

WITNESSING THE SHIFT

CES BRINGS FORTH A NEW ERA IN INNOVATION

By: Ron Borsenik, CTO of Bedrock Learning



This CES marked the 37th year that I have attended the Winter CES in Las Vegas. Over those years I have seen many technologies come and go and believe that this year marks a major shift in technology.

The crowd at CES can always be measured by three things, how long the cab line is at the airport, the price of hotel rooms, and how many times people bang into you or step on you at the convention center. By these accounts it was a very well attended show! News flash - attendance came in at over 140,000 technology enthusiasts!

SOLID STATE MEMORY - NO MORE SPINNING



So is it the end of the mechanical hard drive? The show produced a plethora of high-density fast solid state memory devices. Virtually every format on the market showed increasing speed and density with some as high as 2TB. Also many different solid state form factor compatible hard drives were shown. Prices are still significantly higher than traditional hard drives, but are expected to reduce over time. With these devices standard in tablets, they will evolve to laptops and then to desktops.

USB 3.0 HAS ARRIVED

Many devices and memory sticks were present that ran on USB 3.0 which is rated at 5Gbps. What effect will this have on other formats? Firewire? (3.0 is faster than firewire) HDMI? Only time will tell. Intel will integrate USB 3.0 into Windows 8 (expected to be released in 2012).

3D IS READY FOR PRIME TIME!

Everybody had a 3D demo. The Panasonic display was very effective and the 3D was awesome! For direct view active 3D glasses worked best. New this year, I previewed Toshiba's 3D devices that do not need glasses. In my opinion, it will be very difficult for 3D without glasses to be successful. Passive 3D glasses work fine on projectors. Several projectors were on display with JVC producing some great quality images.



Media is the key, with many Blu-Ray titles being released in 2011. 3D games were also very popular. 3D still and movie cameras were shown by virtually every manufacturer. 2011 will prove the success or failure of 3D!



TABLETS ARE LIKE RABBITS...

Over 80 different tablets on every operating system were presented; every size and aspect ratio, ones made for inside and out, color and black and white, some with hardware keypads and some without keypads; some with one camera, some with two. The day of the laptop is coming to an end (especially for the low-end laptop market). Every major manufacturer either showed a product or has one coming. Many new off-shore names presented product. However, it is my prediction many will not survive in this highly competitive environment. The tablet market is less than six months old and has revolutionized the handheld computing market. It will open up an entire market for new applications that previously did not use electronic devices (menus, hospital and clinical applications, manufacturing operations, etc).



MEGA PERFORMANCE COMPUTERS

Several high performance computers some using dual Intel I-7 Processor's with 48GB of RAM and a 1500 watt power supply, were displayed. These computers can handle the fastest graphics and rendering with ease allowing video editing with virtually no delay.

VOICE ACTIVATION

This has come a long way. For example, Blue Ant showed new applications for voice control that provide true hands-free applications for sending text messages, e-mails, voice dialing and other applications. Voice activation continues to evolve and will eventually be the ultimate in control technology once distance microphone technology, is more reliable.

CES CONTINUED...

GESTURE MOTION CONTROL



The Wii started motion control games, now the controller is no longer required. The Kinect controller free-motion control has expanded beyond games. Microsoft announced Avatar Kinect which will bring your own personal avatar to life.

A gesture control app for the iPad allows operation of the iPad without touching it. Several musical demonstrations showed playing instruments and leading an orchestra using hand gesture control.

LET THERE BE LIGHT

LED lighting was prominently displayed. Many LED direct replacements for incandescent lamps blinded everyone passing by. Virtually every type of standard incandescent lamp used in the home (including CFL lamps) has a direct LED replacement. However, there were very few, if any, US manufacturers in this space. Exhibitors were mostly from China or other countries. It appears these products are ready for mass distribution as the cost has finally come into line.

"DANGER WILL ROBINSON"

Robotics continues to expand, with a larger presence than I've seen in previous years. Many were still toys rather than practical applications with robots riding motorcycles and bicycles, as well as many different electronic pets. On display were more robotic cleaners. There were some functional items (artificial limbs, etc. also on display). These technologies will eventually become a practical household robot in the future.



HOME INTEGRATION

Home integration is becoming a part of EVERYONE'S daily life. It is on its way to the masses with Verizon showing a home management system. Control4 held a very prominent location on the expo floor with a large exhibit area including key players such as Sony, Sub Zero and Honeywell. Click here to see their display. Control4's large presence at CES shows its desire to be the main-stream consumer integration company for the masses. HAI was represented as well, but I expected to see more presence from other home control companies. Several technology alliances have come-of-age and had prominent placement including Home Plug, Z-Wave and ZigBee.

CONNECTED APPLIANCES

A separate area highlighted numerous connected appliances from stoves, refrigerators, washers and dryers not to mention exercise machines, and energy management and smart grid devices were displayed.



DISPLAY TECHNOLOGY

OLED panels were present in great numbers! For example, LG showed a super thin 31-inch OLED with a bezel of only 2.9mm. LED backlight LCD was very prevalent with virtually no new introductions of traditional fluorescent back light LCD. Plasma TV is still strong with the best resolutions especially for the very large (>72-inch), and for the best resolution (4K). DLP is strong and progressing in the marketplace with many now including an LED light source. Displays are also coming with connections for Internet and local streaming. Models with various apps are also becoming common.



WRAP UP

Many of the above technologies will continue to expand and open new markets and products. The real question is what will develop as all these technologies converge? Combine super processing with very large memory, motion control, wireless technology, voice recognition, and robotics and the household robot (or warrior!) can't be far behind.

ABOUT THE AUTHOR

Ron Borsenik, ESPA C-EST, CEA-CompTIA DHTI+ Certified, THX Certified and ISF-Imaging Science Foundation Certified, has 40 years experience in both commercial and residential systems integration, responsible for the design, installation and programming of hundreds of fully integrated homes using virtually every technology available at the time. Borsenik has authored and presented many technology courses worldwide, ranging from college microprocessors to home networking, distributed audio, lighting control, communications, and home theater. He is a 37-year member of the IEEE and holds many manufacturer technical certifications including AMX Programmer and Designer, Lutron Homeworks and Panasonic TDE, and RTI ACU. His CTO/Senior Instructor responsibilities at Bedrock Learning, Inc. have him at the forefront of technology and teaching technical classes worldwide. Contact him at ron@bedrocklearning.com and for more information visit www.bedrocklearning.com.

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2012 International Consumer Electronics Show!**



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