SPECIAL

SSD

BIOMETRIC SEURITY

DRONE AGE

Digital India
Power To Empower

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EVENT REPORT 2015-16

S.N	Title of Activity	Organizer/Resource person	Date	No. of Beneficiaries /Participants
1	E-talks	IEEE Coordinators	15/07/2015	30
2	Guest lecture on "FPGA Architecture and Applications"	Dr. Kishor Sarawdekar Associate Prof. IIT (BHU) Varanasi	27/07/2015	50
3	Words-chatz	IEEE Coordinators	05/07/2015	
4	Clash of Technovators (Project Competition)	IEEE Coordinators	Though out Semester	24
5	The Ultimate Talk (Public Speaking Competition)	IEEE Coordinators	16/09/2015	32
6	Face to Face	IEEE Coordinators	25/09/2015	18

7	Workshop on "Advances in Image Processing using MATLAB for Research & Development"	The Mathworks Team	06/10./2015	96
8	IEEE Paper Presentation in Pursuit	IEEE Coordinators	Pursuit Date	24
9	Workshop on "Embedded Systems and IoT Applications"	Prof. P. R. Wankhede	13/06/2016 To 26/06/2016	21

BUYING LAPTOP WITH SSD.

Because a solid-state drive has no moving parts, it's able to read and write data infinitely faster than a hard drive. The real-world difference is most noticeable when you're booting your computer or opening an application.

We upgraded a Dell Inspiron 15 5000 with a Core i5 processor and 8 GB of RAM from a 5,400 rpm hard drive to a 250GB SSD, and the time it took load Word 2016 dropped from 31.9 seconds to 1.8 seconds. Loading the Chrome browser went from 14 seconds to 1.1 seconds and Excel went from 19.9 seconds to 1.8 seconds.

While you're sitting there staring at the blue ring of fire in Windows or spinning rainbow beachball on Mac, you're not only wasting time but losing your train of thought as you scratch your head and whisper "Come on already. I don't have all day." With an SSD, the computer can work as fast as you do.

It almost goes without saying that copying files is infinitely quicker with an SSD. Of laptops we reviewed in the past 12 months, models with SSDs copied files at an average rate of 237.8 megabytes per second, while those with hard drives averaged just 33.9 MBps.

The Cost of SSDs

There's no doubt that SSD's cost more. Most sub-$700 laptops don't come with solid-state drives, though some really cheap systems come with eMMC Flash memory, a solid-state storage format that's no faster than a hard drive. Some noteworthy exceptions include the $399 Asus E403SA and $611 Lenovo ThinkPad 13, both of which come standard with 128GB SSDs.

On manufacturer sites where you can configure a laptop to order, companies such as Dell and Lenovo charge a high premium to upgrade from a hard drive to an SSD, or to move from a smaller SSD to a larger one. For example, if you configure your ThinkPad T460 on Lenovo.com, it costs a full $290 to move from a 500GB hard drive to a 512GB SSD, while a 512GB SSD costs just $125 on the aftermarket. The relatively high cost is why you should either settle for a lower-capacity SSD or consider upgrading the laptop yourself.

Battery Life and Durability

SSD's also use less power than hard drives, because they don't have to power any moving parts. The average SSD-enabled laptop we benchmarked lasted 7 hours and 9 minutes on the Laptop Battery Test, which involves continuous surfing over Wi-Fi. Hard-drive-powered laptops averaged only 5 hours and 43 minutes.

If you're worried about your laptop breaking, you definitely want an SSD. SSD's are much more likely to survive a fall, because they don't have hard drives delicate needles and platters.

BIOMETRIC AUTHENTICATION GROWING FOR MOBILE DEVICES, BUT SECURITY NEEDS WORK.

Mobile device manufacturers are working to secure their devices with a range of biometrics, considered by some to be the gold standard for authentication. As implementation expands, however, so do the exploits.

According to a recent report by Juniper Research, over 600 million mobile devices will have biometric authentication by 2021, up from an estimated 190 million mobile devices in 2016.
Of the variety of biometric authentication technologies -- fingerprint, iris scanning, facial recognition and voice recognition -- facial and voice recognition will grow in use the most, because they are easiest to implement and don't require additional hardware (unlike fingerprint biometrics).

"As a result, biometric security will be expanded to a new audience in markets with lower-tier smartphones, with fingerprinting remaining common in more affluent regions," Juniper officials said.

Biometrics however, are not fail-safe and could create a false sense of security for users.

"We may expect too much from biometrics. No security systems are perfect," Michigan State University computer science professor Anil Jain told the Associated Press. Jain helped a local police department crack a fingerprint-protected Samsung phone earlier in the year using lifted prints.

"The phone's owner was dead, but police had the owner's fingerprints on file. Jain and two associates made a digital copy of the prints, enhanced them and then printed them out with special ink that mimics the conductive properties of human skin," Jain said. "We tried the right thumb and it worked right away."

Face detection technologies also have been tricked using enhanced three-dimensional images created from social media photos. Researchers at the University of North Carolina used
3-D facial models based on Facebook photos and displayed with mobile virtual reality technology to defeat facial recognition systems, wired reported.

Because facial-recognition systems check for motion and depth, the VR-style face fooled four out of five authentication systems. The fake face did not work on cameras with infrared sensors, which Microsoft's system uses, leading the researchers to conclude that "robust facial authentication systems will be able to operate using solely web/mobile camera input." Strong facial authentication systems will also require "non-public imagery of the user that cannot be easily printed or reconstructed."

It's not just a hack that can compromise biometrics. These systems have cybersecurity vulnerabilities that include untrusted user interfaces and malware on the user side and compromised USB peripherals and encryption for the enterprise sector, according to a Connected World blog.
And unfortunately, if a biometric system is cracked, users can't change their fingerprint or facial features as they can a stolen password, making the consequences of a compromised biometric far more severe.

Knowledge   Possession   Biometric

Others see legal and civil liberty issues with biometric authentication. While U.S. courts have ruled authorities can't require individuals to give up their password because the Fifth Amendment protects people from being forced to testify or provide incriminating information against themselves, the same can't be said for biometrics. In the last two years, judges in Virginia and Texas have ordered individuals to unlock their fingerprint-protected phones. The issue hasn't yet been tested in higher courts.

SMART HOMES NEED TO START TREATING THEIR INHABITANTS BETTER.

We might still be some way from coming home to robots doing the cooking and cleaning for us, but the age of widespread home automation has arrived. More and more people now have "intelligent" versions of devices like thermostats and lighting in their home, that either run automatically or can be controlled from a smartphone.

But the home automation market is very much still in its infancy. There are many newly developed products from a wide range of companies and few of them are compatible with one another. This lack of standards signals a tough time ahead for both manufacturers and consumers. Until the industry addresses some key issues, it looks set to struggle.

<u>DON'T OVERPROMISE</u>

The lessons we should take from this affair are that fledgling vendors (such as Revolv) should never promise a "lifetime subscription", and potential customers should be extremely wary of such promises – if not even as a warning not to buy. Nest will surely have to regain some credibility in the market by compensating owners of Revolv devices, which they have already said they will do on a case-by-case basis.

We also need a more open set of products and services based on a standardised platform that isn't restricted to certain manufacturers. A good example of how this can be done comes from the home entertainment sector where TV and radio broadcasting and now digital streaming systems and services have become fairly ubiquitous.

WELCOME TO THE DRONE AGE.

Miniature, pilotless aircraft are on the verge of becoming commonplace

Dave Simonds

THE scale and scope of the revolution in the use of small, civilian drones has caught many by surprise. In 2010 America's Federal Aviation Authority (FAA) estimated that there would, by 2020, be perhaps 15,000 such drones in the country. More than that number are now sold there every month. And it is not just an American craze.

Some analysts think the number of drones made and sold around the world this year will exceed 1m. In their view, what is now happening to drones is similar to what happened to personal computers in the 1980s, when Apple launched the Macintosh and IBM the PS/2, and such machines went from being hobbyists' toys to business essentials.

That is probably an exaggeration. It is hard to think of a business which could not benefit from a PC, whereas many may not benefit (at least directly) from drones. But the practical use of these small, remote-controlled aircraft is expanding rapidly. After dragging its feet for several years the FAA had, by August, approved more than 1,000 commercial drone operations. These involved areas as diverse as agriculture (farmers use drones to monitor crop growth, insect infestations and areas in need of watering at a fraction of the cost of manned aerial surveys); land-surveying; film-making (some of the spectacular footage in "Avengers: Age of Ultron" was shot from a drone, which could fly lower and thus collect more dramatic pictures than a helicopter); security; and delivering things (Swiss Post has a trial drone-borne parcel service for packages weighing up to 1kg, and many others, including Amazon, UPS and Google, are looking at similar ideas).

The drones' club.

Nor is commerce the only area in which drones are making a mark. A glance at the academic world suggests many more uses await discovery. Because drones are cheap, geographers who could never afford conventional aerial surveys are able to use them to track erosion, follow changes in rivers' sources and inspect glaciers. Archaeologists and historians are taking advantage of software that permits drones fitted with ordinary digital cameras to produce accurate 3D models of landscapes or buildings. This lets them map ancient ruins and earthworks.