DIGITAL WASTE

We have been digitified.

All the world's information is in ones and zeroes. Everything under the sun has been coded and stacked, and new information added each passing second. There is science, and then there is social media. From tweets and statuses to photos and shares, all our data is online. Random things are being pushed to the 'Cloud' and never taken back. From ancient e-mails to toddler videos of our now twenty year self, there is a lot of trash we have left behind. This ever-increasing collection of virtual data requires a lot of energy not only to search from, but also to sustain.

We could do this the old fashioned way. Reduce. Reuse. Recycle. Delete the things we don't need. When we are finally done with something, we can check if the software or its information is useful for anything else, maybe to even create a new application.

NAH, I'M NOT WORRIED ABOUT CLOUD SECURITY. MY STORED DATA IS SO DISORGANIZED THEY'D NEVER BE ABLE TO FIND ANYTHING!

Maybe we should start thinking about wiping off our digital footprint and start walking down the Green Computing path. It might be too early, but who knows? We have nothing to lose if we closed down our unwanted accounts, deleted the files, and cleared up some server space for others. The 25th century may thank us.

MEC|Communiqué

JAN

9 & 10
FRI   SAT Chakravyuh 2015, Sports Fest of MEC.

17
SAT PCB design & fabrication workshop by Mixed Signals.

22-24
THU - SAT Layatharang 2015, Arts fest of MEC.

30
FRI BMA Quiz competition.

QUANTUM COMPUTING

: A normal computer uses only 2 states - 0 or 1, what if they could use more than 2 states?

: Then they could not only process more data, but also attain higher rates of calculations.

: Is that what they call a quantum computer?

: Yes, Quantum computers aren't limited to 2 states, they encode and decode data as quantum bits or 'qubits' which can exist in superposition.

: So you mean to say, unlike a normal turing machine, it can perform many calculations, and the symbols of the tape are either 0 or 1 or a superposition of 0 & 1.

: Exactly! Due to the existence of multiple states, quantum computers can be much more powerful than today's most powerful supercomputers.

: What do the Qubits actually represent?

: Qubits represent atoms, ions, photons or electrons and their respective control devices that are working together to act as computer memory and a processor.

: So it is the power of atoms and molecules that a quantum computer harnesses to perform memory and processing tasks.

: Precisely! Because a quantum computer can contain these multiple states simultaneously, it has the potential to be millions of times more powerful than today's most powerful supercomputers.

: Will Quantum computers one day replace silicon chips, just like transistors replaced vacuum tubes?

: For now, the technology required to make one is beyond our reach, however, potential remains that quantum computers one day could perform, quickly and easily, calculations that are incredibly time consuming on conventional computers.

: If functional quantum computers can be built, they will be valuable in factoring large numbers, thus, making it extremely useful for encoding and decoding secret information.

: But if one were to build a quantum computer today, no information on the internet would be safe, because our methods of encryption are very simple compared to what can be achieved using quantum computers.

: Quantum computer can become the next big brother. Food for thought eh?

BIONIC EYE

Bionic eye is a visual device intended to restore vision in people suffering from partial or total blindness. This device mimics the function of the retina to restore sight for those with severe vision loss. It uses a retinal implant connected to a video camera, to convert images into electrical impulses that activate the remaining retinal cells, which then carry the signal back to the brain.

The first time an electrical device had successfully restored a flicker of visual perception was in 1755, when a French scientist, Charles Leroy, discharged the static electricity from a Leyden jar, into a blind patient's body, using two wires. The patient, who had been blind for three months, experienced a flame in front of his eyes.

In a healthy retina, photoreceptor cells convert light into electrical and chemical signals that propagate through the retinal neurons down to the ganglion cells, and transmit the visual signal to the brain. For diseases such as glaucoma or head trauma that compromise the retina's link with the visual centers of the brain, prosthesis have been designed to stimulate the visual system at the level of the brain itself.

While brain prosthesis are yet to be tested in people, retinal prosthesis have demonstrated that the implants can enable blind patients to see contrast and edges of objects, but only in black and white. The ability to naturally see light and color has been eliminated by damage to various cells in the eyes, but with enough use, the brain can learn how to make sense of these images. Users have reported of successfully reading large-print books, crossing the street on their own, or navigating an unfamiliar home. Major improvements are still necessary to enable highly functional restoration of sight.

did you know?

I ♥ YouTube

A decade ago, on Valentines' Day, 3 talented young men Chad Hurley, Steve Chen, and Jawed Karim, developed the video-sharing website, YouTube, from a makeshift office in a garage, which has today become the video-powerhouse, the sole go-to site, when it comes to videos on the web.