest and trustworthy nature. Never reticent to take on a new challenge, he is a seeker of knowledge and has a truly collaborative mindset which is reflected in his publication, IT Quip. The magazine is a current and relevant look into the IT world, and articles are clear, interesting and educational. Well done, Kulbir!

Korrie-mae Wiszniak, Business Strategy Director and Executive Advisor,
Business Edge Coaching, Calgary

I met Kulbir this past year. He had just returned from one of his many trips to India, and he gave us some beautiful hand made bags. He spoke of his visit with his family and all the interesting things he had done. Over these past few months I came to realize that Kulbir is a kind, soft spoken man who would do anything for his family and friends.

-Nancy Rodger

Through his entrepreneurial skills, Kulbir Singh has created a unique view of the IT world with IT-Quips. Kulbir has done research on various topics in IT and has then provided his research as reader friendly articles. In addition, Kulbir has done a lot of work ensuring that submissions by other IT professionals meets a high standard. I'm sure that the reader of Kulbir's book will benefit from the information contained therein.

- Alfred Forbrich, long time telecom support professional / friend

About the Author

Kulbir Singh is a production engineer and a Masters in Personnel Management & Industrial Relations. He relates to his degrees combo pack in engineering and management as “Man Machine Synergies!” Back in the 1990s, when seemingly, all roads led to I.T., Kulbir was no exception. His interest in computer science engendered with a program called Computer Awareness program (CAP) in 1987. During the engineering days, he learnt many computer languages and database programming. During his favorite decades of 1980s, he completed courses in Pascal, QBasic, Cobol, Fortran, DBase III and other contemporary skills. Kulbir went on to learn Mainframe computer programming skills and other client server programming skills. Visual Basic, Active Server pages, distributed and desktop programming, Web development and allied web technologies are some of his skills in software. Kulbir participated in software testing and coding on Mainframes during the Y2K phobia days.

On the hardware side of I.T., Kulbir is an Microsoft Certified Systems Engineer (MCSE) and holds a PC Repair Diploma from Thompson Education Direct from Westmount, Quebec.

Kulbir Singh runs his IT company, InfoRange IT Inc in Calgary. One of the company's flagship products is a print media magazine named IT Quip. It is a monthly IT education magazine which endeavors to share IT knowledge while at the same time engaging IT companies to provide IT knowledge specific to their specialized work. IT Quip offers its digital version at www.ITQuip.com.

Kulbir's avid interests include travel, photography, cartooning, reading, writing and activism esp in vegetarianism. Kulbir loves to collaborate and believes in “It takes a whole village to raise a child”.

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SMARTIE SMART PHONES!

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GETTING TO KNOW OUR ROAMING PLANS

In our roaming plan, we may have more than just a single feature. Your service provider may have given you some data plan, text messaging, phone minutes etc as a combination of features.

Let me share with you some of the points that I noticed about features in our roaming plan or travel passes.

During a trip to India, I had a 30 day mobility 'roaming' plan, in which I have 1.5GB of data, 200 minutes of incoming and outgoing talk time and unlimited incoming and outgoing texting, all as add-ons in the plan I bought.

One of the important things to ask your phone service provider is whether incoming and outgoing minutes of talk time or incoming and outgoing texting are both for country of origin and country of destination, in my case these being Canada and India. Make sure people can call you or you can call people both in your country of origin and country where you now are or your destination country. This applies to texting too. As I bought the plan, I made sure I could call and receive calls both to and from Canada and India. I also confirmed that my incoming and outgoing unlimited texting was to and from both countries i.e. Canada and India while I was on my roaming plan in India.

Additionally, my calls to my phone company back in Canada using the customer service number were always free and not counted in the minutes I had in my plan.

I exhausted my data around the first two weeks while in India. I made the free call to my service provider in Canada on the customer service number and they told me that regardless of my data use up, I could still be using my remaining phone minutes. Also, I could still be using unlimited texting in the 30 day roaming plan I had, even if my phone minutes and / or data got used up. All these features are mutually independent and hence there is less to worry if one or more of the features get used up.

Getting to know the 'roaming' plan features is always beneficial. Make sure you talk with your service provider in detail about your travel pass or the roaming plan prior to making that trip!

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CONSIDERING TIME ZONES WHEN BUYING 'ROAMING' PLANS FOR MOBILE PHONES



Through this article we share a concern for using roaming plans when we go outside our normal coverage area and where there is a time zone difference involved.

As we plan a trip outside our cell phone's normal coverage area, it is important, normal and expected for us to buy a 'roaming package' for our cell phone.

It may be a province, a state or a country that we may be planning to travel to. We usually talk with our cell phone or mobility service provider to buy a 'roaming package' in advance, prior to our trip.

Let this article share a special point in the context of roaming plans for phones. If we miss to handle this appropriately and proactively, we could likely be out of service in our destination for at least some time.

We are sharing our very own real experience in this matter. Let's pretend some dates of travel and some cities as origin and destination. Let's assume that on December 1, we are reaching London, UK from Vancouver, BC, Canada. A week or so, before the trip, we talk with our cell phone service provider about our intended trip. We decide on a roaming plan which would be activated at midnight of December 1 for our trip to London, UK.

Let's also assume that we reach London, UK before the midnight of 1st of December. We now eagerly wait for our roaming plan to be activated at midnight of Dec 1 in London.

But what happens? Our roaming plan does not activate at midnight on the 1st of December! We are assuming things now! And wondering what went wrong.

After talking with the customer service number, it came to our knowledge that the roaming plan was set to get activated at midnight of 1st Dec, based on Vancouver time, the place of origin and not the place of destination, that was London, UK.

If we are not mindful of this or our cell phone service provider has not specifically confirmed about the time zone aspect, we could face this situation in our place of destination, just as London, UK, in this example.

Make sure and specifically confirm with your phone company that you want the 'roaming plan' activated based on the time zone of destination. Or if you have the activation set based on place of origin, make sure that you are aware of it, keeping in view the time difference.

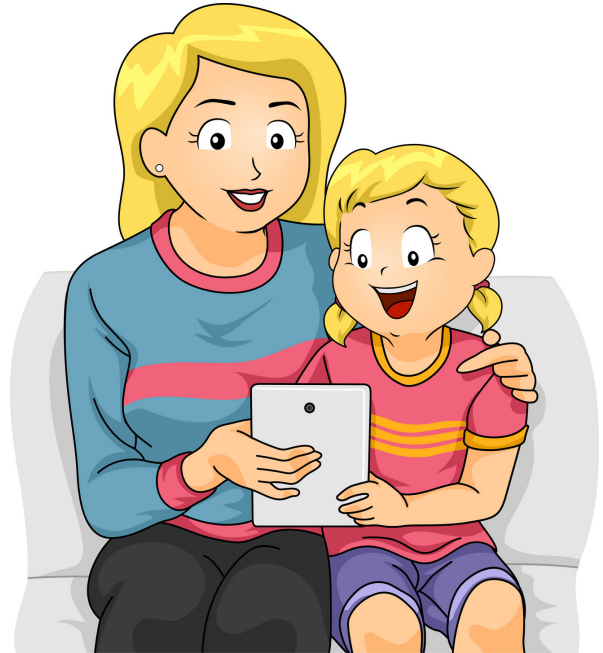
Make sure and specifically confirm with your phone company that you want the 'roaming plan' activated based on time zone of destination. Or if you have the activation set based on place of origin, make sure that you are aware of that, keeping in view the time difference.

With the time difference and the confusion of the activation time zone, our roaming plan may activate 8 hours afterwards, when Vancouver, Canada catches up on that time. We do not want to see our cell phone's roaming plan activated 8 hours after midnight in London when Vancouver, Canada is reaching it's midnight time .

Make sure that you have asked your cell phone service provider or they have confirmed about this aspect before your trip and that you and the service provider are on the same page.

Hope this article will serve to remind us to confirm the time zone aspect as we purchase our roaming plan from our service provider!

Happy connectivity on the go!



“Reading is to the mind what exercise is to the body.”

WHAT IS FLIGHT MODE



Flight mode or Airplane mode is a setting we can use to disable calls, messaging and mobile data on our smartphones.

Flight mode or Airplane mode is a setting we can use to disable calls, messaging and mobile data on our smartphones. This is the preferred setting aboard airplanes and mandatory at takeoff, landing etc but this setting can be used anywhere to temporarily stop receiving or making calls, receiving or sending texts and for disabling mobile data.

Airplane mode can be used in a variety of real life situations including attending meetings, rest or travel periods, flights or in general to disable calls, messages and mobile data.

Next time you need that break from calls, texts and mobile data, remember Flight mode / Airplane mode and ask it to come to your rescue! It is found in 'settings' of your phone!

THIRD PARTY PHONE REPAIR SPECIALISTS

Most of the popular phone brands today have their authorised repair centres. Phone repair falling in the warranty periods or if extended warranties are bought, are usually handled by the respective authorized repair centres.

However, third-party phone repair professionals, services, stores and businesses exist to cater to a growing need for phone repairs. Third party phone repair specialists are usually trained to look after all the problems in a phone. They will charge you for parts and labor to get your phone back in good shape. Phone repair professionals may operate out of a store or even from their on-the-go business arrangement, which may be their vehicle, home garage, temporary or a shared space. They may offer to come to your place, home or business to repair your phone and bring it back to you.

Phone repair specialists may carry an inventory of phone parts with them or are able to procure a part that may be specific to your phone brand, on a needed basis. Some phone repair specialists may only provide services for a particular brand of phone. As an example, we may have third party repair services providing third party repair services for only 'Apple', some may be dealing with only 'Samsung' or 'Nokia' or they may be providing services for a mixed and wider spectrum of brands.

Phone repair specialists may also provide repair services for certain tablets. These may be tablet brands similar to their phone brands or may include a wider range. Look up your local business listings for different (third party) phone repair specialists in your area.

They may also provide you with a selection of phones as well. These may be second-hand phones or refurbished phones. It is a good idea to keep a reference of some good phone / tablet technicians in case your products fall outside the warranty period.

Look up your local business listings for (third party) phone repair specialists in your area.



SHORTCUTS FOR IPHONE

Let's learn how to create shortcuts for typing often used phrases, on an Iphone or say an iOS device. We tried this on an Iphone 5. You may try on a different version and it should be nearly the same process! If you want to use abbreviated version of a long phrase that you use very frequently, you can create your own shortcut for it.

Let's pretend that we want to use the phrase "Best of Luck" (of course without the quotes) anywhere on your Iphone, be it facebook, email or any other App. We can set up a shortcut for this. Let's say that we want to make the shortcut of this phrase as "bol" (again, without the quotes! The quotes are just for exchanging the idea with you through this article.)

Here are the steps: 1) Go to 'Settings' 2) Select 'General' 3) Select 'Keyboard' 4) Select 'Shortcuts' 5) Click on the '+' sign 6) Add the phrase and the related shortcut 7) Save it!

You are ready to use your shortcut! Type the shortcut on any app within your Iphone and it will convert to it's full phrase in real time! Note: If later you would like to delete the shortcut, repeat upto Step 4. Next steps would be to select 'Edit' and delete the required shortcut/phrase. Try this out today!

If you want to use abbreviated version of a long phrase that you use very frequently, you can create your own shortcut for it.



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**A FEW BITS ABOUT HARDWARE -
THE EASY WAY, NOT THE HARD WAY!**

PATCH CABLES AND CROSSOVER CABLES

Patch cables or straight through cables are networking cables that connect dissimilar devices in a computer network. Examples are the cables or wires that connect a computer and a switch or a switch and a router. These are named Patch cables as they patch up between devices. Patch panels in a computer network are equipment that house all the cable connections in a network or a part of it.

Crossover cables are networking cables that connect similar devices in a computer network. Examples are the cables that connect two different computers or a laptop and a computer. A router to a router connection also needs a crossover cable.

Patch cables or straight through cables are networking cables that connect dissimilar devices in a computer network.

Crossover cables are networking cables that connect similar devices in a computer network.



Here is a computer repair kit, also called a computer tool kit (Kit D'outillage Informatique - in French) that we use at our company. Computer tool kits are great tools to keep.

Many of the parts of this tool kit are used for network work as well. You can get these tool kits online or at specialized computer stores.

PARTS OF A LAPTOP!



At our company, we photographed a disassembled laptop! We thought we should share this picture with our readers. Many of us may not be aware of how a laptop looks like if it is disassembled or opened up. Most of the inside parts of the laptop are in the picture.

We ask our readers to identify the parts, you think you know! How about this? LET'S MAKE IT A LITTLE QUIZ FROM THIS! What is the part that is north (or say ahead) of the black keyboard on the right side?
Answer on page 24



TOOLS TO SECURE YOUR COMPUTER

Make sure you take personal responsibility for securing your computer. Keep looking for any issues and problems as these come and address these immediately. On a proactive basis, follow these guidelines to prevent problems. 1) Make sure you have a reputable anti-virus program installed on your computer. An effective anti-virus program is great at preventing virus infections and removing existing ones. 2) Have a

Malware prevention software installed as well. Try to install a malware prevention software that provides a comprehensive malware protection. 3) Make sure you have a firewall installed in your computer for monitoring inbound and outgoing connections from your computer. 4) Make sure your Operating system updates occur as required. These basis tips can go a long way in keeping your data secure and saving unexpected headaches!

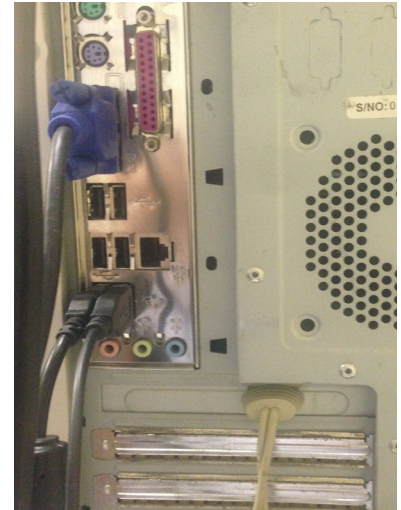
AUDIO PORT COLORS

In the picture on the right, *note the audio ports*. These have a specific color assigned to a specific functionality. Let's learn what each of these three colors represent:

PINK: Mic In, **BLUE:** Line In, **GREEN:** Front Speakers Out

Additionally there may be three more ports with different colors. These can be:

BLACK: Rear Speakers Out, **ORANGE:** Centre/ Subwoofer Out, **GREY:** Middle Speakers Out.



WIRELESS TROUBLESHOOTING TIP

Pressing the wireless button on the keyboard can turn the wireless connectivity of a laptop, on or off. If you are having difficulty connecting to a wireless connection, it may just be that pressing the wireless key on the laptop may remove the problem.





HOW TO SPEED UP COMPUTERS

DEFRAGMENTING DISKS

Over time, our computers tend to get slowed down. This reflects in a couple of ways. It may take a long time for the computer to start up and fully reach its default desktop profile. Additionally it may take a long time for programs to load when we open these up.

Recently we faced this slowing down, taking forever for O.S. and programs to load up. We solved this with one single important step and the computer performance improved immensely. This was the process of "Defragmentation"! Outlined below are the general steps to defragment a disk.

Right Click on your main drive (most likely 'C' drive). It'll open up a dialog box. There should be tabs like General, Tools, Hardware, Sharing, Security and Quota. Our OS was Windows 8. Click up 'Tools'. Then in 'Optimize and Defragment Drive' section, click on 'Optimize'. Choose the drive (in most cases the 'C' drive) and click on 'Optimize'.

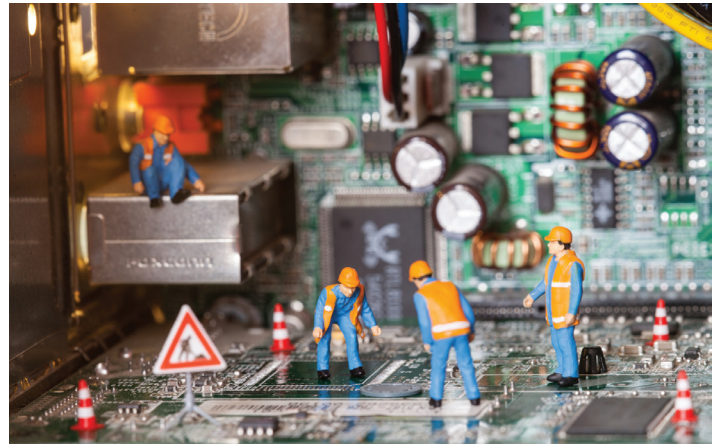
This process may extend up to an hour or even a couple of hours, at times. This process involves analysing the disk and then defragmenting it over a couple of 'passes'.

This greatly improved the speed of our computer and it should do for yours too! You can additionally consider to schedule the defragmentation process by setting it up from the 'scheduled optimization' section in the same dialog box.

Performance of computers in the best way is always a pleasure and a need to experience!

COMMON TIPS FOR COMPUTER PERFORMANCE

- Restarting your computer solves many problems and performance issues of the computers!
- Schedule to defragment your hard disk from time to time.
- Clean up unnecessary files from your disk. Use the Cleanup Utility provided in your operating system to do that.
- Keep your anti virus and malware prevention software in good order.



WHAT ARE DVI PORTS

For connectivity between computers, TVs, projectors and entertainment systems, there is a complex variety of wires and ports. And to keep us confused, these keep on evolving, updating or even getting outdated without even sending us an email note!

The connections between the above are possible in analog or digital manner. DVI is a technology to connect a computer with other peripherals. It is primarily a digital technology but has its analog and integrated versions as well. DVI is designed to deliver digital video but can adapt to analog and integrated signals too. DVI stands for Digital Video Interface. DVI connectors can come in two types, Single link and double link. DVI is not generally able to transfer audio signals and hence is not a great choice for TV. In the concatenation between computers and monitors, however, it has been a great standard and its presence has been warmly welcomed!



DVI came around the late 1990's and over the years HDMI has replaced DVI.

THE FIELD OF COMPUTER REPAIR

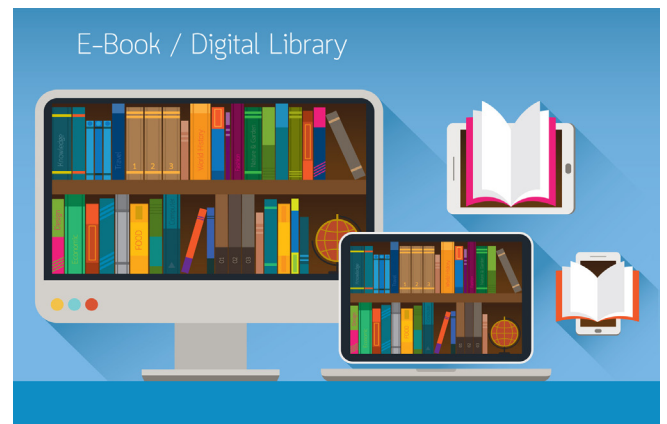
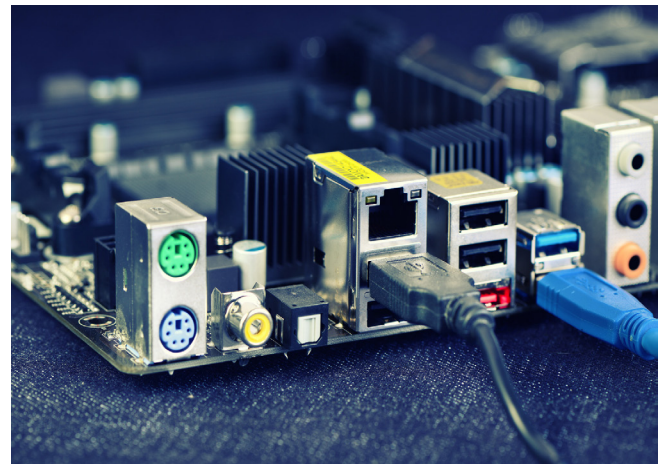
Computer Repair technicians help us in a variety of ways. Beyond the warranty periods, third party computer repair specialists make life so easier, for us all!

Computer technicians can solve hardware and software problems on our systems or network. From changing a small part like an LED or one of the output ports, technicians can handle changing microprocessors, drives, power supplies and even motherboards. Many technicians are trained and have the capability to repair motherboards as well. Though this is generally not the trend, for the most part, however it is very much possible for the experienced and the advanced technician to look into the in-circuit testing of the motherboard.

Many software issues, performance blues, O.S. updates, virus removal and protection and lots of other software related aspects are taken care of by our computer technicians!

Computer technicians can possess specialized education and experience in their field. They may have a PC repair diploma or a similar education program. They may have other important certifications about their field, too, in their portfolio. Computer repair professionals may have allied certifications, education and experience as well. This includes network specialization, network security and other modern I.T. knowhow.

Let's make sure we don't miss to honour our computer technicians with appreciation! They surely are a blessing and a great asset to the tech world that we all live in, today!



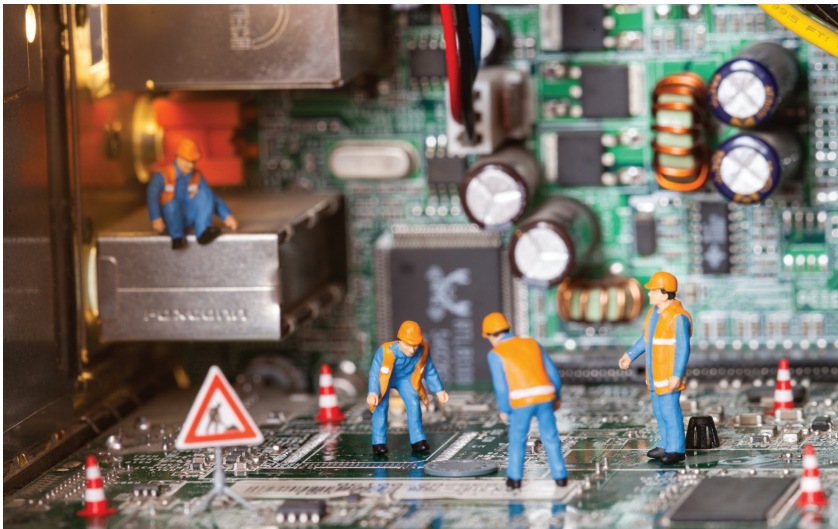
Let's make sure we don't miss to honour our computer technicians with appreciation! They surely are a blessing and a great asset to the tech world that we all live in, today!

SOME IT TERMINOLOGY AROUND THE MOTHERBOARD

Let's play around with some words that represent parts, standards, ports, technology or protocols that revolve around the motherboard of a computer. These concepts may be general for computers and networks but have their special connection with or around the motherboard of a PC, too! Motherboard is also known as the 'system board' or the 'main circuit board' of the computer.

Consider looking these terms up!

SATA PCIe
eSATA ATAPI PATA
Overclock-
BIOS
GPU PCIE Bus
USB 3.0 AGP SCSI
CMOS
IEEE 1394
Dual Core
PCI
P1 Connector
North Bridge



SOME IT TERMINOLOGY AROUND THE HARD DISK

Let's, this time play around with some words that represent parts, standards, ports, technology or protocols that revolve around the hard disk in a computer. These concepts may be general for computers and networks but have their special connection with or around the hard drive of a PC, too! Let's explore some of the terminology around hard disks.

Do consider looking these terms up!



Sectors

NTFS

Boot.ini

MBR

Partitions

FAT16

Recovery Disk

ERD

diskpart

eSATA

Regedit

Bootable

ATAPI PATA

Overclockers

SCSI

REGEDIT32

Dmsconfig



Having good tools around is always a plus and a great hand! Some of the screwdriver and the precision screwdriver sets that we use. These have multiple use including opening up of computers, laptops and smartphones. We can buy these at a computer store or even at regular hardware stores.



Bringing IT knowledge to you in a fun-filled way! Hard disks smile as they provide us an invaluable service, too!

COMMON DATA RECOVERY ISSUES

The data on the hard drive could get lost when you least expect it. There could be a variety of reasons behind the data loss and a varying degree of the apparent loss. From a minor hardware fault to a major storage media corruption or accidental deletion of data with no hardware troubles, there can be a varying number of data loss levels.

While some of the aspects of data loss can be handled in commonly known ways, there could be strategies unknown to us to recover back our data. But the good news is that the data is recoverable in the majority of scenarios.

Professional data recovery services are available to help alleviate the issues. Common levels at which the problems are faced and addressed are accidental erasure, corrupted files, sector damage on hard drives, damaged motors and parts of hard drive. Look for your local Data Recovery Services!

Recovery facility is a great life saver for the precious data that we generate over time! However "A Stitch in time saves nine!" It's better to be proactive on saving and backup of data.

USB AND HDMI PORTS

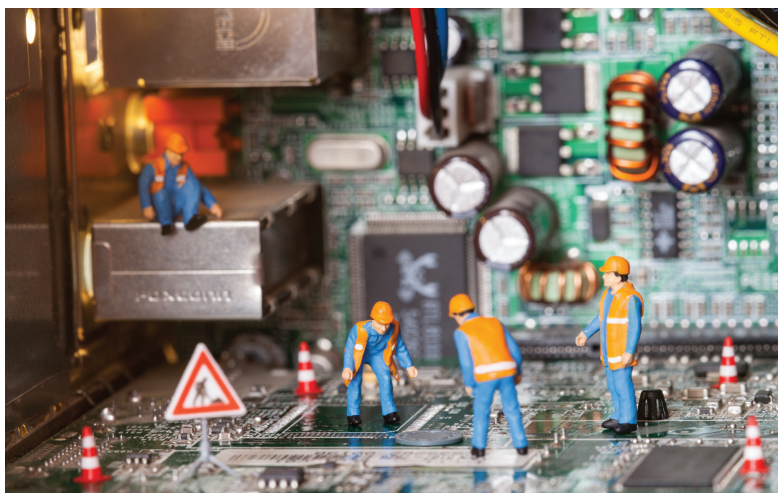


In the picture here, there are closely resembling ports. These look alike but are different. From left to right are HDMI, Ethernet and USB ports! USB stands for Universal serial bus. Below is a small exercise to do:

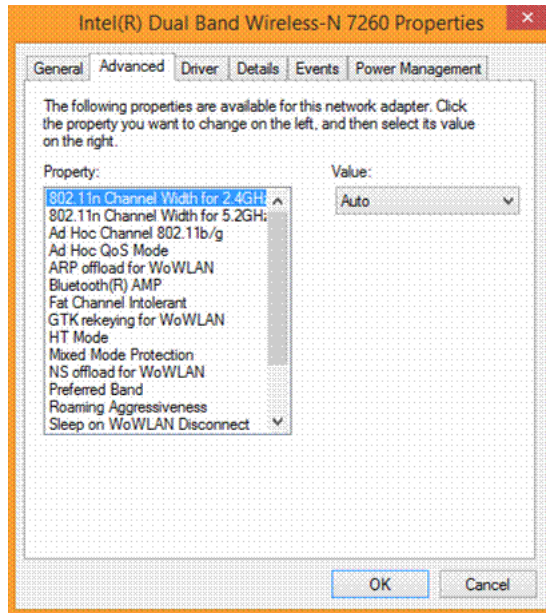
- Look up for HDMI and explore it's full form.
- Name two output devices that can be connected with a laptop using an HDMI cable with HDMI port on both sides

a. _____

b. _____



WIRELESS NETWORK CARD



We checked out the properties and the dialog box of our wireless network card. There's a lot of information and changes that are possible to make in the wireless network card settings. We share it with our readers.

Go to the Control panel and click on "Network and Sharing Centre" (We have Windows 8 on our laptop). Click on "Change Adaptor Settings" in the left panel. In the Network connections dialog box that will pop up, you will notice the network cards that are installed on your computer/ laptop. These may be wired connections and the wireless ones. The wireless network connection may show "Wi-Fi" as part of the name and also the name of the network card. In our case, it was "Intel (R) Dual Band Wireless- N 7260". Right Click on the icon to explore further.

There will be a link for "Bridge connections" which is used for connecting 2 or more LANs. The "Properties" menu will bring you to a dialog box in which you can either select the tab "Networking" or "Sharing". In the "networking" tab, click on "Configure". You can do a variety of things there but check out the "Advanced" tab to play around with the most needed feature changes.



Some of the screwdriver and precision manual tool sets that we use at our office for repair work of laptops/ computers. Many of these tools are also used in the repair of smartphones and tablets.

Precision screwdrivers are available at electronic part stores, computer supply stores etc. It is a good idea to keep a set or more with you. It always pays to invest and this enhances one's learning too!

COMMON LAPTOP PROBLEMS

There can be a variety of issues that our laptops can face. In case of an issue, the first thing that we should check is the guarantee on the product. If the guarantee is still there, do not override it. And if the product is past its guarantee, we always have the option to take our device to a computer technician. Here, at IT Quip, we are trying to educate ourselves on matters, Information Technology. Let's delve very concisely and broadly speaking on the types of problems that our laptops may face. Let's list a few here.

- Liquid Spills or damage
- Broken or missing keys on keyboard.
- Distorted or no image on screen
- Start up or Power issues
- Repeated Shutting down and restarting
- Performance issues
- Noise coming from the device
- Broken Exteriors
- Faulty Fans
- Scratched or broken screens

MOUSE AND KEYBOARD PORTS

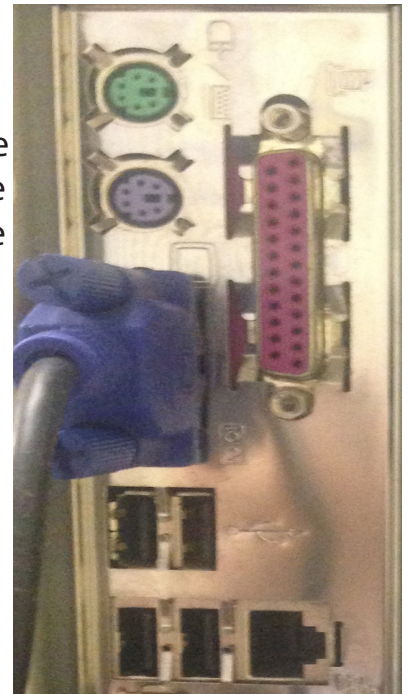
In the picture on the right, we have mouse and keyboard ports. Though, both the mouse and the keyboard have wireless and USB connectivity with the computer, now a days, these ports (green and purple) are originally for mouse and the keyboard, specifically.

Always remember:

GREEN Port is for the Mouse.

PURPLE port is for the Keyboard.

FIND OUT: How far can a keyboard be from a computer if it is connected wirelessly with it and before the connection starts to fade away?



Answer to quiz on Page 14:

CD/ DVD writer or reader

ASSEMBLY OF PRINTED CIRCUIT BOARDS

Kulbir Singh

Have you ever wondered how Printed Circuit Boards (PCBs) are made? How are all the different components on the PCB put up on the board? It's all so fascinating as much as it may sound complicated!

I have had the opportunity to work in a big organization, PUNCOM where assembly of PCBs was an important part of the factory's production. I had the opportunity to work here as a production engineer in the assembly section. It not only allowed me to have an insight into the production processes but also needed me to plan a variety of processes, assembly procedures, personnel allocation to processes etc.

Our organization was into manufacturing and sales of telecommunication equipment. We had a variety of product lines involving multiplexers in PCM (Pulse code modulation), DTL (Direct

to line) and radio technologies. The wide product range of PUNCOM covered and still covers voice and data multiplexers, optical/transmission equipment, digital radios, PLCC, broadband equipment and related services. It caters to the growing telecommunication, networking and broadband needs of major organizations and service providers.

While all the science behind these products involved electronics, electronic circuitry, design logistics, PCB design, circuit innovation and testing, the processes involved in the manufacture of the final products were unique and involved aspects of electronic, electrical, chemical and mechanical engineering.

The assembly section overlooked the manufacturing and production of the designed product.



Kulbir Singh has worked as an engineer in a variety of settings. He runs his own company InfoRange IT Inc in Calgary, Alberta. Kulbir shares his experience and insight about his work in a PCB manufacturing facility, where he worked as a production engineer looking after manufacturing of motherboards.



Industrial,
manufacturing
and production
engineering are
fields that can
be applied in the
translation of
ideas to realities in
any area, product
or process!

I'll discuss a few processes and procedures that I, as a production engineer, was involved with, in my role, there.

The assembly section almost covered one-third area of our main floor. We were a team of about 60 people in the assembly section. The store carrying all the inventory was next to the assembly section of the factory. Requisition orders for parts would be made by our department and the inventory for parts would be released by the store. All these transactions were computerized and centrally monitored.

The whole plant as air-conditioned. There were other buildings and departments in our organization and these were all part of a great, modern, electronic product manufacturing facility.

The components were inserted on the PCB using highly sophisticated machines. These machines guided the operators with optical guidance system about exact placement of components on the blank PCB. The machines were called Blakell Semi-Automatic Insertion machines. The optical light beam would exactly fall into the place where the component would have to be placed. The machine was programmed to guide in a sequential way for all components to be placed on the PCB in their precise location, one after the other. All the components would be placed in containers around the working area in the machine. The components were parts like resistors, capacitors, transistors, Integrated circuits, microprocessors, diodes and the other electronic parts that we commonly spot on a computer mother board. The operator would pick up a component from one of

the special containers and put it a the spot where the machine threw a light signal in the form of an exact light point. The process would continue till all the components would be put on the printed circuit board one after the other.

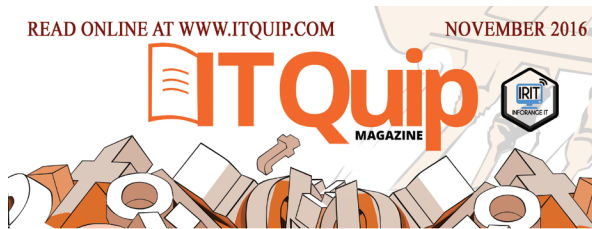
Eventually the batch of PCBs with all the components inserted on these would be taken to a wave soldering machine. The wave soldering machine was housed in a separate room, which was given temperature control through exhaust fans and other related systems.

The wave soldering is a technology involved thermally treated, molten liquefied solder material in a reservoir in the machine. A conveyor belt moves on the machine. The distance between the surface of the molten solder and the underside of the PCB is delicately adjusted. The PCB's are placed on the belt and the belt moves in a controlled speed just above the molten solder. As the components on the PCB get in touch with the molten solder, the soldering takes place for the entire batch of PCBs on the moving belt.

And then there would be testing of PCBs using a machine called KTS In-Circuit Tester. This would test the PCB for it's different components after installation using access to various circuit nodes. A variety of other test processes would happen too, using spectrum analyzers, data analyzers, logic analyzers, power meters etc.

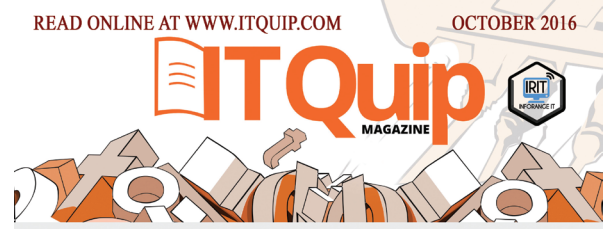
It was an enriching experience to work in the production assembly section of an electronic and IT based manufacturing organization!

Industrial, manufacturing and production engineering are fields that can be applied in the translation of ideas to realities in any area, product or process!



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COMMON USES OF A MULTIMETER

A Multimeter is a highly versatile tool which has its application in the electrical and electronic world. Multimeter is an important technology tool that has been used for a long time. It can handle a myriad of functions. Multimeters handle tests for continuity, voltage, current and resistance. It can handle tests and readings for voltages and currents, both for A.C. (Alternating Current) and D.C. (Direct Current). Continuity of conductors and resistance of objects can be tested using a multimeter.

Multimeters have application in testing of networking cables and equipment as well. It is a very handy tool for computer repair and network technicians. Failed devices in a network or even in a computer system are detected by the use of a multimeter. Testing continuity in network cabling and in computers and network devices are common applications of a multimeter in an IT setting.

Though there are many other more advanced tools in network and computer testing but multimeter remains an important member of the electronic toolkit for this end.

Multimeter is an important technology tool that has been used for a long time. It can handle a myriad of functions. Multimeters handle tests for continuity, voltage, current and resistance.

EVENTS, EXAMS AND CAREERS

TAKE **COMPTIA NETWORK+** EXAM AND BECOME A NETWORK SPECIALIST

CompTIA A+ Certification is an awesome way to gain and showcase your knowledge regarding computer working and even networking to some extent.

The next higher certification that IT hardware geeks like to pursue is Network+ certification, again from CompTIA.

www.CompTIA.org defines Network+ Certification as "The CompTIA Network+ certification is the sign of a qualified networking professional. The exam covers network technologies, installation and configuration, media and topologies, management, and security. Candidate job roles include network administrator, network technician, network installer, help desk technician and IT cable installer."

There are scores of good resources on the net to look into for achieving this certification and having another feather in the cap for your IT Skillset. Also search for CompTIA groups on social media like facebook and send in a request to join the group. You'll enjoy seeing posts which certification aspirants or cert holders put up there and that is going to benefit you in your march towards these certifications.

Together with CompTIA A+ certification, the Network+ certification equips you with computer and network knowledge to start off a great career in Computer Networking. Hands-on experience is needed to get going in the real world, though and you will get that for sure too! Pursue Networking today !

Together with CompTIA A+ certification, the Network+ certification equips you with computer and network knowledge to start off a great career in Computer Networking.

MEETUPS IN CALGARY

Did we know? There are hundreds of meetups happening in our city and area. Visit www.meetup.com to find out. There are groups meeting up for various interest areas. Not only we find technology groups meeting up every now and then but also from various other areas and interests. At this website you can choose your interest area and your city (any worldwide city) and see what's happening and when ! On registering with this website, we keep getting notifications and reminders of our chosen groups too! Spend some time with hundreds of like minded people through various groups.

In the field of IT, there are many groups which meet up every now and then. You will not regret to join these awesome groups. Let's Network like computers do and see where we go !

THREE IMPORTANT AND EMERGING IT FIELDS

By: Kulbir Singh

www.InfoRangelT.com

Some of the emerging fields in IT, today, are mobile devices, cloud computing and virtualization.

Today, mobile market is no less relevant and prevailing than the traditional PC market. Laptops and desktops are being matched and outpaced by smartphones and tablets. The face of conventional IT sectors is getting modified with smartphones and tablets coming in and the work they need to blend in IT.

The annual salaries of mobile computing specialists are from around \$70,000 and go upwards of the \$100,000 benchmark as noted at www.payscale.com.

There are a number of areas of specialization in mobile computing. One of the reasons is that various brands or types of mobile devices like Apple, Android, etc are there. Then, we have a variety of projects like app development and creating mobile websites on all the different brand types. All these platforms and projects, require expertise and specialty skills. Being an emerging and dominant marketplace player, this IT sector involving mobile devices is going to provide great jobs and careers in the coming years. Preparing for this IT sector would be a wise decision!

Cloud computing offers an increased spectrum of IT job profiles. Concepts like Software as a Service (SaaS), converged infrastructure, shared services, shared cloud infrastructure, pay for services as you go, subscription based softwares and the inclination of companies to follow the OPEX model in contrast to CAPEX model have all contributed to the emergence of thousands and thousands of IT jobs in Cloud Computing. There is always development, diversification, specialization and expansion going on in this area of IT. It's a great career for stay!

Virtualization is an amalgam of hardware and software concepts in which the Infrastructure owned and operated by a business has been replaced by, simply put, outsourcing infrastructure. The infrastructure, instead of being managed locally is taken care of by third parties. Infrastructure-as-a-service (IaaS) is becoming a popular IT initiative and the corporations have begun to take advantage of it, either, as clients or as service providers. The whole big need to install, configure, manage and maintain servers, data centres or server farms is being replaced and being made

easy, economical and scalable with IaaS and virtualization becoming more and more popular. This big segment of IT Industry brings with it lots of jobs and job profiles. This can be a creative and interesting experience for those wanting to put their hardware, networking and/or software skills into useable, practical and job-based skill set. IT professionals with network certifications are encouraged to explore this sector of IT. There is always something new and exciting waiting for us in IT!

“Today, mobile market is no less relevant and prevailing than the traditional PC market.”

TECHNICAL MEETUPS IN CALGARY

There are many technical meetups that take place in Calgary. From small to large groups and on a variety of topics, there is something happening in our city! You may wish to explore more on this and you'll certainly benefit from attending these.

Not only do we improve and enhance our knowledge, we also get to connect with many other professionals in our fields! One of the very popular websites for finding an appropriate meetup group for our requisite field is www.meetup.com.

Additionally, we would have larger and more intensive meetups or events like Wordcamp. These cover a variety of topics for the popular website building CMS, Wordpress. From themes, plugins, widgets, coding to all the way to website backups and security and a lot more, wordcamps have much to offer. A great deal of learning awaits us at these camps!

Then, there are technology events and shows, happening all the time. Attending technology shows and events is always a big plus. Get-togethers and events for startup companies is another great way to network and benefit. Startup companies will benefit a lot by networking at meetups, meant especially for startup companies.

Calgary Public Library has lots of great programs to offer as well.

Plug in to the meetups in our awesome Calgary and enhance your knowledge and networking! These technology groups can really help you a lot!



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IT CAREER QUIP

POPULAR IT TRENDS

We researched some of the IT courses that are popularly taken up by IT enthusiasts. These may be available at different places with slightly different names. You may find these courses available at colleges, universities, technology institutes or private IT education centres. We encourage our readers to research more on these and other related IT programs!

Some of the popular courses include training in AutoCAD, Solidworks, ProEngineer, CATIA V5. These are established brands in their specific areas.

In the field of programming and software development, there are a variety of programming skills that one could consider pursuing. A foundation in C, C++ and data structures is one such ever-popular skill. Additionally, one may consider pursuing Android Technologies, JAVA technologies or PHP technologies. Of course there is a lot more in the field, however we have mentioned a few important ones.

Web Design and development

is always an IT stream to consider. With the ever-growing demand for web presence by everyone and updates happening in the field all the time, web design and development is always a hot-cake skill!

System support and network administration is another area where IT professionals have put in their efforts since decades. It is an ever fresh specialization owing to presence and popularity of computer networks of different types and levels.

Network and system security is another important field in IT today. Specialization in the field of security has shown growth and we witness an increased demand. You may also want to explore more about CADD engineering. Bio-medical equipment technology and maintenance is an allied stream using electronics and IT foundation.

On a more hardware based aspects of IT are technologies like VLSI, embedded systems, embedded systems design etc.

These form the foundational elements of computer circuitry with linkages to the operating system. Certificates and diplomas are offered in these fields.

We hope that we shared with our readers, some insight into some of the popular IT streams in vogue today! We humbly encourage you to explore more on these skills!

NETWORKING PROTOCOLS STANDARDS ET AL

WHAT IS DEMARC

In the context of internet and telephone infrastructure, Demarc is the point which can be considered as the point where the control changes between the telephone/ internet service provider and the service provision in your business/ home/ organization etc.

On one side of the Demarc is the infrastructure of the telephone or the internet service provider or the WAN infrastructure and on the other side is the infrastructure in your business or home computer or telephone network.

For the purpose of the telephony, the Demarc is considered at the location of the MDF (Main Distribution Frame) and for the purposes of internet it is considered at the location of CSU/DSU (Channel service unit/ data service unit) which connects the router with the external WAN.

In case of connectivity troubleshooting, network administrators try to detect if the problem is internal or external.

On one side of the Demarc is the infrastructure of the telephone or the internet service provider or the WAN infrastructure and on the other side is the infrastructure in your business or home computer or telephone network.

PORTABLE WI-FI HOTSPOT



Many a times we may like to share our phone's internet connection with other phones, tablets, laptops etc. Only our phone may have Cell Data and the other devices may not be having any internet connectivity at some point. The "Portable Wi-fi hotspot" feature comes in handy in such a situation. We can extend or share the Cellular data of our phone to other devices using USB, Wi-Fi or bluetooth tethering. Portable Wi-fi Hotspot is also called "Personal Hotspot". That way the devices get paired and the internet connection on one phone gets shared with other devices. The other devices receiving the connection must have their Wi-fi or bluetooth connectivity turned on or should have USB functionality to make a connection.

Try sharing your Cellular data with your friends and family and pretend you are the Internet Service provider at home. Don't charge them any money, though!



In the world of IEEE 802.11 standards or simply put, the wireless communication standards, a WDS provides a framework for a wireless network to communicate and expand.

WIRELESS DISTRIBUTION SYSTEM (WDS)

In the world of IEEE 802.11 standards or simply put, the wireless communication standards, a WDS provides a framework for a wireless network to communicate and expand. The Wireless Distribution System (WDS) allows the network to be expanded across by allowing multiple access points in a wireless network to function in a coordinated way. This eliminates the need for traditional wired communication and subnetting. A WDS allows wireless bridging and wireless repeating functions to happen in a network. Wireless bridging is essentially connection between access points (APs) without allowing wireless clients (STAs) access. Wireless repeating involves communications between Access Points (APs) and also wireless clients (STAs).

FRAMES AND PACKETS

Frames & Packets^{are}

essentially units of information that are transferred over the TCP/IP network or the internet network, call it what we may!

Packets contain headers which have information about the source and destination of the packet. Generally the information unit carried at the Network layer is called a 'Packet'. At the higher layers of the OSI model, the packets may be referred to as "Data".

At the layer 2 which is the Data link layer involving MAC addressing, the packets change their nomenclature and are known as "Frames".

Generally the Frames at layer 2 are handled by Switches and Packets at layer 3 are handled and routed by routers.

WI-FI AT AIRPORTS

Internet availability and requirement are two sides of the coin and these together are representative of today's technological world. It is becoming increasingly imperative for today's society to have internet connectivity wherever possible. Today, internet is available on ships, airplanes, taxis, buses and trains. Each scenario may have its own attributes, limitations and commercial aspects.

Let's look at how we may experience internet connectivity at airports. For the purpose of our discussion, we will discuss about wi-fi connectivity. 'Cell Data' or more commonly 'data' is usually available on our phones if we have a roaming plan for use in places away from our normal coverage locations.

Expect to experience a variety of Wi-fi situations and availabilities at different airports around the world. There are airports where Wi-fi is available at no cost. You can log into a wi-fi connection by locating the network in your Wi-fi settings. The network SSID is usually named after the name of the airport and a word 'open' may be added to it, additionally. There can be airports where Wi-fi is not available at all or some airports where you may be expected to pay for a Wi-fi service. Interestingly, there could be airports where Wi-fi may be available in certain areas of the airport with Wi-fi out of range in other areas of the same airport. In any case, make sure to ask and take the help of the airport staff.

TDR AND OTDR

TDR stands for Time Domain Reflectometer and OTDR stands for Optical Time Domain Reflectometer.

Both of these are network troubleshooting gadgets. TDR is used to find breaks and faults in copper wires and OTDR is used to find similar breaks and faults in fiber-optic cables.

TDRs can test faults in cables up to around 100 meters long and OTDRs can pinpoint the fault in fiber optic cables, several kilometers long.

For finding faults in cables which are not visible or accessible, such as underground or within a structure, these tools are very handy. TDR and OTDR are some of the favorites in the network technician's toolkit.

WIRELESS ROUTERS AND IEEE 802.11

802.11 is the industry standard for wireless LAN communications. This was developed by IEEE. The important 802.11 standards in use today are 802.11a, 802.11b, 802.11g and 802.11n. These standards use either of OFDM (Orthogonal Frequency Division Multiplexing) or DSSS (Direct Sequence Spread Spectrum).

The standards use frequencies of either 2.4GHz or 5 GHz or both. Speeds of upto 600 Mbps are common with the 802.11n standard. The "range" or distance for 802.11 a/b/g is about 30 meters and the distance for 802.11 n is about 90 meters.

The standards used by the WAP (Wireless Access Points) like routers etc needs to match with the standards used by the client devices (computers, smartphones etc) though there is backward compatibility in lots in standards too.

DSL and ADSL

DSL and ADSL are very popular terms in the telecommunication industry. We all use ADSL technology all the time right in our homes. Let's study closely what ADSL is all about!

DSL stands for Digital Subscriber line. We already pay for the telephone service in our homes and offices. The service provider gives us internet connection over the regular telephone line for which we already pay. We subscribe for the internet on our regular phone line and this concept is called DSL. Special equipment convert the regular phone lines for users to get good amount of internet bandwidth as well.

With this discussion of DSL, let's move on to understand what ADSL is.

ADSL stands for Asymmetric Digital Subscriber line. The important aspect to understand is that there is uploading and downloading to consider. The uploading speeds are far less than the downloading speeds, generally speaking. Hence this connection is called ADSL.

To offset this issue the technology has emerged into SDSL and VDSL. These are Symmetric Digital Subscriber line and Very High bit rate DSL. These offer better upload speeds. For professionals who engage in lot of uploading work which could include web development work or file transfer across organizations, these technologies offer a much better offer.

We subscribe
for the internet
on our regular
phone line and
this concept is
called DSL.

DIGITAL MARKETING, SOCIAL MEDIA

5 SIMPLE WAYS TO LOSE CONTRACTS

Here are five simple ways to turn away customers, not have potential clients turn out to be your business clients or at least not have them give you reorders or repeated business.

May we call this Failing 101 or Sales Blunders 101? Knowing the negatives and the blunders can turn situations and strategies to those that are great for business, sales and customer relations! And the knowledge of these can become contributing factors to what we all look up to and call it Sales 101 or even Success 101. So, why not have a look at the blunders?

The study and knowledge of these blunders is imperative because if these negative behaviors are allowed to be made, it is likely to result in non-continuation of contracts, termination of contracts at times, breakup of trust and hence a long term relationship, spreading of negative word of mouth and so on.

While business clients can be turned off for a variety of reasons, many originating from the client's own perspectives, thinking and behaviors, however, good and well meaning clients are likely to be turned off and away if they encounter any or more of the following. They are likely to decline taking or continuing your services.

Let's study the blunders in order to escape making any or more of these. We will abbreviate the points with the prefix 'B'. And yes, let's make the points below as *blunderous points and not the opposite needful*. We will discuss about these blunders with all first class negativity! Ready?

B1: You have an hour rate for your work as part of your marketing or business strategy. This is perfectly acceptable and great if your business strategy encourages it. Additionally, you may have shared this with your client verbally or in written explicit terms.

Now the blunder part!

Make sure you keep repeating this often on the go! Overdo this as much as possible. Talk very less about your client's work requirements, his timelines, his commitment to his own clients in the project or anything from the client's genuine perspective, needs, timelines, special requirements and so on. Keep telling

your client about the work hours that have been used up, every now and then. Keep him fully involved in your hour rate and invoices. Attend very little to the client's obligations, standpoints, perspectives and requirements.

B2: Keep reminding your client that you have other clients to attend to! He is only one of the customers your business has and not the only one to attend to. Speak to your client in a tonality that highlights your importance and undermines his! Make sure that your client realizes how important you are and that how he needed your services so very badly.

B3: If the nature of the work makes a client work with you at your business location, make him feel as unimportant as you can! Instead, show to him about the multitude of things that you need to do and about the other clients who you have to attend to. Make sure you show an attitude of financial relationship between you and the client and nothing beyond!

B4: If your client and you are separated due to long distances, make sure you do not attend to your client's phone calls on time and do not reply back to their emails in a reasonable timeframe.

B5: Think of your client as a financial statistic and nothing more than that. Act accordingly! Make sure you never send him a 'Thank You' note or a little goodwill message. Maintain greatest possible boundaries with your clients so that they understand how unimportant they are to you!

Hilarious sounding? These are common blunders which many businesses make! And contribute to failed relationships with clients and hence business activity! We hope and envision that that there is much more of an inspirational environment in our marketplaces. *We believe that the founding principles of a great business relationship are embedded in considering each and every client as a very special person, while maintaining the business terms in the best possible way.*

LET'S TALK MARKETING

Marketing is an overall business building process involving careful analysis and optimization in different areas. Corporations, companies and professionals need to engage in marketing efforts for long term success and customer engagement!

Marketing encompasses a number of areas and it's important to assess, strategize and optimize each of these areas.

Marketing is commonly construed as Sales, atleast in rough practical terms, if not strictly in theory. However this is vastly far from reality and by concept.

Sales is one aspect or part of marketing.

The American Marketing Association defines marketing as "the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large".

("https://www.ama.org/AboutAMA/Pages/Definition-of-Marketing.aspx)

Some of the areas or sub parts of marketing are market research, advertising, branding, marketing strategy, consumer analysis, budgeting, sales targets and reporting and a lot more!

In today's world, technology is part of all streams of life and marketing is no exception! Marketing has online and offline paths and domains. Here are some of the marketing efforts that companies and corporations need to engage in, on a consistent basis:

- Social media engagement
- Networking
- Blogging
- Speaking
- Social media marketing
- Search engine marketing
- Search engine optimization
- Automated customer engagement software
- Handouts, flyers and published media
- Public and Industrial Relations

WHAT IS A SALES FUNNEL

Sales Funnel is a marketing fundamental in which we strategize to make leads and prospective customers into customers who buy our service or product. Conversion of leads into prospective clients and finally to paying clients is what a "Sales Funnel" achieves.

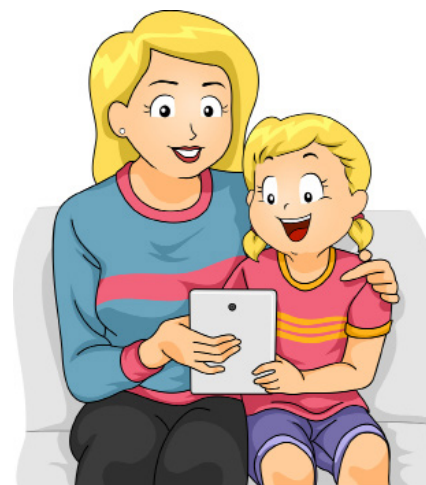
Getting to involve leads to make them subscribers to your product or service and finally to a client is the intention and goal of a Sales Funnel implemented in your marketing strategy.

The process of conversion of leads into customers is represented by a funnel. The top part of the funnel which is wider, has more and more people getting interested in your business. As we come to the middle part, comes in a phase of giving value to people and making them interested in your brand of product or business. Finally comes in the phase where the prospective clients buy our products or take our service. Here we deliver great value to them and make them our happy and valuable clients.

It is very important to strategize a "Sales funnel" model in our business. Do you have a Sales funnel model implemented in your marketing strategy? Have one today!

In today's world, technology is part of all streams of life and marketing is no exception! Marketing has online and offline paths and domains. In the last edition, we shared some marketing efforts that corporations and companies need to engage on a consistent basis. Here are some more examples of marketing processes that companies need to have on their agenda.

- Digital Marketing channels like TV, Ads at overhead monitors at strategic places, billboard impressions.
- Email campaigns
- Articles in newspapers & magazines.
- Product launches
- Personal emails as followup
- Affiliate marketing
- Participation in social events



SOCIAL MEDIA ENGAGEMENT TEAMS AT YOUR SERVICE!

Today, most big companies and corporations are having full time social media teams. Having social media pages has become the norm in today's business world.

With social media engagement on the rise, it has become less complicated to connect with managements of the companies. The response time between sending our request or inquiry and receiving an answer or a reply via social media varies for companies but it has certainly reduced a lot if we compare it with the more conventional and usual email communication.

through Europe and Asia, they came across great social media engagement by giant airline corporations like Air Canada and KLM.

In July 2016 edition of "EnRoute", Air Canada's magazine (enroute.aircanada.com), IT Quip found a great article about Air Canada's social media engagement team. Captioned "Social media team extends hours of service" the article goes on to include "The Montreal based seven member unit tracks these channels for questions, for instance, about airports, baggage allowances and flight times, and comments related to service agents, flight attendants and more."

The response time between sending our request or inquiry and receiving an answer or a reply via social media varies for companies but it has certainly reduced a lot if we compare it with the more conventional and usual email communication.



"Holland Herald" is KLM's magazine and is available aboard KLM flights. We travelled from Calgary to Amsterdam on KLM. In the April 2016 edition of "Holland Herald", is an article captioned "Reaching the globe" by president and CEO of KLM, Mr Pieter Elbers. It's all about KLM's social media engagement. A very interesting excerpt from the article is "Weekly, around 200 social media agents respond to 100,000 mentions from KLM's customers and fans. On Facebook alone, we have around 15 million fans on our local and global channels."

If your business is considering to have a social media presence, there is no reason not to have it, no reason to look back! Go for it! The more engagement you will have on social media, the better it is for your customers and your business.

Give that sense of great user experience to your customers and it surely will be a reward. No doubts!

If your business is considering to have a social media presence, there is no reason not to have it, no reason to look back! Go for it! The more engagement you will have on social media, the better it is for your customers and your business.



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WEB DEVELOPMENT,
GRAPHIC DESIGNING,
SEARCH ENGINE OPTIMIZATION,
COMPUTER PROGRAMMING

GRAPHIC DESIGNING AS A PROFESSION

In today's marketplace, Graphic Designers have a great and ever growing demand. In practically every industry, there is a need to translate ideas, concepts and vision to a tangible, laid out and concrete format. This is where Graphic designers and other professions involving aesthetics and related skills come in. The Graphic designing is not only a stand alone skill but has partnerships in other integrated skillsets. It is widely a part of the Web Development, business marketing and online marketing industry, too! Have in mind that, as a graphic designer, you will be integrated into many other allied fields.

Let's analyse a few must-possess skills, both software related and social or soft skills that one must have in order to provide real value to the marketplace!

In the real world, the Graphic design role and other multimedia roles are found quite amalgamated in today's professional scenario. There are graphic designers who may be able to or required to handle print, video, audio, web and social media management as well.

Adobe Suite which is an industry standard graphic and web designing software is a must-know skill for anyone wishing to pursue a graphic designer career. This includes the use of Photoshop, InDesign, Illustrator along with Typekit, Lightroom, Elements and other related softwares, found bundled in Adobe suite. Adobe Suite is available as Creative suite and can be had on a monthly subscription as Software as a Service (SaaS) with Total cost of ownership built on the OPex (operating Expenses) model in contrast to investing to buy the software. Other tools and softwares that you may like to work on in your effort to provide related services extending beyond a strictly graphic design role can be Final Cut Pro, Adobe Premier, Adobe After Effects, Sony Vegas, ProTools Apple Logic, Propellerhead reason, PHP, CSS, HTML5, XML, wordpress, Adobe Dreamweaver etc.

As a graphic designer, you should be able to conceptualize and bring forth a brand identity strategy in your work with your company or the clients. You should have the ability to create sales and promotional print material and beyond. User Experience consideration needs to be in your suite of skills to deliver the best. A Graphic designer needs to communicate with clients to gain a deep understanding of their requirements and provide

creative ideas to meet their goals. Graphic Designers need to present the deliverables with a great smile and an attitude of standing behind the products they create!

You might need to work in a fast faced environment at times and match the deadlines. Be prepared to be a part of the game and ensure to deliver with a positive outlook!

Be proficient in color theory and typography. Keep your knowledge updated and maintain your spirit of innovation. Understanding the vision of your client's brand identity and strengthening it with your skill, creativity and innovation will keep your clients happy.

Helping your clients or working with your team with an engaging problem solving mindset, effective and friendly communicative style, great customer service demeanor are assets that will help you keep moving forward in your profession!

Consider enrolling in a Graphics Design certificate program or even perhaps achieving a Bachelor's degree in Design or Visual Communications. This can help you immensely in your pursuit as a graphic designer.

In the real world, the Graphic design role and other multimedia roles are found quite amalgamated in today's professional scenario.

KYLE BERGUM - AN INSPIRATION IN THE IT WORLD



IT Quip had the privilege of speaking with Mr Kyle Bergum. He is a legally blind IT professional. Kyle was born legally blind and has 5% vision.

With all that, would you imagine that he is making strides in the IT profession? Yes, Kyle

Bergum is an inspiration! Kyle has a variety of IT skills and has worked in the corporate world, as an IT pro.

From working with Microsoft in Seattle, with Petro Canada as a DBA and with his love for technology, Kyle has a message to us all. A message so very loud. Nothing can stop you from achieving anything in life! This message echoes from the life of Mr Kyle Bergum. Says Kyle, "Everyone has a challenge in life. Even an attitude is a challenge with many people. We all have to overcome something. Live life to the fullest. I live everyday as rich as I can. I enjoy, learn and impact others. We all have to pay bills at the end."

Kyle has many certifications to his resume including the prominent ones from Cisco and Microsoft. Starting from being an analyst at the University of Calgary, Kyle has moved to various challenging and exciting roles. Designing and building data centres at Agriculture and Health Canada as an IT Manager has been Kyle's role for 5 years. His job at CP Rail has enabled him insight and experience in implementing Microsoft based client/ server computer model as a transition from the Mainframe computers there. He has also served as Architect and IT Director in various companies. Kyle has had the privilege and skills to be able to lead Data Centre implementations at companies at high positions in the organizations. From 2001 to 2008, Kyle has been at Microsoft as operations group manager, senior program manager, group manager business IT and similar roles. Kyle has been with Alberta Health Services as senior architect. From being a senior solutions consultant at Habanero, the list goes on.

Some of the areas of Kyle's focus include:

- *Office 365 / Azure / AWS solutions and integrated architecture*
 - *Regulatory and Compliance from a data and business continuity perspective*
 - *IOT / Big Data / Analytics / BI, ETL – DW, Data services encompassing structured and unstructured data,*
 - *Global Cloud and Private Cloud*
 - *Business process Automation / Instrumentation and Optimization*
 - *Infrastructure transformations and platform migration*
 - *ITIL / ISO 20000 / COBIT / Zachman / TOGAF / MOF / MSF / Microsoft Reference Architecture*
-

Kyle feels that Windows 10 and Mac Computers have a lot of accessibility options, which is great. Kyle Bergum uses a 55 inches TV as a monitor for his work. On the note about progress the IT industry has made in Canada in regards to accessibility resources, Kyle feels there is a lot more to be achieved.

Kyle and his wife get excited at the time of Christmas. One of their contributions on this is their resource called www.MrAndMrsClaus.com.

Says Kyle, "Everyone has a challenge in life. Even an attitude is a challenge with many people. We all have to overcome something. Live life to the fullest. I live everyday as rich as I can. I enjoy, learn and impact others. We all have to pay bills at the end."

WORDCAMPS

WordCamps are events, usually day long, which are organized by WordPress enthusiasts. These are considered a major meetup for Wordpress professionals, whether of startup or professional level. Over the year, wordpress enthusiasts generally keep meeting up, say on a monthly basis, but WordCamp is a special day long technical workshop/seminar arranged on a bigger level, generally once a year. Wordcamp.org defines WordCamp as:

“WordCamp is a conference that focuses on everything WordPress. WordCamps are informal, community-organized events that are put together by WordPress users like you. Everyone from casual users to core developers participate, share ideas, and get to know each other.”

Calgary just hosted and concluded a successful WordCamp on May 23, 2015. It was a successful and very well attended event at SAIT. Various recognized speakers spoke in WordCamp Calgary 2015 and it was a highly technical day, full of WordPress! We eagerly await a WordCamp in 2016!

WORDPRESS WEBSITES: BACKGROUNDS OF SITES

Websites are aesthetic representation of a web designer's or a client's vision, brand or style. Branding done well on a website and other related promotional tools is vision translated to reality or an impetus given to vision itself in many cases.

Backgrounds form a vital and integral part of website look. It sets the whole theme of a website into action. Backgrounds are technically handled by CSS and HTML coding and images to provide content for backgrounds.

There is a lot of flexibility to give a concept to your website and background aesthetics gives the designer a fundamental basis to evolve a concept.

Different Divs (<div></div>) in the main body of the web page can be uniquely given a great background. A combination of Divs can create a wonderful overall background effect to the web page or the website. Various images suited to the look of the website can be inserted into the background as well.

Knowledge and skill in CSS and HTML is a great asset for styling of the page including backgrounds!

WORDPRESS WEBSITES: MAKING YOUR OWN WORDPRESS THEMES

Wordpress is an excellent blogging platform as much as it is a popular content management system. Wordpress has an excellent documentation called 'Codex'. The Wordpress team holds technology meetups called 'Wordcamps' and a lot is shared at these community events. The wordpress was licensed under GPL (General Public Licence) which allows developers to modify and redistribute the software so long you allow others similar rights.

With all these appealing reasons and with Wordpress's growing popularity, wouldn't it be exciting if we invest more time in learning about Wordpress and it's nuts and bolts? Through this article, we encourage you to make your own wordpress themes! This may appear a bit of an advanced challenge! But certainly not without great returns, a rewarding satisfaction, financial benefits and an exciting learning curve!

The theme of a wordpress site is essentially it's look or it's skin. The functionality of the site, for the most part, is independent of how the website looks like. A theme manages the 'look' aspect of the website.

Becoming a Wordpress theme designer has it's own advantages.

You get in a position and skill-level to design a website from a 'ground-up' level. Flexibility of how your website appears is completely in your own control. You do not become dependent on using themes made by other designers. You can create your own independent work for yourself and for your clients.

Selling your themes or templates can be really profitable and can bring good financial returns to you. You can decide to advertise 'Theme development' as part of your web development business too and this can bring in added value for your clients.

Get on building that first Wordpress theme of your own! Happy Theming!



SOME COMMON “DON'TS” FOR SEO

There are some very basic things that one should not do while using SEO for websites. These are what are part of “Black Hat SEO”. Let’s know what some of these are. There are some aspects which you may not be doing at all but there could be some that you may do inadvertently and unknowingly.

- Do not overstuff keywords in content, titles, headings, description etc. Keep it very natural and do not overdo writing keywords again and again.
- Do not hide text. Mimicing the color of text or keywords with that of webpage background or making the text too small to read are certainly malpractices and can be considered an upright Black Hat SEO work. Make sure your web designer does not follow any such practice.

- Do not buy or sell links to feign popularity or provide others with such! This does not get you a good mark with the search engines and infact is a good penalty earner!



LET’S TALK SEO AND SEM

Why is it important to optimize your website using SEO principles? If not SEO, then one may opt to pay for a keyword that one wants to advertise about. In that case, SEM or Search engine marketing comes into consideration. Organic or paid, your website or webpage needs to rank higher on search engine result. Let’s discuss, why!

Today, most of the online activity begins with a search. Billions of searches happen each month worldwide. People use multitude of devices to conduct online searches. Leveraging high rankings on search engines is becoming highly imperative and winning at organic searches is important.

Great content, quality, content accessibility, relevant and important backlinks, length of time these link to your site, social media signals all contribute to the visibility and performance of your website ranking.

SEO or SEM is the need of the hour to get your website be seen!

Today, most of the online activity begins with a search. Billions of searches happen each month worldwide. People use multitude of devices to conduct online searches.

SEO - SOME BASIC TIPS

SEO is a highly interesting subject in Website Development. SEO is used by web professionals, SEO specialists, owners of websites and hobbyists alike.

Here we share with you very generic SEO tips. These could be applied from a beginner's or from an advanced standpoint. We will share the way we do. However, there could be different methodologies or individual preferences for the same end.

In some of our websites, we have written original posts to cover some of the keywords that are specific to the industry. We have tried to make our article or post about 400 words. You may exceed that count depending on the originality of what you want to share.

Try to have the keywords in the name of the post URL, title of the post, headings of the post and in the content for 2 to 4 times. Keep it as natural as possible without affecting the sense of the article or overdoing anything.

Optimize your pictures and videos too by relating these with the keywords. The Alt tags should ideally have the mention of the keywords. Another important point to remember is that we should have basic meta description provided in which the keyword or key phrase is specifically mentioned. For a unique keyword, there should be a separate post or a page for it.

SEO - AN ART AND A SCIENCE

SEO is a highly interesting subject in Website Development. SEO is used by web professionals, SEO specialists, owners of websites and hobbyists alike.

SEO is an art as much as it can be considered a science. SEO or search engine optimization is the process of bringing a website ranking higher on the search engine result pages.

Websites rank higher on the search engine result pages based on the correct principles or guidelines of doing SEO. There are on-page and off-page optimizations that are relevant to enhance the rank of a website or a website page on search results.

Ranking of a website depends on a variety of factors including but not limited to relevancy of content in pages or posts, loading times, length of posts, keywords selection, placement of keywords in content, optimization based on city, country or area etc.

We encourage our readers to learn about SEO. Try to SEO your own website and watch the ranking of your very own website go up. Applying even the beginner's concepts of SEO can go along way in imparting relevancy and authority to your web pages, thereby pushing your webpages up on the search engines.

We wish you a Happy SEOing!

COMPUTER PROGRAMMING LANGUAGES - A 2016 PERSPECTIVE

Computer languages or computer programming languages are programs, quite similar in nature to word processors and spreadsheets, that deal with files and data on the hard drives or storage media and deliver some kind of reports, generated on a certain criteria.

In the earlier days, there were computer languages like Basic, Cobol, Fortran, Pascal etc. These exist even today, though in their respective modified versions. Over the last decades computer languages have really evolved and presented their glory!

With the development of computer networking and its extension and extrapolation to the world wide web, computer programming languages have taken various shades. Broadly speaking, we have web Programming languages and the more conventional computer based programming languages .

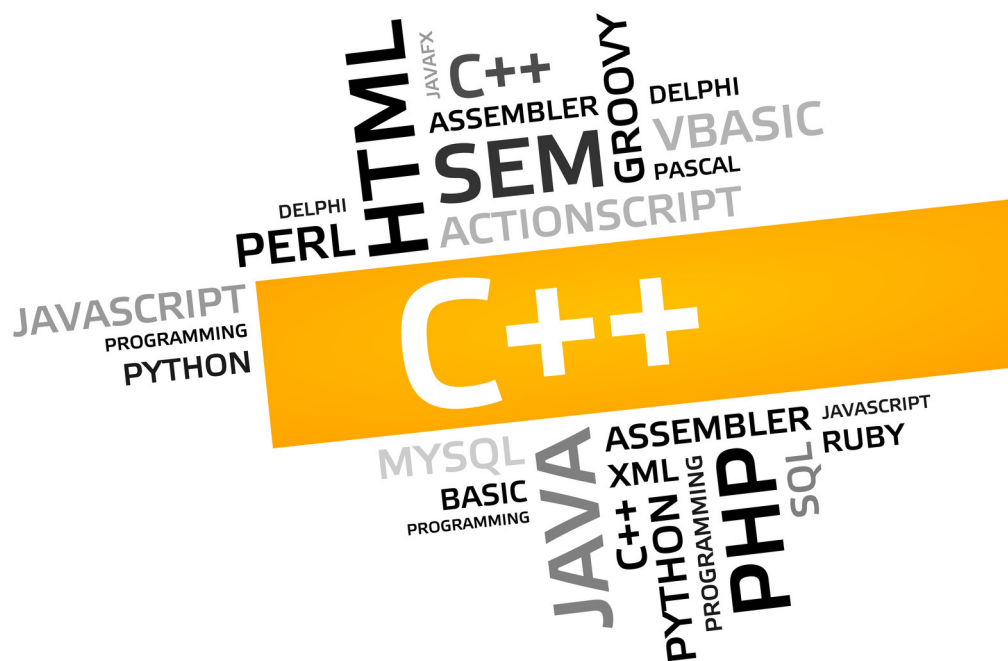
With the evolution of the web, changing technological and corporate factors, computer programming languages keep completing for their popularity, usage, and demand.

Let's discuss some of the computer languages that are for stay and command popularity in our 2016 IT world. We are not placing this list in any particular priority or popularity rating but are including all names that we think are for stay and for a great presence in 2016.

C++ C++ has been there on the IT scene for a long time. Yes, it is challenging to learn it all, but it is a definite yes! It remains a star in the technological world in many areas. It has a wide variety of applications and will be in demand.

Swift Swift is a great computer programming language used in the Apple platform. It is a great skill if you want to focus on the Apple environment.

PHP PHP is a highly popular web programming language. Blogs, e-commerce, shopping carts use PHP a lot.



PYTHON

Python is a highly popular computer language today.

Python has many web frameworks and also has a big contribution in App making. There is a great demand for this language as well as training provisions to back up this demand.

C'C' is the foundational language of many computer languages. It can be considered a flagship in the computer languages world. 'C' language is a very detailed 'low-level' technical language, so very connected to the hardware of computers. It may not be a very practical match or partner with modern and evolving web technologies but remains the king in the field of languages, quite similar to UNIX being the veteran in the O.S. context.

Learning 'C' is a great thing as most languages are written on top of this language.

PERL Perl language, though it is being faced with market share competition by Python, PHP and Ruby on Rails, is around even today. Many companies use Perl today.

JAVA Java is a great language for various projects. Team collaboration is a benchmark in Java. It was developed by Sun Micro systems and later bought by Oracle. It has a very good demand.

Computer programming is a very interesting field. We, at IT Quip, encourage you to learn computer languages and pursue a career in the programming world.

COMPUTER PROGRAMMING



Programming is a problem solving tool using computers and their analytical power. Programming can do a number of tasks and make these easier and faster. It can arrange data, sort it out, relate it with other data, eventually bring out reports about results, integrate graphics with data and a lot more. The possibilities are endless.

It's a great idea to start learning a computer language either for a profession or as a hobby. There are many computer programming languages out there. And with the evolving of the web, there are many web programming languages as well or simply put, web technologies. There is always room to add more skills to your portfolio or skillset. To begin with, stick to practicing one language. Spend two to three years to get proficiency in the language. At the very same time, you will start to know the related technologies and programming languages too. Eventually you can add to learning more of the languages.

YOUR WEB DEVELOPMENT TEAM

In case you are outsourcing your website development in contrast to making it yourself or having an in-house team make it for you, what to expect from your web designer or web developer, who you give this work to? This is an important consideration while hiring someone to do your website. Though the final website presence needs a lot of technologies to support it and these are offered as standalone services in the marketplace but you may need to discuss all of these factors with your web dev team. They make offer a bundle of services in this regard.

Let's discuss a few bulleted points on this:

- 1) Make sure the website is according to the latest trend in the market. Obsolete designs no longer catch the attention of most people.
- 2) Be sure that the website that you are getting made is 'responsive' which looks great on all devices.
- 3) Discuss with your web designer about the "Call-to-Action" strategy. How your customers or leads will interact with your website needs to be figured out as part of the website infrastructure strategy.

4) Ensure they are providing you with eye-catching legitimate graphic design in the project. Also consider discussing other media types including videos, maps etc.

5) Optimization of the website with SEO is another aspect that needs discussion. Though this is sometimes taken as a stand alone speciality, yet it is important to discuss this with your web development team. SEO strategy begins at Day 1 of web development. On page and off page optimizations, strategies for relevance and authority need to be considered as the website is structured, even if the major part may be done later by someone else.

6) Content writing needs to come up in your preliminary discussion with your web team. Some web dev teams provide content writing and publishing services and some do not. Some may engage you in the process for the overall web development and work in collaboration with you. You need to be on the same page on this aspect with your team.

7) Discuss Backup Strategy of the website with your web development team. Also discuss web hosting options with them.

8) Have a discussion on your social media presence and a strategy around it.

9) Web Analytical Reports and related reporting tools need to come up in your discussion.

10) Finally it is imperative to know how much time, engagement with you, response time and client meetings will your vendor provide to you. This is especially important with everyone's busy schedules today.

With this, we have discussed in a very concise manner some basic and fundamental considerations that you need to keep in mind while engaging professionals to make your website.



WHAT ARE PLUGINS IN A WORDPRESS WEBSITE?



Last month we discussed about 'themes' in wordpress platform. A bit briefly and succintly, once again! Themes are design structures around which a website is built. These are the layout structures on which the website is laid out. In this article we will discuss about plugins.

Plugins, in the wordpress world, are a really important piece in a wordpress website. We all know that 'wordpress' is a content management system of data which includes text, graphics, data elements and so forth and is a job that wordpress has to handle.

Plugins are, as the name suggests, pieces of code, offering a certain functionality to a wordpress website. These are a set of coded software chunks that offer or enhance special functionality to a website.

Wordpress is a web technology that can really add diverse functions in a website. To make a lot of this happen, a plugin is used. Different plugins add their different respective functionalities to a website.

There are many groups on social media, example on FB, which are specially made for plugins discussion. Consider joining a wordpress social media group or one that is specially meant for plugins.

There are plugins for different reasons and for specific purposes. Some of the plugins that we use on our wordpress websites are :

- For SEO purpose.
- For Social media, sharing of posts, etc
- For 'liking' specified social media pages.

- For managing comments.
- For logging in and out of websites for users of website.
- For adding graphical elements in which we could esthetically add data.
- For showing picture slide shows.
- For displaying video segments and so forth.
- Speeding up the website.
- For adding contact forms etc.

Let's explore what www.wordpress.org has to define plugins as:

A wordpress plugin is a program, or a set of one or more functions, written in the PHP scripting language, that adds a specific set of features or services to the wordpress website, which can be seamlessly integrated with the site using access points and methods provided by the wordpress plugin application programming Interface (API). We can explore plugins from our wordpress dashboard and download these to our website based on our selection of the searches or we can upload an already downloaded wordpress plugin. Further on, we need to activate the plugin to make it's functionality active.

GENERAL

WHAT ARE STICKY NOTES

Sticky Notes is a tool to simulate real sticky notes on our desktops! It is a quick way to remember or organize notes and reminders. Search for "Sticky Notes" in your computer. When the search results come in, click on "Sticky Notes" and a sticky note will appear on the desktop. We can pin up "Sticky notes" on the taskbar or on "Start"! We can add additional sticky notes by clicking on "+" sign on any sticky note. Any Sticky note can be closed using the close button "X" on a sticky note.

Sticky notes are found as "Windows accessories" in programs, if we were to look it up in the Windows folders. Consider using "Sticky Notes" on your desktop and enjoy this little feature!



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KNOWING YOUR TOUCHPAD

A Touchpad is essentially an alternative to the mouse. It's an input device, very similar in function to the mouse. It's a built-in device and is part of most laptops today.

The click on the left button of the touchpad is analogous to the click on the mouse. A click usually serves a variety of actions, both on the touchpad and a mouse. Right-clicking on the touchpad is, again, similar to its counterpart in the mouse. It has its distinct purposes as it applies to right-clicking on text, image or an icon, say, on a desktop.

Click and drag is another feature in touchpad. This can be done by holding the left mouse pad button and moving the finger on the touchpad to move a particular item. Depending on the touchpad, you

can zoom the screen in or out with movement of fingers on the touchpad in a style of squeezing out or in an imaginary area of the touchpad. This can also be achieved by using Ctrl "+" or Ctrl "-" with the keyboard. Touchpads also provide us with the ability to scroll the screen up and down, say in a webpage or a word document. There is usually an area on the left or right side of the touchpad where we would roll our fingers to do so. In some touchpads, this may be done by dragging 2 fingers in the middle of the touchpad.

Make sure to familiarize yourself with your version and functionality of the touchpad. It can save you hours of laptop usage when properly learnt and applied. Happy touchpad learning!

WHAT IS A WORD CLOUD



Word Cloud is a graphic style quite popular these days. It contains words systematically arranged usually, vertically and horizontally in a cross word way. But there can be more versions of word cloud styles. There are programs which can make such graphics for us. Try using online sources to make a word cloud. These could be free or premium versions.

Another similar usage is to make a Tag cloud. This is a similar application making use of your preferred Tag words.

The picture on the right shows a Word Cloud! Don't these pictures really look like a cloud? Isn't that exciting? When are you making your next 'Word Cloud'?

Answer to *Quizzie Quiz* from Page 8: 2) Operating System

Which Operating System do you have on your computer/ Laptop? Is it Windows? Mac OS? Li-

HISTORY STATES IN PHOTOSHOP

Photoshop is a wonderful graphic editor which has a wide application, both, in the graphics and the web world. It is a must-know skill for a graphic and a web designer.

We are sharing a little tip for Photoshop. In most programs, we have an 'undo' or a 'redo' function. Using these, one may go a step

backwards or cancel the 'undo' which is actually a 'redo'! This lets us move backwards, one history state or makes it come back!

In Photoshop, there are more than just one history states. We may have 20 history states set by default and have the ability to change the number using the 'preferences' in 'Edit' menu.

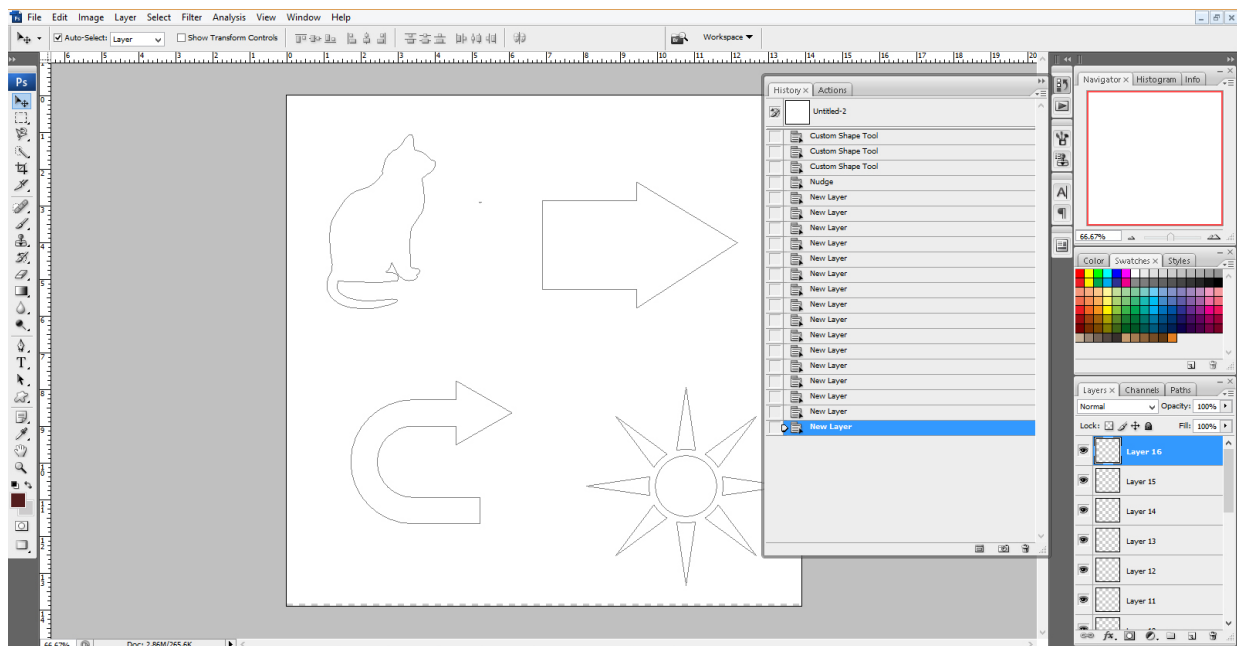
We can go back to each of these history states very systematically. It is like following the footsteps of what we did in our editing activity. For example, we may go back 5 steps in 'history states' and then

either save the file or follow different steps after that.

Here is a shortcut for re-visiting the history states.

Pressing Ctrl+Shift+Z moves the history state to the previous one. We may use this key combination any number of times to reach the desired history state.

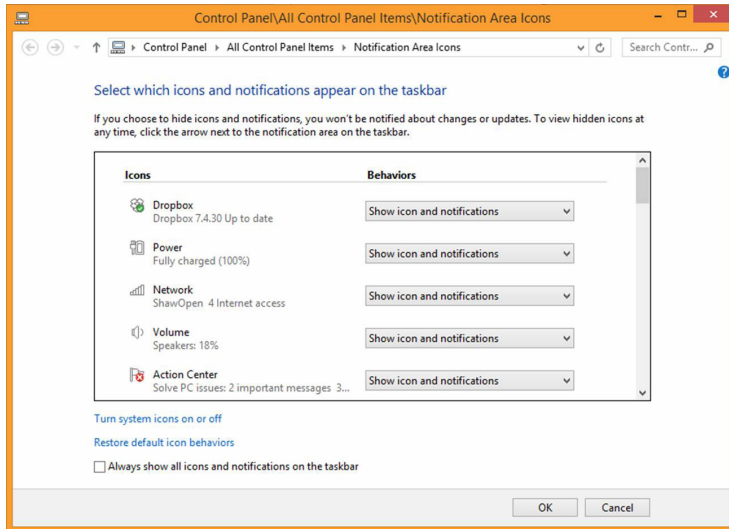
Alt+Shift+Z advance the history states to where we started from. In other words it negates each (Ctrl+Shift+Z) to advance the history state to the next one.



If we practice using these 2 key combinations, it will be very helpful in enhancing our productivity in using Photoshop. We can also do the same process by using the history panel and clicking on the desired history state.

Photoshop is also available as part of Creative Cloud by Adobe systems. Creative Cloud is available as SaaS (Software as a service) and plays an important role in creating software infrastructure for teams or businesses using OPEX model (operational expenditure) thereby releasing the need of paying heavy infrastructural costs.

NOTIFICATION AREA ON TASKBAR



The notification area is a location on the taskbar where we get updates and notifications about installed programs or features. We can select which programs, features or their icons we may have in the notification area. There is a 'notification area icons' panel in the control panel where we can select these. The notification area is set on the right side of the default taskbar location.

We can customize and select which icons and notifications appear on the taskbar. There are options to "Show icon and notifications", "Hide icons and notifications" and "Show only notifications" for each selection.

Put in your most frequently used programs and features of your computer, here in the notification area to receive frequent and relevant updates.

WHAT ARE STOCK PHOTOS

Purchasing Stock Photos for use in graphic, Web and mobile applications is the industry standard norm today. With millions of images, videos and vectors available on the net today, it is increasing imperative to take care and consideration of copy rights or intellectual property rights of people and professionals who developed, took, authored, produced or conceptualized these images and videos. Copy rights need to be adhered to not only from a legal standpoint but from ethical and moral standpoints at the very first place. Every element that is produced by some one or some business needs to be respected for intellectual property.

Stock Photos are the norm in the industry today. There are many stock photo suppliers or companies who have a repertoire of millions of images, vectors and videos. For use in graphic, web or mobile apps etc and for use in print or online purposes, we need to buy images etc from a Stock photos provider. We may subscribe to the service on a monthly basis or for a one time download or buy a set of photos based on credits we may have with the stock photo company.

The Stock photos licenses may be of a few different types. To begin with, there are photos, images and graphics which fall in the Public Domain (PD). These are free to use without having to pay any fee. The Rights Managed (RM) model lets the buyer use the image or graphic for a one time use. If the buyer wants to use the image in multiple places, he needs to buy additional licenses. The other important way to buy photos etc is the Royalty free model. In the Royalty free model, the buyer pays a one time fee but can use the photos or images multiple times without many restrictions. Most common model used in the industry today is the Royalty Free model.

Make sure you respect the copy rights of photos, images, graphics, vectors and videos of other people and get acquainted with the process of procuring licensed photos, videos, etc.

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