



WALL FOR ALL

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Chitkara University Institute of Engineering & Technology

Chitkara University, Punjab

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Dear Readers,

The nostalgic feeling that one experiences while sifting through the dusty old pages of the college magazine cannot be expressed in words. However, very few of us have retained those copies, and most of those precious articles that we wrote during those golden days with enthusiasm are lost forever. With the advent of e-books and other online media, the days of paper-bound college magazines are gone, and the digital platform has paved way to allow retention of such publications without much effort.

Wall-for-All, the e-Magazine published by the Department of Computer Applications, is one such effort that was started with an intent to provide a chance to all students and faculty members to share their thoughts and knowledge, and hone their skills in creative writing.

I am happy to see the enthusiasm of eminent members of the department to contribute to Wall for All. This shows the positive and creative energy of the contributors. However, it would be really wonderful if we can see the articles contributed by more students in the next editions, for this e- Magazine is intended to be a writing pad for each member of the department.

I proudly present the current edition of *Wall for All*.

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Quick Study: Containerization Security

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Abstract

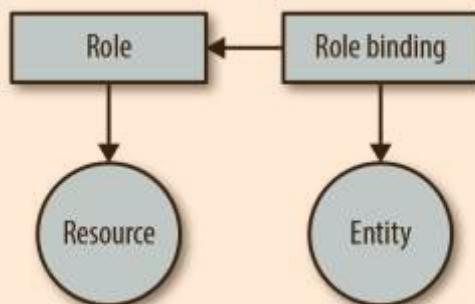
Purpose: The aim of this study is to understand and analyze the aspect of security in containers. In this modern era, applications are redesigned for micro services-based architecture and so as to make them optimal for container-based deployment. In addition to containers, Kubernetes (K8s) is used as container orchestration platform that automates container deployment, scaling, and management.

Application and platform security are the two key factors for any product. Robust level of security is a prerequisite to protect application, platform and networks against external as well as internal attacks and intrusion attempts. This study will focus on identifying major security principals for containerization delivery of products.

Introduction

With the advent of cloud native & containerization of applications deployed in Kubernetes, there comes a need of understanding the **attack vectors**, mainly the new introduced risks/attack vectors from control plane of Kubernetes cluster.

As always, no security measure is full proof and can guarantee that it will secure the applications **forever**. The only thing we can do (recommended always) is to understand the possible risks/attack vector, keep both ourselves & software systems **up to date** with the best practices and measures to build the defense systems in application and hence minimize or **limit the attack surface** so it becomes harder enough for attackers to exploit.



Security Principles

Req 1) Role Based Access Control for Kubernetes resources (RBAC)

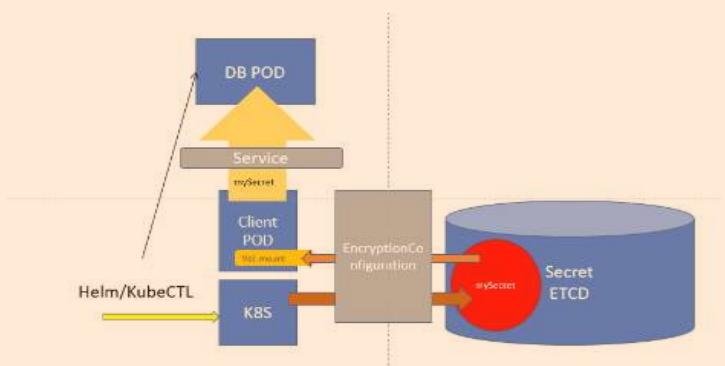
Role-based access control (RBAC) is a method of regulating access to computer or network resources based on the roles of individual users within your organization.

Req 2) Docker Image Scanning and VA patching

There are two things to be scanned for security vulnerabilities:

- a) Docker Images b) Helm chart or YAML files

Req 3) Secret Handling



Kubernetes comes with a resource type - Secret, which is a mechanism of passing secret to the code without them appearing in plain text in the pod's YAML.

A Secret is an object that contains a small amount of sensitive data such as a password, a token, or a key. Secrets shall never be represented in plain-text format. Rotation of secret (e.g. encryption keys) shall be done at periodic interval.

Req 4) Securing Data in Transit

All inter-service communication within Kubernetes cluster should be mutual TLS. Any communication from outside Kubernetes cluster goes through Ingress Controller.

Req 5) Securing Data at Rest

Protecting the personal data stored at rest by means of encryption is strongly recommended by several regulations in the world. Personal data at rest means:

- a.) Personal data stored in databases
- b.) Personal data stored in log & files

Req 6) Securing DNS

DNS security is primary responsibility of the provider of Kubernetes cluster (in this case CCD).

Attackers can exploit NET_RAW [3.9.1], and mitigations to that is:

- Adding a `security Context` that drops the NET_RAW capability in your application

```
apiVersion: v1
kind: Pod
metadata:
  name: security-demo
spec:
  containers:
    - name: test
      image: alpine
      securityContext:
        capabilities:
          drop:
            - NET_RAW
```

Req 7) Network Policies

By default, all kinds of ingress (incoming) and egress (outgoing) traffic between pods are allowed.

A compromised container can attempt to connect with other running pods on the same or other hosts to probe or launch an attack. To isolate the pods to only communicate to the specified pods (services) Network policies are required.

Pods become isolated by having a Network Policy that selects them. Once there is any Network Policy in a namespace selecting a particular pod, that pod will reject any connections that are not allowed by any Network Policy.

Req 8) Namespaces

Namespaces have multiple use cases:

Multitenancy, or as a cluster operator, I want to support multiple user communities on a single cluster. Named resources (to avoid basic naming collisions) There could be a possible scenario where multiple O&M users have to manage only a part of project in the cluster and not all.

Resource limits can be set per namespace.

Req 9) Pod Security Policies

Pod security policy allows us to define security context settings, along with other security-related settings such as the Seccomp and Apparmor profiles. It is recommended to:

- a) Configure Seccomp by filtering system calls for processes
- b) Configure Apparmor to restrict the capabilities of processes.

Req 10) Security Context

A security context defines privilege and access control settings on either the pod or container level. The supported settings are as follows:

- Implement discretionary access control
- Capabilities
- Apply profiles
- Implementing mandatory access control

AI in Ophthalmology

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Today's Technology is exceptionally advanced that the physicians can analyze the insight of the body through various imaging modalities. Artificial intelligence (AI) plays a significant role in accomplishing a task through Computer aided diagnosis with least intervention of human beings. The development of new technology in terms of AI has been the most compelling innovation in Information Technology Sector. Although AI is linked with almost every sector, when it comes to healthcare, it can become the boom technology to the society wherein imaging plays a vital role. Through imaging, screening and diagnosing of the disease can be done. The use of AI in ophthalmology mainly focuses on the disease such as diabetic retinopathy, glaucoma, retinal vein occlusion, age-related macular degeneration.



Figure 1. AI in ophthalmology

The motivation behind AI is to improve the work productivity in the fast paced life. Extraordinary advancement has been made in hypothetical exploration and its application to the extent we can see. AI is widely acknowledged as there is the presence of numerous robots in various fields, particularly in bioinformatics. As the ratio of doctors to ophthalmologist ratio is 1 is to 10, 000, it makes difficult for the ophthalmologist to diagnose the diseases with ease and at a very less time. Moreover, the accuracy of detecting the disease is prone to human error. These days, AI-helped clinical screening and analysis dependent on pictures are emerging. In the field of ophthalmology, particularly in visually impaired disease, it fundamentally attributes to identification and diagnosis of medical imaging.

Basics of Blockchain

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Blockchain was first introduced as the core technology behind Bitcoin, the headline-grabbing decentralized digital currency flora and fauna proposed in 2008. The plea of blockchain technology defamation in its use of peer-to-peer network technology united with cryptography [1]. This amalgamation enables parties who do not know each other to conduct dealings without requiring a customary dependable liaison such as a bank or payment processing network. By eliminating the conciliator and harnessing the power of peer-to-peer networks, blockchain technology may provide new opportunities to reduce transaction costs spectacularly and decrease transaction settlement time. Blockchain has the potential to transform and disrupt a multitude of industries, from financial services to the public sector to healthcare. As a result, a number of venture capital firms and large enterprises are investing in blockchain technology research and trials to re-imagine traditional practices and business models. In recent years, blockchain technology has evolved far beyond bitcoin and is now being tested in a broad range of business and financial applications.[2] However, blockchain technology is still emerging and has not yet been proven at enterprise scale, which is an indispensable defy to blockchain's transformative impending. In addition, many secretarial firms have undertaken blockchain initiatives to further understand the implications of this technology. It is imperative for the audit and assertion profession to stay alongside each other of developments in this space, and we egg on Chartered Professional Accountants and Certified Public Accountants (collectively, CPA auditors) to learn more about this technology. The centre of attention of this article is to explain blockchain technology and how it could potentially impact the financial statement audit, introduce possible new reassurance services.

1. The term “bitcoin” is used when describing a bitcoin as a unit of account, whereas “Bitcoin” is used when recitation the concept or the intact network premeditated by Satoshi Nakamoto.
2. Digital currency can be distinct as an Internet-based form of currency or medium of exchange (as distinct from physical currency such as and new roles for the CPA auditor in the blockchain flora and fauna).
3. Peer-to-peer computing or networking is based on a disseminated application architecture that shares tasks among peers. All participants engage equally in the application to form a peer-to-peer network of nodes.
4. Modern cryptography uses mathematics, computer science.

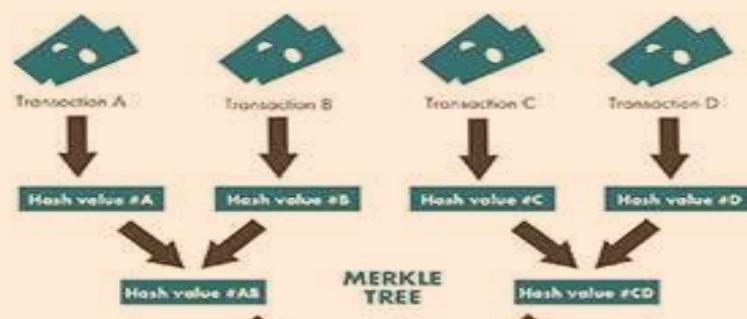
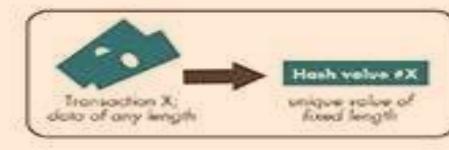
Blockchain technology has the maturing to affect all recordkeeping processes, including the manner in which exchanges are started, handled, approved, recorded and announced. Changes in plans of action and business processes may affect back-office exercises, for example, monetary detailing and expense readiness. Autonomous examiners in like manner should comprehend this technology as it is executed at their customers. Both the job and ranges of abilities of CPA examiners may change as new blockchain-based methods and systems arise [3]. For instance, techniques for getting adequate proper review proof should consider both customary independent general records just as blockchain records. Moreover, there is potential for more prominent normalization and straightforwardness in announcing and bookkeeping, which could empower more effective information extraction and investigation.

Blockchain technology could carry new difficulties and occasions to the review and affirmation calling [4]. While conventional review and affirmation administrations will stay significant, a CPA evaluator's methodology may change. Similarly, as the review and affirmation calling is advancing today, with review developments in robotization and information examination, blockchain technology may likewise significantly affect the manner in which evaluators execute their commitment. In addition, CPAs may have to expand their ranges of abilities and information to fulfil the foreseen needs of the business world as blockchain technology is all the more broadly embraced. The Chartered Professional Accountants of Canada (CPA Canada), the American Institute of CPAs (AICPA), and the University of Waterloo Center for Information Integrity and Information System Assurance (UW CISA) all empower the review and confirmation calling to proceed with the conversations previously started as to the effect of blockchain technology on the calling and examining principles [5]. A blockchain is an advanced record made to catch exchanges led among different gatherings in an organization. It is a shared, Internet-based appropriated record which incorporates all exchanges since its creation.

All members (i.e., people or organizations) utilizing the shared information base are "hubs" associated with the blockchain [5], each keeping an indistinguishable duplicate of the record [6]. Each passage into a blockchain is an exchange that speaks to a trade of significant worth between members (i.e., a computerized resource that speaks to rights, commitments or proprietorship). By and by, various kinds of blockchains are being created and tried [7]. Nonetheless, most blockchains follow this overall structure and approach.

1. A blockchain empowers the close to ongoing settlement of exchanges, in this manner decreasing danger of non-instalment by one gathering to the exchange.
2. The shared dispersed organization contains a public history of exchanges. A blockchain is appropriated, profoundly accessible and holds a protected record of verification that the exchange happened.
3. A blockchain contains a certain record of each and every exchange ever constructed on that blockchain. This forestalls twofold expenditure of the thing followed by the blockchain.
4. The financial principles incorporated into a blockchain model give money related motivators to the autonomous members to keep approving new squares [8]. This implies a blockchain keeps on developing without a "proprietor". It is likewise exorbitant to blue pencil.

HOW THE BLOCKCHAIN WORKS



Blockchain Diagram

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Data Catalogs: Is it FAIR?

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Introduction:

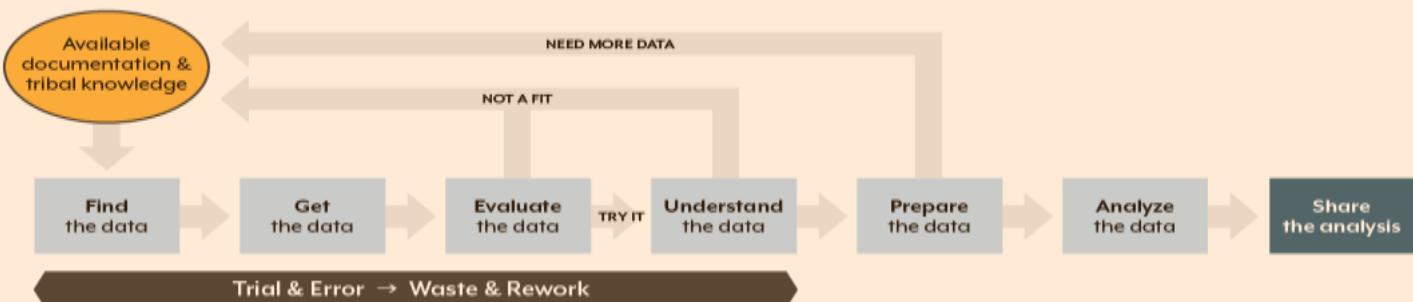
In today's world, organizations or enterprises keep and generate numerous varieties of data which may be structured or unstructured sets of data for example sales data, employee information data, financial data, manufacturing, retail data etc.. as part of their business and operations. Each one of the entities in the organization use the data as per their need and usage. It is therefore extremely important to keep organization data healthy from all ends so that it meets the needs of the people [1].

Two challenges are : i) data is increasing day by day in the storage areas ii) making data available to all the stakeholders

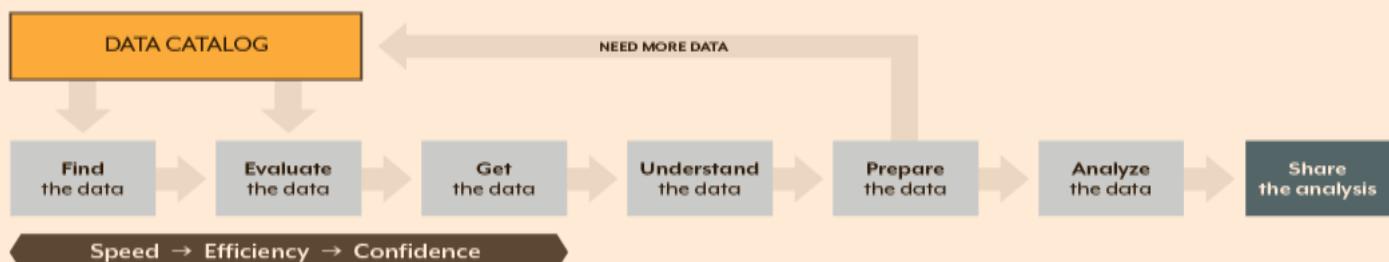
That means enterprises are striving hard to make data **FAIR** - *findable, accessible, interoperable and reusable*. These are known as **FAIR** principles [2][3]. So to overcome all the above issues and to enforce the FAIR principles, enterprises have turned to data catalogs.

So, a Data Catalog is a collection of metadata, combined with data management and search tools that helps analysts and other data users to find the data that they need, serves as an inventory of available data, and provides information to evaluate fitness data for intended uses. The main support is dataset searching, dataset evaluation and dataset access.

Without Data Catalog



With Data Catalog



Process With and Without a Data Catalog
[\(https://www.alation.com/blog/what-is-a-data-catalog/\)](https://www.alation.com/blog/what-is-a-data-catalog/)

Nowadays potential research activities are revolving around designing and implementation methods of data catalogs.

Data Catalogs in Practice: For implementing data catalogs researchers are normally following taxonomy development methodology [3][5] wherein categories or meta-characteristics are defined such as

- i) Scope and goal ---that describes the objective and dimensions at which an organization aspire to utilize data catalog keeping in mind the FAIR principles.
- ii) User groups –that describes the understanding of target audience or user groups. This broad user group also conforms to the Accessible component of the FAIR principle.
- iii) Functionalities—that describe the functional scope i.e. data discovery, data inventory, data administration, collaboration and data analytics. This conforms to the findable, accessible and reusable component of the FAIR principles.
- iv) Documentation—data is documented at three layers i.e. physical, conceptual and logical
- v) Tools-- wikis and enterprise architecture tools that customized as well as metadata management is highly recommended.

Conclusion : Employees of the organization must follow ***data ethos*** which necessitates that they know about enterprise data, i.e. from where to get enterprise data for their need and how to find that data and the suitable means to reach up to that data. Taxonomy of data catalog initiatives augmented with empirical insights is presented in many research areas which is going on nowadays. Data catalog is an emerging topic in Information system research [3] and future research activities could circulate around in finding the blueprint for implementation method for data catalogs.

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COVID-19 v/s Technological Trends

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The novel coronavirus has successfully infected millions and is able to kill hundreds of thousands of people throughout the world since its outbreak from China last December.

As this virus is highly contagious and is able to spread rapidly throughout the world due to onward transmission, it forced many governments to lockdown their population to an unimaginable extent until recently.

This undoubtedly led to most brutal recession overall. But on the other hand the COVID pandemic has enabled certain key technological trends which includes digital payments and robotics as well.

These technological trends not only help in reducing the spread of coronavirus but also helps in business environment to stay open, such trends are playing an important role in keeping the society functional in crucial times of lockdown and quarantine, and they might have a long lasting impact beyond COVID-19 as well.

So let's have a glance over these technical trends.

Online and Contactless Payment

It is an appropriate assumption that COVID outbreak may push the digital payments up 37% to 4067 lakh crore by financial year 2022. This pandemic is bringing about transformation in the payment habits of Indian consumers, similar to what was seen during the ban of high-value currency notes in 2016. Cash may carry virus therefore digital contactless payments either in form of cards or e-wallet are recommended payment methods to avoid any chance of spread of COVID.

Online Shopping and Robot Deliveries

Online shopping has now transformed from a nice technology to a must-have technology all around the globe all due to this pandemic. Online shopping is being converted into a robust system, as In-person delivery is not virus proof. Many delivery companies in US and china are about to launch contactless

delivery services where goods are picked up and dropped off at a designated location instead of from or into the hands of a person.

Certain e commerce giants are also implementing robot deliveries, but before that they need to establish clear protocols for safeguard sanitary and delivery conditions.

Work from Home

Many companies have ordered their employees to work from home until situation becomes under control. Now work from home is possible only using certain technologies namely virtual private network(VPN), voice over internet protocol(VoIP's), virtual meetings, cloud technologies, work collaboration tools, and even facial recognition technologies which enables person to appear before virtual background to preserve home privacy. Work from home not only helps in preventing virus spread but also saves travel time and enables flexibility.

E-learning / distance learning

From the second week of April 2020, 192 countries declared closure of schools and universities whose impact was on more than 1.5 billion students. But obviously certain institutes started offering online courses to ensure the education is not disrupted due to quarantine measures. Technologies used here were similar to that of work from home. Our university (Chitkara University) being the one setting example in northern India zone for initiating the robust e-learning platform for the students scattered throughout the country.

Entertainment industry

We all have witnessed as a result of this pandemic there has been a significant streaming of concerts online on virtual platform. Even the Indian film industry and certain film production companies have been releasing films and other TV shows on online platforms such as Amazon Prime, Netflix, YouTube Originals etc.

Supply Chain

The COVID-19 pandemic has created disruptions to the global supply chain. With distancing and quarantine orders, some factories are completely shut-down. Heavy reliance on paper-based records, a lack of visibility on data and lack of diversity and flexibility have made existing supply chain system vulnerable to any pandemic.

Core technologies of the Fourth Industrial Revolution, such as Big Data, cloud computing, Internet-of-Things (IoT) and block chain are building a more resilient supply chain management system for the future by enhancing the accuracy of data and encouraging data sharing.

The importance of digital readiness

COVID-19 has demonstrated the importance of digital readiness, which allows business and life to continue as usual – as much as possible – during pandemics. Building the necessary infrastructure to support a digitized world and stay current in the latest technology will be essential for any business or country to remain competitive in a post-COVID-19 world, as well as take a human-centered and inclusive approach to technology governance.

Overthinking: The Biggest Cause of Sorrow and Unhappiness!

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Nowadays, Teenagers and adults are in the phase where life gets so much complicated with little things. Teenage is a very delicate phase of life where a young child is at brim of becoming an adult. Becoming an adult means being a responsible man / woman in life. Life is burdened with full of responsibilities. It is true all people are running in a rat race for earning money. For earning money people start thinking how to earn more due to which they overthink and become depressed and stressed. Sometimes they are unable to fulfill the needs and responsibilities and nobody is there to support them due to which they take some steps which are harmful for them and their family. If we talk about teenagers, who are at peak of becoming an adult has lot of challenges in their way and they need some emotional and mental support from their parents and friends. Sometimes they are so stressed that they don't even share their problems and show some signs of anxiety and depression. They don't feel good with anyone, want to be alone all the time, stressed, always thinking which make them weak. Many times parents are also responsible because they show carelessness and neglect their child for their own benefits. Sometimes parents are unable to understand what their child is going through even they want to share something.

Overthinking sounds like an addiction to me, because I am addicted to thinking too. Overthinking is not only about how to earn more money but it includes everything such as negative thoughts for a person, working for a job, eating a lot and many other more things. When we overthink, our brain needs to be processed with ease On personal opinion, our brain needs time to process the thoughts. Overthinking became a common aspect in this covid-19 pandemic.

Many people lost their jobs due to which people are suffering from health problems, money p After this, still we people don't consider overthinking as a problem. When someone says overthinking is bad we often only assume negative thoughts. But on the other side it automatically means that positive thoughts are good.

Let's now talk about the difference between positive and negative thoughts.

Positive thoughts such as-

- Gaining knowledge
- Solving problems
- Relaxing and meditating
- Setting objectives

We would all agree to these positive thoughts. But if we are talking about the negative thoughts such as-

- Anger
- Anxiety
- Feeling sorry about yourself
- Saying yes to others but want to say no
- Blaming others
- Complaining Worrying
- Comparing own self to others.

So what does own self says throw out the negative thoughts and focus on the positive ones. When we think about our gut sounds like a good advice to our self. After all negative thoughts spoil us and positive thoughts help us grow to become a better person each day in our lives. Nonetheless the bitter truth is when we try to over utilize our brain it becomes foggy and tired. It's just like a drain get jammed which leads to bad decisions and thoughts.

Our life is precious and we only live once then why not live peacefully and happily. Life has many ups and downs many challenges but using them as an opportunity will lead to more growth and happiness. Our Life depends on what we think about it. We guide our brain for thinking what kind of thoughts need to be processed. Our life is shaped according to our thoughts.

Never try to force yourself for the things on which your instinct doesn't allow to do so. It's in our hands how we see things and ignore the negative ones. Be you live in present. Thinking of future at high level can destroy you badly.

The power of present is –

The beginning of freedom is the realization that you are not possessing any object-the thinker.

Juice Jacking

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Introduction

Juice jacking is a security exploit in which an infected USB charging station is used to compromise connected devices. The exploit takes advantage of the fact that a mobile device's power supply passes over the same USB cable the connected device uses to sync data. Juice jacking exploits are a security threat at airports, shopping malls and other public places that provide free charging stations for mobile devices. At the time of this writing, the risk of becoming the victim of a juice jacking exploit is thought to be low, but the attack vector is real and is often compared to ATM card skimming exploits from years past. Both juice jacking and card skimming rely on the end user feeling confident that the compromised hardware is safe to use.

Beware of Juice Jacking

Attackers use USB charging ports available at public places to install malware, steal data or even take complete control of your device.



How does it work?

Whether you have an iPhone, BlackBerry, or an Android device, smartphones have one thing in common: The power supply and the data stream pass through the same cable. This could spell trouble. When your phone connects to another device, it pairs to that device and establishes a trusted relationship. That means the devices can share information. So during the charging process, the USB cord opens a

pathway into your device that a cybercriminal may be able to exploit. On most phones, the data transfer is disabled by default (except on devices running older Android versions), and the connection is only visible on the end that provides the power.

For instance, when you plug your phone into your computer, a message on the computer may ask whether to trust the device. In the case of juice jacking, the device owner won't see what the USB port connects to. So when you plug in the phone, if someone's checking on the other end, they may be able to move data between your device and theirs.

Probable Risks

Data theft: When a device is plugged into the public USB port, a cybercriminal could have compromised that port and enabled malware to infect your plugged-in device. This could potentially allow someone to steal the data on your mobile device. 1) Using a crawler program on your device, a cybercriminal could then search for personally identifiable information, account credentials, and financial information. 2) If the perpetrator can transfer that data onto their device, it might be enough personal information to impersonate you or access your financial accounts.

Malware installation: Cybercriminals may use a malware app to clone your phone data and transfer it back to their own device. Other malware may help them gather data such as your GPS location, purchases, social media interactions, photos, and call logs. Some types of malware include adware, crypto miners, spyware, Trojans, or ransomware. Once your device is frozen or encrypted with one of these types of malware, the cyber-thief may demand payment to restore the information.

Prevention and Protection tips

 Disable data transfer feature on your mobile phone while charging

 Get a charge only cable instead of cable supporting charging and data transfer capabilities

 Try to carry a power bank

 If possible, switch off the device while charging from public ports

1. Avoid public charging stations or portable wall chargers.
2. It's a good idea to get in the habit of charging your phone at work, in the car, or at home, when you're not using it.
3. If you must charge your phone, use a wall outlet. Data can't transfer between your device at a regular AC wall outlet. So if you're in public and desperately need a charge, consider using a wall socket. And if you're traveling, make sure you have the correct adaptor before heading out on your trip.
4. Use software security measures.
5. Always lock your phone so it can't pair with a connected device. You can also power down the phone before charging it, but the USB port may still connect to the flash storage in the device. If your iOS device is jailbroken, you can disable pairing entirely.
6. Options can include external batteries, power banks — devices you can charge at home and power your device on the go. Power banks are typically small, flat, and lightweight enough to take with you.
7. Use USB pass-through devices. These adapters allow power to flow through but disable the data pin on the USB charger. That means the device charges, but data won't transfer.

WE ALL HAVE HEARD THAT PREVENTION IS BETTER THAN CURE. SO, STAY AWARE AND ACTIVE TO PREVENT JUICE JACKING.

Call for Articles

At Chitkara University, the endeavor has always been to hone the skills of learners. Keeping in line with this tradition, the Department of Computer Applications, Chitkara University, Punjab had come up with an online magazine titled **Wall for All**. This magazine was proposed to provide a platform to the budding learners to share their knowledge and general information pertaining to the computing field. **Wall for All** is available for free download in PDF format from CA departmental website: ca.chitkara.edu.in.

The students and faculty members are invited to be a part of this venture and contribute their articles to the magazine. The students may forward the articles through their respective mentors while faculty members may send the same directly to the editors of **Wall for All**.

Depression

("I AM" – My Journey through Chronic Depression)

Natasha Kapoor
BCA – 3rd Semester

Department of Computer Applications
Chitkara University, Punjab

Having anxiety and depression is like being scared and tired sometimes. The doctor was shocked when they heard me & asked curiously, you are suffering from depression from 17 years?? And never opened to anyone? I said "NO". I tried to communicate with my closed ones. But they didn't get me. They keep saying, 'please don't make a scene in Family'. I cried a lot in a life. Most of nights were filled with my silent tears. I was BULLIED, IGNORED, NEGLECTED throughout my past. I tried to overcome silently because nobody wanted to hear me. I felt suffocated every time & at some point I realized that I was suffering from severe depression. Those days were horrible. I never enjoyed my childhood, my teenage phase or even my adolescent period. I was drawing depression day by day. Nobody wanted to hear. I turned quiet and sad. I was seeking for help but, nobody came forward. The word that I heard most in life from people around me are; "you're not 'Worth'. Look at you, you seem terrible, useless. See others, how good they are! And you're are always silent and gloomy. Do you have any dream?". Some people still say's that I like 'SOLITUDE'. They started judging me but they never ever asked me "why, what happened". I tried to do suicide many times. But I couldn't because I didn't have that much courage.

I'm an introvert & sensitive person. Everything goes straight into my heart. Now I am not ashamed of saying that I'm introvert. Why should I?? this world I for everyone. Loneliness made me mad. Everyone might have gone through a stage of loneliness once in their lifetime. But it's not like sitting alone and thinking about all the stuffs. Loneliness have some horrible faces too. It's worse when you feel this in a group especially that group which is filled with your loved ones. And much worse when some people do it purposefully.

When my dad was diagnosed with chronic kidney disease, I refused to join for medical degree for saving money. That's the only thing I can do for them at that time. Even I was suffering depression, I wanted to do something for my family. For them I checked out of my dream of becoming oncologist. My college time was full of struggles. I didn't want to ask my parents for money to buy books and instruments. So mostly I used library books and shared instruments with my friends. I didn't have any complaints to anyone even when I was refused to join PG and decided to keep working. That was also my decision. I accepted for my family. Even my friends started using me. For any needs, they maintained a contact & after that they talking behind my back. At the end I 'm still useless.

I was bullied & ignored in every phase of my life. I started hating myself & my life. I felt like I'm robot! Get up, go to work, get back, doing exam preparations & it continued like that. I couldn't sleep. Insomnia is terrible when it associated with depression. Barely I got 2 hours sleep from my school time onwards. More than that I didn't have appetite throughout this time, & even no cravings too. I completely hate having food. For keeping my heartbeats on I had something daily. Day by day depression made me miserable to lead a life. Suicidal thoughts struck me like waves.

After a long horrible 17 or 18 years, today I started smiling with happiness because of their three people. "HE" is the first person who realized that I'm struggling with something. The person who come into my life with a blessing. He is the only one who can understand what I have going through all these times. He heard me, listened to me carefully & at the end he held my hand & said "we will go through this together". He taught me to smile happily, enjoy every moment and more than that how to live a life. And I'm really happy he become my soulmate. Like someone says after all those struggling times, there will be happiness at the other end. I think that's true.

And I want to thank my two doctors who is always there for me at any cost. They made me realize how good I'm. They told, don't waste your time and happiness for other judgements. But once you cried over it, then you should do it completely and never go back and cry over thinking some incidents. Whatever you had gone through, accept it. Let it be. We can't change the past.

I'm happy now. I'm smiling. I started enjoying every moment for the last 6 months. Getting stronger day by day. I don't have complaints to anyone. This is my recovery period. What I had gone through taught me a lot of lessons. I can't believe, that I started enjoying having food. Having appetite surprised me.

Because he is my strength. One person is enough to change your entire thought process and whole process. And one more person I want to thank "MYSELF". For never ever giving up on me.

I would like to say one more thing to everyone. Depression is an illness. Only those who are suffering can really understand how terrible it is. It's very easy to say like, talk to someone who is very close to you. I think trauma is one's unique response to a traumatic/painful situation. We can't let other people's experiences determine how we feel about our own. It's all about our perception. I wish everyone who are suffering outside will find a way to get through this. You are not alone. You can. You're a fighter. Because I'm a Survivor.

Overthinking

"Nothing can harm you as much as your own thoughts unguarded" - Buddha

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Overthinking is what creates problems from nothing and is probably leading the cause for arguments between two people. Overthinking is a common issue people are facing these days. Basically, overthinking is caused by bad experiences and it leads to doubt on ourselves and many other more reasons. Overthinking makes harder to enjoy life and makes emotionally down and weak. So before we move forward let us know what is overthinking? Overthinking is exactly what it means, thinking too much. When a person thinks too much about things or past events or even many other things, instead of acting and doing things, this means the person overthinks. When a person overthinks he may speak, doing and repeat things over and over again instead of acting. This habit prevents us from taking action. It consumes our energy, disables our ability to make decisions, and puts us on a loop of thinking and thinking over and again. Sometimes overthinking results in depression, anxiety, and caused lots of stress on our mind and we can't do anything in our daily life, overthinking ruins everything and we even can't achieve our goal which we set. It's like tying yourself to a rope that is connected to a pole and going in circles again and again. So we know what is overthinking but many of us don't know why a person overthinks? So let we know why person overthinks: most of the persons overthinks because of two reasons and the reasons are: *ruminating on the past and worrying about the future*. These both are the two main reasons that person overthinks , these reasons create a downward spiral of negative thoughts, but, at the end of the day, they resemble two simple fears we all have: a fear of regret and a fear of uncertainty. We can't change what we could have, would have, should have done better, slower, faster, not at all, or not quite the way we did it. We even can't assume what will come to us and pass away.

All thoughts in either direction are a waste of mental and physical energy. I want to ask a question how much time a person wasted when he overthinks? I think a person who overthinks even don't know. Sometime what will happen is a person who thinks too much said "I never thought about that". Let straight to this point: I think all the time a person wasted while overthinks and even he doesn't know how much time he wasted while thinking. So let's discuss with some examples: When a person eats to much he said "I am overeating" I need to eat less. When a person drinks to much he said "I need to stop" it's not necessary. When a person worked to much he said "oh I am getting tired I need some rest" I need to stop working now. But all opposite in the case of overthinking as: When a person thinks too much why he can't say "I am overthinking" I need to change my mind and thinks differently. But the biggest problem is that we don't consider overthinking as a problem. This creates a lots of problem. When a person overthinks its very common that negative thoughts often entered and it's difficult to think positive and react calmly. To stop overthinking, if an obstacle presented itself, I think we should get creative and figured out how to get around it. This will result in making a positive mind and automatically positive thoughts come to us which will help in living an amazing life! So now one more question is anybody thinks what happens if we overthink? A person who overthinks will slip down into negativity. Sometimes with many persons something bad happens in past and every time he will busy while thinking which may result in depression or anxiety. Instead of looking for a solution he may sit alone and can't get out of his mind. Sometimes he may worry about past mistakes or current problems and issues, and how they might lead to negative outcomes.

Psychologists have found that over-thinking can be detrimental to performance, and lead to anxiety and depression. Is anyone thinks at times, when something bad happens, we think about the worst scenarios, with thoughts like "what if?" Or "why?". There are many negative thoughts come to us mind and the thoughts are:

- Worrying
- Complaining
- Anger
- Feeling sorry for yourself
- Blaming others

We should come out of these negative thoughts instead of thinking these negative thoughts we should think:

- Trying to solve problems
- Studying
- Understanding knowledge
- Planning
- Visualization
- Setting goals

This is better solution that will help us to think positive and do things in a proper way.

I think our life is what we think and quality of thoughts matter. Our life depends on our thoughts and what we make it. Instead of thinking about past and worrying about future we should start live in present makes better life. All persons have special gifts and talents that make us not only unique but also great. Everyone has power to change ourselves. Everyone has a voice and a stage and the ability of impact the world in a positive way. So why we wasting a whole time in thinking too much about that which we don't know. I think we all should start being creative and stop being critic.

So let us all know how to overcome overthinking: There are various ways which helps to get rid of overthinking so let's start:

1. Do that activity which makes you happy i should be whatever like reading, exercise, playing games, watching television, walking, swimming or many others it's the way your mind stops overthinking and helps you in doing things what you want in your life.
2. Watch yourself when you overthink and see how time and energy consuming it is, how you are behaving passively, instead of actively.

3. Realize that thinking once, or a just a few times is enough. It leads you nowhere thinking over and again the same thoughts. You need to make a decision and act.

These are the ways helps you to stop overthinks. There is also one another way that will make out to think positive: whenever negative thought strikes to your mind ask yourself: where will your path take you if you decide to push yourself to do what you were meant to do? Where might you might yourself that you never dreamed of? This thinking will definitely change your thinking and you might stop overthinking. I think every day is an opportunity to learn something new and move forward -even just an inch will do.

Now all the choice depends on you? That you want to waste your time by overthinking or not? Now it's your choice. But what I've learned so far in short time on earth is that there are little choices we make-make the big ones possible. I think we all should get straight and to ready ourselves for a day filled with choices. So that there is no time to overthink as our mind go straight and thinks in right direction and with this our minds catch only positive vibes. Now after all i talk a lot about what's possible, and I have a very simple answer for you: anything you think, feel, dream or imagine. Why not? As to stop overthinking, I think we must do that things we make us smile, laugh, enjoys, feeling refresh etc.

So in last now come to the conclusion that overthinking is one of the hard-hitting habits. It's not that type of habit that a person doing by itself, but its natural. But we have to stop it as we know that overthinking causes many problems such as depression, anxiety, increase stress level etc. Overthinking also cause the problem of distress and fixation, that clearly effect our mind state level. Now let's be real, thinking too much about anything is stressful. If we stop thinking about past moments whether it is "happy or sad". And if we stop worrying about future our life will be amazing. Just we had to focus on present and do the things that makes us happy. As all we know laughter is the best medicine and I think if you can laugh at yourself, your shortcomings or your mistakes, then you can overcome anything.

Stress Management

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Stress is the way human beings react both physically and mentally to changes, events, and situations in their lives. People experience stress in different ways and for different reasons. The reaction is based on your perception of an event or situation. If you view a situation negatively, you will likely feel distressed, oppressed, or out of control. Distress is the more familiar form of stress. The other form, eustress, results from a “positive” view of an event or situation, which is why it is also called “good stress”.

Nowadays, we are living in a society where people are more stressed than relaxed. Due to extreme competitiveness in every aspect of life, there is always a lack of time. This then leads to high level of anxiety, mental tension and of course, the feeling of dissatisfaction.

A cut-throat competition starts at school level with parents pressurizing children to work extra hard and score high marks in all subjects. Students too feel the pressure of performing better than the rest. Therefore, they get stressed when they are unable to perform according to expectation. The stress builds on until it turns into health hazards, which stay on forever.

Then there is stress at work front, which is worse than scoring high. Students might acquire highest marks, but this does not guarantee that it would land their desired jobs. Even if they do, there are other reasons for one to feel the stress. Desired salary, timely promotion, material growth, such as own house and car, marriage, etc. often come along with anxiety, stress and lifestyle diseases. Many people regard public speaking or airplane flights as very stressful-causing physical reactions such as an increased heart rate and a loss of appetite-while others look forward to the event. It's often a question of perception: A positive stressor for one person can be a negative stressor for another.

Causes of Stress

The most frequent reasons for “stressing out” fall into three main categories:

1. The unsettling effects of change
2. The feeling that an outside force is challenging or threatening you.
3. The feeling that you have lost personal control.

Life events such as marriage, changing jobs, divorce, or the death of a relative or friend are the most common causes of stress. Although life threatening events are less common, they can be the most physiologically and psychologically acute. They are usually associated with public service career fields in which people experience intense stress levels because of imminent danger and a high degree of uncertainty-police officer, fire and rescue workers, and the military.

You may not plan to enter a high-stress career, but as a college student, you may find that the demands of college life can create stressful situations. The National Institute of Mental Health (NIMH) notes some of the more stressors for college students:

- Increased academic demands
- Being on your own in a new environment
- Changes in family relations
- Financial responsibilities
- Changes in your social life

Symptoms of Distress

Symptoms of stress fall into three general, but interrelated, categories-physical, mental, and emotional. Review this list carefully. If you find yourself frequently experiencing these symptoms, you are likely feeling distressed:

- Headache
- Fatigue
- Anxiety
- Hypertension
- Heart problems
- Sleep disturbances

Even when you don't realize it, stress can cause or contribute to serious physical disorders. It increases hormones such as adrenaline and corticosterone, which affect your metabolism, immune reactions, and other stress responses. That can lead to increase in your heart rate, respiration, blood pressure, and physical demands on your internal organs.

Behavioral changes are also expressions of stress. They can include:

- Irritability
- Disruptive eating patterns (overeating or under eating)
- Harsh treatment of others
- Increased smoking or alcohol consumption
- Isolation
- Compulsive shopping

A sustained high level of stress is no laughing matter. It can affect every area of your life—productivity in the workplace and classroom, increased health risks, and relationships, to name just a few.

Managing Stress

As noted in the introduction, you can learn to manage stress. The first step is understanding yourself better—how you react in different situations, what causes you stress, and how you behave when you feel stressed. Once you've done that, take the following steps:

Set priorities. Use the time-management tips you learned in section 1. Make a To-Do list. Decide what is really important to get done today, and what can wait. This helps you to know that you are working on your most immediate priorities, and you don't have the stress of trying to remember what you should be doing.

Practice facing stressful moments. Think about the event or situations you expect to face and rehearse your reactions. Find ways to practice dealing with the challenge. If you know that speaking in front of a group frightens you, practice doing it, perhaps with a trusted friend or fellow students. If the pressure of taking tests cause you to freeze up, buy some practice tests at the school bookstore or online and work with them when there is no time pressure.

Examine your expectations. Try to set realistic goals. It's good to push yourself to achieve, but make sure your expectations are realistic. Watch out for perfectionism. Be satisfied with doing the best you can.

Nobody's perfect—not you, not your fellow Cadet, nobody. Allow people the liberty to make mistakes, and remember that mistakes can be a good teacher. Live a healthy lifestyle. Get plenty of exercise. Eat healthy foods. Allow time for rest and relaxation. Find a relaxation technique that works for you—prayer, yoga, meditation, or breathing exercises. Look for the humor in life, and enjoy yourself. Learn to accept change as a part of life. Nothing stays the same. Develop a support system of friends and relatives you can talk to when needed. Believe in yourself and your potential. Remember that many people from disadvantaged backgrounds have gone on to enjoy great success in life. At the same time, avoid those activities that promise release from stress while actually adding to it. Drinking alcohol (despite what all those TV commercials imply), drinking caffeine, smoking, using narcotics (including marijuana), and overeating all add to the body's stress in addition to their other harmful effects. Here are some other strategies for dealing with stress:

- Schedule time for vacation, breaks in your routine, hobbies, and fun activities.
- Try to arrange for uninterrupted time to accomplish tasks that need your concentration. Arrange some leisure time during which you can do things that you really enjoy.
- Avoid scheduling too many appointments, meetings, and classes back-to-back. Allow breaks to catch your breath. Take a few slow, deep breaths whenever you feel stressed. Breathe from the abdomen and, as you exhale, silently say to yourself, "I feel calm."
- Become an expert at managing your time. Read books, view videos, and attend seminars on time management. Once you cut down on time wasters, you'll find more time to recharge yourself.
- Learn to say "no." Setting limits can minimize stress. Spend time on your main responsibilities and priorities rather than allowing other people's priorities or needs to dictate how you spend your time.
- Exercise regularly to reduce muscle tension and promote a sense of well-being.
- Tap into your support network. Family, friends, and social groups can help when dealing with stressful events.

Poem on Covid-19

Ms. Vandana

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Common Interview Questions & Answers

Mr. Anuj Gupta
Founder, Ek Pathshaala

1. Tell us something about yourself?

This is a common question and very critical from the perspective of a job seeker. This is because the candidate gets a chance to talk about himself at length. Do not make the mistake of introducing yourself by mentioning your name, talking about your qualifications, extra-curricular activities, etc. The interviewer wants to know details about you, which are not mentioned in the résumé. If you are a fresher, you can start with the value systems inculcated in you by your parents; then come to your strengths. Also tell them why you are the best candidate for the job, by stating your qualification and also the skill sets that you have, which is required to do that job well.

2. What are your likes and dislikes?

Likes can be with reference to virtually anything, as in, clothes, places, transport, dressing, people or relationships. The same applies to dislikes. Likes can also include your hobbies.

3. What are your strengths and weakness?

Most candidates do not know about themselves which is shocking. Let us take the example of sales as a function. You need some mandatory qualities to be a successful sales executive and also grow on the job. These are integrity, excellent oral communication and listening skills, excellent knowledge of the product, ability to size up the customer and understand his need, give the right solution or product feature by explaining the benefit, patience, high energy levels, discipline, the ability to believe in oneself when the chips are down and lastly believing that your product is the best in the market.

You need to do a very honest SWOT analysis of yourself. You can also talk to your family members, circle of close friends, etc and ask them to give their honest feedback on your good qualities and also the areas where you need to improve. The commonsense lies in working on your strength and thereby raise your level. Coming to weakness, keep in mind that all professionals have weaknesses. However, you cannot mention a weakness which is a requisite for a job.

To give an example, if we take sales, one of the most critical qualities of a salesman, is his ability to speak fluently. Obviously a candidate cannot mention that he is weak in oral communication.

4. What is your ambition?

Do not make general statements like, 'I want to be a good manager' or 'I want to be a CEO in five years'. These answers are very superficial and it clearly shows that you do not know what you want in life.

5. Where do you see yourself five years from now?

Analyze the industry which you are going to join. Talk to experienced professionals having industry experience and understand the growth pattern and the future of that industry. Understand how much time it takes to get promoted from one position to the next one. After this, assess whether you have the skills required to reach that level. You need to be brutally honest with yourself. Also make it a point to talk with employees of the organization, where you have been called for an interview. They are the best people to give you all details related to the culture and human resource policies of that organization.

6. Do You have a role model?

A role model is a person whom you admire for certain qualities. Role models need not be celebrities. Even your parents, relatives or friends can be your role models. If you have a role model, list all qualities that you admire in that person. Likewise, it is not necessary to have a role model. You can mention that each human being is unique and gifted with certain qualities.

7. Can you work comfortably in a team?

All organizations focus on teamwork. Working in a team requires lot of adjustments which are not easy to bring about. Here we are talking about change management. If you have no work experience, you can mention activities at the college level, where you had to work in teams. Share with them your experience. When you are part of a team, different ideas come up, because each person thinks differently. There is also the possibility of disagreements happening between team members. But ultimately, you need to come to a decision, because you are working for the organization.

At the same time, you also need to make sure that there is no feeling of bitterness amongst team members, because some members of the group might feel that they have been left out and their ideas have not been considered, which can seriously affect the bonding within the team. If you have work experience, you can mention one or two instances, where you were part of the team and share your experience with the interview panel.

8. What is success for you?

You need to follow your heart. Success need not be related to your career. To cite an example, for one person, success could mean being dedicated and honest to his job and organization. Likewise, for another person success could be gaining control or overcoming his anger

9. Why should we hire you?

Talk about your strengths and link it with your job. Just to cite an example, if you are intending to make your career in sales, you need to have certain mandatory qualities like excellent oral and listening skills, integrity, discipline, high energy levels, presence of mind, and excellent knowledge of the product. Last, but not the least, you need to have an unshakeable faith that your product is the best in the market.

10. What can you do for the organization?

As an employee you are expected to be an asset for the organization. This means that you have to put in 100% in whatever job you do. Apart from this, it goes without saying that you need to be a person with high integrity, loyalty, excellent knowledge, ability to work with a team, goal oriented and having an encouraging and supportive nature.

11. Why do you want to join our organization?

Joining an organization is just like marriage. Obviously you will not get married blindly. Only after both the partners meet each other and are convinced they can lead their entire life together, they decide to get married. Similarly, you are expected to gather all information about the company. Visit the company website and gather details, regarding the date of commencement of business, name of the directors, which business the company is into, where the head office is located, how many branches does the company have in India and abroad, the profitability over the last 3 years, employee strength, employee

career plans and the future growth plans of the organization.

12. What salary are you expecting from us?

Find out the average salary in that industry paid by leading organizations depending on the position you are applying for. In case you are a fresher, be careful while mentioning the salary package. All established organizations have a fixed salary package drawn up for each level. Be diplomatic while negotiating on the salary package and tell them that you are flexible. Put the ball in their court. In case you have at least 5 years of experience backing you up, you are in a very powerful position to demand whatever salary you want.

13. How soon can you join us?

If you need time, tell them frankly. In case you need to relocate, you would obviously need to be free from all your domestic commitments. Lot of candidates in their anxiety; commit an early date, without practically thinking whether it would be possible for them to join. Later on, if you postpone your date, it gives a bad impression about yourself, even before you have joined. It sends a strong negative signal that you do not know how to plan your schedule and more importantly assert yourself.

14. Are you willing to relocate to any part of India?

This is a personal question and you need to be very practical. If your domestic situation demands your presence at your house, obviously you cannot relocate. If you can relocate, say for example, only within Kerala, be frank and tell the organization about it.

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Department of Computer Applications Chitkara University, Punjab

EDITORIAL SECTION

At Chitkara University, the endeavour has always been to hone the skills of the learners. Keeping in line with this tradition, the Department of Computer Applications, Chitkara University, Punjab, has come up with an online magazine titled Wall for All. This e-magazine is proposed to provide a platform to the budding learners where they can share their knowledge and also the general information pertaining to the computing field. This e-magazine also provides an opportunity to the faculty members to share their ideas and views on topics of general interest. Wall for All is available for free download in PDF format from departmental website ca.chitkara.edu.in.

We hope to get due feedback from our readers which can help us in improving our further issues.

HAPPY READING

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Wish you a very Happy New Year

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