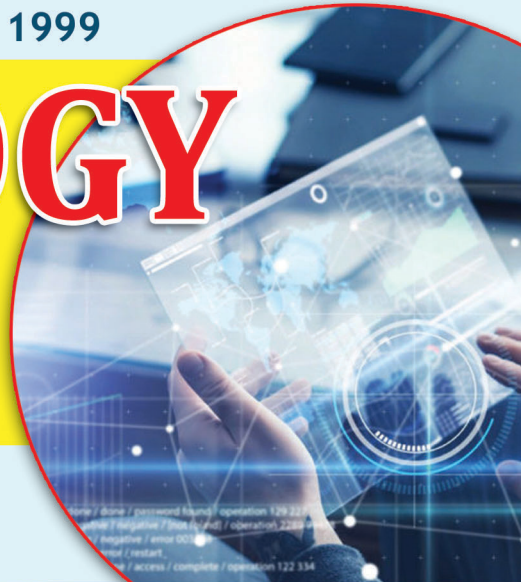


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# TECHNOLOGY FOR YOU

TECH | CAREERS | WEB & PRINT

**The Leading Technology & Career Magazine**

Estd.1999 | Vol : 21 | Issue: 8 | August 2020 | ₹ 20

DIGITAL & WEB EDITION | [www.technologyforyou.org](http://www.technologyforyou.org)

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Printed, Published and owned by C. Janardhan Reddy and  
Printed at Bhaskar Printers, Nallakunta, Hyd. And Published at  
Vidya Nagar, O.U Road Hyderabad - 44.  
Editor in Chief : C.Janardhan Reddy ; All legal matters  
Subject to Hyderabad jurisdiction only.

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## Ultra-Wideband in Smartphones is a life Gamechanger

**Apple and Samsung's Early UWB Smartphone Entry Spurs Adoption to Nearly One-Third of All Smartphone Shipments by 2025.**

UWB (Ultra-Wideband) in smartphones is a life gamechanger by enabling digital keys for home/vehicle access, secure payment methods, smart home control, and much more.

Ultra-Wideband (UWB) has experienced a large amount of growing momentum in the past few months, with an increasing number of companies offering devices or chipsets that support the accurate, cm-level, real-time ranging and positioning technology. UWB provides a highly accurate, low-power consuming, robust, and secure wireless technology for locating a device's position, movement, and distance. Smartphones are set to lead the UWB market thanks to Apple's early UWB entry. ABI Research, a global tech market advisory firm, forecasts that UWB-enabled smartphone shipments will increase from over 42 million shipments in 2019, or 3% of smartphones, to nearly 514 million shipments in 2025, or nearly 32.5% of smartphones – a total of over 2 billion shipments in between 2019 and 2025.

"Smartphones will see an increase in the integration of UWB, providing users with the ability to accurately locate other UWB-enabled devices, unlock doors or

vehicles, and automatically wireless pay for products," said Stephanie Tomsett, Research Analyst at ABI Research.

"While other devices will also have the ability to provide these use cases and others, the vast shipment numbers associated with smartphones will allow the devices to lead the UWB market."

The first company to apply the technology is Apple, which has integrated UWB into its U1 chip, currently available in its iPhone 11 devices, released in September 2019. The technology is likely going to be used for AirDrop, smart home control, security, AR, and positioning. With AirDrop, UWB will provide spatial awareness capabilities, enabling two UWB-enabled iPhones (or other devices in the future) to understand that they are pointed at each other, allow for wireless data transfer. Apple is also expected to update its Car Key technology, which currently uses NFC, to use UWB, based on upcoming Car Connectivity Consortium standards, allowing new iPhones to utilize the technology to unlock vehicles. The company is also expected to release UWB-enabled personal trackers, AirTags, which will allow users to locate lost items with an UWB-enabled iPhone.

Samsung has also recently announced that the Galaxy Note 20 Ultra features UWB technology, which is designed to be used for file sharing, unlocking smart doors, locating lost compatible devices,

and mobile payments. Other smartphone companies, such as Oppo, Huawei, Xiaomi, and Sony, are expected to add UWB, initially to their top-tier devices, but also to mid-tier and even low-tier in the future. Likely use cases for UWB in these smartphones will include digital keys for home or vehicle access, secure payment methods, data transfer, and connecting with UWB personal tags. Many of these smartphone companies are members of UWB organizations, including the FiRa Consortium, the UWB Alliance, and the CCC, aiding with the development and promotion of UWB technologies, standards, and use cases.

"In the longer term, UWB has the potential to ubiquitous as Bluetooth within smartphones, provided companies within the market overcome challenges such as the complex integration of antennas, the current high cost of components and infrastructure, the limited awareness around what the technology provides over others such as Bluetooth, and the regional restrictions may lead to multiple SKUs being required," concludes Tomsett. "Work and acquisitions made by many IC vendors in the market, including those involving NXP, Qorvo, and STMicroelectronics, have highlighted the increased momentum and the potential for UWB to become ubiquitous in devices, such as smartphones, wearables, laptops, and tablets, in the future."



# 5G Will Fundamentally Modernize the Global Healthcare System



New forecasts show that by 2026, 5G will generate revenues of almost US\$400 million from deployments in the healthcare sector.

The global outbreak of the respiratory coronavirus disease COVID-19 has put healthcare systems across the globe under tremendous pressure and highlights the urgent need to advance toward smart healthcare systems. COVID-19 has also presented the perfect application scenario for the deployment of 5G networks in hospitals, doctors' practices, and social care environments. In line with this, global tech market advisory firm, ABI Research forecasts that by 2026, 5G will generate US\$399.8 million in revenues in the healthcare domain with a total of 4.6 million 5G connections by 2026.

"These numbers underscore the huge momentum that we see for 5G adoption in the healthcare domain," says Leo Gergs, Research Analyst for 5G Markets at ABI Research. "By providing enhanced mobile broadband, ultra-reliable low latency, and massive machine type communication, 5G will be an important building block for smarter and more efficient healthcare systems."

Having realized the importance of modernizing healthcare infrastructure, the COVID-19 outbreak has accelerated 5G network deployment in hospitals especially in the hardest-hit regions, such as China. By providing sufficient bandwidth through enhanced mobile broadband capabilities, the deployment of a 5G network allowed the introduction of remote diagnostic and consultation facilities within hospitals in China, to prevent patients potentially infected with COVID-19 from having to leave their house to get medical consultation and preliminary diagnosis. "By enabling remote consultation, 5G significantly contributed to the reduction of COVID-19 infection rates and therefore prevented countless numbers of lives lost in China," Gergs explains.

In the longer term, 5G will transform the healthcare sector even more profoundly than remote diagnostics and consultations. By enabling powerful bandwidth combined with latencies of below 10 milliseconds, 5G will be the breeding ground for technologies like Augmented Reality (AR) and Virtual Reality (VR) in the healthcare environment. Furthermore, 5G will allow the widespread deployment of Artificial Intelligence (AI), which will transform current manual processes into smartly automated workflows.

"Despite the tremendous opportunities that 5G brings to the healthcare domain, particularly through the operation of private cellular networks, network operators and infrastructure vendors need to understand, that these deployment projects do not happen overnight," Gergs points out. "Rather, it needs the consolidated effort of network operators and infrastructure vendors to develop innovative business models based on managed services instead of just selling connectivity." ABI Research forecasts that by 2026, the majority of 5G revenues will be generated by a combination of managed services, while only 45% of revenues will come from monetizing connections. "In order to be successful in the healthcare domain, telco monetizing strategies need to reflect this change to preserve their spot in the 5G value chain," concludes Gergs.

## Worldwide 5G Network Infrastructure Spending to Almost Double in 2020

Investments in 5G Network Infrastructure to Reach 21.3% of Total Wireless Infrastructure.

Worldwide 5G network infrastructure market revenue will almost double in 2020 to reach \$8.1 billion, according to the latest forecast by Gartner, Inc. Total wireless infrastructure revenue is expected to decline by 4.4% to \$38.1 billion in 2020. Investment by communications service providers (CSPs) in 5G network infrastructure accounted for 10.4% of total wireless infrastructure revenue in 2019. This figure will reach 21.3% in 2020.

"Investment in wireless infrastructure continues to gain momentum, as a growing number of CSPs are prioritizing 5G projects by reusing current assets including radio spectrum bandwidths, base stations, core network and transport network, and transitioning LTE/4G spend to maintenance mode," said Kosei Takiishi, senior research director at Gartner. "Early 5G adopters are driving greater competition among CSPs. In addition, governments and regulators are fostering mobile network development and betting that it will be a catalyst and multiplier for widespread economic growth across many industries."

Rising competition among CSPs is causing the pace of 5G adoption to accelerate. New O-RAN (open radio access network) and vRAN (virtualized RAN) ecosystem could disrupt current vendor-lock-in and promote 5G adoption by providing cost-efficient and agile 5G products in the future. Gartner predicts that CSPs in Greater China (China, Taiwan and Hong Kong), mature Asia/Pacific, North America and Japan will reach 5G coverage across 95% of national populations by 2023.

Investment by communications service providers (CSPs) in 5G network infrastructure accounted for 10.4% of total wireless infrastructure revenue in 2019. This figure will reach 21.3% in 2020.

# TRANSFORMATION TOWARDS APP-LESS BANKING



## App-based banking to App-less banking

The Banking sector has entered a new phase, where customers expect seamless, personalized service on a “whenever” and “wherever” basis. For the past few decades, banks have been moving customers toward the new ways of digital and self-service channels. This has given rise to Internet banking or Mobile banking through which a bank allows its customers to conduct financial transactions remotely using a mobile device and a multitude of applications. Banking transactions are done ‘over-the-net’, where a client has to enter into the bank’s ‘Digital Branch’ rather than a physical branch. However, due to the nature, number, and complexity of banking applications, and issues like regular upgrading, patches, and connectivity, customers are a bit apprehensive about opting for an app-based banking environment.

There are several other factors that impact app-based banking, such as the learning curve of customers associated with new technology, concerns about security compromises, or simply an unwillingness to start using technology. Some customers do not even get to download various banking apps for internet banking.

This has prompted banks to conceptualize and bring in new concepts into banking, where app-less banking is emerging as a

top contender. App-less banking simply refers to reducing the dependency of transactions on banking applications. Banks are moving toward simplifying their application landscape, reducing integration points, and using conversations for banking transactions. This move, from application-based transactions to conversation-based transactions, is called app-less banking.

## App-less banking platforms

App-less banking platforms integrate data, applications and channels seamlessly, allowing banks to deliver multiple micro-experiences over various channels like SMS and WhatsApp. This is enabled by delivering multi-domain business use-cases in an agile way that leverages modern application architecture principles.

These platforms can be easily integrated for faster Cloud deployments. It enables banks to create and offer improved customer journeys ensuring issue resolution with minimum response time, resulting in higher level of customer satisfaction. Customers’ queries can be directed to self-service modules by interfacing with SMS, a chatbot or WhatsApp, thereby empowering customers, improving response times, and

reducing the load on customer service teams. Some solutions also offer to put text by customer on user interaction points e.g. text in “WhatsApp handle”. These technology handles are able to understand and link user messages to a particular bank, indicating to the bank that it is an existing customer and responding accordingly using an OTP or biometric authentication. Some of the solutions available in the market are from Mulesoft, Adobe, Google, and Amazon. Yes Bank has recently rolled out their app-less banking initiative as a part of their digital transformation strategy. It has collaborated with Karix Mobile to deliver app-less banking to their customers over a mobile browser using progressive web-app technology.

## Conversational banking enabling App-Less banking

App-less banking is related to omni-channel banking, conversational banking and chatbot-based banking. Conversational banking is a way of banking where the banker uses AI-powered chatbots to text or speak questions or commands. It is the communication with the customer through voice/message-activated interfaces to enable a two-way digital customer

Chatbots serve customers regarding financial matters 24/7, helping them handle banking operations or even locating the nearest ATM for them. Chatbots are nothing but AI-powered intelligent personal banking assistants for customers.



experience. Customers do not have to download apps and their banking is done through the channel they like most i.e. chat. This type of banking brings financial information to customers through channels they are already using. The difference between banking apps and conversational interfaces is that it does not require users to learn their structure, navigation, and terms to perform banking operations.

Banking-bots are instant messenger chatbots that interact with the customer's bank account. Abe, for example, connects to a bank through Yodlee, a financial data provider, using an encrypted token. These bots can tell users how much money is in their account, how much they spent on a particular type of expense and possibly create a budget.

Chatbots serve customers regarding financial matters 24/7, helping them handle banking operations or even locating the nearest ATM for them. Chatbots are nothing but AI-powered intelligent personal banking assistants for customers. A chatbot can track customers' spending patterns and monitor transactions history. Artificial intelligence makes it possible to learn about a customer's spending habits and provide advisory about the customer's financial well-being.

Chatbots also help in preventing fraud hence boosting customer confidence and satisfaction levels. Banking operations using chatbots enable customers to tackle issues in real-time and on their own. Erica, the smart assistant implemented by Bank of America allows customers to easily block their credit cards using a simple command, without a human agent.

AI and machine-learning algorithms also analyze a customer's activity and predict what type of banking products can help them manage their finances. The bot can recommend those products to a customer on a chat supporting conversion. This is making banking more personal. AI customizes responses to different customers after analyzing their moods and accordingly addresses issues on chat.

### Examples of Conversational Interaction methods

- » Messenger Apps
- » Facebook, WeChat, Telegram, Slack, WhatsApp
- » Familiarity with users and widespread adoption

» User security for transactions not mature

» Voice Assistants

» Siri, Cortana, Alexa, Google Assistant

» Familiarity with users and can gather additional information during a conversation

» Difficult user security and voice signature not passed to application

» Mobile Banking App Assistants

» BoA (Erica), USAA, Ally Assistant

» High user familiarity

» Difficult toggling between mobile assistant

» Internet of Things

» Smart cars, wearables, connected TVs

» Intelligent devices for anticipation and fulfillment

» No widespread adoption and user security is a concern

**Conclusion ..** Banks that want to succeed in a digital economy need to make fundamental changes to the way they operate. Banks should prioritize responding to innovation opportunities and quickly convert them to customer services. However, the use of new technologies isn't a sure-fire guarantee of success for banks. They need to ensure that the mind-set of customers also changes and keeps pace with the speed of technology change. Emphasis has to be on simplifying things for customers and creating value for them in the age of digital disruption.

App-less banking, conversational banking, and chatbots have a long way to go before they achieve their full potential. How easily customers will adapt to these new ways of banking remains to be seen. Will banks be able to convince customers to move away from human conversations and start using bots? Will customers feel secure dealing with intelligent machines? How will data privacy regulations, legal compliances, and policy concerns be met? All these questions need deep evaluation.

Also, intelligent systems are as effective as the data that is fed to them, which impacts their effectiveness. Integrating all systems with chatbots could prove to be expensive. It is also difficult for bots to understand the context of the conversation and nuances involved.

Dr. Gurbinder Randhawa - Consulting Partner for Wipro's Consulting Business in India.

## 1. How do you keep mobile banking safe?

According to a survey by Consumer Reports, 34% of people took no security measures to protect their smartphones at all.

Protect Your Information.

Create a strong password.

Never log into your bank's mobile website through a public Wi-Fi network.

Don't save your usernames and passwords in your browser.

Log out after use.

## 2. How safe are banking apps on Android?

Most mobile banking apps do not store your bank details directly on your phone, but instead access it from a secure data centre. This means your mobile itself will never hold your personal bank information. Banks can also protect you with refunds if your account is compromised through your phone.

## What's the difference between online banking and mobile banking?

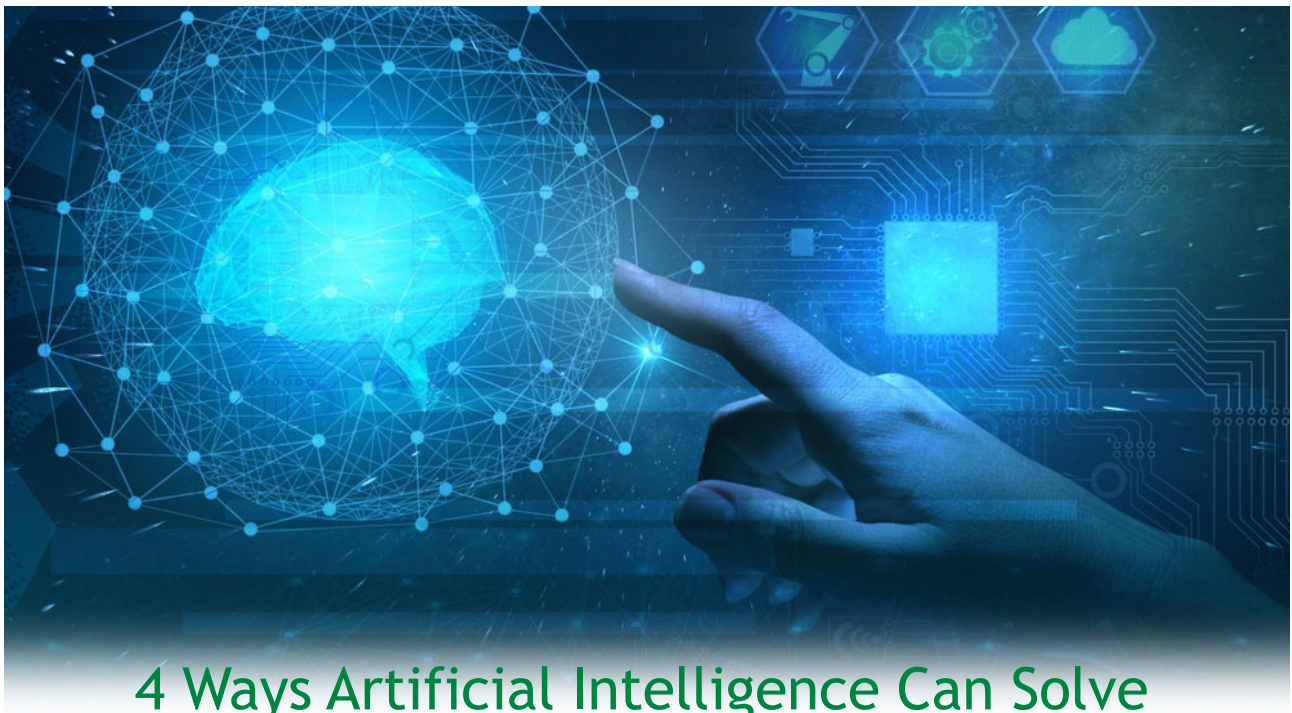
The biggest difference between the two is their functionality. Internet Banking allows you to conduct online transactions through your PC or laptop and an internet connection. On the other hand, mobile banking can be done with or without internet. Many banks nowadays have their mobile apps for mobile banking.

## Is it safe to use mobile banking app?

Download your relevant banking application on the mobile device instead of using the browser. If your bank's app is not available, use a secure browser, especially on Android phones. Also, get software updates to avoid exploitation of software loopholes. Refrain from using public wireless networks to do your banking.

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Download your relevant banking application on the mobile device instead of using the browser.



## 4 Ways Artificial Intelligence Can Solve Printing Industry Challenges

The business landscape today is about optimizing experience and efficiency and even something as commonplace as office printing is no exception. Printing and documenting can add considerable costs to a budget's operation column.

As a result, companies are looking for better printing solutions. Thanks to advances in artificial intelligence and connected technologies, one of the biggest commercial printing industry trends has been the rise of managed print services (MPS), when companies outsource their printing needs to printer manufacturers through print-as-a-service.

MPS has reduced operational hassle and created a better experience for the end user. Multifunction printers and networked devices provide data on a variety of metrics, including output quality, printed formats, toner consumption, ink levels, paper jams, and more. AI algorithms can use this data to make printing smarter, more efficient, and safer. In fact, here are some ways AI can help printer manufacturers provide better experiences to their customers:

**Fix it before it's broken:** Predictive maintenance can improve the usability and reliability of printers, ultimately reducing upkeep costs. AI can analyze data from

the printers in real time, predicting failures or breakdowns for timely interventions. In the case of a breakdown or long queues, jobs can be automatically rerouted to other connected printers, saving considerable time. AI can also make decisions about relevant software upgrades and execute them to prevent bug issues.

**Safer data:** AI provides rich insights using data and network activity to detect threats to print security in real time, including activation protocols for remediation. This is key, considering that 60% of enterprise companies experience security breaches that result in data loss through their printers. On average, these breaches cost companies \$400,000. This goes farther than data points, though. AI-enabled printers can ensure confidential data is protected across networks and various access points. For instance, an HR representative might have access to print employees' personal information, but the system would not allow an engineer to access and print that information.

**Improved print outcomes:** Through automation, AI can remove bottlenecks in the printing process by enabling higher-quality jobs and reducing print waste and misprints. The technology can make recommendations for image quality, frame,

A good starting point for AI-enabled print strategy is assessing vulnerabilities and complementing it with cost-effective, high-quality print outputs.

paper alignment, sizing, etc. The software can introduce these changes without human intervention while the print job is ongoing. In addition, AI can minimize energy usage in idle time by automatically shifting to standby mode. When paired with other technologies such as augmented reality, AI can also help users solve issues themselves by offering guidance to perform specific functions or resolve errors.

**The ultimate printing convenience:** AI-enabled devices can detect connected printers and configure them directly, allowing users to print from mobile devices, tablets, and more without having to go download and install drivers. This is agility in its true sense. AI can help convert complex unstructured documents — such as handwritten information — to legible, categorized digital files, reducing the use of resources such as ink and paper. In addition, AI voice assistants can start up a job when the user simply talks to the machine — be it printing, copying, scanning, or initiating maintenance work.



In short, AI presents one of the key business opportunities in the printing industry. The technology can offer insights that help companies predict user behavior, optimize print infrastructure, and make better print decisions, even at a user level.

### **Solving Printing Industry Challenges With AI**

The convergence of emerging technologies and changing customer preferences have created difficult (but not impossible) situations for the printing industry. For instance, while AI has driven some improvements in threat-detection strata, cloud-enabled printer solutions are vulnerable to cyberattacks. This is especially true in the case of a mixed fleet of old and new printers. When embracing AI as one of the biggest commercial printing industry trends, companies need to invest more in understanding these risks and following up with a remediation plan.

With the constant improvement in AI, the uptake and the scope for the printer industry keeps increasing. As AI gains momentum, companies will need to consider applying the benefits of these technologies to their products and services.

A good starting point for AI-enabled print strategy is assessing vulnerabilities and complementing it with cost-effective, high-quality print outputs. Experienced partners can help reimagine the printing system, redefine operations, and hyper-automate processes through financially viable, seamlessly connected AI and cognitive computing-based solutions. When these solutions are tightly integrated with wider suites of technologies such as IoT, they can transform enterprise business operations. A service provider can also help build a comprehensive set of capabilities that can be used on top of the current transaction systems such as natural language processing, algorithmic intelligence, self-learning, and reasoning.

The next generations of printers are evolving to capture data and leverage AI, IoT, and cloud platforms. These insights provide elevated levels of customer experiences, save costs, and provide higher-quality services. The printer of the near future will go beyond a seamless fail-over to providing an entirely no-fail experience.

**By Atul Kapur - Global Business Head  
– Compute Vertical, Wipro**

## **5 Solid Reasons to Use an SMM Panel**

Today, there is a lot of hype about Search Engine Optimisation. Basically, it all boils down to boosting traffic to a specific website. In other words, every website and brand struggles to get customer attention. Without customer retention, it's not possible to boost sales and stay ahead of the competition. In this article, we are going to find out 5 reasons to use an SMM panel for the same purpose. Read on.

If you want to enjoy maximum online traffic without a lot of traffic, you can try out a lot of tips and tricks. For example, you can incorporate relevant keywords in your website content. However, of all these methods, SMM panels provide the best results.

SMM stands for social media marketing. An SMM panel is an All-in-One package to divert the attention of the online audience to a certain blog or website. It is a type of business promotion, which involves organic methods to purchase followers, likes, and comments. Given below are some of the solid reasons to use the same panel.

### **Schedule Posting**

If you run a venture, you may be looking for an effortless marketing technique. With an SMM panel, you can schedule posts. After all, it is important to post your articles and blog posts on a regular basis. Posting irregularly will create a negative impression on your visitors.

Apart from this, this feature allows you to gather comments and likes from your customers. With this type of feedback, you can improve your products or services. Plus, it can make all of the steps quite smooth and sleek.

### **SEO enhancer**

If you want to catch visitor's attention, it is important that your website content is high quality and contains relevant keywords. Besides, daily updates are also important for the same purpose. We know that organic SEO requires a lot of experience in the field. The good thing about an SMM panel is that it has built-in SEO services. Therefore, it will be much easier for you to optimize your website for Search Engines.

### **Time Saver**

If you get an SMM reseller panel, you can promote your business without spending a lot of time. Since this service is designed for both organic and inorganic search Engine Optimisation, you don't need to look for any other solution to meet your needs.

### **Professional Support**

Another beauty of SMM panels is that they are designed by experts. Therefore, if you run into any problem, you can contact professional support for a solution. You don't need to worry about customer support animals.

### **Easy to budget**

If you have a new venture, you may be working on a limited budget. Since SMM panels come with different packages, you can choose from any of the packages based on your budget. Plus, you have the liberty to choose from multiple payment options.

For example, you can go for a monthly subscription plan. In other words, even if you are on a limited budget, you can still use this service to and enjoy all the benefits listed above.

In short, these are some of the solid reasons to opt for an SMM reseller panel. Hope this helps.

If you are looking for an SMM reseller panel, you can check out one at <https://smmresellerpanel.net>

# Can Augmented Reality help Agriculture grow?

Farmers are transitioning towards the use of augmented farming by incorporating Augmented Reality (AR) in agriculture for field checking, simulated training, and tools assessment.

The global population is growing at a rapid pace and is expected to grow further. The world population is expected to grow up to 10 billion by 2050. And this growing population will increase the demand for food, among other resources. The tremendous growth in the world population will increase the burden on farmers to produce twice the amount of grains they are producing today. And it's only modern technologies that can aid farmers in achieving such a feat. In addition to other technologies like AI, big data, and IoT, farmers can use AR to manage growing food demand. Leveraging AR in agriculture can help farmers to reduce crop wastage, increase production, and train other farmers.

## Leveraging AR in agriculture farm

AR is an immersive technology that can help all the farmers visually understand various scientific approaches for maximum yield and inspect farms accurately.

## Monitoring farms visually

Farmers have to check the fertility of lands

to select the crop they want to sow in that farm. AR can augment fertility inspection. Suppose a farmer wants to inspect land for any infestation, he would need to check each inch of the land manually. But with AR, farmers can visualize the entire farm in a single dashboard and detect the presence of any pest or insect infestation. For instance, a recently developed AR app can assist farmers in the land examination. It collects satellite data on land for constant monitoring. And it converges AR with AI and deep learning to identify areas that might require attention.

## Training new farmers

AR can enable new farmers to get familiar with agricultural equipment without actually having a need to operate one. With historical accident-related data and how they occurred, farmers can also train juniors on how to avoid such unforeseen casualties. AR will help new farmers to visually learn the use of complex agriculture tools. It will also facilitate remote collaboration with and training from farmers who are experts in using advanced agricultural methods. Giving farming tips from such experts in their field can help new farmers to take an appropriate approach based on their land conditions to enhance yield. For instance, an AR app allows farmers to get a glimpse of their

farms' inner workings with the help of their smartphones or tablets.

## Facilitating tools assessment

Agriculture is not all about sowing and harvesting; there is much more to it like inspecting land and monitoring crops. And there are multiple tools available to perform all these different tasks in agriculture. In fact, there can be multiple tools available to perform a single task. AR devices can help select optimal tools for a specific task based on the needs and requirements of the farmer and the task. For instance, farmers can use a sickle, gadasa, or an ax for reaping. But when crops are small and too close to each other, an ax might not be the optimal choice as it might damage closer crops while reaping. AR can help farmers to see how a tool can perform in different situations and assist in selecting optimal tools for different situations.

Despite these benefits, the use of AR comes with a few challenges. One of the major challenges to mainstream AR adoption is its bulky and costly hardware devices. And farmers usually cannot afford to implement such expensive technologies for their farm. In such situations using AR in agriculture would have only remained a dream. But now, with the cost of AR hardware devices going down, implementing AR in agriculture can become practicality for farmers.





# Why Software Managed Access Points Are Better For Cooperate Wi-Fi



✍ With the internet becoming an almost inevitable necessity at the modern day work place, Wi-Fi has equally become essential considering the growing use of wireless devices. Whether it's the mobile phone, the laptop or IP cameras and phone IP telephone systems, a steady wireless network is important to guarantee a steady connection to the internet for better working experience. With these facts in mind, it's vital to choose your office Wi-Fi with great care.

## Points To Consider When Choosing Your Office Wi-Fi

### Look At the Office Layout before Designing

The office layout plan is the first thing you need to look at when designing your wireless network. This is because most wireless access points have some limitations when it comes to distance. If the area is too large, you need to calculate how far your access point of choice can broadcast just to make sure everyone who needs to connect can get the signal.

### Look At the Kind of Walls Used Within the Area

The other factor to consider will be the types of walls within the office area. Wi-Fi does not broadcast through solid walls and this may restrict your signal to shorter distances than the chosen access point can actually cover. Offices that have partitions with solid blocked walls can be a big challenge. If the partitions are done using glass, it is often easier because the signal can easily seep through the glass walls.

### Consider the Expected Users and Their Accessibility Rights

The need for a guest Wi-Fi is another vital element to look at. Most if not all of the software managed access points have a provision to include the standard SSID as well as an additional guest SSID both running from the same software. Guest SSIDs will always be useful since they give the network administrator an option to separate the guest users from the main cooperate network. This ensures that the risk of unauthorized access to mainstream shared resources such as

printers and data bases is prohibited for such users.

## What Are The Main Advantages Of Using Software Controlled Access Points?

### » You can configure more than 1 SSID

There are numerous pros to using these types of access points. These will range from the fact that you can have more than one SSID configured on the same network to the fact that they will offer seamless hand-off while moving across the office from one access point to the next. Since all the access points are usually reading from the software, your devices do not have to log off and search for a new SSID as you move across the office space.

### » Manage your connected devices form one point (DHCP Server management)

You also get an opportunity to avoid having so many DHCP servers within the same network. Stand-alone access points sometimes can be difficult to manage especially if they start leasing addresses on your network. Troubleshooting problems within a software managed wireless network is also easier considering that the software will often pick out all available devices. In normal circumstances, the software can even give you a quick status analysis giving you a quick head start when looking for a fault within the network.

### » Major Concerns When Dealing With Software Managed Access Points

Perhaps one of the most common concerns when dealing with software managed access points include the fact that they do not come cheap and secondly; they are not straight forward plug and play from the box such as most common access points that stand on their own. It is however worth noting that in spite of the cost of the devices and their need for higher skilled technical expertise for setup and management, they are a better option since they will ensure your network is steady and better managed.

# UX/UI Designing as a new age Career



**By Saurabh Gupta, Co-founder of ZEUX Innovation**

As the connection between user experience and business success gets clearer, executives are increasingly seeing UX as a strategic imperative. In the Indian digital landscape, you no longer gain an advantage by just having fast servers, lots of features, and endless offers – everybody has that. Differentiation is measured by the experience associated with how you deliver your core value proposition to the user.

As UX design moves from the fringes to the mainstream, there is understandably a huge surge in the demand for UX talent. UI/UX design is a lucrative upcoming career for all who have a knack for visual design, psychology of human-computer interaction, web design, and most importantly, technological know-how. So, if you have been looking to get into UX, now would be the perfect time to capitalize. According to a report by Glassdoor of the 25 Highest Paying Entry Level Jobs, jobs as UX Designer stands sixth in 2019. This makes it an important point for aspirants to think of pursuing a UX/UI design career in the coming years.

However, UX designers that attract the right kind of attention in the market are those that have demonstrable and recognized UX skills. The onus is on you to fortify your UX skill set and make your experience design resume as attractive and distinctive as possible.

Not unlike other fields, building expertise

in UX also requires the 3E approach: Education, Experience & Exposure.

## 1. Education

The ideal background is a formal education in Human-Computer Interaction (HCI)/ Interaction Design.

External certifications also help and give you a good baseline to start from. UX designers often also come from computer science, industrial design, visual communication, marketing, and even architecture.

But what really makes the difference between a high-quality UX professional and a run-of-the-mill UX designer is a solid background in psychology, particularly applied and cognitive psychology.

## 2. Experience

Experience-wise, it would be important to have the first-hand experience in successfully performing a combination of the following roles as part of a user-centered design process:

- A Researcher connects with end-users and understands their needs
- An Analyst derives insights and communicates findings.
- A Designer creates design solutions that are efficient, easy to use, build trust, persuasive, and motivate people.

## 3. Exposure

Exposure to relevant UX conferences, experts, forums, publications, specialized training programs, and trend reports, is also a good indicator of UX potential and underlying passion for the field.

In the early days of UX in India, companies used to have a lot of trouble assessing a candidate's qualifications to work in the UX field because the people who were making hiring decisions were not able to tell who does or does not have the right UX skillset. To add to the problem, UX titles/designations were being given out very casually by companies because most people thought UX is just common sense. As a result of this, a lot of people who claimed to have a UX skillset on their resume didn't actually have any demonstrable user experience capability. But companies have learned from their mistakes and have become a lot more savvy and smarter about spotting the fakes and weeding them out from their UX hiring funnels.

So, just like with everything else in life, for your UX career as well, honesty is always the best policy. Be truthful and authentic about your 3Es. Remember, a lot of companies hire for the right attitude, passion and potential and are not necessarily looking for people who come with a 'been there done that' mindset.

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**"In the early days of UX in India, companies used to have a lot of trouble assessing a candidate's qualifications to work in the UX field because the people who were making hiring decisions were not able to tell who does or does not have the right UX skillset".**



# How AI Technologies Are Changing Web Development?

📖 Artificial Intelligence (AI) in all its present form is primordial at best. Merely a tool that can be controlled directed and altered to do the bidding of its human controller. This intrinsic servitude is the precise opposite of the nature of intelligence, which in usual conditions is inquisitive, investigative and downright contrarian. Man-invented AI of the early 21st century will everlastingly be connected with this inconsistency and the phrase "artificial intelligence" will be not anything more than an oxymoron that we used to hide our incompetence. The future of artificial intelligence can't be comprehended as a product of our technological need or as the consequence of creation by us as a kind species.

With the aid of artificial intelligence (AI), the web is estimated to become rationale and have the ability to implement logic on a higher level. This translates to the fact that search engines will now be able to understand the behaviors of users, and then utilize them to offer customized results for consumers. The programs utilized will be self-learning and will be able to apply enhanced levels of reasoning.

According to a survey, the Artificial Intelligence market will supposedly be worth \$153 billion in the coming future. We are conversing about digital evolution here. We are thinking about pioneering technological concepts and execution

here. It is going to redefine the manner in the way individuals are going to interrelate with machines.

## Artificial Intelligence in Web Development: Is it feasible?

The chances are high. The numbers are inspiring - to say the slightest. We have got technologists and marketers boarding on varied plans with AI at the center. Why must developers be left in the lurch? No well informed web development firm would preferably be unaware of the scope of Artificial Intelligence to the extent that web development is apprehensive. The consultants should not be uninformed of the fact that developers around the globe are looking at the probable integration of Intelligence and web development to reinforce user experience.

Envisage and discussing with the template designers you have designated work with up for. Anticipate your "AI designer" to inquire about your penchants with view to branding, insignia, content, and layout. Once you have inputted the answers to those queries, the template designer, based on the pre-programmed algorithms will robotically go on to craft a website, which is the ideal mixture of aesthetic and professional appeal.

## How will Artificial intelligence go on to make easy "communication"?

This is what AI can accomplish for web

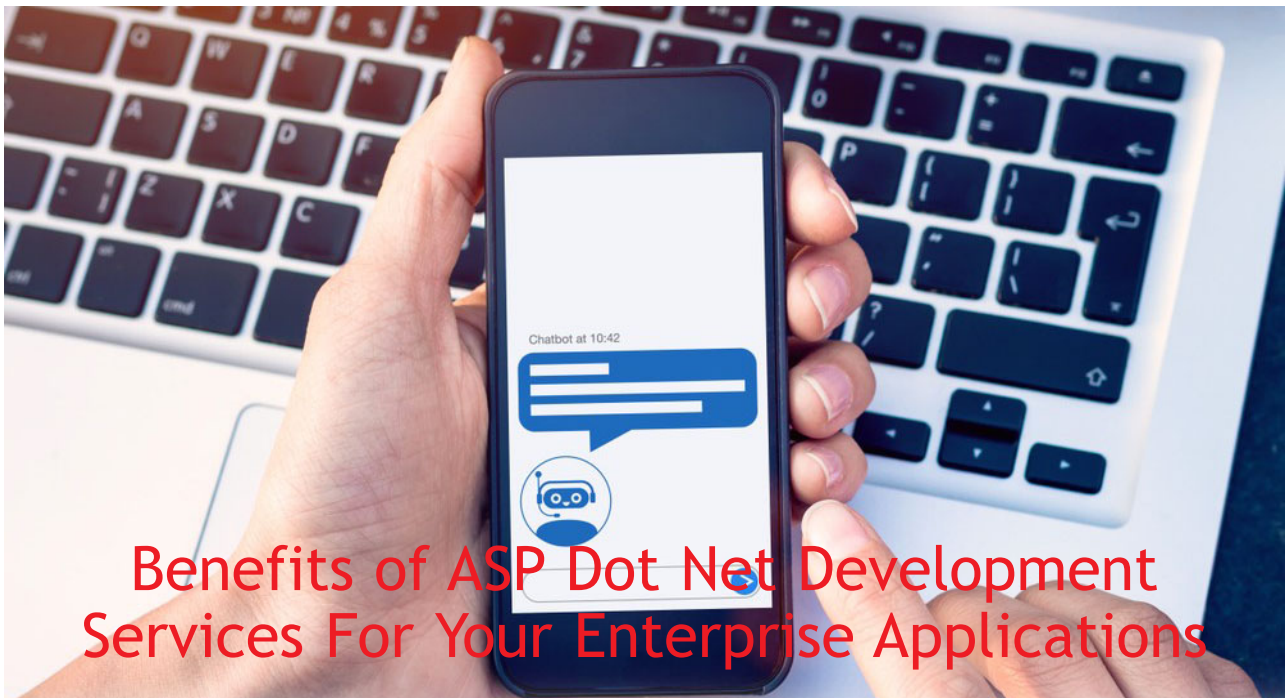
development. Using the AI elements, a developer becomes well informed at catering to users' demands. Since It is known for realizing customer frame of minds and preferences superior, web developers will be in an improved location to put together elements that are going to add to the user experience - certainly, so that they are extra persuasively influenced to make purchases.

## Conclusion

Now, how does this method do this? How does it make sure that developers are experts at fulfilling user requirements? It does this with the aid of cognitive investigation and situations. Chatbots, for instance, has made it likely for web specialists to forecast customer responses. They make easy improved communication with the customers by making the entire course very easy and hassle-free. The next-age group internet users will, in fact, find it easier to converse with the website itself. There will be no communicé barrier to compete with perse.

With the help of the statistical breakdown marketers and other web, experts can really curtail errors. Processing a great amount of data also becomes effortless when communication is assisted at such a level.

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## Benefits of ASP Dot Net Development Services For Your Enterprise Applications

Back in the 2000's, businesses (large or small) didn't have many options to customize their web applications. However, they also wanted to customize their enterprise app development, for which they paid relatively high costs.

So, to reduce these high costs and help businesses develop a custom enterprise application in an easier way, Microsoft came up with the ASP.Net framework.

It helps businesses to develop tailored applications and as a simplified framework, it helps developers to get through it easily.

### About ASP.Net:

It is an open source cross-platform web and mobile app development framework including CLI (Command Like Application). Its very first name was vNext, and later it became Asp.Net core. It supports Windows, Mac, and Linux platforms. It also includes Mobile, Cloud and IOT based solutions along with a cloud-based environment. Few reasons why .Net remains high in demand:

- » Open Source
- » User friendly
- » Easy Updates
- » High Performance
- » Interoperability
- » Quick Management
- » Progressed UI Controls, and more

You can define the accomplishment or breakdown of any framework inside the market by its scalability and features. Two of the significant perspectives to figure ROI are the quantum of benefits and time that framework consumes to develop an app. So, if you are thinking about incorporating ASP.Net development, it can be a good idea for your business.

This post highlights the major benefits of ASP.Net Development.

### 1. Optimized Performance

The major advantage of this framework is the higher output. Its new upgrades and enhancements optimize the performance of Dot Net development services. However, the most significant part is that you don't require changing the code. With every re-compilation, you will have an optimized version of code.

In fact, TechEmpower's study results say that DotNet core's performance is 859 times faster than the previous performance records! Now, that states Asp.net core web application development's long term commitment and credibility.

### 2. Quick Updates:

When it comes to the .net system, it can be a little difficult for every Asp.net development company to upgrade new changes. Hence, whenever new changes or updates are there it becomes an obligation to release a new framework version.

For example, MVC 5 came onto the market after the implementation of its new attribute - routing. Whereas the NuGet package handles any update in Asp.net core development services. As a result, with the new release of the NuGet package version, you can make new changes by updating the packages.

### 3. Command line Application

The .net core provides command line support for all major platforms, such as Windows, Mac, and Linux. By providing dot net development services, you can create, execute and host multiple applications using the command line application.

### 4. Cross-Platform Support

While planning for web application development, it is necessary to ensure that the framework supports all the platforms. The .Net core is a cross-platform framework and thus developers don't have to work on rewriting the code. For example, using Xamarin, businesses can easily develop an android and iOS compatible app without changing the code. For this, hire dot net developers who can utilize cross-platform features.

### 5. Less Coding

Developers can optimize the coding structure with less code. As it allows reusing of the coding and pre-defined coding structures, it becomes easier for developers to maintain the standards.



» ASP.NET is an open source, server-side web application framework created by Microsoft that runs on Windows and was started in the early 2000s. ASP.NET allows developers to create web applications, web services, and dynamic content-driven websites.

» ASP.NET is used to produce interactive, data-driven web app over the internet so ASP.NET is very familiar in the actual industry. ... ASP.NET is popular because it provides libraries for building many different types of application.

» It provides better performance by taking advantage of early binding, just-in-time compilation, native optimization, and caching services right out of the box.

» The ASP.NET framework is complemented by a rich toolbox and designer in the Visual Studio integrated development environment.

» Net is better than JVM, as JVM simply converts the code into bytecode for underlying operating systems. This is not directed for computing machines and is a bit slower than CLR. Java has many IDEs for its programming like Eclipse, NetBeans, etc. Net, on the other hand, has a Visual Studio.

## 6. Support for Cloud-Based Development

Having a cloud-based application in a modern era is quite a better option. The major reason why large enterprises go for ASP Dot Net development services is that it offers different types of web app development, mobile back-end, Internet of things apps and more.

### Summing Up:

Deciding on the software development framework is not an easy task. With multiple frameworks and technologies coming up with advanced features, it can be difficult to choose what's best for you. We created this post to help you with the reasons why ASP.Net Core Development is to be the best of its kind. To learn more about ASP.Net Core development, contact us!

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# What Is XDR?

Attackers always look for quick ways to steal data. Using readily available automated tools and advanced techniques, they can do so with ease, leaving your traditional network defenses ineffective.

XDR is a new approach to threat detection and response, a key element of defending an organization's infrastructure and data from damage, unauthorized access, and misuse.

XDR is an alternative to traditional reactive approaches that provide only layered visibility into attacks, such as endpoint detection and response, or EDR; network traffic analysis, or NTA; and security information and event management, or SIEM. Layered visibility provides important information, but can also lead to problems, including:

Too many alerts that are incomplete and lack context. EDR detects only 26 percent of initial vectors of attack, and due to the high volume of security alerts, 54 percent of security professionals ignore alerts that should be investigated.

Time-consuming, complex investigations that require specialized expertise. With EDR, the meantime to identify a breach has increased to 197 days, and the meantime to contain a breach has increased to 69 days.

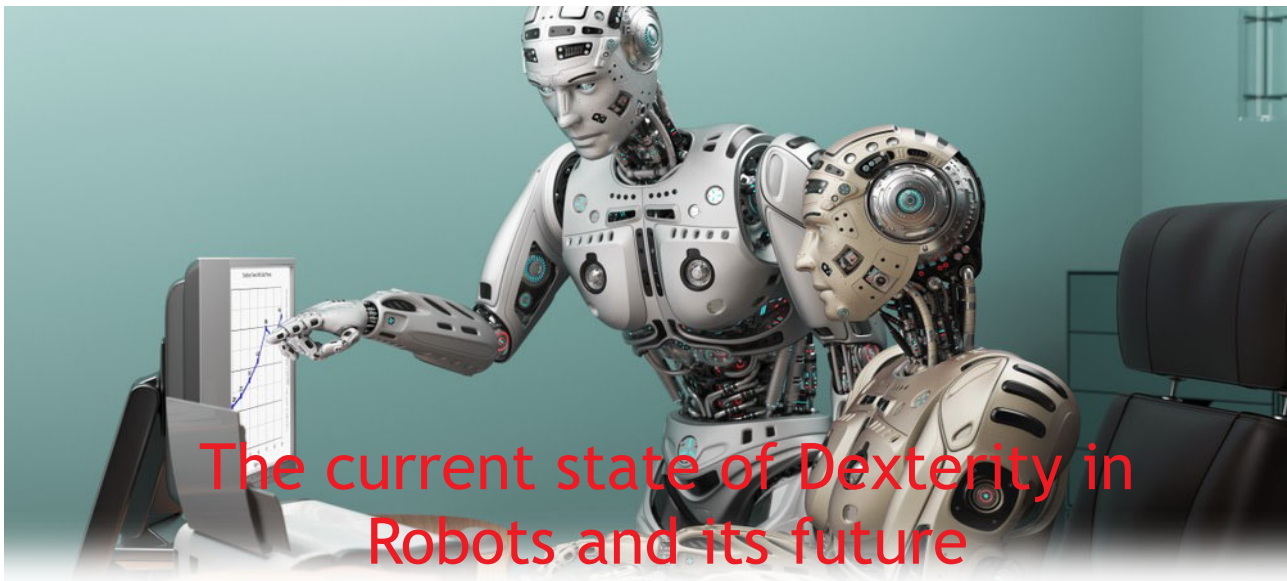
Technology-focused tools rather than user- or business-focused protection. EDR focuses on technology gaps rather than the operational needs of users and organizations. With more than 40 tools used in an average Security Operations Center, 23 percent of security teams spend time maintaining and managing security tools rather than performing security investigations.

The net result for already-overburdened security teams can be an endless stream of events, more tools and information to pivot between, longer time to detection, and security expenditures that are over budget yet not fully effective.

XDR brings a proactive approach to threat detection and response. It delivers visibility into data across networks, clouds, and endpoints while applying analytics and automation to address today's increasingly sophisticated threats. With XDR, security teams can:

- » Identify hidden, stealthy and sophisticated threats proactively and quickly
- » Track threats across any source or location within the organization
- » Increase the productivity of the people operating the technology
- » Get more out of their security investments
- » Conclude investigations more efficiently

From a business perspective, XDR enables organizations to prevent successful cyberattacks as well as simplify and strengthen security processes. This, in turn, enables them to better serve users and accelerate digital transformation initiatives – because when users, data, and applications are protected, companies can focus on strategic priorities.



## The current state of Dexterity in Robots and its future

Dexterity in robotics is at a nascent stage but is expected to improve significantly due to advancements in machine learning, big data, and depth perception technology.

If you're a fan of sci-fi movies depicting robots, then you have seen them carry out every imaginable human task, no matter how complex, with the same approach and efficiency as humans. Movies such as *The Terminator*, *I, Robot*, and *Avengers: Age of Ultron* have even depicted robots to be more advanced and intelligent than the human race. However, that's not the case in reality. Real-life robots are still rather 'dumb'. They can carry out tasks under controlled environments but falter under uncontrolled conditions. Similarly, they can carry out intelligent tasks but fail at doing regular, everyday tasks. The reason? Dexterity in robotics not being advanced enough.

### What is dexterity in robotics?

Robot dexterity can be defined as a robot's ability to cope with a variety of objects and actions. It is how robots can interact and handle objects and take necessary actions on the objects.

### Why dexterity in robotics is important

Robots can perform tasks that humans find highly difficult but ironically fail at performing the simplest tasks. This is termed as Moravec's paradox. For instance, robots can precisely cut through a metal sheet according to measurements but fail at opening a door lock. Similarly, robots today can defeat humans in games such as chess, that require a high level of intelligence but they still can't get you the morning newspaper from the lawn. Thus, improving dexterity is one of the biggest aims of the robotics industry so that robots can be used for carrying out every imaginable task.

### The current state of dexterity in robotics

Currently, dexterity in robots is low. While robots work excellently in controlled environments, the same can't be said for uncontrolled environments. For example, robots prove highly beneficial in industrial settings but not so much in our

homes where conditions and the physical environment keeps changing constantly. Similarly, robots are designed to handle specific objects and they do a great job at that but they can't interact and manipulate unfamiliar objects and fail miserably. For instance, robots are good at performing operations in manufacturing units and warehouses but can't write with the same efficiency with various writing materials such as pencils, pens, and markers.

### The future of dexterity in robotics

Massive advancements in robot dexterity are expected in the near future. Technologies such as big data, artificial intelligence, and depth perception are poised to improve dexterity in robotics. One technique that robotic scientists are looking to leverage to improve robot dexterity is reinforcement learning. Reinforcement learning is a type of machine learning method where the algorithm improves itself based on rewards and punishments on account of the action taken. This technique will help improve the motor skills and dexterity of robots as the algorithm will learn to handle objects over time using different techniques and choose the best one. Robots can then be used to carry out every task possible under any conditions with improvements in their dexterity.

Extensive research is going on to improve robot dexterity. These efforts are aimed at making robots useful for every imaginable task. Therefore, improved dexterity in robotics can help us utilize robots in tasks related to military, waste disposal, logistics and delivery, transportation, and many more. Therefore, it won't be long before robots will prove useful in every aspect of life and the sci-fi robot films will make their journey from celluloid to real life.

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Robots can perform tasks that humans find highly difficult but ironically fail at performing the simplest tasks. This is termed as Moravec's paradox. For instance, robots can precisely cut through a metal sheet according to measurements but fail at opening a door lock.



# Why your business needs Artificial Intelligence consulting

by Naveen Joshi-Director at Allerin. Process Automation, Connected Infrastructure (IoT). R & D on ML/DL

Artificial Intelligence (AI) consulting can help make the integration of AI solutions a seamless experience by providing you with the right solutions specific to your needs and specifications.

Even though a large number of enterprises are jumping on the AI bandwagon, there are still some enterprises that are refraining from implementing AI. Why? According to O'Reilly, about 17% of enterprises find it difficult to identify appropriate use cases of AI, and 23% haven't even realized the need for AI implementation. These hurdles can easily be mitigated by employing AI consulting services to understand the potential benefits of AI at the workplace and ways to integrate AI solutions without affecting current infrastructure and procedures.

## Areas AI consulting can help with

AI consulting can provide enterprises the roadmap for AI implementation at the workplace. The key areas they can help include:

### Strategy development

Most enterprises assume that implementing AI solutions is a straightforward process. They decide about the processes that need AI integration and then look to deploy solutions without putting much thought. They don't pay attention to identifying KPIs, tracking ROI, and setting clear objectives. For instance, enterprises don't pay attention to issues such as handling the data generated from AI systems, the ethical and legal issues that accompany AI, and the return on investment in comparison to the implementation costs. AI consulting helps enterprises develop a strong AI deployment strategy.

AI consultants can help enterprises better understand their needs, the stages to implement AI for better utilization, efficient data management practices, and the requirement of other technologies that might be required in conjunction with AI. Thus, AI consultants can help formulate the correct strategy for AI integration to guarantee maximum benefits.

### Solution implementation

Most enterprises don't think about how AI systems can be

"Artificial Intelligence (AI) consultants can help enterprises better understand their needs, the stages to implement AI for better utilization, efficient data management practices, and the requirement of other technologies that might be required in conjunction with AI".

integrated into their current infrastructure. They think it is a simple process. However, in reality, the integration of AI can get complicated. Enterprises need to consider their data storage needs, the data input sources, cloud computing requirements, new hardware requirements, update of security protocols, and many other factors during implementation.

AI consulting services can take care of every aspect regarding the implementation of AI solutions. They can ensure that your enterprise has the best data handling capabilities, the right tools for data analytics, upgraded devices that can easily support the planned AI system, technical assistance, and secure cloud computing services so that you can access your data anytime anywhere without any security issues.

### Technical assistance

The implemented AI solution can run into issues in the future, such as inefficient handling of data, data security breach, or the lack of skilled human resources to manage AI systems. Enterprises, thus, must be prepared in advance to mitigate these issues.

AI consultants can help enterprises to be aware of the issues they might encounter in the future and enlighten them with the necessary steps they need to take. For instance, they can inform enterprises about various AI safety implementation practices and decide on the most efficient ones. A complete solutions vendor can provide technical assistance over call, text, or have a technician sent over to address the issues faced.

AI implementation can become challenging. However, choosing the right consulting firm can significantly simplify the process of AI implementation. Choose a consultant that can look after every aspect of your enterprise needs. Ideally, your hardware, software, networking, cloud computing, and IoT requirements should all be taken care of by the AI consulting firm as they can provide customized solutions that are developed specifically according to your needs and requirements.



## How to Look For the Right Digital Skills

Contributor: Jackie Wiles | Source: Gartner

Demand is rampant for digital skills like artificial intelligence (AI), but you need added insight from labor market data to understand what that really means for your talent strategy.

Digital transformation is accelerating as COVID-19 shifts business models, adding to the already widespread demand for digital skills. The imperative for HR is to acquire the right digital skills, but how do you know what to prioritize?

The challenge is made harder right now because the skills landscape is changing so rapidly. HR leaders have typically relied heavily on fulfilling the skill needs outlined by business leaders, but in fast-changing conditions, business leaders themselves are unsure what digital capabilities they need now and will need in the future. HR, therefore, needs a more dynamic skills strategy — and that requires a diverse set of inputs for skill needs analysis.

“In today’s highly disrupted environment, you can’t just check in with business leaders to see what they think they need,” says Scott Engler, VP, Advisory, Gartner. “You need a data-driven approach to understand evolving industry and competitive skill sets, skill profiles, and shifting workforce dynamics — especially given limited budgets for recruiting and training.”

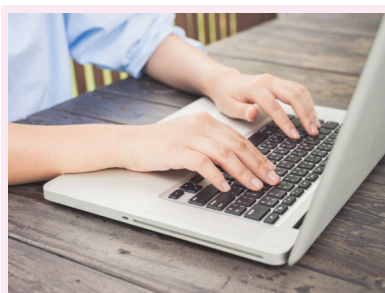
### Analyze data on competitors for critical skills

The challenge for recruiters is that everyone is chasing the same talent, which drives up salaries and leads to vacancies in critical roles. Data on employer and competitor segments can help to unravel where the real competition for skills lies and can help you hone your search.

Gartner TalentNeuron job-posting data shows that AI skills are sought more often than any other digital skillset across “leading” organizations — a group that in this dataset comprises:

S&P 100 companies

Technology giants Facebook, Amazon, Apple, Netflix, Google (FAANG)



Focus on skills potential, not credentials. Traditionally, credentials such as certifications or even job history, have guaranteed a reasonable fit when filling open roles.

Tech startups with more than \$1 billion valuations (“unicorns”)

But while AI skills as a whole are widely sought after across all leading organizations, more granular data shows the nuanced picture. Of all the fast-growing in-demand digital skills, few are in demand by all three groups. Demand growth has been highest among S&P 100 companies for skills in Asana, software-as-a-service designed to improve collaboration and workflows. Among FAANG postings, the demand for blockchain skills is growing fastest.

Real-time labor market data shows the demand growth for Asana skills has topped 680% each year since 2017 among the S&P 100. The annualized growth rate for in-demand blockchain skills among the FAANG group has also topped 600%.

Knowing this level of detail can help you hone your requests and prioritize skill sets for which there is less competition. For example, if you look for “AI skills” in general, you encounter a huge demand: 77,000 job postings globally in July 2020 alone. By contrast, just over 1,000 postings asked for “automation anywhere” and just over 3,000 for robotic process automation (RPA). Both of those AI subsets are key to business process digitalization.

This type of labor market intelligence can offer HR leaders a valuable independent input to validate and



influence the needs analysis conducted by business leaders — and to prioritize learning and development and recruiting investments.

#### Broaden tactics to develop and acquire critical skills

A dynamic skills strategy uses these types of labor market insights to determine demand, supply and availability of talent. For example, you can direct your recruitment and development efforts more effectively if you know who you're competing against for specific skills, and where the talent you need already resides.

More generally, data insights can help you diversify the tactics you deploy to develop and acquire skills. Among your options:

Focus on skills potential, not credentials. Traditionally, credentials such as certifications or even job history, have guaranteed a reasonable fit when filling open roles. But role titles and definitions haven't kept up with the fast evolution in tasks and responsibilities — a trend exacerbated by the impact of COVID-19, which has resulted in increased remote work and accelerated digital transformation. Instead, focus on acquiring the critical skills needed to drive competitive advantage and be open to looking beyond traditional sources of credentialed talent.

Target the total skills market by tapping into talent with "adjacent" skills. People with the skills necessary to perform a role's duties may never have held that specific role or a position with that specific title. Instead, look to tap talent with related skills — especially so-called "stepping stone" skills, which bridge the gap between domains. Identifying these complementary skill sets can help you identify nontraditional internal and external candidates.

Locate global pools of talent, and source by talent location, not business location. Look for talent beyond the location of the business — a shift that seems less radical amid the workforce and workplace changes prompted by COVID-19. For example, hybrid workforce models offer new opportunities to leverage remote and gig work and other workforce models to install skills when and where they are needed to drive positive business outcomes.

## 6 Great Ways to Hire a PHP Developer for Your Business

"There are various online communities of professionals with each community dedicated to a specific type of PHP framework. Depending on your unique requirements, you can search for them on the internet."

While many of us may consider PHP somewhat outdated in today's time, it is still one of the most preferred programming languages out there. The three facts that can be attributed to its worldwide popularity are: almost anything can be done using PHP, there are endless framework-specific possibilities with PHP, and the language itself is taught at almost all tech schools across the globe.

Despite the emergence of so many programming languages in the last couple of years, PHP has managed to remain the ultimate choice of nearly every organization looking to create a custom, scalable, and comprehensive application or website.

Incidentally, PHP is merely a programming language and the overall success of your project rely hugely on PHP developers, who can leverage their skills and expertise to deliver you surpassing results. That said, the process to hire a PHP developer can be a bit challenging. This particularly holds true if you are a non-technical person and may need to pick the best suited one from the large pool of over 5 million PHP developers.

**To smooth out the process to hire PHP programmers, here are a few options for you to consider:**

**Freelance Marketplace:** This is a great place to hire any developer working on a freelance basis. Hubstaff Talent, Upwork, and Fiverr are among several other platforms, where you can find talented PHP programmers, best suited to your project-specific needs.

**LaraJobs:** This platform is for those, who are looking to hire PHP programmers with expertise in Laravel - one of the most popular PHP frameworks. Remember that it can be a bit expensive option.

**CodeIgniter Forum:** This is one great place to find a CodeIgniter PHP developer. You may search for a suitable developer under the Job Section of the forum.

**LinkedIn's CakePHP:** The official CakePHP group on LinkedIn is an excellent platform to post your job requirement(s) if you want to hire PHP developers, specializing in CakePHP framework.

**Facebook & Other Online Communities:** There are various online communities of professionals with each community dedicated to a specific type of PHP framework. Depending on your unique requirements, you can search for them on the internet. On such platforms, you can either directly connect with a developer or ask for referrals. Don't forget to check Slack, Facebook, etc.

**Outsourcing Agencies:** Nearly all development outsourcing companies in countries like the US, UK, India, etc. offer PHP development services. These agencies are quite affordable as they help you save overhead costs of hiring, onboarding, and training the resources. Moreover, they let you hire full-time PHP developers, who are highly professional, experienced, and have a proven track record of working on many diverse projects.

When outsourcing a PHP developer to an agency, make sure to draft a valid contract, with details of services, cost breakdowns, and so on. Ensure that all non-disclosure agreements (NDAs) and Terms & Conditions (T & Cs) remain completely transparent and clear to both parties.

No matter what platform you eventually choose to hire PHP developers, it is best to discuss all relevant points beforehand to avoid any dispute in future.

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# Education Online: Advice for Teachers



## 10 technical tips for teachers about how to make remote learning as convenient as possible.

Nobody planned for the current situation, but because of COVID-19, all types of education, all around the world, whether K–12, university, or continuing professional education, have at least partially moved learning to the Internet. With summer breaks coming to an end, the issue of how online learning can be conducted as conveniently, effectively, and safely as possible for both students and teachers is once again top of mind.

In this post, we present 10 pieces of advice that will help teachers make the most of online learning. However, we think students will find these tips useful as well—at least they'll be on the same page as their teachers.

### 1. Learn about the tools you'll be using

Selecting the tools you will use to conduct your online classes—the videoconferencing platform, testing service, messaging app, and so forth—gives you the most flexibility. However, your educational institution may have chosen tools for you already.

Regardless, you should get to know

their capabilities and features as well as you can by reading through the instructions, learning the interface, and searching on the Internet for configuration guides. For example, we have a guide for using Zoom.

If your school or university provides you with access to Office 365 or G Suite, for example, clarify with your administrator the full list of resources you can access and use for your classes. It's possible you didn't know about something useful. Gain access as soon as possible and learn how to use the services.

### 2. Understand the rules (and review them with your students)

Your school or university probably has guidelines for the services they want faculty and staff to use, including what you may or may not use them for. And there are probably also rules stipulating which services are prohibited. For example, the school may have a policy forbidding the use of personal accounts for work purposes, or it may insist that everyone use a certain messaging app.

You should know all of those rules and requirements. In addition, you should also stay in the loop about the rules for using school-issued equipment. You might be allowed to take your school

laptop home, or you might not. You might be allowed to play solitaire on it in your free time. It's worth checking.

Last but not least, inform your students in advance about any requirements and restrictions that affect them as well. It is good practice to make such rules available in written form, too.

### 3. Limit your tools

The IT tools you select to conduct classes should be convenient for both teacher and students. More tools does not necessarily mean a better experience. Before starting classes, make sure you have sufficient tools for the job and that all participants in the educational process are comfortable using them.

The school may have access to a very large number of services. That does not mean you have to use all of them (unless your organization requires it).

### 4. Set a unique password for each service

If someone manages to crack your password for one of the services you're using, such as the videoconferencing platform, then you have a problem. But if you use the same password for the grading or reporting platform, that problem just got a lot bigger.



Therefore, the following rule applies here just as it does for other services: For every account, you need one unique password. Of course, all of your passwords should be strong — long enough and not too obvious. We will not go into more detail here; we have written extensively about this.

Don't write your passwords on a piece of paper or otherwise store them where someone can find them. If you find it difficult to remember your passwords, use a special password manager, such as, for example, Kaspersky Password Manager.

Finally, if at all possible, avoid situations in which several people share one account. In such cases, you may be unable to establish who made a particular change, and also, the more people using an account, the more vulnerable it is. A chain is only as strong as its weakest link, after all.

## 5. Develop a code of conduct for your classes

During the first lesson (or better, before it), teachers and students should reach an agreement about class procedures. You may agree, for example, that everyone's camera should be turned on by default, but only the teacher's microphone should be on at the start of class.

That is just an example, of course. Nevertheless, some code of conduct (preferably set in writing) is necessary in virtual classrooms just as it is in a traditional school setting. Following the code makes conducting class easier for teachers and helps students learn the material with fewer distractions.

If you conduct classes for several grade levels, you may be able to hold one rule-setting session for everyone at once, saving everyone time. During the session, actively test the code of conduct so that teacher and students share common expectations for the school year.

## 6. Agree on backup channels

Even the most reliable services sometimes encounter a glitch. The reason could be on the service provider side or at the network level of your institution. Regardless, you'll need a backup plan.

To avoid having to make up classes,

figure out in advance which service your class will use if the default one isn't working.

For example, if students are unable to launch Teams at the beginning of the lesson should they join a Skype call immediately or find out the new plan in WhatsApp?

Key for that plan to work is knowing in advance where to convene.

## 7. Maintain punctuality

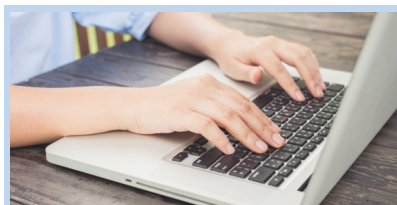
Remote learning, just like remote work, has its upsides and downsides. One of the latter is that some people may not realize others are waiting for them, which can cause them to be late.

Ten people waiting for one person to start class is a pointless waste of time, which is why maintaining punctuality is imperative. If a lesson is supposed to start at 10:00, start it at exactly 10:00. It is a best practice to connect to the videoconferencing service several minutes before the start of class to make sure everything is working properly and that everyone has any necessary documents on hand. Let any latecomers connect without comment; arriving late to an online classroom is not as disruptive as arriving in a physical classroom after the bell has rung.

## 8. Guard your educational accounts

Pay careful attention to the accounts you use for educational purposes. You should have no problems accessing them at any moment, and no one else should be able to log in to them.

If you are a teacher, your accounts may be of some interest to your students, but ordinary student meddling (say, altering



Don't write your passwords on a piece of paper or otherwise store them where someone can find them. If you find it difficult to remember your passwords, use a special password manager, such as, for example, Kaspersky Password Manager.

grades) is far from your biggest concern. An attacker who gains access to your account can also obtain the personal data of the other students in the class, which could lead to legal consequences.

If a student loses access to their account, their time will be wasted restoring access or creating a new account. They may also lose the information saved in the account. Though not as critical as the loss of a teacher's account, it's still unpleasant and worth avoiding if possible. All educational accounts need protection. If the service allows it, turn on two-factor authentication for everyone.

## 9. Understand how to recognize phishing e-mails

Educational platforms and videoconferencing services being popular, they are of interest to cybercriminals. These attackers create phishing websites and send out phishing e-mails intended to lure you to their site, where they steal your account credentials.

Therefore, it is important to know how to distinguish phishing attempts from official mailings and the messages legitimate services might send. Phishing sites often contain errors, misaligned layouts, and broken links, but sometimes scammers manage to create phishing pages that are indistinguishable from the real thing.

First, look at the website address in the browser address bar. If it is different by even one character from the address of the service's official website, do not enter any personal information on the page. We also recommend this post about how to protect yourself from phishing.

## 10. Protect devices

You need reliable protection on every device you use to access educational resources. If a student's school computer is crawled by ransomware, for example, restoring the computer and files can waste a lot of valuable time.

And if a teacher's computer becomes compromised, things can get even more interesting. Some malware may try to spread to students' devices. That is why you need reliable protection on all computers, smartphones, and tablets.

# Cyber Security Changes for 2020: KPMG

Five changes to how companies are implementing security, and what that means for cybersecurity as a profession and practice.

Now the first half of the year is over, KPMG Cyberteam takes stock of current changes and looks at what the next few months and years may bring – with five changes shaping the (geo)political, social, and economic environments in which organizations operate to how companies are implementing security, and what that means for cybersecurity as a profession and practice.

**1. Budgets are getting tighter ...** “For many, the re-naming of information security to cybersecurity is seen as an afterthought in the process of transforming a business to exploit the opportunities of the digital world. Whether considered an overhead, a risk reduction exercise, or at best a necessary evil the money is flowing into transformational projects as companies radically re-engineer their business models to seize the opportunities of the digital world. That places pressure on business as usual activities, as the drive for efficiencies grows. Many CISOs are now being asked to achieve cost reductions, particularly in the financial services sector. Meanwhile, many executives may assume that cybersecurity can be ‘fixed’ by a change program rather than being seen as an integral and ongoing part of running and transforming the business. So the pressure is on to reduce compliance costs, automate security functions, and move away from the ‘buy it all’ approach to purchasing security solutions. Rationalization is becoming the order of the day.”

## **2. The mindset of security is changing for the better**

“Security is often still seen as an add-on with an additional cost a suite of new additional software components, hardware boxes flashing away in data center racks, and separate teams of security professionals. This view of security is starting to change. More and more, security functionality is being built into the core of operating systems, cloud platforms, and endpoint devices at the point of manufacture. This change is disrupting the security marketplace of vendors who provide that add-on endpoint and perimeter security solutions and operations capabilities, and we’ll see consolidation in the market beginning. Embedding security into the agile development processes and tools used by developers has also started. It’s enabling a very different approach, using standard security libraries, test processes, and tooling integrated into the continuous implementation/delivery cycles used by developers. Doing so allows a continuous compliance approach to security that helps to embed a secure-by-design mindset.”

**3. The ecosystem remains a challenge ...** “The supplier and partner ecosystem in which most companies operate is becoming more complex, more integrated, and more interdependent. Software as a service has arrived, creating a web of interdependencies and shadow IT; web servers embed third-party analytics and services; open application programming interfaces allow external partners access into core systems and databases. The potential for a supplier or partner compromise

to disrupt your business has grown, and both customers and regulators can be unforgiving when that leads to a breach of your customers’ data or a failure of your critical business services. The tick box approach to embedding third-party assurance has become unworkable. It fails to capture the sophistication of modern business interactions while simultaneously being viewed as a costly overhead that limits flexibility and speed to market. Risk scoring services are immature, utility models for assuring suppliers remain nascent and often unsupported by key regulators, and controls on third parties remain inconsistent or ineffective. There’s a need for a fundamental shift in the security model to one that takes account of the extended enterprise that characterizes our businesses today. Will zero trust provide the answer? Will cloud providers offer security in multi-tenanted environments that implement data-centric security? And will the cyber insurance industry find common cause with major companies in driving the right supply chain behaviors?”

**4. Consequences matter ...** “While business rightly focuses on reducing the likelihood of a successful attack, regulators are shifting their attention to driving companies to think about what they can do to reduce the impact of an attack, if and when it happens. What are the critical business services that could impact the customer, the broader industry, or even the nation? What can companies do to reduce the harm if disruption of those services occurs? How can they get back to business quickly, offering alternative services, or helping the impacted customers manage without the service? A customer-centric approach can be agnostic to the cause of the incident, be it cyber-attack, technology resilience issues, or a physical event. Suddenly security finds itself working with strange bedfellows such as business continuity, disaster recovery, and fraud control. At worst, this will create another compliance overhead, but done well, it’ll encourage a focus on critical services and the customer. The UK’s financial sector operational resilience regulations will be finalized in late 2020, keenly watched by other financial regulators around the world.”

## **5. Governments remain worried about the unthinkable**


“Concern over the security issues associated with critical national infrastructure hasn’t diminished, and investments are beginning to be made in utility sectors to raise standards, segregate vulnerable systems, and improve monitoring and response actions. Regulatory pressures are increasing as governments move from establishing regulatory frameworks to testing and challenging industry security. In politically sensitive regions of the world, attacks on infrastructure systems are increasing in frequency as part of broader political and military action, and nations continue to build out cyber forces and cyber commands as part of their military-industrial complex. There are perhaps some signs of hope that international norms may begin to coalesce, building on the recent Paris Call for trust and security in cyberspace with a consensus emerging around avoidance of the most aggressive behaviors in our interconnected world.”

“Finally, KPMG predicting the death of the password for quite some time. However, it remains alive and well — and as vulnerable as ever. This year, KPMG stick to that prediction that the time has come for new approaches to authentication, which don’t rely on a single guessable and replayable password. Whether that be enabling multi-factor authentication on those internet-facing cloud services, the rise of biometrics, or the embedding of more sophisticated behavioral biometrics and analysis — it’s time.”



# Why 2020 will see the Birth of the Trust Economy



 The effect of the pandemic on our working lives underscores the growing importance of trust.

Successful remote working demands a greater level of trust, both in and between employees and employers.

In the long-term, organizations that cultivate greater levels of trust will be better placed to thrive in this new era.

When we look back at the COVID-19 pandemic of 2020, we will see not just the human and economic loss inflicted by the virus, but an important gain – a growing global awareness of the value of trust.

As companies coped this spring with plummeting demand, anxious employees and volatile costs, it became increasingly clear that leadership priority has shifted to maintaining the trust of all stakeholders. As with the financial crisis of 2008, survivors, in the long run, will tend to have the equivalent of a strong immune system; not only in their balance sheet but in the level of trust they have been able to develop with their stakeholders.

## Working together, apart

We found this spring that we had to learn afresh about building trust, from afar. The jury is still out on how to build and regain trust in a world where our collective health depends on how good we are at staying apart.

One of the things I have learnt in the past four months is the value of spending a little extra time with my colleagues and clients in addition to our business discussions – not with any specific agenda in mind, but just to see how they are getting on during this difficult time. While these short off-topic conversations are not the best substitute for in-person conversations, they have had one positive dividend: they have given me a much greater understanding of the lives of my colleagues and customers as individuals than I had before the pandemic.

Recently, for instance, while on a video call, a senior executive's son walked into the frame, and so I asked him to come chat with us. A few months ago, this might have been slightly embarrassing for everyone, but now the three of us had a nice chat about everything and nothing. Meeting my colleague's son and adding

that contextual information to my knowledge of his life enriched our working relationship.

With travel curtailed, I have not been able to meet with people as I usually do. To compensate, I have invested much more time in video calls. Adapting to this new style of management has been a challenge because when it comes to working during a global pandemic, I am as much a freshman as the rest of the human race.

## A time for patience

These windows into my colleagues' lives have also reminded me of the challenges everyone faces today. Whether they are living alone or with small children, or with anxiety about their older relatives' health, most people have a lot on their plate at the moment. For the at-home professional, their day job is one of many priorities. As managers and colleagues, we need to be patient with each other and allow people to set some of their own boundaries and timelines so that they are able to manage work and home life.

To do that will require a stronger commitment to building a greater level of trust in all our professional relationships, be they with colleagues, clients, investors, or regulators. Achieving this trust will demand an unprecedented level of transparency from all of us. Whether you are a manager being frank about next year's uncertain prospects or a worker explaining that the project is going to be late because your mother isn't well and needs your constant support, if we face our challenges together with candour and patience, we can still succeed.

Obviously the work still needs to be done, but we need to give everyone the flexibility they need to take care of all their responsibilities. Such flexibility means stepping back from micromanaging. Focusing on hours worked (and when) never did make a lot of sense as a way to manage people, but now, with a semi-remote workforce, it is no longer even practical. Instead of monitoring 100% of employees for the misbehaviour of 5%, we will need to find ways to manage that difficult 5%.

Managers today must focus more on outcomes, not on hours. Workers too will need to cut their managers some slack, recognizing that they are new to coping with the pandemic. Team members can reward their leaders' flexibility by doing the best they can under the circumstances, and by stepping up for the team.

There is no "they"


In the end, the success of distributed work will depend on distributed trust. We can't wait for 'them' to learn how to do things differently. There is no them; there is only us. From here on out, every top-performing enterprise will succeed only if we build a strong culture of personal responsibility. What this means is that 'they' don't work at your firm – individuals do – and we can make changes by taking the initiative to drive them ourselves.

Now more than ever, top-performing cultures demand everybody's best efforts and best ideas.

By Bianca Ghose – Chief Storyteller and heads marketing for Wipro's Consulting Business, Wipro



## 6 Trends on the Gartner Hype Cycle for the Digital Workplace, 2020

 The need to improve the digital resiliency of the workforce during and after the COVID-19 pandemic has drastically accelerated trends in digital workplace technology.

When employees were sent home from their offices en masse amid the global onset of COVID-19, many businesses scrambled to adopt technology solutions to enable their teams to work remotely. IT leaders have now realized the urgency to scale up their digital workplace technology stacks to ensure the long-term resiliency of their business.

“The pandemic rapidly elevated many digital workplace technologies from nice-to-have to must-have status.”

“According to the Gartner 2020 Digital Workplace Survey, 68% of respondents agreed that more C-level execs have expressed involvement in the digital workplace since COVID-19,” says Matt Cain, Distinguished VP Analyst, Gartner. “From meeting solution software to enterprise chat platforms, to desktop-as-a-service, the pandemic rapidly elevated many digital workplace technologies from nice-to-have to must-have status.”

The need for replacements for in-person activities is leading to heightened interest in the emerging technologies included in the Gartner Hype Cycle for the Digital Workplace, 2020. Here are the top digital workplace trends on the Hype Cycle that CIOs will be paying attention to in the years to come.

### Trend 1: The new work nucleus

The “new work nucleus” refers to a collection of SaaS-based personal productivity, collaboration and communication tools, combined into one cloud office product. It generally includes email, instant messaging, file sharing, conferencing, document management and editing, search and discovery, and collaboration.

The new work nucleus has become a cornerstone of most organizations’ digital workplace infrastructures, particularly in today’s remote work environment. Reliance on cloud office technologies has increased due to a general preference for cloud, as well as the desire to reduce costs, drive simplicity and continuously provide more functionality to employees. Vendors

are upgrading cloud services with new mobility, content discovery and artificial intelligence (AI) features.

### Trend 2: Bring your own thing

Individuals are beginning to use more personal Internet of Things (IoT) devices or wearables at work, in a trend known as bring your own thing (BYOT). BYOT involves a wide range of objects, such as fitness bands, smart lights, air filters, voice assistants, smart earbuds and consumer virtual reality (VR) headsets. In the future it will include highly sophisticated devices such as robots and drones.

“As homes and domestic technology become smarter and consumers acquire more IoT technology, a growing range of personal things will be brought into offices or used to support remote working,” says Cain.

### Trend 3: The distance economy

In-person events and meetings were once the norm and virtual meetings the exception, but COVID-19 has flipped those scenarios. The pandemic influenced the emergence of the distance economy, or business activities that don’t rely on face-to-face activity. Organizations with operating models that depend on first-party or hosted events have switched quickly to virtual alternatives.

Simultaneously, as internal meetings, client interactions, new hire interviews and a variety of other business activities have gone virtual, the distance economy has given rise to a new generation of meeting solutions that attempt to more closely mimic an in-person meeting.

### Trend 4: Smart workspaces

A smart workspace leverages the growing digitalization of physical objects to deliver new ways of working and improve workforce efficiency. Examples of smart workspace technologies include IoT, digital signage, integrated workplace management systems, virtual workspaces, motion sensors and facial recognition. Any location where people work can be a smart workspace, such as office buildings, desk spaces, conference rooms and even home spaces.



# Hype Cycle for the Digital Workplace, 2020



[gartner.com/SmarterWithGartner](https://gartner.com/SmarterWithGartner)

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**Gartner**

As employees return to work post-COVID-19, organizations will take full advantage of smart workspaces as they revisit design strategies to better understand how people participate in physical spaces or adhere to social distancing. Such insight can create new capabilities related to seating and room allocation, access management and wayfaring.

## Trend 5: Desktop-as-a-service

Desktop as a service (DaaS) provides users with an on-demand, virtualized desktop experience delivered from a remotely hosted location. It includes provisioning, patching and maintenance of the management plane and resources to host workloads.

“COVID-19 highlighted the value and business continuity strength of DaaS”

Organizations have long been interested in adopting virtual desktop infrastructure, but complexity and capital investment have made implementations difficult. COVID-19 highlighted the value and business continuity strength of DaaS in its ability to rapidly enable remote work where on-premises options have stalled. The pandemic is likely to accelerate adoption of DaaS, and it may even

perpetuate as a delivery architecture when employees return to the office.

## Trend 6: Democratized technology services

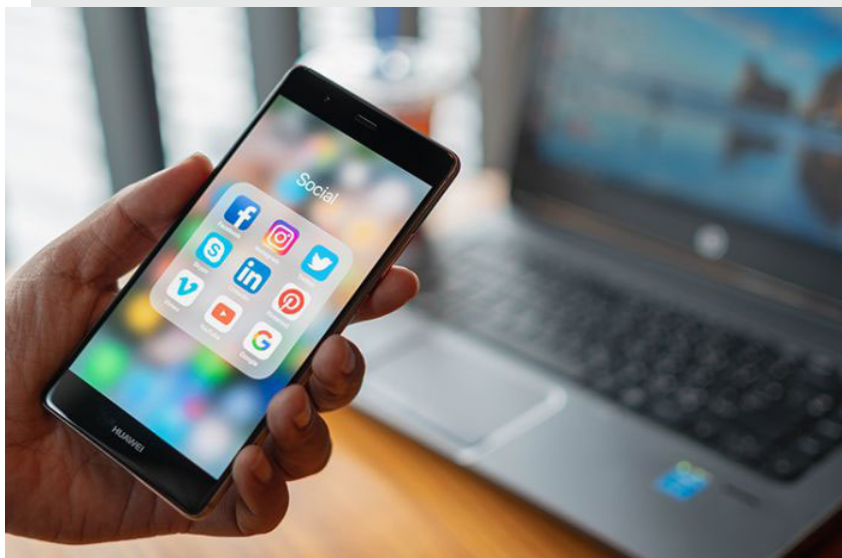
Technology services of the future will be assembled and composed by the people that actually use them. A few examples of democratized technology services include:


Citizen developers, or employees who create new business applications using development tools and runtime environments sanctioned by corporate IT. Citizen developers are empowered by the availability and power of low-code and “no-code” development tools.

Citizen integrator tools, which enable expert business users with minimal IT skills to handle relatively simple application, data and process integration tasks by themselves through very intuitive, no-code development environments.

Citizen data science, an emerging set of capabilities that enable users to extract advanced analytic insights from data without the need for extensive data science expertise.

# Account takeover attacks are enabled by weak passwords



 Account takeover means that someone gets unauthorized access to your online account. Account takeover fraud can lead to online identity theft when criminals get access to the personal information stored in online accounts. With the stolen accounts and information, hackers can for example buy goods with your credit card or take loans in your name. To take over your account, hackers need your password and username.

## A classic example of account takeover

Account takeover fraud is a growing problem because it's risk-free and profitable for criminals. "If it hasn't happened to us ourselves, we probably know someone it has happened to," says Olli Bliss, manager of Business Development at F-Secure. Watch the video at the end of this post to hear him tell more about account takeover.

Bliss sure knows what he's talking about. One day Bliss' colleague had his son let him know that his Netflix account can't be accessed. It turned out that he had used the same password he uses for his Netflix account on another of his online accounts. This other account had been part of a data breach, which he didn't know of. Since the password was the same, somebody had been able to use it to take over his Netflix account

and change the password there. "This is a classic example of what can happen when we rely on weak and recycled passwords," says Bliss.

## Credential stuffing – an automated process to break-in

When an online service gets breached, hackers can access massive amounts of stolen login credentials at once. The way they use this stolen information to access accounts is a highly automated process called credential stuffing. Hackers don't just go around typing stolen username and password combinations, they let programs do that for them. This way it's much faster to test which passwords can be used to access the victim's online accounts.

The stolen credentials are used on multiple sites to test if hackers can get through. And they are typically used to get access to online accounts that include credit card numbers or other payment details. Payment details and other sensitive personal information are used for online identity theft. With credential stuffing, account takeover is really nothing personal. It's an automated criminal operation.

The only reason credential stuffing can be successfully used to access other accounts is because people reuse their passwords. Following, the way to

encounter this is to have a unique password for each account. When one account is breached, the same password can't be used to access other accounts. For example, in the case Olli Bliss told, the Netflix account would have been safe had it been accessible with a unique password. And don't worry, you don't have to remember all of your passwords. You can use a password manager for that. Regardless of this simple safety measure, most people reuse their passwords on multiple accounts.

## Your personal information is spread across the internet

Whenever you create a profile on a new service or make a purchase online, almost without exception you have to give out some personal information. How much and what you need to give depends on the service. Sometimes you can fill in fake information, but quite often that's just not an option. For example, when making a purchase, you want it to be shipped to the right address and to the right person. And you need to give your actual credit card or other payment details in order to make the purchase in the first place. Service providers then store this information on their database.

We all have a lot of online accounts and most have made many purchases from multiple online stores. Following, there are numerous parties out there who have our personal information stored. Quite likely you don't even remember all the online accounts you have created. Same goes for all the online purchases you've made during your lifetime. Yet data about them may still exist and be stored somewhere. What's even more alarming is that your online accounts – old or new – can often be accessed with the same login credentials you use for more important accounts. And they are all vulnerable to data breaches. Some more than others.

## How weak passwords enable account takeover

Hackers often target services that aren't



paying as much attention to security as, for example, those run by huge international corporations. And because most people tend to use the same login credentials for multiple services, the data that hackers are able to steal can be easily utilized elsewhere. This way a seemingly meaningless service getting breached can actually be a major security threat.

The point is not to breach a meaningless web service, but to steal the user login credentials from there, and then use them to access more important services. Just like in the case Olli Bliss told – the Netflix account itself wasn't hacked, but a service that used the same password. Now, imagine the same password could be used to access, for example, PayPal. That is why account takeover fraud happens. And account takeover is just a first step on the path to online identity theft. That's why you should pay attention to your passwords.

The common denominator with any online account is that they all need a password to be accessed. That's the issue here. If you use the same password or only a few of them, when one of your passwords gets compromised, hackers can access other accounts with it. Following, weak passwords enable account takeover.


**You can't react to a breach you don't know about**

Even if you use unique and strong passwords, your account can still be breached. Now, imagine an account of yours was breached and hackers got your password. Would you be able to take action to secure your account? The answer is no – if you have no idea that your account was breached in the first place. That's where F-Secure ID PROTECTION comes to the rescue.

F-Secure ID PROTECTION is a password manager with a very useful function that separates it from others. You can set it to monitor your data online, so when a service you use gets breached, you will be alarmed. This way you can change your password before hackers have time to take over your account.

Because ID PROTECTION also works as a password manager, you can generate strong and unique passwords and store them securely. It's a super-powerful tool to help stay free of account takeover and identity theft.

## 5 Things to Consider When Hiring Java Developers

 In light of the ongoing digital transformation, it is more important for businesses to stay technologically competitive than ever before. When it comes to world's most preferred technologies, nothing beats Java in terms of popularity. To put this into perspective, let us tell you that Java language is used by more than 9 million developers across the globe and presently, it happens to be one of the most widely used programming languages across companies, organizations, and institutions.

Since the time of its initial release in 1996, Java has constantly been evolving, leading to its increased adoption by businesses worldwide. Thankfully, the burgeoning software industry is a treasure trove of skilled and expert Java programmers, which means you would never be short of options when you need to hire Java developers. However, getting a perfect developer for your specific requirements can still be tricky!

**If you are recently planning to hire a developer or outsource java development work, here are 5 things to consider that can help you find the right match:**

**Know What Skills You Really Need:** Dedicated Java developers play a pivotal role in the entire software development cycle. So, before you start the process to hire dedicated Java programmers, make sure to figure out what Java skills you need to meet your company's specific requirements.

**Find A Perfect Cultural Fit:** No matter how great the Java skills of a developer is, if he/she doesn't have the mindset to adjust to your company's culture and ethos, it may lead to unforeseen problems in future. This is particularly important when you are considering the contract market and looking to outsource Java developers from India or other such countries that lead the global software development arena.

**Test Their Java Problem-Solving Skills:** Every developer is expected to have the skill and expertise to develop, deploy and manage code effectively. This also involves efficiently resolving any issue that may arise during the testing phase and beyond. Experts suggest that when you are in the process to hire Java developers, make sure to assess if they have working knowledge of enterprise applications, multi-threading techniques, design patterns along with CSS, JavaScript, and HTML.

**Check Their Flexibility:** When hiring dedicated Java programmers, especially for a long-term project, it is good to look at the bigger picture, instead of what you require just now. You may need a Java developer with a flexible approach to development and not someone, who lack the zeal to learn and upgrade. Thus, when hiring Java developers keep in mind the future of your project to reap more benefits in the long run.


**Assess Their Understanding of Java Frameworks:** To keep their applications running and updated all the time, businesses adopt new frameworks and technologies as they grow. Therefore, it is imperative to hire Java programmers who clearly understand your technology. The developer you are considering for your next project must know the latest LTS version of Java and at the same time, must be familiar with the rapid release and previous versions too. Hence, it is suggested to hire Java developers with additional working knowledge of Java libraries and even lesser-known Java frameworks.

Whether you want to hire Java developers or looking to outsource java development work to a reputed software development agency, the points discussed above will surely help you find a suitable match, who have the right skill set and can seamlessly blend with your company's culture.

Considering the popularity of Java, you can never be short of option when it comes to hire Java developers. That said, finding the best match can be somewhat challenging.



## The Growing Threats Of The Digital World

 Exposure to multiple devices and growing internet consumption have led to a rise in threats such as cyberbullying and identity theft, among others.

The “new normal” has made us use internet-enabled devices, more than ever before, for activities such as remote working, financial transactions, online shopping, studies, and entertainment. Mobile gaming and online gaming, which were steadily growing in popularity over the years, have become an even more popular pastime since the nationwide Covid-19 lockdown. However, we should be mindful of the fact that this increased exposure to the internet puts us at greater risk of exposure to many different kinds of online threats. Understanding the cyberthreat landscape is, therefore, extremely important. Only by knowing the possible risks can we take steps to protect ourselves and our devices against them.

According to the recent NortonLifeLock Digital Wellness Report, 87% of the respondents in a survey believed that online gaming takes a toll on one's health and were worried about the fact online gaming could expose their child to online threats. Many online games use chat services – an aspect that hackers and cybercriminals can exploit. It emerged that almost 81% of the respondents in the aforesaid survey were using parental control mechanisms on their devices, while 70% were aware of the fact that connecting with strangers while playing online games could lead to problems like cyberbullying.

However, the Digital Wellness Report indicated that children aren't the only ones

at risk of cyber threats or harassment. Adults, too, display potentially risky online behavior in certain matters – online dating, for instance – that raise genuine concerns about privacy and data security. Almost 40% of the respondents in the survey were okay with sharing personal details with someone they had only just contacted through a dating app, without having met the person in real life. That is exactly the kind of behavior that we must be wary about. One must always be cautious while sharing any kind of personal information with a stranger, whether over a dating app or over email.

The report found that female respondents (84%) were more aware than men (74%) about security threats and that they had security software installed on their smartphones. Furthermore, about 71% of female respondents (versus 63% of male respondents) concerned themselves with app privacy and permissions on their phones. In terms of generation, Gen Z users (95%) were found to be more proactive than millennials (94%) and Gen X users (90%) in adjusting the privacy permissions on their phones.

As our home and work environments evolve over time in a world that's getting increasingly digitally connected, we should take greater care to protect ourselves and our loved ones from online risks. There are some simple measures we can observe.

NortonLifeLock recommends the following best practices to help safeguard your online identity:

**Use strong passwords:** Don't reuse your passwords across websites and

apps. Make them complex and pick a random word that includes a combination of at least 10 letters, numbers, and symbols. Using a password manager to generate complex, unguessable passwords can also help.

**Keep your software updated:** Cybercriminals frequently use known exploits, or flaws, in your software to gain access to your system. Patching those exploits and flaws can help make it less likely that you'll become a cybercrime target.

**Think Before You Click:** Be on the lookout for phishing efforts and questionable offers. Don't click on a dubious email or text message links or open attachments from an unknown source. They might take you to a site that asks you to reveal personal information, or that puts malware on your device. If you see an attractive offer on an item, ensure it is from a legitimate retailer.


Use a full-service Internet security suite: Invest in a comprehensive all-in-one protective solution that offers real-time protection against existing and emerging threats including anti-malware, spam and phishing, and increased cloud technologies to help safeguard consumers' devices and information as they bank, shop and find love online, even when connecting on public Wi-Fi.

**Take measures to help protect yourself against identity theft:** Be careful what you put online. NEVER post your address or personal information on your profile as this can lead to a whole host of problems beyond identity theft such as stalking and harassment.



# A 7-Step Guide to Hiring Drupal Developers



 If you have recently decided to build a new website or revamp the existing one on Drupal, then you would probably require to hire Drupal developers to realize your plan. Depending on the specific requirements and complexities of your project, you may need to hire just one specialist for not-so-complicated fixes, a few dedicated Drupal programmers to bolster your present IT team, or even a complete team comprising different Drupal experts for both short-term and long-term support.

In any of the situations above, it is critical to know how to hire Drupal experts to get the best outcomes possible. Here is a step-by-step guide to hiring Drupal programmers for the success of your next Drupal development project:

**Determine What Exactly You Need:** To avoid any confusion later on, define the job title, role, and job description as clear as possible in the first place. Also, describe your project requirements in-depth, and be open and completely transparent.

**Pick the Best Place to Outsource Drupal Development Work:** There are countless websites and agencies that claim to have the best developers. Thus, with so many options to choose from, it is quite likely for you to get overwhelmed, particularly if you don't have any prior technical knowledge or experience. When it comes to hiring Drupal developers, you can consider the following resources:

**Your Website:** People looking for a job, often explore the "About Us" section and then the "Carrier" section of any business website. So, it's all-important to keep the second section completely accurate and updated all the time for any future requirements.

**Word of Mouth:** This still comes in handy for many businesses and it is definitely a great option when it comes to hiring dedicated Drupal developers.

**Drupal.org:** It is one of the best platforms to hire developers

for Drupal. Here, you can find developers with varying levels of skills, from newbies to seasoned professionals. The only downside is that you have to pay to post a job or search for resumes on this platform.

**Job Boards:** Monster, Indeed, or Simply Hired are to name a few job portals, where you can hire Drupal developers. With a simple Google search of "Drupal developer jobs," you are likely to find these websites in the top 10 results.

**Freelancing Sites:** Websites like Freelancer, Upwork, and Craigslist are some popular options to hire dedicated Drupal programmers. Since this website has mixed reviews, make sure to be specific in terms of your requirements when interacting with a candidate here.

**Drupal Development Company:** This is certainly an excellent option to outsource Drupal development work if you want to avoid the cost of hiring, training, and overall management of a Drupal Team. Plus, with reputed outsourcing development companies, you get the assurance of having qualified Drupal programmers with proven expertise for your project.

**Search on Social:** Given the rise in the popularity of social media in recent years, exploring social platforms a little is never a wrong idea. LinkedIn is what most experts recommend.

**Shortlisting Candidates:** Once you are sure about your needs, job requirements, and where to look for Drupal developers, it's time to strike candidates/agencies off your list. Reading and understanding the resumes of potential candidates is an important aspect of this process.

Look for the words in resumes that match your job requirements modules they have worked on, front-end/back-end expertise, etc. Consider candidates' experience level - if they have worked on earlier Drupal versions like D4, D5, and D6.

**Assess their Technical Acumen:** Let the candidates review their existing code or ask them to do some coding for you. This is a great way to examine their coding speed, quality of code, and analytical as well as decision-making skills.

**Examine Their Communication Skills:** This is as important as coding skills and helps with smooth running and timely delivery of your project. Make sure that the potential candidate's communication style is in line with your company's culture/philosophy.

**Decide What Best Suits You Financially:** Once you have shortlisted a handful of companies/candidates, take a step back and look at what makes most sense to you financially. A Drupal development agency might quote you a little higher amount, but that allows you to save on onboarding, training, overhead expenses, and much more, at the same time.

You can also hire Drupal developers for your in-house team, but mind that the more experienced developer you will hire, the more will be the cost of hiring. This becomes more evident if you are planning to hire an entire Drupal team. All in all, no matter what your ultimate choice is, make sure your pick goes well with your business as well as ROI model.

Article Source: [https://EzineArticles.com/expert/Terence\\_Lewis/393132](https://EzineArticles.com/expert/Terence_Lewis/393132)

# The problems with Videoconferencing Apps



## How secure are the most popular videoconferencing apps?

#stayhome is not just a popular tag around social networks these days, but also a harsh reality for businesses forced by the coronavirus pandemic to send most of their staff home to work remotely. Face-to-face meetings have been replaced by video calls. But corporate conferences are there to discuss more than just the weather, so before you commit to a videoconferencing app, take a look at its data protection mechanisms. To be clear, we have not conducted lab-based testing on these apps; we browsed publicly available sources for information about known problems in the most widely used software.

### Google Meet and Google Duo

Google offers two video call services: Meet and Duo. The first is an app that integrates with Google's other services (the G Suite). If your company uses those, Hangouts Meet will fit in nicely.

#### Security — Google Meet

Among Meet's advantages, the vendor cites reliable data-processing infrastructure, encryption (not end-to-end, though) and a set of protection tools, all active by default. Like most other business products, G Suite, including Google Meet, conforms to advanced security standards and offers configuration and access-rights-management options among its features.

#### Security — Google Duo

The mobile app Duo, on the other hand,

protects data using end-to-end encryption. However, it is an application designed for private users, not for businesses. Its conferences can accommodate only up to 12 participants.

#### Vulnerabilities and downsides

Other than some messages reminding us all that Google collects user data and therefore can be a threat to trade secrets we were unable to find concrete information about these apps' security performance. That does not mean that Google services are flawless, but they are backed by a very strong security team that tends to fix problems before they cause any trouble.

#### Slack

In Slack, you can create multiple chat workspaces for teams, conveniently shown in one window, plus channels inside your workspace dedicated to different projects. Conferencing is limited to 15 participants.

#### Security

Slack complies with a bunch of international security standards, including SOC 2. The service can be configured to work with medical and financial data and allows companies to select a region for data storage. And joining a Slack workspace requires either an invitation or an e-mail address using the corporate domain.

Slack also offers its customers flexible risk management instruments, integration with Data Loss Prevention (DLP) solutions, and data-access-control tools. For example, administrators can restrict the use of Slack

from personal devices and the copying of information from its channels.

#### Vulnerabilities and downsides

According to Slack's developers, only a limited number of businesses really need end-to-end encryption, and implementation of the feature can limit functionality. Therefore, Slack apparently has no plans to add end-to-end encryption.

Slack also lets you integrate third-party apps, whose security is not Slack's responsibility.

Also, researchers have found vulnerabilities — serious ones — in Slack. Slack has patched the following: a bug that allowed attackers to steal data and one enabling interception of a user's session.

#### Microsoft Teams

Microsoft Teams integrates with Office 365, which is its main advantage for a corporate user. In response to the increased demand for work from home tools, Microsoft is now offering a free six-month Microsoft Teams trial, but free users will not be able to configure user settings and policies — a potential security compromise.

#### Security

Teams complies with a number of international standards, can be set up to work with confidential medical data, and boasts flexible security management options. Under some service plans, additional tools, such as DLP or outgoing file scanning, can be integrated into Teams. Our solution for protecting MS Office 365 scans the data exchanged through Teams

to prevent malware from spreading through the corporate network.

Data sent to the server, whether chats or video calls, is encrypted, but again we are not talking about end-to-end encryption. Speaking of storage and processing, the information never leaves the region in which your company operates.

### **Vulnerabilities**

It is a good idea to monitor vulnerabilities in Teams. Microsoft typically patches vulnerabilities quickly, but they do arise from time to time. For example, researchers recently found a vulnerability (since patched) that enabled account takeover.

### **Skype for Business**

The cloud version of Skype for Business the predecessor of Teams in Office 365 is gradually becoming a thing of the past, but you can still install it locally. Some users find it more convenient than Teams, and Microsoft will continue to support the local version of Skype for the next couple of years.

### **Security**

Skype for Business encrypts information, but not end-to-end, and the service's protection is configurable. It also uses local server software, so video calls and other data never leave the corporate network — an obvious advantage.

### **Vulnerabilities and downsides**

The product won't be supported forever. Unless Microsoft changes its plans, support for the application will end in July 2021, and Skype for Business Server 2019 will be on extended support until October 14, 2025.

### **WebEx Meetings and WebEx Teams**

Cisco WebEx Meetings is quite a narrow-focus service for videoconferencing. Cisco WebEx Teams is a full-featured coworking service that, among other things, supports video calls. As far as the scope of this post, the difference is in the encryption approach.

### **Security**

Cisco WebEx Meetings includes business-class services and end-to-end encryption. (The option is off by default, but the provider will activate it on request. Doing so somewhat limits the utility's functionality, but if your employees deal with confidential information in meetings, it is certainly a good

option to consider.) Cisco WebEx Teams provides end-to-end encryption only for correspondence and documents; whereas video and audio calls are decrypted at Cisco's servers.

### **Vulnerabilities and downsides**

Only this March, the vendor patched two WebEx Meetings vulnerabilities threatening remote execution of code. And early last year, a serious bug was found in WebEx Teams client. It allowed the execution of commands with the current user's privileges. Cisco is known to be serious about security, though, and updates its services quickly.

### **WhatsApp**

WhatsApp was built for social communication, not a business, but the free app can cover the videoconferencing needs of small companies or teams. The program is not suitable for large business; videoconferencing is available only for up to four participants at a time.

### **Security**

WhatsApp has the indisputable advantage of true end-to-end encryption. That means neither third parties nor WhatsApp's employees can view your video calls. But unlike business apps, WhatsApp offers almost no chat and call security management options, only what's built in.

### **Vulnerabilities and downsides**

Just last year, attackers distributed Pegasus spyware through WhatsApp video calls. The bug was fixed, but remember, the app is not meant to offer business-class protection, so at the very least, users should follow cybersecurity news carefully.

### **Zoom**

The cloud-based videoconferencing platform Zoom has been in the news since the beginning of the epidemic. Its flexible pricing (with free 40-minute conferences up to 100 participants) and user-friendliness have attracted tons of users, but the platform's foibles have also attracted tons of attention.

### **Security**

The service complies with the SOC 2 international security standard, offers a separate HIPAA-compliant service plan for health-care providers, and has flexible configuration. Session organizers can block out participants even if they have the

right hyperlink and password, ban recording, and more. If needed, Zoom can be set up in such a way that no traffic leaves the company.

Zoom has been actively addressing reported vulnerability issues, and the company says it plans to prioritize product security over adding new features.

### **Vulnerabilities and downsides**

Zoom claims to have implemented end-to-end encryption, but the claim is not quite justified. With end-to-end encryption, no one other than the sender and the recipient can read transmitted data, whereas Zoom decrypts video data on its servers, and not always in your company's home country, either.

Vulnerabilities of varying severity have been discovered in Zoom applications. Zoom's Windows and macOS clients were reported to have a bug (already fixed) that let hackers steal the computer's account data. Two more bugs in the macOS app potentially allow attackers to completely take over the device.

In addition, many reports surfaced of Internet trolls visiting open conferences, unprotected with passwords, to post dubious comments and share screens with obscene content. On the whole, you can fix the problem by configuring your conference properly, but Zoom has also added default password protection to be on the safe side.

Amid news of security issues in Zoom, large players have disparaged the service. But all services have vulnerabilities, and in Zoom's case, explosive popularity has brought tremendous scrutiny.

**Choose the app that suits you best ...** There is no such thing as a perfectly secure videoconferencing app — or any other kind of app, for that matter. Choose a service whose downsides are not problematic for your business. And remember, choosing the right app is only step 1.

Take the time to properly configure the service. Permissive settings have enabled many a leak.

Update your apps promptly to seal vulnerabilities as soon as possible.

Make sure your employees have at least basic safe Internet behavior skills. If not, arrange for a remote training class through our Kaspersky Automated Security Awareness Platform.



# Never trust, always verify: The Zero Trust security model



## What is Zero Trust, and why is it attractive for modern business?

The Zero Trust model has been gaining popularity among organizations in recent years. According to 2019 data, 78% of information security teams had implemented this model or at least were planning to make the move. Here, we break down the Zero Trust concept to see what makes it attractive for business.

### » The perimeter is no more

Perimeter security, a common term in corporate infrastructure protection, encapsulates the use of thorough checks for any and all attempts to connect to corporate resources from outside that infrastructure. Essentially, it establishes a border between the corporate network and the rest of the world. Inside the perimeter — inside the corporate network — however, becomes a trusted zone in which users, devices, and applications enjoy a certain freedom.

Perimeter security worked — as long as the trusted zone was limited to the local access network and stationary devices connected to it. But the “perimeter” concept blurred as the number of mobile gadgets and cloud services in use by employees grew. These days, at least a portion of corporate resources is located outside of the office or even abroad. Trying to hide them behind even the tallest of walls is impractical at best. Penetrating the trusted zone and moving around unhindered has become much easier.

Back in 2010, Forrester Research Principal Analyst John Kindervag put forward the concept of Zero Trust as an alternative to perimeter security. He proposed giving up the external-versus-internal distinction and focusing instead on resources. Zero Trust is, in essence, an absence of trust zones of any kind. In this model, users, devices, and applications are subject to checks every time they request access to a corporate resource.

### » Zero Trust in practice

There is no single approach to deploying a security system based

on Zero Trust. Despite this, one can identify several core principles that can help build a system like that.

### » Protect the surface instead of the attack surface

The Zero Trust concept typically involves a “protect surface,” which includes everything the organization must protect from unauthorized access: confidential data, infrastructure components, and so on. The protect surface is significantly smaller than the attack surface, which includes all potentially vulnerable infrastructure assets, processes, and actors. It is thus easier to ensure the protect surface is secure than to reduce the attack surface to zero.

### » Microsegmentation

Unlike the classic approach, which provides for external perimeter protection, the Zero Trust model breaks down corporate infrastructure and other resources into small nodes, which can consist of as few as one device or application. The result is lots of microscopic perimeters, each with its own security policies and access permissions, allowing flexibility in managing access and enabling companies to block the uncontrollable spread of a threat within the network.



Transition to Zero Trust can prove lengthy and fraught with difficulty for some organizations. If your employees use both office equipment and personal devices for work, then all equipment must be inventoried; corporate policies need to be set up on devices required for work; and others need to be blocked from accessing corporate resources.

### » Least-privilege principle

Each user is granted only the privileges required to perform their own tasks. Thus, an individual user account being hacked compromises only part of the infrastructure.

### » Authentication

The Zero Trust doctrine says one must treat any attempt at gaining access to corporate information as a potential threat until it's proven otherwise. So, for each session, every user, device, and application must pass the authentication procedure and prove that it has the right to access the data at hand.

### » Total control

For a Zero Trust implementation to be effective, the IT team must have the ability to control every work device and application. Essential, too, is recording and analyzing information about every event on endpoints and other infrastructure components.

### » Benefits of Zero Trust

In addition to eliminating the need to protect the perimeter, which gets increasingly blurry as the business grows increasingly mobile, Zero Trust solves some other problems. In particular, with every process actor being checked and rechecked continuously, companies can more easily adapt to change, for example by removing departing employees' access privileges or adjusting the privileges of those whose responsibilities have changed.

### » Challenges in implementing Zero Trust

Transition to Zero Trust can prove lengthy and fraught with difficulty for some organizations. If your employees use both office equipment and personal devices for work, then all equipment must be inventoried; corporate policies need to be set up on devices required for work; and others need to be blocked from accessing corporate resources. For large companies with branches in multiple cities and countries, the process will take some time.

Not all systems are equally well adapted to a Zero Trust transition. If your company has a complex infrastructure, for example, it may include obsolete devices or software that cannot support current security standards. Replacing these systems will take time and money.


Your employees, including members of your IT and infosec teams, may not be ready for the change of framework. After all, they are the ones who will become responsible for access control and management of your infrastructure.

That means in many cases companies may need a gradual Zero Trust transition plan. For example, Google needed seven years to build the BeyondCorp framework based on Zero Trust. Implementation time may be substantially shorter for less-branched corporate organizations, but you shouldn't expect to squeeze the process into a couple of weeks — or even months.

### Zero Trust, security of the future

Thus, transition from traditional perimeter security to ensuring a protect surface under the Zero Trust framework, albeit assuming the use of available technology, may still be a less-than-simple or quick project, both in engineering terms and in terms of changing employee mindset. However, it will ensure that the company benefits from lower infosec expenses as well as a reduced number of incidents and their associated damage.

## What Is Data Science?

 Data science is a present-day technology world using a very common term. It is a multi-disciplinary entity that deals with data in a structured and unstructured manner. It uses scientific methods and mathematics to process data and to extract knowledge from it. It works on the same concept as Big Data and Data Mining. It requires powerful hardware along with an efficient algorithm and software programming to solve the data problems or to process the data for obtaining valuable knowledge from it.

The present information trends are providing us 80% of data in unstructured mannered while rest 20% structured in format for quick analyzing. The unstructured or semi-structured details require processing in order to make it useful for the present-day entrepreneur environment. Generally, this information or details are generated from the wide varieties of sources such as text files, financial logs, instruments and sensors and multimedia forms. Drawing meaningful and valuable insights from this information require advanced algorithms and tools. This Science is proposing a value proposition for this purpose and this is making it a valuable science for the present-day technological world.

### How Data Science Drawing Insights from Data?

For example, present-day online sites are maintaining the huge volume of the details or information pertaining to their customer base. Now, the online store wants to propose product recommendations for each customer based on their past activity. The store got the entire information of the customers like past purchase history, products browsing the history, income, age and some more. Here, the science can be a great help by coming up with train models using the existing details and store could be able to recommend precise products to the customer base at the regular intervals. Processing information for this purpose is a complex activity, but the science can do wonders for this purpose.

Let us look into another technological breakthrough where this science can be a great help. The self-driving car is the best instance here. Live details or information from sensors, radars, lasers and cameras generally create the map of surroundings for self-driving cars. The car uses this information to decide where to be fast and where to be slow and when to overtake other vehicles. Data science uses advanced machine learning algorithm for this purpose. This is another best instance to convey more about the science how it helps in decision-making using available details or information.

### Life Cycle of Data Science

» Capturing: The Science starts with the data acquisition, data entry, data extraction and signal reception.

» Processing: This science process the acquired data effectively using data mining, data clustering & classification, data modelling and data summary.


» Maintaining: The Science maintains the processed data using data warehousing, data cleansing, data staging, and data architecture.

» Communicating: This science communicates or serves data using data reporting, data visualization, business intelligence and decision-making models.

» Analyzing: This Science analyzes data using exploratory or confirmatory process, predictive analysis, regression, text mining and qualitative analysis.



# Security lesson for an Instagram star (and everyone else)

 Our expert David Jacoby goes live with Instagram influencer Ashley James, sharing life hacks for a secure digital life. “Why would someone hack me, when there is nothing to gain from it?” Does that thought sound familiar? Now, picture this: You have become an Instagram star with thousands of followers and a degree of social capital, not to mention sponsors and advertisers bombarding you with direct messages. But old habits die hard, and your account security is still on the why-would-someone-hack-me level. That’s where presenter, DJ, and influencer Ashley James found herself, and she admits that she has one password for all of her accounts. In a recent live broadcast, Ashley together with security guru David Jacoby of our GReAT team looked into ways of protecting one’s personal digital space. Luckily, it is not that hard!

**How to make passwords ...** If you have one password for everything, you are easy prey. Just one leak from a service that you have a long-forgotten account with is all it takes for hackers to get the key they actually want: your blog, e-mail, or online wallet. Passwords for the accounts you keep money in or otherwise treasure must be unique. Our Password Checker will help you make sure yours are both strong and not already compromised in a known password leak. How do you remember many unique passwords?

## Here are a few life hacks:

» Come up with a system for making passwords. The Jacoby method takes the first letters of the words from a favorite quote and append to that a punctuation mark and the first thing that comes to mind when you think of your account. For James, Instagram is a job, so her password could look something like `ttmpompljob` (based on the quote “There’s too much pepper on my paprikash”). Oh, and do not use a password you have said on air (she won’t actually use this one).

» Do not try to remember passwords for each and every one of your accounts. If you only log on to a certain service once every couple of years, it would be easier simply to reset the password every time.

» Use a password manager. Make sure to use a standalone application: Saving passwords in your browsers is not a good idea; many malicious programs are capable of stealing information from browser storage.

## Smart devices and whether they really need to access the Internet ...

Smart speakers, smart TVs, video baby monitors, robot vacuums: The Internet of Things has long ceased to be an abstract concept, and many, if not all, are already using it. A smart device’s prime does not last long, though. Vendors typically stop pushing updates after a year or so, after which the smart thing becomes vulnerable. Keep an eye on the manufacturing date as you choose these devices, the same way you choose perishables in a grocery store — unless you do not mind potentially hearing other people’s voices coming out of your baby monitor or having strangers watch a reality show streamed from your home security camera. By the way, although

**Fear of spies ...** If you are afraid someone will spy on you through a camera or laptop microphone, you can cover both. You should not put duct tape over the camera lens; it may still capture blurred images during videoconferences. If you do not have a dedicated webcam cover, then a band-aid is a good option because its cotton pad both keeps the adhesive away from the camera lens and blocks the view from potential spies.

If your phone cameras are what is making you nervous, just put your phone on the desk so one of the cameras sees the desk surface and the other shows only the ceiling. Plugging your gadgets’ “ears” is not hard, either. Just get the cheapest pair of headphones available (or grab a broken pair if you already have one), cut off the jack, and plug it into the headphone socket. Now the device is picking up audio from a nonexistent mike. If you have a newer iPhone or another fancy smartphone with no headphone jack, that’s no biggie. Use an adapter that lets you connect a headset to the charging port. With that plugged in, your smartphone will lose its ability to eavesdrop on you.

**More digital comfort ...** Ashley James learned a lot from her conversation. Did you? We have lots of other useful life hacks that’ll help you make your digital life more secure and comfortable. For example, we can tell you how to make Wi-Fi work faster even in that last room down the hall, or what to do if you have been hacked.

It’s common to associate smart devices with the Internet of Things, not everything needs to be connected to the Internet. Before you connect a gadget to home Wi-Fi, pause to think whether it can do without the connection. For example, a robot vacuum cleaner is perfectly capable of zipping across your floors without being connected to the vendor’s servers.

## One Wi-Fi network is good, but two are even better

If someone hacks into your home network, they will reach the devices connected to it, such as a computer and smartphone, smart speaker, and all the rest. Remember that your Wi-Fi network goes beyond the walls of your home. If outsiders can “see” it, then they can connect to it, especially if you are still using the easy-to-guess default password on your ISP-issue router. So, you need to change every default password, including those for your Wi-Fi and router administration interface. Make your new passwords long and complex, so they are hard to crack. If you are not sure whether your password is complex enough, run it through our Password Checker.

A guest network is another handy option available in most modern routers. You can set up two networks with separate Internet access in your home at no extra charge. Devices connected to the main network will not communicate with those connected to the guest network. For example, you can connect all of your smart gadgets as guests, and they will not have access to the documents on your computer even if they get hacked. You can also use your guest network for its intended purpose of providing a connection to friends and other visitors.



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