

■ Cool Tech for 2012

Smartphones and tablets are in hot demand right now as they provide phone, email, Internet, texting, and photo capabilities, all in a package that can fit in your pocket or a handheld case. As processors get smaller and more robust, we can do more with these newer devices increasing their demand. In fact, manufacturers are expecting sales of these newer Smartphones and tablets to overtake sales of PCs in just a couple of years.

They're not the only devices that are getting a lot of attention though. New breakthroughs in printers, digital cameras, and televisions are keeping people interested in these older, single use technologies. We'll discuss some of the more interesting new devices in this newsletter as well as give some advice on using Smartphones and tablets.

■ Tips of the Month

Femtosecond Around-the-Corner Camera

Although it's a mouthful, these cameras can see around blind corners by bouncing laser light off objects. They're still in the prototype phase at MIT, but these cameras will eventually help military personnel during combat, police authorities on duty, rescue people in emergency situations, and even help prevent vehicle accidents.

Cell phone Tattoos

Nokia has patented a tattoo that will vibrate when the wearer receives a phone call. It can even be customized to have different vibrations similar to different ring tones. The tech tattoo requires a ferromagnetic ink application which contains iron oxide. When the users' phone rings, the iron oxide acts as the magnetic wave receiver picking up the phone's signal. For the squeamish, Nokia is planning on selling vibrating stickers that can be applied to the skin instead.

Printing

Mobile printing

One of the early sticking points for Smartphone and tablet users was the inability to print wirelessly. That problem seems to have been solved thanks to apps like AirPrint from Apple. AirPrint enables iPad users to wirelessly print to AirPrint enabled printers from Canon, Epson, HP, and others. Options are also available for Android tablets and certain Smartphones using Google's Cloud Print application. The technology is new so you'll need newer devices: either a newer Smartphone or tablet and a newer printer to take advantage of wireless mobile printing.

3-D Printers

One of the coolest inventions created has to be the 3-D printer (*Figures 1 & 2*). Imagine drawing an object in a computer program, transmitting that drawing to a device, then after a specified time period you can hold the object in your hand with fine details and color applied precisely.

It's now a reality and costs for the consumer, plastic-only versions having been dropping considerably the past few years making them more of a mainstream option every day. Commercial units that craft objects out of metal, sandstone or glass are still quite expensive (thousands of dollars).



Figure 1. The Cubify, a 3D Printer from 3D Systems. <http://cubify.com/cube/index.aspx>



Figure 2. Additional concept objects from 3D printers

Digital Cameras

Digital cameras have come a long way from the 1-3 megapixel versions introduced in the 1990s. We can now shoot HD video, take 3D pictures, and have automatic settings for nearly every perceivable location like sunsets, fireworks, aquariums and beaches. There are still, generally, two types of cameras: point-and-shoot (*Figure 3*) and SLR (single lens reflex).

Most consumers opt for point-and-shoot digital cameras for usability and lower cost. Although most Smartphones and tablets have embedded cameras, they're not the best option for special moments or for printing photos.

Some newer features of digital cameras that may encourage you to ditch your phone's camera include:

- Resolutions up to 36 megapixels (6 – 8 megapixels is still sufficient for most users).
- Zoom ranges up to 30x (5-10x is common).
- Weights have decreased considerably over the years with many digital cameras less than 1/2 a pound now (16oz = 1 pound). For reference, the iPhone 4S weighs 5oz and the Wi-Fi only iPad weighs 1.4 pounds.
- Advanced image stabilizers to reduce blurriness – look for optical and mechanical stabilizers.
- Face detection (will zero in on a single face), smile recognition (shutter will activate when someone smiles) and blink warning (alerts you when someone blinks so you can re-take the shot).
- Smart photo selector - some cameras take multiple shots before and after you press the shutter button and will automatically choose the best shot to keep based on lighting, motion and other factors.
- RAW file formats on point-and-shoot models (The RAW format is uncompressed, which yields more pixels and is better for printing compared to JPEG, which is a compressed format.)
- On-screen tutorials that provide images for how to take a shot or instructions on using the camera's features - a boon for those who learn best visually.



Figure 3. Canon Powershot SX260. Highly rated consumer compact digital camera has 12 Megapixels, a 20x zoom, and optical image stabilization and weighs a mere 7 oz.

Editing and Sharing Photos

Although most people still own a PC or Mac, we're buying and using more Smartphones and tablets these days which has changed how we buy and use software. Instead of going to the store and buying a box with a CD or DVD inside, now we just download apps directly to our mobile device – sometimes free, usually \$3 - \$10 for each application.

One of the best apps you can buy for your mobile device is one that will edit and share photos. These apps enable you to edit pictures directly on your phone or tablet so you don't have to transfer them to your PC or Mac before sharing.

Some of the special filters and effects that are available include: applying a sepia tone, black & white, fisheye, blurs, numerous color washes, adjusting contrast, cropping and even building panoramic shots.

There are photo editing apps available for all the platforms: iOS, Android, Windows Phone, and Blackberry (although Blackberry's future is questionable right now).

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Editing and Sharing Photos

Some of the highly reviewed photo editing apps include:

iOS and Android platforms

- **Instagram** <http://instagr.am>
- **PicPlz** <http://picplz.com/>

iOS only

- **Camera+** <http://campl.us/>

Android only

- **Lightbox Photos** <https://play.google.com/store/apps/details?id=com.lightbox.android.photos&hl=en>

Windows Phone 7 +

- **Thumba Cam** <http://www.windowsphone.com/en-CA/marketplace> (*then search on Thumba Cam*)
- **Pictomaphone** <http://www.windowsphone.com/en-CA/marketplace> (*then search on Pictomaphone*)

Blackberry

- **Photo Studio Pro** <http://appworld.blackberry.com/webstore/content/62365/?lang=EN>

Many of the options listed on the left have the capability to edit photos as well as share them. Here are some additional options that focus primarily on organizing and/or sharing photos (video too in some cases). Some are free, others offer paid versions.

- **Flickr** - Free photo and video sharing site. <http://www.flickr.com>
- **Shutterfly** - Popular photo printing service also shares photos easily with a blog-like interface. <http://www.shutterfly.com>
- **Instagram** - Not only edits but uploads photos to popular social media sites. <http://instagr.am>
- **Twitpic** - Free photo and video sharing site for Twitter users. <http://www.twitpic.com>
- **500px** - Photo posting site where you can “discover, share, buy and sell inspiring photographs”. If you have a gorgeous photo, this is where it belongs. <http://500px.com>
- **Zenfolio** - Premium site for sharing photos and videos. Create slideshows, password protect your site, fully customizable. <http://www.zenfolio.com>

Televisions

LCD and Plasma TV sets have revolutionized living rooms everywhere. Gone are the days of having large consoles or tables to hold those big CRT TV sets. Now, most TVs are mounted on the wall increasing space and viewability. One thing is for sure, TVs aren't going to get any smaller. The newest TVs range in size up to 84 inches and feature high resolution, 3D capabilities, and access to the Internet.

So what's next for the TV revolution? Manufacturers are going remote-less. Although universal remotes have made accessing our technology easier, remotes still have a tendency to end up under the couch for some reason. We'll finally be able to banish the phrase, “Honey, where's the remote?”



Figure 4. Samsung SmartTV - available in 46", 55" and 60" versions. 3D, LED, full HD 1080p, voice control, gesture control and face recognition, Samsung apps and Web browser.

Television Advances

Taking a page from Microsoft's Kinect motion sensor application, many TV manufacturers are embedding this technology into their TV sets enabling people to use hand gestures and voice recognition to change channels, adjust the volume and switch devices. The early adopters of this technology are Samsung (*Figure 4, page 3*) and LG with many to follow.

Microsoft isn't the only company working on incorporating voice into our everyday activities. Nuance, the company who markets Dragon NaturallySpeaking speech recognition software, describes their new Dragon TV platform like this:

"Dragon TV {gives} OEMs and service operators the ability to deliver TVs, set-top boxes and applications that let consumers find and experience content with Nuance's leading voice technologies. Further, Nuance's natural language understanding technologies allow consumers to say virtually anything to quickly and easily discover shows, movies and more.

"For instance, people can [speak in range of their TV and] say:

- "Go to PBS"
- "What's on Bravo at 9 p.m. tonight?"
- "When is Ellen on?"
- "Watch Dexter on DVR"
- "Find comedies with Vince Vaughn"
- "Play David Guetta on Music Choice"



"Dragon TV also makes it even easier to stay connected from the couch by leveraging the unique messaging and social media capabilities that today's digital TV OEMs and operators offer, such as email, messaging, Twitter, Facebook and Skype.

"For instance, people can say:

- "Send message to Julie, 'Old School is on TBS again this weekend – super excited'"
- "Send update to Facebook, 'Anyone else looking forward to Celebrity Wife Swap?'"
- "Call John via Skype" and be talking in no time

... Dragon TV brings an amazing voice experience directly to the living room, similar to what people do every day on their phones and in their cars." (*source: <http://www.nuance.com/company/news-room/press-releases/dragontvweb.doc>*)

Dragon TV (*Figure 5*) has been incorporated into the Smart Viera TV line from Panasonic currently released in the UK. Release dates for the US have not been announced yet.

To learn more, visit: <http://www.nuance.com>.

Gesture and voice-activated products will eventually migrate into all of our appliances and electronic devices making mice and remotes obsolete. We'll be able to walk into a room and adjust the lights, turn on the stereo and browse the Internet simply by speaking commands or waving our hand. Very cool indeed!

Figure 5. Nuance Dragon TV application depicting results of a voice command to find shows with Alec Baldwin. Multiple listings of 30 Rock are displayed from which you can choose. Other options include watching videos on YouTube, video chatting on Skype or browsing the Internet.

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