

TOOLS of the TRADE



Dell Venue 8 7000

Released at this year's Consumer Electronics Show (CES 2015), the Dell Venue 8 7000 is currently the thinnest tablet in the world, measuring a slight 6 mm. That's 0.24" thin, 8.5" tall, and 4.89" wide. It's also the first tablet to have Intel's new RealSense Depth camera (depth-sensing camera). Photographs taken on the camera are a composite of three different shots, each with a different area of focus. That allows you to soften or sharpen objects in the background, foreground, or main focus area. The rear camera is eight megapixels and features Intel RealSense 3D technology, and the front camera is two megapixels. Every photograph taken has depth information. The Dell Gallery brings in photos from your Venue, computer, social outlets like Facebook, or cloud storage into one single

timeline view. You can even use an on-screen ruler to measure objects in your photos. The 8.4" display is edge to edge with 2,560 x 1,600 (361 pixels per inch). The processor is a Quad Core Intel Atom

Moorefield 2.3GHz, and the operating system is Android KitKat 4.4. Memory is 2GB, and storage includes 16GB and a MicroSD card slot that supports up to 512GB. Front-facing stereo speakers feature MaxxAudio Waves tuning, and the battery life lasts 10 hours. Networking includes 802.11ac wireless and Bluetooth 4.0. An accelerometer, a gyroscope, and GPS come built in. One interesting accessory is the tablet keyboard and folio cover. The Bluetooth keyboard connects to the tablet and is removable. The cover folds up to protect the screen or folds into a hands-free stand, and it's reversible to cover either the screen or the back of the tablet. The base price for the new Venue is \$399. www.dell.com

Sling TV

The biggest story at CES 2015 was Sling TV. The Internet alternative to subscription cable won three awards, including Best

Home Theater Product, Best Software/App, and the overall Best in Show. Engadget's announcement of the Best in Show included the brazen claim that Sling TV "could be the beginning of the end for traditional pay TV." Operated as a subsidiary of Dish Network, Sling TV is a service that provides a selection of major cable channels that are delivered via the Internet through smart TVs, digital media players like Roku, and apps. There's no long-term contract to sign, and the price announced at CES was \$20 a month for major channels from Disney, Scripps, and Time Warner, including TBS, HGTV, and ESPN. Two add-on packages will be available for an additional \$5: Kids Extra, which includes Baby TV, Boomerang, Disney XD, and Duck TV, and News and Info Extra, which will add Bloomberg Television,

Cooking Channel, DIY Network, and HLN. The software for Sling TV enables streaming on a variety of platforms, including Android and iOS devices (tablets and smart phones), Windows and OSX PCs, Amazon Fire TV, LG and Samsung smart TVs, Nexus Players, Roku boxes, and Xbox One. The service isn't intended to completely eliminate traditional pay television—it doesn't include local broadcast channels or networks, nor does it have regional sports networks. The Sling executives, however, do point out that many of those are already available on reasonably priced subscriptions from services like Hulu or via an antenna. The official launch is slated for some time this year, but right now you can sign up on www.sling.com to be invited later as one of the first to get Sling TV. With the lack of real competition in many areas, along with the general dissatisfaction with rates and service for many of the pay TV conglomerates, Sling TV could make a real dent. www.sling.com



TECH FORUM

The Three Rs in the Digital Age

By Michael Castelluccio, Editor

Both literacy and numeracy are changing as computers insinuate themselves into every space we occupy, so now might not be a bad time to check the syllabus.

BIG PICTURE

It's hard to imagine, but there was a time in our history when universal literacy wasn't very important. Cathy N. Davidson, director of the Futures Initiative at the Graduate Center of the City University of New York, explains that before mass printing, literacy and numeracy just weren't a requirement for most. Leaders needed the skills to maintain their position, but for everyone else it took a technological revolution to extend the need to read and keep our own records.

The Industrial Revolution created a burgeoning middle class who were able to assume greater control over their own lives largely because of the skills offered to them in universal public education.

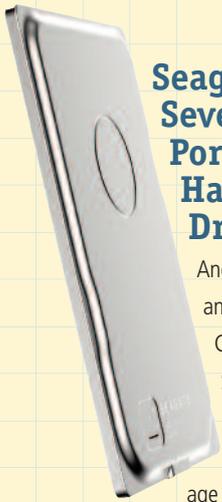
And then the next disruptive technology to shuffle everything around us arrived with the computer. The first commercial computer, the UNIVAC, made its appearance in 1951. Sixty years later, the upheaval rumbles on everywhere, and literacy wasn't left untouched.

CHANGING SKILLS

The three Rs are almost like the three dimensions of our intellectual awareness: reading, writing, and arithmetic. Yet they're largely taken for granted, and changes sometimes go unnoticed.

There's data to support three general changes for the three Rs in the digital age. The flood of information and communication has increased the reading load for almost everyone, which you would think would sharpen this skill. Some evidence contradicts that assumption. As for handwriting, we're now doing less of it. And our facility with numbers is beginning to look like it's only half of what it should be.

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Seagate Seven Portable Hard Drive

Another winner announced at CES 2015 is Seagate's new Seven portable storage drive. For all appearances, it looks like an internal hard drive with one major difference: its profile. The Seven is the world's thinnest 500GB portable hard drive, thinner than an iPhone 6 Plus, and only one millimeter thicker than the new Dell Venue 8 tablet. The HDD inside measures a mere 5 mm., and the continuous steel case around the drive adds only one millimeter more—that's a total of 7 mm., or about a quarter of an inch. The steel case provides style and durable protection. There's no power cord for the drive; rather, it draws power from the USB port. There's just one braided Micro-USB 3.0 cord that transfers data at either 3.0 or 2.0 speeds. Seagate Dashboard is preloaded on the drive, and the unit comes

with a three-year limited warranty. www.seagate.com

Allocacoc PowerCube Outlet Expander

The PowerCube Outlet Expander wasn't one of the winners at CES 2015, but it's a great idea for a great price—about \$20. The Expander was a RedDot winner in 2014. (The Red Dot Award is a design prize awarded each year by the Design Zentrum Nordrhein Westfalen in Essen, Germany.) There are five PowerCube modules that can be used alone or in combination with each other for most power/charging situations. Some have their own power cords while others plug directly into a wall outlet, powering a combination of four three-prong plugs and two USB charging outlets. You can plug in multiple three-prong plugs without interfering with each other. And you can connect multiple

PowerCubes to each other for even more outlets. <http://powercube-usa.com>



READING

We're forced to read much more now than in the past because of e-mail, texting, social media, and just the general preponderance of information immediately available to anyone who has learned to ply a search engine online or follow hyperlinks in the reading matter at hand.

And alarms have been raised about what and how we read. In 2004, the National Endowment for the Arts published a study titled *Reading at Risk: A Survey of Literary Reading in America*. The conclusion of 20 years of polling "an enormous sample size of more than 17,000 adults" produced the following conclusion: "For the first time in modern history, less than half of the adult population now reads literature, and these trends reflect a larger decline in other sorts of reading."

While not pointing a finger directly at computing, the authors identified several culprits. "*Reading at Risk* merely documents and quantifies a huge cultural transformation that most Americans have already noted—our society's massive shift toward electronic media for entertainment and information." By electronic media they mean television, recordings, and radio, which "make fewer demands on their audiences, and indeed often require no more than passive participation. Even interactive electronic media, such as video games and the Internet, foster shorter attention spans and accelerated gratification." This loss of active attention and engagement while reading "parallels a larger retreat from participation in civic and cultural life. The long-term implications of this study not only affect literature but all the arts—as well as social activities such as volunteerism, philanthropy, and even political engagement." The loss of focused attention and contemplation will cause "our nation [to become] less informed, active, and independent-minded."

Perhaps the essential problem is that we're forced to read much more at far less involved levels.

WRITING

There's also something curious going on with the simple act of handwriting that deserves notice. The United States has now scheduled the complete loss of one-half of our handwriting vocabulary by discontinuing the teaching of cursive writing in lower grades. Cursive is the curved handwriting style that connects letters to form words, lifting the pen only at the end of those words. It's faster and less tiring than printing words one letter at a time, but, for whatever reason, in 2013, cursive writing was dropped from the Common Core Curriculum Standards and was replaced with key-

boarding. This changeover could prove to be significant.

In an article in the December 16, 2014, issue of *The Guardian*, Anne Chemin commented on the increasing number of people at work who are switching from handwriting to typing. Chemin cites a British survey of 2,000 people conducted by DocMail, a printing and mailing company. According to the survey, "One in three respondents had not written anything by hand in the previous six months. On average they had not put pen to paper in the previous 41 days. People undoubtedly write more than they suppose, but one thing is certain: with information technology we can write so fast that handwritten copy is fast disappearing in the workplace."

Chemin then goes on to explain the cognitive difference between writing and typing. She cites neuroscientists who "think that giving up handwriting will affect how future generations learn to read." According to Edouard Gentaz, professor of developmental psychology at the University of Geneva in Switzerland, "Drawing each letter by hand improves subsequent recognition."

Chemin also discusses the results of a Princeton University study of 300 students who take notes on laptops and those who take handwritten notes. "[The study] suggested that students who took longhand notes were better able to answer questions on the lecture than those using a laptop. For the scientists, the reason is clear: those working on paper rephrased information as they took notes, which required them to carry out a preliminary process of summarising and comprehension; in contrast, those working on a keyboard tended to take a lot of notes, sometimes even making a literal transcript, but avoided what is known as 'desirable difficulty.'"

But this trend away from handwriting might be temporary. Typing doesn't engage the same neural networks as those used when you're pushing a pen or pencil. Gentaz points out a movement in computing with tablets and phones. "Touchscreens and styluses are taking us back to handwriting. Our love affair with keyboards may not last."

ARITHMETIC

And finally, there's arithmetic. Davidson has a suggestion for rounding out the last of the three Rs. She would like to add one item to the basic list of math skills already in the curriculum. Since computers are machines that manage numbers arranged in lists of instructions, why not add one more "R" to the list—Rithms, as in algorithms. Since computers are in our businesses everywhere, why not learn something about the way they work? **SF**