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LISTENING TO BUSINESS, APPLYING TECHNOLOGY

Will Apple Watch Propel Wearable Market?

The Wearable mania has gripped almost every other person this year, from investors, to analysts and enterprise to end-consumers. While wearables have been around in the last couple of years (including the likes of Jawbone and Fitband products), what could be so exciting about the gadget this year? The obvious reason is that tech giant Apple is in the game and will release its Apple Watch this month.

According to IDC, Smart wearables will grow a whopping 510 percent this year, to 25.7 million units. Moreover, wrist-dedicated devices will make up for more than 80 percent of the total market.

The Apple Watch will be up for purchase from April 24 and it is estimated that Apple will sell 26.3 million units by the end of 2015.

Launched in three variants (Apple Watch Sport, Apple Watch and Apple Watch Edition) and two sizes (38 mm and 42 mm), the Apple Watch will be priced between $349 (over Rs 21,800) to a whopping $17,000 (Rs 10.66 lakh) for the gold model. In India however, as per estimates, the price of the Apple Watch will be about Rs 28,000-35,000, which will be more than the cost of wearable products sold by rivals Samsung and Sony.

"Apple Watch begins a new chapter in the way we relate to technology and we think our customers are going to love it," Apple CEO Tim Cook said earlier. "We can't wait for people to start wearing Apple Watch to easily access information that matters, to interact with the world, and to live a better day by being more aware of their daily activity than ever before," he added.

The smartwatch would require iPhone 5, iPhone 5c, iPhone 5s, iPhone 6 or iPhone 6 Plus running iOS 8.2 or higher versions. It delivers up to 18-hour battery life and has digital face that can look like a traditional time piece. According to the company, users will be able to make and receive calls, read e-mails, control music, manage Instagram photos and keep track of fitness using the smartwatch.

HP Acquires Aruba Networks to Create an Industry Leader in Enterprise Mobility

HP has signed a definitive agreement to acquire Aruba Networks, a leading provider of next-generation network access solutions for mobile enterprise. Aruba designs and delivers best-of-breed mobility solutions and WLAN products, and employs a software approach that extends mobility intelligence across wired and wireless networks all the way to users through devices and apps.

The two companies are highly complementary – Aruba brings best-of-breed mobility software and WLAN hardware, and HP has a leading networking portfolio. This potent combination will enable enterprises to easily, quickly and securely deploy end-to-end mobile solutions, including the latest multi-gigabit wireless technology, across their campus. Together, HP and Aruba will offer a unified solution with value-added software features, including policy management, security and orchestration. Aruba boasts a highly regarded innovation engine and specialized sales, marketing and channel model, complementing HP's leading networking business and broad go-to-market reach.

The Future is Now

Human Cruise Control App Steers People on Their Way

Electrodes attached to legs can guide people wherever you want them to go via an app. Welcome to the bizarre world of electro-stimulation.

For a few days last summer, a handful of students walked through a park behind the University of Hannover in Germany. Each walked solo, but followed the same route as the others: made the same turns, walked the same distance. This was odd, because none of them knew where they were going. Instead, their steps were steered from a phone 10 paces behind them, which sent signals via Bluetooth to electrodes attached to their legs. These stimulated the students' muscles, guiding their steps without any conscious effort.

Max Pfeiffer of the University of Hannover was the driver. His project directs electrical current into the students' Sartorius, the longest muscle in the human body, which runs from the inside of the knee to the top of the outer thigh. When it contracts, it pulls the leg out and away from the body. To steer his test subjects left, Pfeiffer would zap their left Sartorius, opening their gait and guiding them in that direction. Pfeiffer hopes his system will free people's minds up for other things as they navigate the world, allowing them to focus on their conversation or enjoy their surroundings. Tourists could keep their eyes on the sights while being imperceptibly guided around the city.

Acceptance may be the biggest problem, although it is possible that the rise of wearable computing might help. Pfeiffer says the electrode's current causes a tingling sensation that diminishes the more someone uses the system. Volunteers said they were comfortable with the system taking control of their leg muscles, but only if they felt they could take control back. One of the students compared the feeling to cruise control in a car, where the driver can take control back when they want it. "Changes in direction happened subconsciously," said another. Pfeiffer steered students manually, but the plan is to build the mechanism into other apps. Navigation apps, for instance, could steer people along their route automatically, meaning they never have to look at their phone or think about where they are going.

"When I use Google Maps and I navigate somewhere, I am always pulling my mobile out of my pocket to check," he says. "We want to remove this step out of the navigation process so you just say 'I want to go there', and you end up there."

The system could also be used to direct crowds, not just individuals. "Imagine visitors to a large sports stadium or theatre being guided to their place, or being evacuated from the stadium in the most efficient way in the case of an emergency," the team write in a paper that will be presented at the CHI conference in Seoul, South Korea.

Evan Peck of Bucknell University in Pennsylvania says Pfeiffer's system will stop us being chained to our smartphones. "We're developing all this really wonderful tech and almost all of it demands our attention," he says. "We build a navigation system, but then we have to stare at it."

"Their goal is letting you use your attention on what you want to use it on," says Peck. "It's in your hands now."

SixthSense: Integrating Information with the Real World

'SixthSense' is a wearable gestural interface that augments the physical world around us with digital information and lets us use natural hand gestures to interact with that information.

We've evolved over millions of years to sense the world around us. When we encounter something, someone or some place, we use our five natural senses to perceive information about it; that information helps us make decisions and chose the right actions to take. But arguably the most useful information that can help us make the right decision is not naturally perceivable with our five senses, namely the data, information and knowledge that mankind has accumulated about everything and which is increasingly all available online. Although the miniaturization of computing devices allows us to carry computers in our pockets, keeping us continually connected to the digital world, there is no link between our digital devices and our interactions with the physical world. Information is confined traditionally on paper or digitally on a screen. SixthSense bridges this gap, bringing intangible, digital information out into the tangible world, and allowing us to interact with this information via natural hand gestures. 'SixthSense' frees information from its confines by seamlessly integrating it with reality, and thus making the entire world your computer.

The SixthSense prototype is comprised of a pocket projector, a mirror and a camera. The hardware components are coupled in a pendant like mobile wearable device. Both the projector and the camera are connected to the mobile computing device in the user's pocket. The projector projects visual information enabling surfaces, walls and physical objects around us to be used as interfaces; while the camera recognizes and tracks user's hand gestures and physical objects using computer-vision based techniques. The software program processes the video stream data captured by the camera and tracks the locations of the colored markers (visual tracking fiducials) at the tip of the user's fingers using simple computer-vision techniques. The movements and arrangements of these fiducials are interpreted into gestures that act as interaction instructions for the projected application interfaces. The maximum number of tracked fingers is only constrained by the number of unique fiducials, thus SixthSense also supports multi-touch and multi-user interaction.

Technology Focus

Top 10 Tech Impacting Education This Year

In *recent times*, CXOs in the education sector are forced to rethink business models and consider a range of new technologies, to bring down the cost of administering education institutions and scale the business. According to Gartner's distinguished analyst Jan-Martin Lowendahl, traditional educational business models are being fundamentally challenged by digitalization.

Gartner has identified the top 10 strategic technologies for the education industry in 2015 and provides recommendations to education CIOs and IT leaders regarding adoption and benefits.

1. Adaptive Learning: Adaptive learning is a concept that traces its roots back to at least the 1950s, but the ability to capture learner data through online learning has provided a breakthrough. True adaptive learning is a type of crowdsourcing and big data collection. The real value of adaptive learning lies in the metadata attached to each learning "morsel," which must then be combined with enough empirical data of students trying to master the topic to allow personalized learning. It is extremely valuable in designing the pedagogy of the future.

2. Adaptive E-Textbooks: Unlike traditional print materials, e-textbooks can be edited to include up-to-date information, be assembled or disassembled, or include content from other sources and social interaction. Adaptive e-textbooks add the element of tracking student interaction with the text, and adapting to the learning style. E-textbooks are the first key step of going from analog to digital education.

3. CRM: Customer relationship management (CRM) is now a widely recognized tool for tracking and managing relationships with constituents, including prospective and current students, parents, alumni, corporations, benefactors and other friends of the institution. However, institutions are grappling with the difficulties of standardizing and integrating the institutional data to achieve success with these solutions, and to enable rapid and informed decision making on their campus.

4. Big Data: Big data in education is associated with collecting vast amounts of data from the digitized activities of students, parents, faculty and staff, transforming that into information, and producing or recommending actions aimed at improving institution outcomes. Big data in higher education has been around for decades, mainly focused on research. Now, it is a very promising technology-based strategic capability that has the possibility to improve the whole education ecosystem.

5. Sourcing Strategies: Not a technology in itself, sourcing strategies represent a collection of technologies and vendor services, from hosting to cloud, homegrown to open source, to subscription models for acquiring software/hardware capabilities. A sourcing strategy is a set of scenarios, plans, directives and decisions that dynamically define and integrate internal and external resources and services required to fulfill an enterprise's business objectives. Strategic sourcing helps IT to focus from administrative transactions and operational support toward activities that enable differentiation and innovation for the institution.

6. Exostructure: Exostructure strategy means acquiring the critical capability of interoperability as a deliberate strategy to integrate the increasing numbers of partnerships, tools and services in the education ecosystem. When done right, an exostructure approach enables institutions to leverage services from the cloud, rather than having to bring them inside the campus walls. Enabled by standards, it can allow the institution to adapt faster. With the increasing interdependencies in the education ecosystem, Gartner sees it rising in importance for at least the next decade. The future belongs to exostructure rather than to infrastructure.

7. Open Microcredentials: Microcredentials in the form of various badges or points have existed for some time in digital social environments in general, and in learning environments in particular. A key problem is that these environments are proprietary, which makes it difficult to display achievements outside of them. The aim of open microcredentials is to remedy that problem

8. Digital Assessment: Assessment within education is in itself a vast and complicated area. Digital assessment is ultimately about being able to do any assessment digitally, to remove the need for physically tethered as well as human-proctored tests and improve modes of testing, grading and data analysis. The first-level application of digital assessments is to increase trust in online education by applying identification mechanisms, such as keystroke identification or cloud-based face recognition.

9. Mobile: Mobile is a popular term for pervasive access via many types of devices. Mobile is not simply a synonym for mobile smartphones or tablets. Mobile in education includes use in all aspects of the academy — administration, education and research. However, the domain is maturing surprisingly slowly. Inhibitors in 2014 still include smartphone cost, device limitations (such as battery life), the development of m-learning course materials, lack of skills and the wide diversity of mobile devices. Education CIOs will need to treat mobile as a strategic technology for several years

10. Social Learning: Social learning gives learners the ability to establish a presence or social profile that reflects their expertise and interest; to create, discuss, share and capture learning content as learning objects; to organize and find learning objects from a variety of sources, such as search or peer ratings; to interact with peers in their social networks and be able to reach beyond their networks to other trusted sources of information; to engage in experience-based learning exercises; and to receive real-time online coaching and support.

Worldwide education sector spending is forecast to grow 2.3 percent to reach $67.8 billion in 2015, according to Gartner. "An increasing number of technical innovations and technology trends are emerging from within the industry, but most will emerge outside the industry, driven by major forces such as digital business and the consumerization and industrialization of IT," Lowendahl said. "Education sector CIOs need to take a broad approach and consider technologies from outside the education community, as well as looking for lessons from their peers. Focus on those that are most appropriate to your institution's strategy."

Tech News

Cisco's Acquisition of Embrane Pushes Networking In The Right Direction

Cisco recently announced the acquisition of Embrane . The networking giant did not disclose a price. The acquisition won't create any significant impact to Cisco's top line. And most investors don't even know what Embrane is. However, it is in fact an important acquisition in suggesting where Cisco is going and what it sees as the biggest opportunities looking ahead.

Embrane is known for its software-based firewall applications. Security is an area of emphasis for Cisco, therefore, any acquisition to bolster its positioning is a wise move. However, Embrane is not just a software-based firewall company, as it also provides a software platform for deploying virtual appliances that is also compatible with third-party appliances, from the likes of Cisco.

In other words, Cisco's acquisition of Embrane is a play on virtualization, which for the company is huge due to the ability to turn physical servers into switches. Furthermore, switches, or IP switching, account for well over 30% of Cisco's business and is responsible for a larger bulk of its operating profits. Switching combined with IP routing is responsible for nearly half of Cisco's revenue and about 2/3 of its operating profit.

The virtual appliances market is growing much faster than the physical market, although nobody knows by how much of how large it will become.

Nevertheless, Alcatel-Lucent has managed to steal market share due to a leading edge router portfolio and widespread adoption of its 7950 XRS core router with telecom companies building advanced mobile and broadband networks. However, it recently added virtual routing to the mix, a market that Cisco entered several years ago and is widely believed to dominate.

As you might expect, virtual routing is aimed at companies that embrace cloud computing but also the many who are electing to replace physical systems with software. As companies like IBM know all too well, this transition to software is happening quite rapidly throughout the enterprise space. That said, Alcatel-Lucent's virtual routing technology was a result of its partnership with Intel.

According to Alcatel-Lucent, its virtual (software-based) applications handle twice the data at any given time and eight times the control plane performance of its competitors - obviously aimed at Cisco. Alcatel hasn't yet released any data on its software-based applications, but given its performance in IP over the last few years, this innovation was definitely a reason for concern to Cisco investors.

All things considered, the fact that Cisco is making acquisitions to increase its network traffic management on virtual platforms is a good thing for longs. While nobody knows how large the virtual appliance market will become, it is certainly better to be ahead of the trend rather than behind a primary competitor, especially if virtual routing sales start to eat away at physical systems sales. Therefore, Cisco appears to have killed two birds with this one stone (acquisition), improving its firewall and networking virtualization businesses. That's a reason for excitement given Cisco's recent struggles in the space.

Waste Pickers get Tool to Pinpoint Local Jobs

EVEN rubbish is getting into the so-called gig economy. A website matches waste-pickers in Bangalore, India, with residents who need their trash taken away.

Waste-pickers earn a couple of dollars a day sorting through the city's overflowing landfills, looking for paper or plastic to sell to recycling centres. It's hard, dirty work, but it's estimated that 1.5 million people in India make their living this way.

I Got Garbage is an online tool designed to help waste-pickers better connect with households and offices that need their trash picked up. Those looking for trash collection sign up with their contact information, which is passed on to local groups of waste-pickers and non-profits that work with them. For pickers, the site also has a map of collection centres and the types of scrap they accept.

The site was started by Mindtree, an information technology firm based in Bangalore, in an effort to bolster the livelihood of local waste-pickers. The firm also hopes the program will reduce India's excess garbage – a side effect of overcrowding and poor waste management practices.

Around the country, other groups are trying to support waste-pickers. For example, in Pune, a city in western India, pickers have formed a cooperative that officially works for the city government.

Tech News

New Google ARC Tool Turns Android Apps into PC Apps

Google's ARC (app runtime for Chrome) project now makes it possible to run Android apps on any "desktop" computer with a Chrome browser, even on the Apple Mac.

Google ARC was announced at the Google I/O conference last year, but few apps are currently supported. That's all about to change thanks to Google's new developments in relation to Google Play Services, and its new ARC Welder tool.

Essentially, the welder tool acts a new interface between app and browser to ensure compatibility, making it even easier for developers to integrate their apps into the ARC architecture, as well as provide support on any system with a Chrome browser. The implication is that apps could be developed to natively support both ecosystems in the future, but right now the software is used as a "debugging" platform more than anything else.

Developers looking to get started should check this introduction to ARC page on Google's website.

Special Focus

Palo Alto networks and VMware expand Strategic Partnership to address Security Needs

Integration of Palo Alto Networks and AirWatch® by VMware Technologies Protect Mobile Devices and Enterprise Networks from Cyber Threats

Palo Alto Networks® the leader in enterprise security, and VMware the global leader in virtualization and cloud infrastructure, announced an expansion of their strategic partnership to address mobile security needs.

Mobile computing is transforming the ways organizations do business. Users no longer stop working once they leave the office, and they need secure access to business information at any time, from anywhere, and from any device. This introduces new security challenges for organizations by exposing them to new risk vectors and creating a need to protect business information and applications accessed via employee-owned devices, while also respecting the privacy of personal information and traffic.

To address these challenges, Palo Alto Networks and VMware will integrate their enterprise security and mobile management technologies to give organizations a rich and unique combination of mobile device management (MDM) with advanced threat prevention for secure enterprise BYOD support. This builds upon endeavors started in 2014 when the companies announced a software-defined data center reseller agreement and network security and network virtualization solutions.

The unique Palo Alto Networks Next-Generation Firewall, WildFire and GlobalProtect technologies, coupled with the AirWatch by VMware Enterprise Mobility Management platform, can help customers enforce security policy to protect networks from unauthorized or infected devices, provide the appropriate level of access to apps and data for mobile users, and enable mobile devices to be properly configured for business use and connection to a global threat intelligence service to identify and eradicate malicious content. Detailed capabilities include:

- **Malware Detection:** Palo Alto Networks WildFire security subscription service identifies known and previously unknown mobile malware. By integrating the intelligence provided by WildFire, users can identify infected applications and take immediate and automated action for security and containment, such as creating an application blacklist.

- **Network Protection**: Organizations need to make sure only approved devices are used with sensitive applications and networks; this is accomplished with Palo Alto Networks Global Protect Host Information Profile (HIP), a direct tie between information about the mobile device, its configuration and what data and applications the device can access.

- **VPN and Network Security**: Palo Alto Networks Global Protect provides a secure connection between AirWatch managed mobile devices and the Palo Alto Networks Next-Generation Firewall at the device or application level utilizing per-app VPN. This allows consistent inspection of traffic and enforcement of network security policy for threat prevention, wherever the user goes.

(Galaxy has skilled pool of experts/consultant to help enterprises design and implement mobile security solutions.)

About Galaxy

- One of the most respected Information Technology integrator of the best of breed products and solutions for Enterprise Computing, Storage, Networking, Security, Automation, Application Delivery, ERP and Business Intelligence.
- An ISO 9001:2008 organization , founded in 1987.
- Committed team of over 200 skilled professionals.
- PAN India presence.
- Trusted IT services provider to more than a 1000 companies.
- Experienced consultants certified on a wide spectrum of technologies.
- The Galaxy Technology Innovation Centre, a state-of-the-art integrated hardware and software laboratory, allows customers a hands-on look at the latest storage, backup, security, application delivery and virtualization technologies.
- Customer list includes many of India's leading corporations, banks and government agencies.
- Four business units collaborate to provide a full spectrum of services and ensure smooth projects. Together, they provide our customers with truly end to end professional IT Services.

Galaxy Business Solutions	Galaxy Technology Services
System integrators of best of breed technologies to deliver solutions to the problems and challenges that confront enterprises	Skilled pool of resources consistently maintains and delivers enterprise class service levels
Galaxy Network Solutions	Galaxy BI Consulting Services
One of India's most trusted active and passive networking specialists	Helps organizations to deliver and leverage business intelligence to create substantial business impact

VISION

"*To become the most preferred technology solution partner by listening to our customers, anticipating their needs and providing reliability, flexibility, responsiveness and innovative products and services. Achieving market leadership and operating excellence in every segment of our company.*"

MISSION

"*Total customer satisfaction; through innovative insights, quality service and excellence in technology deployment.*"

VALUE PROPOSITION

"*We understand the need of a common vendor for all your IT needs. Hence, we are committed to long-term partnerships by delivering on our commitments.*"

MD Speaks

"*The last few months have seen a lot of action in the mobile payments space. With a lot of mainstream banks launching their apps (ICICI with pockets, HDFC with Chillr, SBI with Ezetap) to compete with existing players like PayTM & Freecharge, there has been some churn and a lot of fresh investments in this space. These platforms make sending small payments to suppliers, providers or even friends a breeze. No need of a credit card, no long credit card or bank account numbers to remember, no multi-factor authentication - this is just so easy. With the necessary security arrangements in place, there is no reason that this platform could actually become so big that even credit card giants like VISA and MasterCard may be threatened. Another great thing that this platform will do will be to expedite the financial inclusion objective of the Government of India by pushing the Jan Dhan agenda further. The cost of opening a branch in remote areas is prohibitively high for the banks and is one of the main reasons why a large number of people do not have access to the banking system. This is quite the opposite when it comes to mobile penetration - there are about 900 million mobile subscribers in India compared to barely 450 million bank accounts. The use of this platform along with using corner stores as places where money can be loaded, can drastically reduce these costs thus enabling banks to use this medium to increase penetration and financial inclusion. Yet another great example of a disruptive business!*"