UAEU University Information Technology Sector (UITS)
جامعة الإمارات العربية المتحدة
United Arab Emirates University

Th!nk IT

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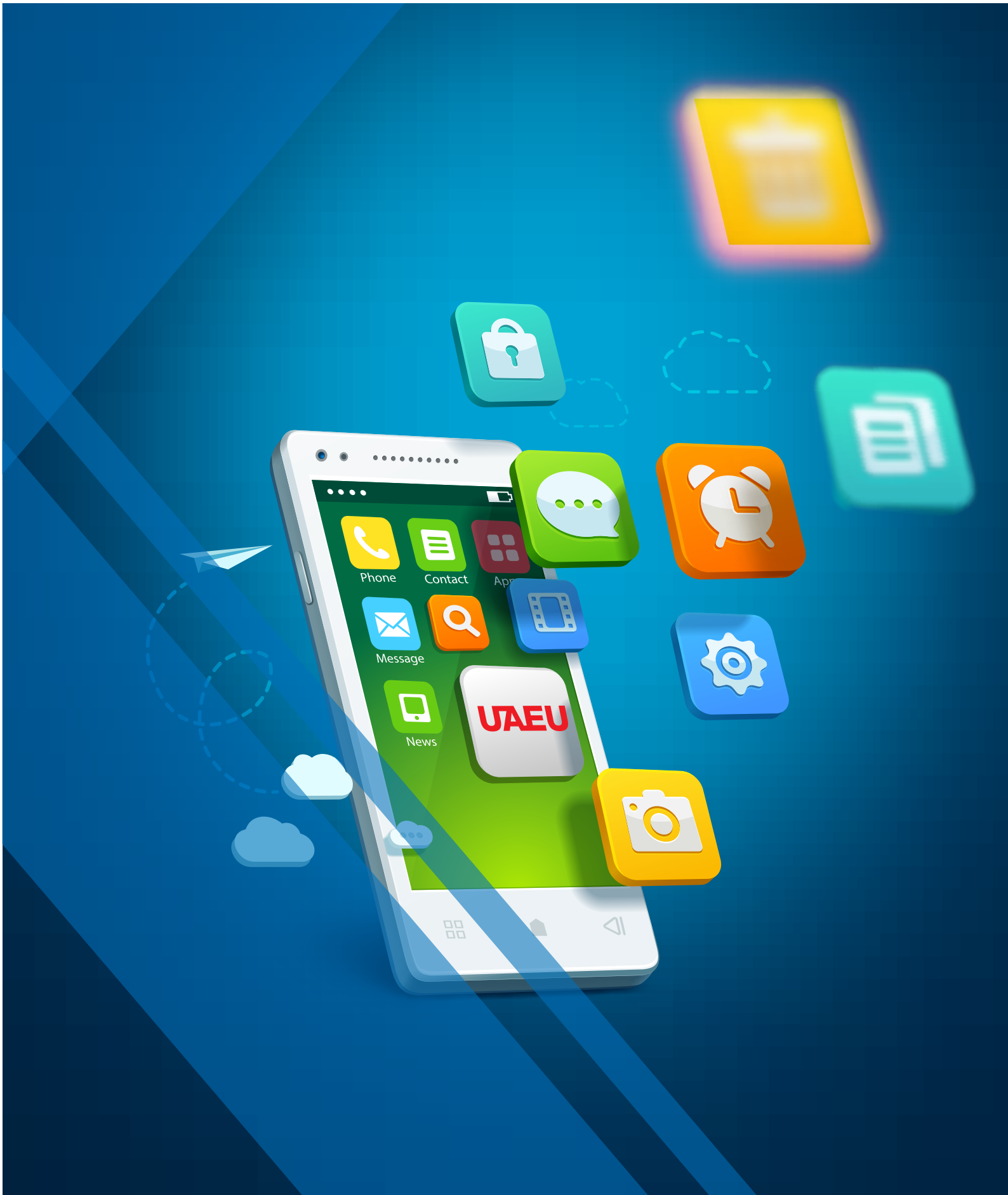

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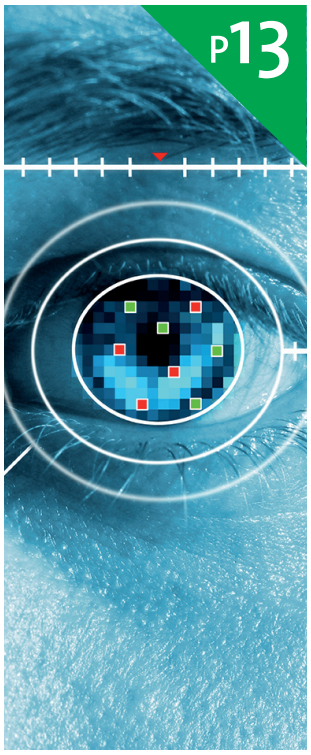
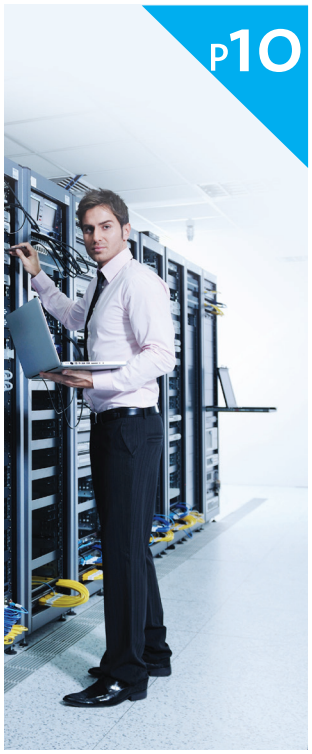




UAEU Attendance Reporting System Shines Internationally

The Attendance Reporting System developed in-house was among several systems that have won an award from Ellucian during the Ellucian World Tour 2016 conference held in Dubai in November, 2016. Banner users were invited to submit award nominations for one of their services. The objective of the award was to recognize institutions that apply Ellucian technologies or services in innovative ways to improve operational efficiency, better serve constituents and improve student success. Nominations had to fit into one of three categories: Operational Excellence, Constituent Service and Student Success.

The Attendance Reporting System won an award under the Operational Excellence category. The system was recognized for its impact on operation efficiency for its users.

The study shows that there is a strong relationship between class attendance and student academic performance. Not attending a class has an adverse effect on performance.

The key outcomes of the system in terms of impact and improvements at the United Arab Emirates University can be summarized as follows:

» Paperless application: The system is environmentally friendly, adhering to the University 'Go Green' initiative. Taking attendance, absence excuse requests, processing requests, administering the overall system setup and controls are all done electronically.

» UAEU has a specific attendance policy and it encourages students to attend classes. The system complies with the University's attendance policy and audit requirement.

» Administrators have more control in setting up and managing the system. They need no more than an hour or so to set up the system at the beginning of each semester.

» The system provides color-coded early warnings for students about their absence.

» The system provides the option for students to request to waive an absence if they have a valid excuse. A request for an absence waiver takes less a minute to submit.

» Students can keep track of their attendance.

» Ease of entering attendance for instructors.

» A friendly email reminder to enter attendance for instructors.

Your Feedback is our Motto

In this era of mobility and the explosion of smartphones apps, users' experience and needs grow continuously towards requiring more services and new features on the go. Therefore, the improvement of the UAEU Mobile App remains a vital mission to meet our users' expectations.

In Sep 2016, the latest UAEU Mobile App was released to the UAEU Community with a set of new services and enhancements. The new additions were mainly based on our UAEU mobile app users' feedback. Today, UAEU students can enjoy going about their academic.

journey with a few extra new services and features such as:

» The improvement of the GPA calculator to allow UAEU students to calculate their GPAs for future semesters.

» Enhancing the Student Attendance service to allow students to submit their excuses directly via the app.

» The Schedule service has been boosted with a new feature that allows users to add their schedule to their device's calendar.

» The ePayment service has been added to allow housing and tuition fees payment via the mobile app.

For the first time, a Faculty services category has been added with two main services which are: the Teacher Schedule which has the option to add it to the device calendar, and the Take Attendance service via the tablets.

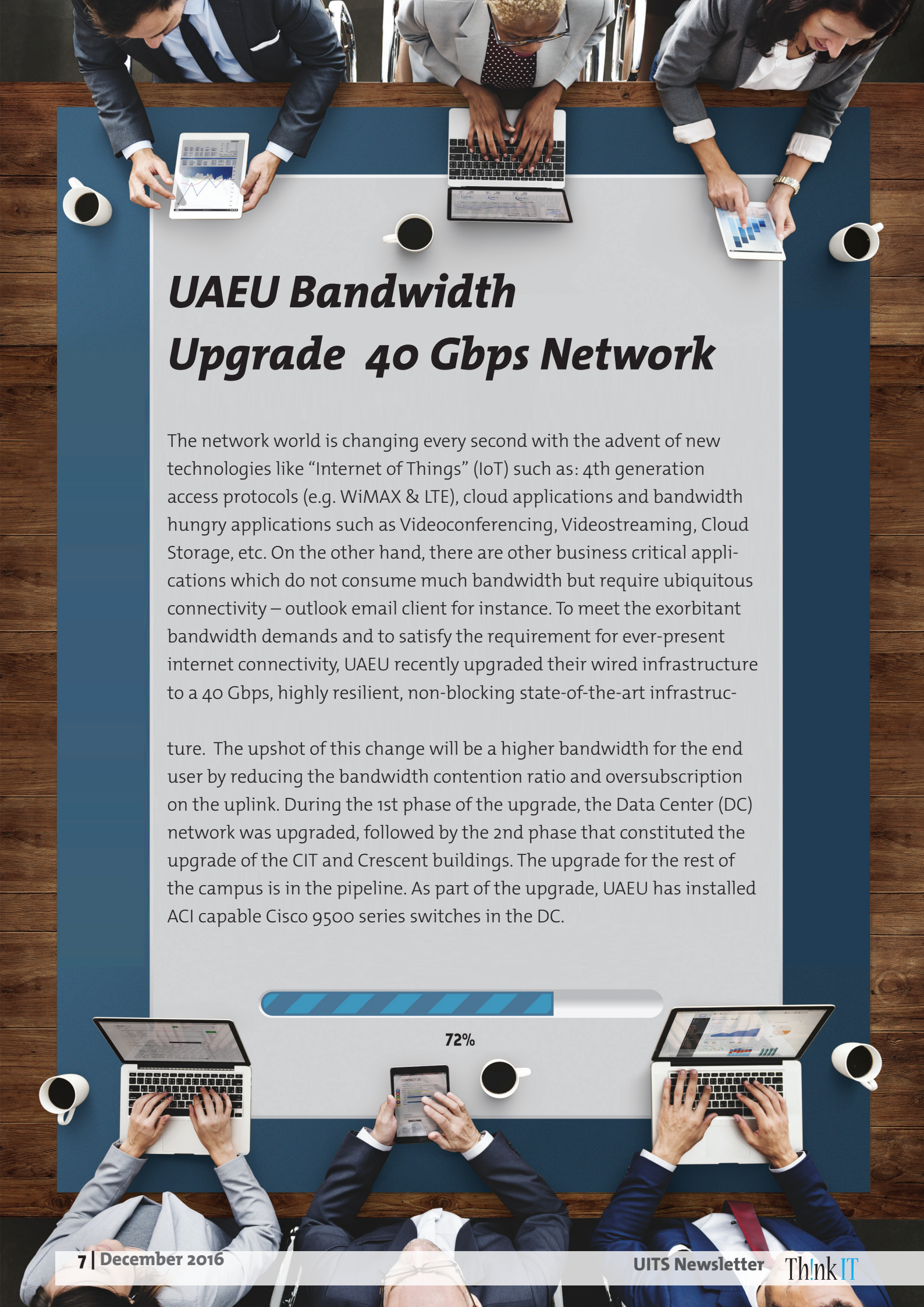
In addition, UAEU staff can now submit their emergency leave via UAEU mobile, and enable UAEU supervisors and managers to approve staff overtime requests.

A large share of the new services has been dedicated for UAEU Alumni, with the addition of a New Alumni Service Category that includes different services, such as Request Alumni ID Card, Request Documents from UAEU, Update Alumni Profile, and Find Alumni Department Contact. In a matter of two months since releasing the new app updates, our statistics have shown that 118 Alumni Card Requests, and 298 Alumni Profile Updates have been processed via UAE mobile app. The success that we have reached is based on your valuable feedback and your input on our provided services.

The UAEU's Wireless network has been an essential mode of accessing the university resources. Our users keep on increasing and numbers using the network are getting higher and higher. Wi-Fi has become the backbone of any current day network due to its readiness and mobility. In order to provide the best service to our users, UAEU has recently upgraded the wired and wireless networks of three hostels SBA, Maqam-5 and Maqam-2.

The new wireless infrastructure is based on the latest, high-tech innovations with greater throughput. The new upgrade provides high data bandwidth and wider network coverage throughout hostels. It is based on the latest technology WAVE-2 that supports above 300Mbps bandwidth per user.

Considering user requirements, outdoor wireless coverage has also been provided. In addition to this, all the wired network devices have also been upgraded to meet the requirements. Users can access their assignments and other resources wherever they are on the campus. Nowadays, mobility is a key factor for user connectivity and we are striving to provide our users with the best solutions on the market today.



UAEU Bandwidth Upgrade 40 Gbps Network

The network world is changing every second with the advent of new technologies like “Internet of Things” (IoT) such as: 4th generation access protocols (e.g. WiMAX & LTE), cloud applications and bandwidth hungry applications such as Videoconferencing, Videostreaming, Cloud Storage, etc. On the other hand, there are other business critical applications which do not consume much bandwidth but require ubiquitous connectivity – outlook email client for instance. To meet the exorbitant bandwidth demands and to satisfy the requirement for ever-present internet connectivity, UAEU recently upgraded their wired infrastructure to a 40 Gbps, highly resilient, non-blocking state-of-the-art infrastructure. The upshot of this change will be a higher bandwidth for the end user by reducing the bandwidth contention ratio and oversubscription on the uplink. During the 1st phase of the upgrade, the Data Center (DC) network was upgraded, followed by the 2nd phase that constituted the upgrade of the CIT and Crescent buildings. The upgrade for the rest of the campus is in the pipeline. As part of the upgrade, UAEU has installed ACI capable Cisco 9500 series switches in the DC.

Figure 1: Cisco Nexus 9000 series

The Cisco Nexus 9000 Series offers two modes of operation. Currently, UAEU is using the Cisco NX-OS mode in standard Cisco Nexus switch environments. In the future, we will also use the ACI mode to take full advantage of an automated, policy-based, systems management approach using Cisco Application Centric Infrastructure.

For the university campus, the Nexus-7000 40 Gbps switch forms the core and distribution layer, while the Multi-gigabit Catalyst-3850 constitutes the access layer. The Nexus 7000 Series Switches are the foundation of the Cisco Unified Fabric solution, which are designed to meet the requirements of mission-critical network. These switches deliver exceptional availability, outstanding scalability, and the proven and comprehensive Cisco NX-OS Software data center switching feature set. Similarly, the Cisco Catalyst-3850 Series is the next generation of enterprise-class stackable Ethernet and Multigigabit Ethernet access and aggregation layer switches that provide full convergence between wired and wireless connectivity on a single platform. Cisco's new Unified Access Data Plane (UADP) application-specific integrated circuit (ASIC) powers the switch and enables uniform wired-wireless policy enforcement, application visibility, flexibility and application.

Figure 2: Cisco Multigig 3850 Series

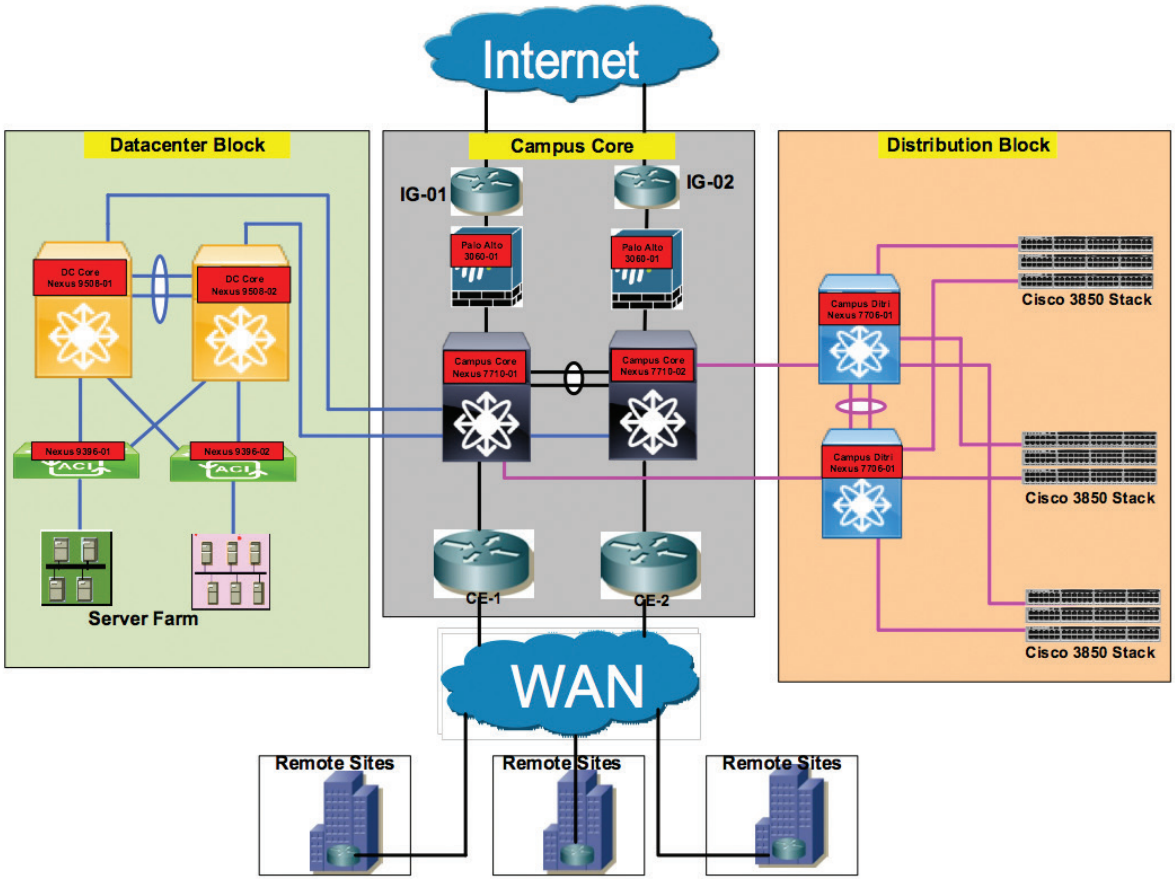


Figure 3. Network Building Blocks

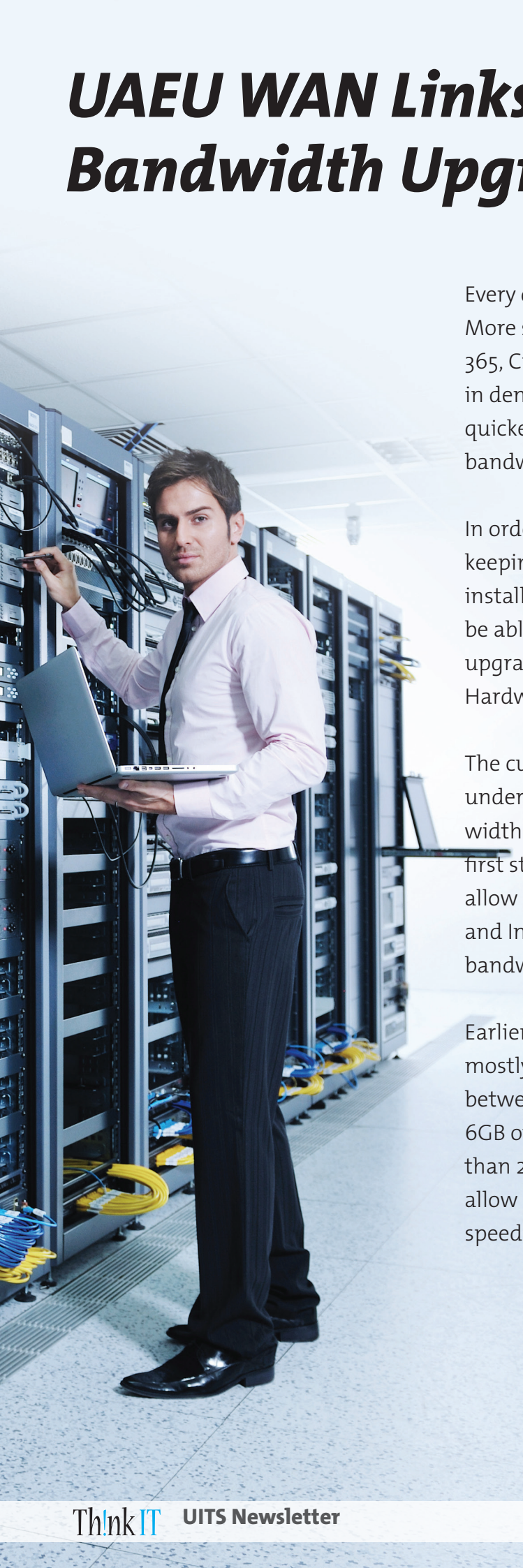
The above diagram shows the various building blocks of the network i.e. Datacenter, Campus Core, WAN/MPLS remote locations, and Internet.

» The Campus Core network is used to route traffic between multiple blocks i.e. traffic across multiple blocks has to transit through the Core network. This block is also called the Transport block.

» The Datacenter Block is used to host all UAEU systems where Cisco Nexus 9508 switches are used for Datacenter Core/Distribution layer switching, while Cisco nexus 9396 switches are used for access layer switching. Datacenter Core switches are connected to the new Campus Core Switch Nexus 7710 by multiple 40Gig ports.

» The Distribution block is used to aggregate Access switches for the respective buildings. For example, for the Crescent Building, two Cisco Nexus 7706 switches are used at the Distribution layer. Distribution Switches are connected to Campus Core switches by dual 40gig uplinks. The Cisco 3850 Access switches stack are places at various FTRs (IDF) and these switch stacks are uplinked to Distribution switches via dual 10Gig links.

UAEU WAN Links and Internet Bandwidth Upgrade



Every day, the demand of network bandwidth is increasing. More services are migrating towards the Cloud (e.g. Office 365, Citrix etc.). There has been a tremendous increase in demand for access to rich and high definition media at quicker speeds, high quality Videoconferencing and other bandwidth hungry applications.

In order to cater with such pressing requirements and keeping in view any future expansion, UITS decided to install the infrastructure that will fulfill current needs and be able to handle future demands. Therefore, two major upgrades were done, ISP Services and The Underlying Hardware.

The current ISP services could not be upgraded due to the underlying hardware. This puts a hard limit on the bandwidth due to no support of high-speed modules. Thus, as a first step, the Internet and MPLS routers were upgraded to allow a support of 10G Links. Later, the ISP services (MPLS and Internet) were upgraded as well to cater for the huge bandwidth demands.

Earlier, UAEU had only 2GB of Internet Access, which was mostly used during peak hours, and MPLS links were between 10-50MB. After the Upgrade, we now stand at 6GB of Internet access capable to be upgraded to more than 200GB and the MPLS links are at 100-300MB. This will allow users to access High Content media at much higher speeds and also with full redundancy (availability 99.99%).

What's new in Messaging & Collaboration @ UAEU

The entire United Arab Emirates University community has received benefits of both email and collaboration features with the New Microsoft O365 services. In the near future, more features & tools will be introduced, such as tools, which allow communication with different universities, creating online meetings & working together. This new change has given users the ability to use the latest technology to communicate & collaborate, which will save time & improve efficiency.

Here is what you get with Office 365

- Access to your e-mail, calendars and contacts using a variety of clients (Outlook, Entourage, Web) and devices (Workstations, Laptops, Mobile Devices), anywhere and anytime.
- Each UAEU mailbox gets a Mailbox size of 50GB.
- Integrated Anti-virus solution that will detect viruses & clean/protect even before they reach your mailbox.
- Office Online: Edit your files anytime, anywhere without installing Office on your device.
- OneDrive for business: 1TB OneDrive space to Store your files/share with colleagues/ work on a project together etc.
- Skype for business: medium to communicate with colleagues/students within UAEU or other universities.
- Delve: search across all your O365 services for files/emails/notes etc.
- Video: Departments can share recorded content online for all UAEU community to view & give comments on Yammer.
- Sway: A faster & quicker way to create presentations online.

New Skype for business online for students

UITS is pleased to announce the release of Microsoft Skype for business (Unified Communication System) for all Active students. Skype for business is a virtual connection between you and the people you work with. It allows you to talk, text, video chat, share desktop and applications and work together in real time from your computer or anywhere. Skype for business provides automatic updates on the status of people you work with, their location and availability.

Skype for business is a Single unified communication platform that integrates seamlessly with Microsoft office, which can lead to improved productivity, increased mobility and faster responses. Skype for business client is available for most common mobile devices such as (iPhone, iPad, Android).

Now download office for Free

With the increasing collaboration with friends & colleagues, Microsoft has the tool that will make life easier. UITS is pleased to announce that students & faculty can now download a maximum of 15 copies of Office for free using their university ID, with a limit of 5 copies per device, e.g. PC/Tablet/Phone. This not only gets them the latest release, but also improves their collaborative experience like sharing content on OneDrive/multiple people working on a document at the same time/editing your files from any device.

To download MS Office:

To install MS Office watch tutorial:

Be aware. Safe. Secured.

Internet and Email Security

Make sure to use legitimate electronic communication channels for work purposes and be aware of the UAEU information security policies http://www.uaeu.ac.ae/en/about/policies/ .

Avoid:

- Using the Internet and email for personal reasons
- Visiting suspicious websites that may contain malicious software
- Connecting unprotected public Wi-Fi networks
- Opening attachments from unknown senders.

Physical Security :

- All security has the same goal – to keep the bad guys out.
- Physical security – The Three Gs – Gates, Guns and Guards.
- Cyber Security – Passwords, Biometrics, Permissions and Auditing.
- Cyber Security and Physical Security are complementary.
- Consider file cabinets and file servers.
- Physical security can prevent physical access to IT resources.

Protection of personnel, hardware, programs, networks and data from physical events that could cause serious loss or damage to the UAEU's information assets.
Such events might be:

- Fire
- Natural disasters
- Theft
- Vandalism/ Terrorism.

Remember!
Do Not..

- Let unauthorized persons without valid identification into restricted areas
- Provide access to your office or work computer/ laptop to unauthorized personnel
- Leave your work laptop/documents unattended.

Clear Desk

Ensuring good security habits to avoid data leakage. Prerequisites for such events might be:

- Unauthorized access to printed confidential documents.
- Unattended USBs or another removable media.
- Unlocked computer systems.

Remember!
Do Not..

- Leave confidential information unattended on your desk, in meeting rooms or in printers
- Leave your work computer/ laptop desktop unlocked when out of sight
- Leave USBs, removable devices, CDs, etc. that are easily accessible to unauthorized personnel.

This also includes remembering to wipe whiteboards in meeting rooms and removing confidential information (documents) from meeting rooms.

Cyber Attacks

Always be vigilant. Be suspicious and always be careful when it comes to information security. Always stop and think about it; if it's too good to be true, it's probably a scam.

Social Engineering

The art of manipulating and tricking people into providing:

- Confidential information
- Physical access to restricted areas
- Unauthorized access to information systems.

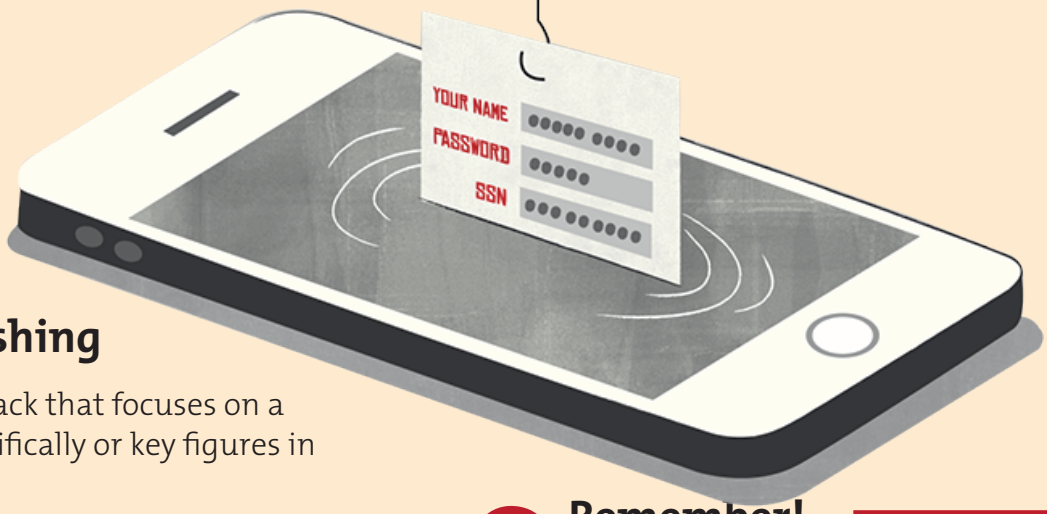
Remember!
Do Not..

- Disclose or discuss confidential information with strangers.
- Let unauthorized persons into restricted areas.
- Share your credentials with anyone.
- Provide information to anyone before. validating their identity.

Phishing

shing is an attempt to obtain confidential/personal information such as login credentials and/or passwords by masquerading as a legitimate company via...

- Emails (Links / Attachments)
- Messaging applications
- Social networks.



Spear Phishing

A targeted attack that focuses on a company specifically or key figures in that company.

Information Security Incidents

Unexpected events that might bring a negative impact or threat to the organization's information assets. Such an incident can be:

- A lost laptop/mobile device.
- Unauthorized access to information systems or critical locations.
- Sharing passwords with others.
- Viruses/Ransomware/phishing attack.

Remember!
Do Not..

- Click on links in email messages (type it instead).
- Open attachments from unknown senders.

Remember!
Do Not..

- Hide potential security incidents.
- Try to solve it all by yourself.
- Discuss it with strangers or via social media.

UAEU Password Policy: A quick guide to getting started

Passwords are an important aspect of computer security; they help keep your account secure. Users of an organization are responsible for protecting their account passwords. Choosing a poor password may result in the compromise of the entire organization network.

UITS has implemented a password policy to guide UAEU users through effective password protection. All UAEU faculty, staff, students, alumni, and contractors are responsible for taking the appropriate steps to select and secure their passwords. Effective password management will protect UAEU data and reduce the risk of unauthorized access to applications.

Here are some password tips for choosing, using, and securing a password. The following tips will help you to use passwords more successfully and securely.

Create a strong password

1. The password should not contain two consecutive characters of user's name or full name.
2. It should at least be eight characters in length.
3. Password should contain:
   - » One uppercase character (A through Z)
   - » One lowercase character (a through z)
   - » Base 10 digits (0 through 9)
   - » Non-alphabetic characters (for example, @, $, #, !)

Passwords to avoid :
Do Not..

- Use a password with personal information such as name, birth date, etc.
- Use keyboard patterns (QWERTY, ASDFG) or sequential numbers (12345).
- Make your password all numbers, uppercase letters or lowercase letters - mix it up.
- Use repeating characters (22ddRR).

Passwords re-use:
Do Not..

- Re-use the same password for the last 6
- passwords that you have set.
  Use the same passwords for multiple accounts.

Password usage:

- Never reveal your password to anyone.
- Change your password periodically, every 90 days.
- Be suspicious of links asking for logins, passwords, or personal information.
- All system passwords must be kept and maintained in a predefined secure location.

Quality service assurance

Quality service assurance is a systematic process, whereby IT facilities that are currently in development are assessed for their ability to meet United Arab Emirates University clients' demands, ensuring that our clients feel satisfied with the services. It is a method of preventing errors before making services available. UITS AV quality assurance focuses on three main categories: **Hardware, Software and Team Efficiency.**

Hardware

This is to assure that all mounts equipment is secularly mounted and working as they should be, cabling and wiring are properly dressed, and equipment are labeled (wherever possible). Microphones, loudspeakers, video monitors, projectors, PC's, smartboards, USB switchers, etc. are checked to make sure they are functioning and working as they should be at all times. We carry out a daily, weekly, monthly and bi-yearly check by following the manufacture's recommended procedures to maintain equipment efficiency.

By using operational monitoring, we are preparing lists of spare parts necessary, as well as backup solutions for equipment that may be unavailable due to repairs or replacements. This allows us to avoid any interruption on running classes and AV services.

Software

Along with the hardware check, we ensure that all currently operational software like Windows OS, Microsoft Office and Antiviral applications are up to date and all special applications like Smart Note Book and Air Server are functioning.

Team efficiency :

For a team to work together efficiently and productively, we have multiple targets:

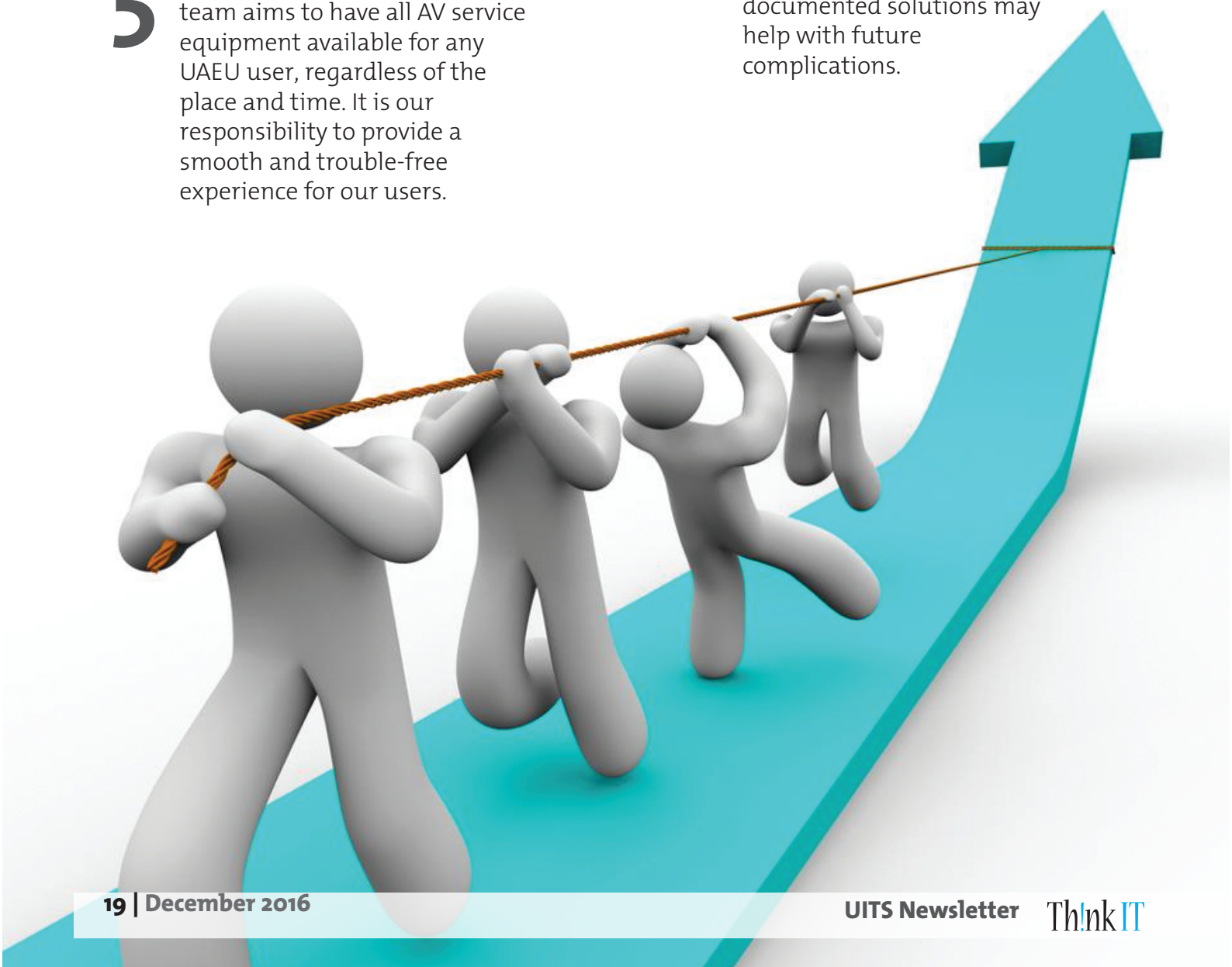
1 Provide training programs and encourage our members to attend conferences and workshops. In addition, members read essential resources when needed. This ensures a reliable, skillful and knowledgeable team.

2 Constant communication is essential. Therefore, a weekly meeting is conducted to help with addressing problems and share solutions. We aim to discuss possible difficulties and come up with educated and effective answers.

3 The use of self-assessment checklists to ensure that daily targets are met.

4 Documentation of problems that have occurred and what solution was sought; this is to provide a record of work accomplished and to avoid reoccurrence of similar difficulties. These documented solutions may help with future complications.

5 Finally, the UITS AV Assurance team aims to have all AV service equipment available for any UAEU user, regardless of the place and time. It is our responsibility to provide a smooth and trouble-free experience for our users.



Things you need to know about Ransomware

Ransomware, also known as scareware, is malicious software that restricts access to an infected computer. It displays a notification demanding the computer user to pay a fee to restore access to the infected system. Ransomware locks up an infected computer making it virtually useless for performing essential functions or surfing the Internet.

Ransomware will ask for a substantial fee be paid for the decryption of files to restore them back to their original state. However, paying the ransom does not guarantee that the computer user will regain access to the infected computer.

What can Ransomware do to your computer?

Ransomware can cause different effects. It can ...

- Prevent you from accessing Windows
- Encrypt files so you can't use them
- Stop certain apps from running (like your web browser)

Types of Ransomware

Ransomware can come into two different types: Lock Screen Ransomware and Encryption Ransomware. The Encryption Ransomware is the most dangerous and difficult to solve because it may also encrypt the computer's Master File Table (MFT) or the entire hard drive.

Infection Methods

The Ransomware can be installed to your PC from different sources. This includes:

- Visiting unsafe, suspicious, or fake websites
- Opening emails and email attachments from people you don't know, or that you weren't expecting
- Clicking on malicious or dangerous links in emails, Facebook, Twitter, and other social media posts, or instant messenger chats like Skype

How to protect yourself?

Different protection methods can help you be safe and avoid such software. Therefore ...

- Always backup your data
- Avoid spam emails
- Use strong passwords
- Monitor a suspicious process on your PC
- Use anti-malware software and a firewall
- Keep your system updated
- Run SpyHunter to check for Ransomware & other malware

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What do you know about RFID Technology?

In recent years, RFID technology has changed from being ambiguous to having a tremendous number of applications that aim to increase suitability and efficiency. RFID stands for Radio Frequency Identification, which uses electromagnetic fields to easily enable the identification and tracking of tags attached to moving objects.

In United Arab Emirates University, RFID Technology has been applied in the library to automate book tracking processes in many activities such as checking-in/out, anti-theft detection, self-check-in/out machines, book tagging and drop-in boxes. This facilitates the library staff's tasks on a daily basis. In the library, this technology includes RFID tags, readers, antenna and a server, which receives the information of the scanned RFID and has software working as an interface in order to interact with the integrated library software.

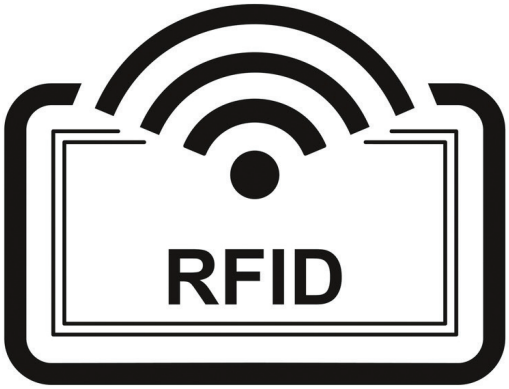
RFID tags are different than bar codes in the following aspects:

They support a larger combination of unique IDs and combine various data types like product type and manufacturer and they even measure environmental factors such as temperature.

The RFID system has the ability to read the stored information of the tags independently without human intervention. RFID applications may be classified under several main processes such as payment, product tracking, identification, asset management, logistics and access control

Many examples of RFID application facilitate our daily activities such as:

» Securing goods and automobiles
» Automating Parking
» Securing border crossings
» Managing Traffic
» Tracking library books



However, there are many challenges facing this technology such as RFID security and privacy, RFID standards and characteristics, technical issues such as RFID reader/tag collision, RFID system disruption, and environmental issues.

There are a lot of future related works for developing and enhancing the RFID technology since many companies and industries are investing in such technology. Along with wider adoption, new technologies will contribute to make RFID more cost-effective and reliable for a greater number of applications. RFID technology will evolve in its different aspects such as new antenna designs, increased memory, sensor integration, cloud-based capabilities and manufacturing innovations.

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High-Performance Computing (HPC)

If you are new to all of this, you probably have a basic question: "What is high-performance computing (HPC)?" First, here is a definition to get things started.

"High-Performance Computing refers to the practice of aggregating computing power in a way that delivers much higher performance than one could get out of a typical desktop computer or workstation to solve large problems in science, engineering, or business."

You may have heard of supercomputing along with monster machines from companies like Cray and IBM, that work on some of humankind's biggest problems such as in science and engineering, origins of the universe, and new cancer drugs. These are very exotic machines with state of the art technology inside of it and unprecedented scale: for some of them, tens of thousands of processors make up a single machine. For this reason, supercomputers are expensive, with the top 100 or so machines in the world costing upwards of $20M each.

Supercomputers, like racecars, take vast sums of money and specialized expertise to build and they are used for specific problems (you would not drive a racecar to the grocery store). However, a high-performance computer, like the family sedan, can be used and managed without a lot of expense or expertise. If you have never done this before, you will need to learn new things. An HPC machine is more complex than a simple desktop computer — but do not be intimidated! The basics are not that much harder to grasp, and there are many companies (large and small) that can provide help when needed.

A helpful way to understand what high-performance computers is to think about what is in them. You have all of the elements you would find on your desktop — processors, memory, disk, operating system — just many more of them. Clusters of high-performance computers are of interest to small and medium-sized businesses today. Each computer in a commonly configured small cluster has between one and four processors, and today's processors typically have from two to four cores. HPC people often refer to the individual computers in a cluster as nodes. A group of interest to a small business could have as few as four nodes or 16 cores. A typical group size in many companies is between 16 and 64 nodes, or from 64 to 256 bases. The point of having a high-performance computer is so the individual nodes can work together to solve a problem larger than any one computer can easily solve. Just like people, the nodes need to be able to communicate with one another to work meaningfully together. Of course, computers talk to each other over networks, and there is a variety of computer system (or interconnect) options available for a business cluster.

Just like your desktop or laptop, your HPC cluster needs software to operate. Two of the most popular choices in HPC are Linux (in all the many varieties) and Windows. Linux currently dominates HPC installations, but this in part due to HPC's legacy in supercomputing, large-scale machines, and UNIX. Your choice of operating system should be driven by the kinds of applications you need to run on your high-performance computer. If you are using Excel to run option calculations in parallel, you will want a Windows-based cluster, and so on. In fact, the first thing to know when you are considering buying or building an HPC cluster is what you want to do with it. Having a clear sense of what your cluster will or will not be required to run, will ensure that the decisions you make later are ones you will not regret.

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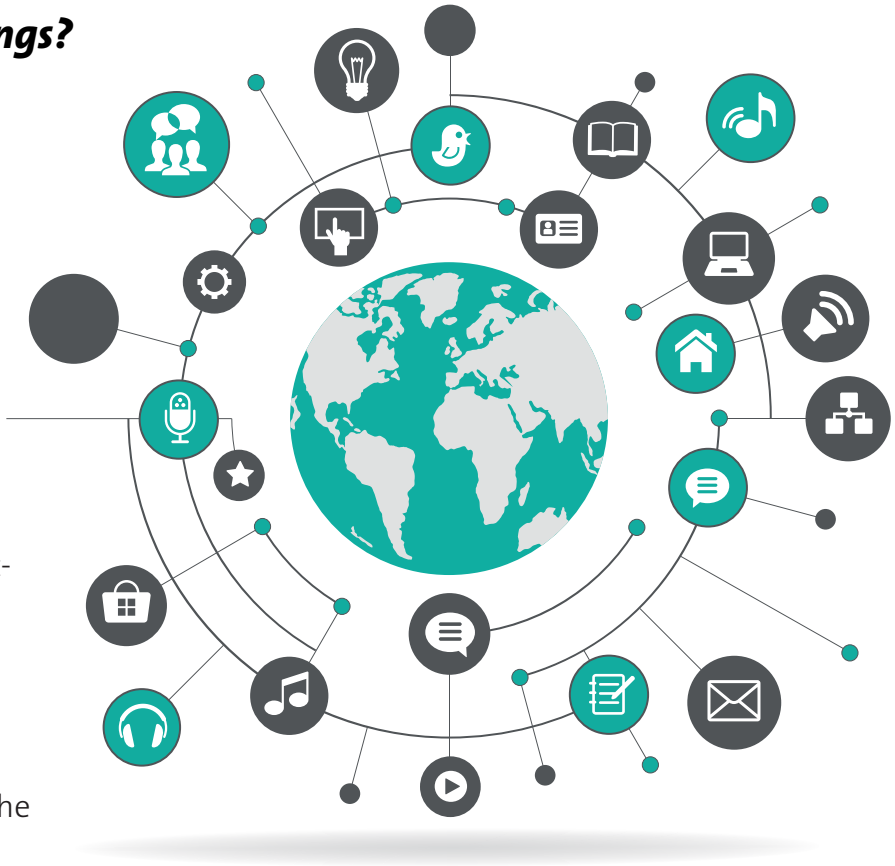
Internet of Things

What Is the Internet of Things?



IoT is not a new concept and it is in discussions almost everywhere, whether it is in the workplace or a group of like-minded techies. It is a future network architecture. IoT is derived from the old concept of the Internet.

Internet is a network of IP based devices that include mainly computers, laptops, desktops, smartphones etc.

Internet of Things (IoT) is a leap forward by expanding the concept of the internet to almost everything. It is not limited to connecting the conventional IP based devices like laptops, desktops, smartphones and tablets, but to almost anything that has and utilizes the embedded technology to communicate and interact with other devices and the environment through the internet.

In a nutshell, IoT is a gigantic network of everything connected to everything via internet.

IoT has a ***"perfect spike"*** since Broadband Internet is becoming more widely available, the cost of connecting devices is decreasing rapidly, and more and more devices are produced embedded with Wi-Fi capabilities and built in sensors. The technology cost is going down and smartphone penetration is soaring.

How IoT affects us

IoT not only has the potential to affect the way we live but also the way we work. The future is going towards everything connected to everything else. The question normally arises why do we need to have all this connectivity and devices talking to each other?

There are many real world applications that might give the potential justification. At a smaller scale, your car can connect to your diary and can find the best possible route to reach the destination based on your first meeting

appointment, and if you are running late it can even send the message to the other party about your late arrival. In addition, wearable devices that can track the activities and productivity levels are becoming very popular. The same information can further be shared with other devices and people as well.

On a larger scale, the IoT can be applied to transportation networks, smart cities to reduce waste, improve efficiency and conserve energy.

IoT and security

IoT allows for virtually endless opportunities and connections to take place, many of which we can't even think of or fully understand today. It's not that hard to see how and why the IoT is such a hot topic today; it certainly opens the door to a lot of opportunities and improvements but also to many challenges.

Internet Availability

It is evident that all of this depends on the availability of the Internet. Thus, making it a single point of failure. However, enough redundancy of network availability is normally provided to ensure all time availability.

Information Security

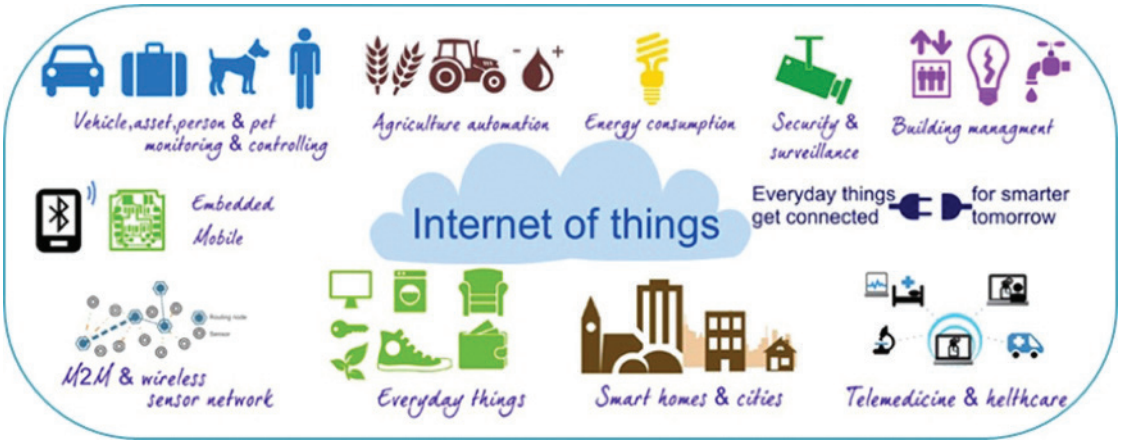
with the expansion of the internet, security is already becoming a big challenge. IoT is an expansion of internet to the next level, thus, further complicating the security of information.

The challenge is to secure the information with billions of devices connected together from different service providers. There is a need to have a global industry standard to make sure that every device follows the standard protocols to ensure maximum security.

There is an issue of privacy and data sharing as many different companies are producing embedded devices. Another issue is how to store, track, analyze and make sense of the massive amounts of data that all of these devices are going to generate.

IoT Applications

The possible applications of the Internet of Things are more or less endless. Examples of objects that can fall into the scope of the Internet of Things include; remote monitors, managing the home and reducing monthly bills and resource usage, tracking activity levels, keeping streets clean, receiving pollution warnings, lighting streets more efficiently, connecting security systems, alarm clocks, vending machines, and collecting useful customer data to detect how they engage with products etc.



The Future of IoT

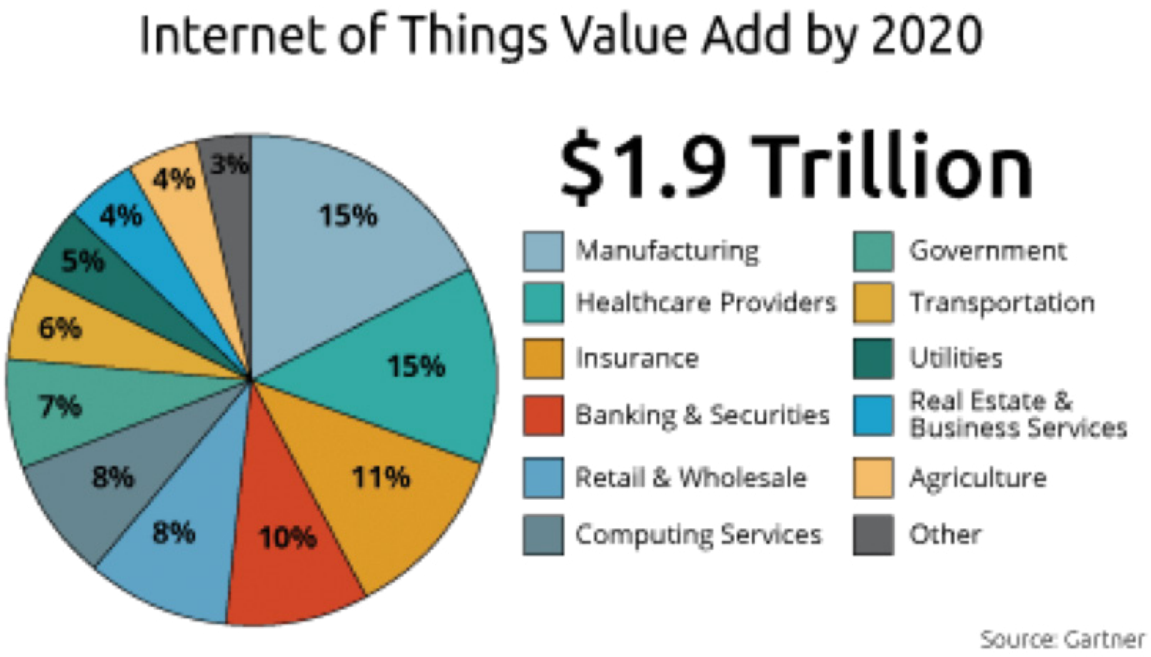
According to Gartner, consumer applications will drive the number of connected things, while enterprise will account for most of the revenue. IoT adoption is growing, with manufacturing and utilities estimated to have the largest installed base of Things by 2020.

Table 1: Internet of Things Units Installed Base by Category

Category	2013	2014	2015	2020
Automotive	96.0	189.6	372.3	3,511.1
Consumer	1,842.1	2,244.5	2.874.9	13,172.5
Generic Business	395.2	479.4	623.9	5,158.6
Vertical Business	698.7	836.5	1,009.4	3,164.4
Grand Total	**3,032.0**	**3,750.0**	**4,880.6**	**25,006.6**

Source: Gartner (November 2014)

Gartner predicts the IoT will have an economic impact of about US$1.9 Trillion by the 2020.



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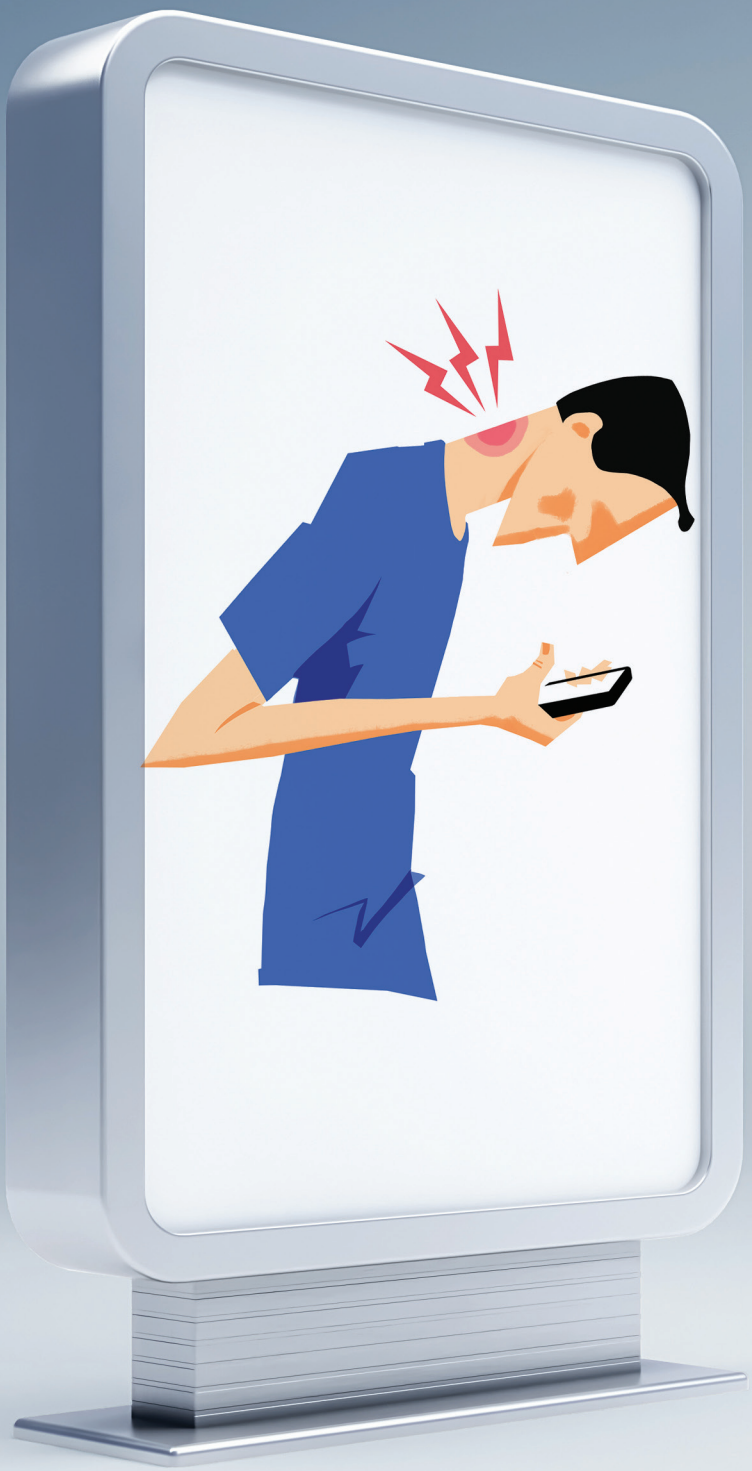
(2) Grabter/Janessa Rivera. 2014. Gartner Says 4.9 Billion Connected "Things" Will Be in Use in 2015. [ONLINE] Available at: http://www.gartner.com/newsroom/id/2636073. [Accessed 26 October 2016]

What is Text Neck ?

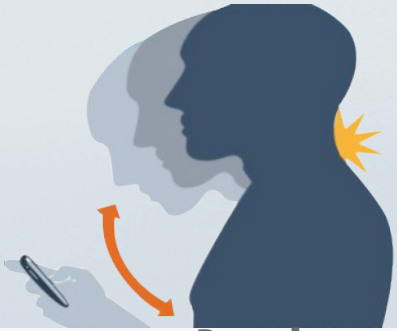


We all enjoy the conveniences that contemporary electronic technology offers, especially our mobile handheld devices. How did we ever live without the endless amounts of information, instant results and ability to interact and communicate, all at our fingertips? However, with all the advantages we gain from mobile technology comes the risk of serious and permanent health problems. One of these problems is called 'Text Neck'.

Text Neck is the term used to describe the neck pain and damage sustained from looking down at your cell phone, tablet, or other wireless devices too frequently and for too long.

It is associated with chronic headaches and shoulder and neck pain. It can also lead to increased curvature of the spine, especially in children. It can also decrease your lung capacity and lead eventually to arthritis.

The forward head tilt (see the figure below) while using your smartphone adds stress to the spine. Over the years, this may deteriorate the back and neck muscles to the point of pain and discomfort, even to the point where you may need surgery.



4 WAYS TO AVOID

To prevent text neck, here are some tips that may help to reduce the effects.

- Hold your phone (or device) at eye level as often as possible.
- Set a timer to remind you to walk around every 20-30 minutes. Take breaks to stretch your neck and reduce strain on your muscles and eyes.
- Make your communications more personal, rather than text-based. Pick up the phone and talk to someone instead.
- Avoid looking down for extended periods of time and make sure you sit square to your work screen.

In the end, it's a matter of changing your lifestyle and technology habits. Living in the modern digital age certainly has its benefits and with that comes great responsibility, so we need to be careful.

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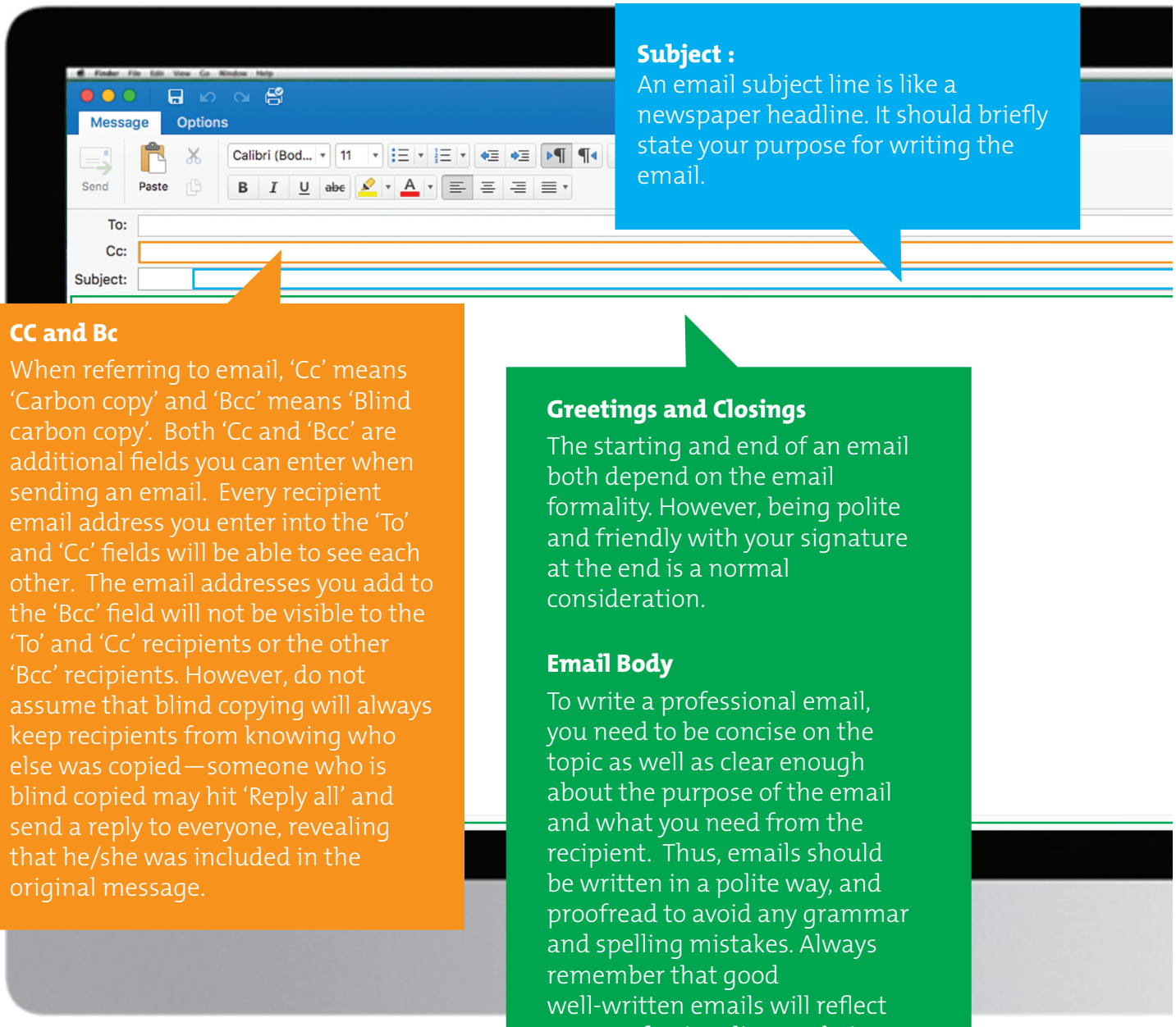
https://www.youtube.com/watch?v=ygOO5PJruM4

Effective Email Communication

Email is one of the most valuable communication tools in academic and business environments since the 1990s. Email is used for many different purposes, including contacting friends, communicating with professors and supervisors, requesting information, applying for jobs, internships and scholarships. The messages you send will differ in their formality depending on your purposes, the intended audience, and the desired outcome. On the other hand, writers are challenged to make their email stand out from "spam" to grab and hold the attention of their audience.

Therefore, many important points should be taken into consideration before starting to write an email.

Important components of an effective email:



Subject :
An email subject line is like a newspaper headline. It should briefly state your purpose for writing the email.

CC and Bc
When referring to email, 'Cc' means 'Carbon copy' and 'Bcc' means 'Blind carbon copy'. Both 'Cc and 'Bcc' are additional fields you can enter when sending an email. Every recipient email address you enter into the 'To' and 'Cc' fields will be able to see each other. The email addresses you add to the 'Bcc' field will not be visible to the 'To' and 'Cc' recipients or the other 'Bcc' recipients. However, do not assume that blind copying will always keep recipients from knowing who else was copied—someone who is blind copied may hit 'Reply all' and send a reply to everyone, revealing that he/she was included in the original message.

Greetings and Closings
The starting and end of an email both depend on the email formality. However, being polite and friendly with your signature at the end is a normal consideration.

Email Body
To write a professional email, you need to be concise on the topic as well as clear enough about the purpose of the email and what you need from the recipient. Thus, emails should be written in a polite way, and proofread to avoid any grammar and spelling mistakes. Always remember that good well-written emails will reflect your professionalism and give more value to and appreciation of your topic!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MEDIA
WORLD
-EUROPE
-AMERICA
-ASIA
-AFRICA
-SHOW BUSINESS
-NETWORK
-MUSIC
-CINEMA
-BUSINESS/FINANCE
-WORLD NEWS
-CULTURE
-ECONOMIC
-FINANCE
-BUSINESS
-MEDIA
-PEOPLE
-CREATIVE
-TUTORIALS
-INVESTMENT
-NETWORKING
NETWORK SEARCH
-PEOPLE
-FORUMS
-MAIL
-SHOP
-BUY
-SALE

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