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CES 2016 –360° HD Panoramic Surround Videography

The Consumer Electronics Show (CES) is held each January in Las Vegas. When it comes to consumer electronics, CES is the place to go to see evolutionary, revolutionary, and/or incremental technology advances. Even though CES is not open to the public, there were still 170,000 registrants from government, industry, press, and retail buyers looking for products that fit their special interests. This 2016 show was the largest in CES history. Photo 1 shows you a tiny fraction of the 3,800 exhibitors and attendees that were at this multi day event. Company booths were spread out over 2.47 million square feet of exhibit space in the Las Vegas Convention Center and many of the convention facilities in the major hotels along the Las Vegas strip.

It's a good thing that I spend 5 days a week working out in a gym because my smartwatch indicated that I slow walked, on average, 7.5 miles each day in search of the perfect newly emerging technology to bring to you in this column.

I look back on the days of film photography with many fond memories. The excitement of seeing a light sensitive piece of photo paper develop into a picture is an experience that I shared with hundreds of students. Digital photography changed

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the world and to stay in step with technology many of us purchased new digital cameras. At the start of the digital photography revolution



Photo 1 — I often felt like a salmon swimming upstream, working my way through the crowds to get to specific booths at the different convention sites.

cell phone cameras were low resolution. That's changed to such a degree that most of us now catch all of our memories using our iPhones and Android Smartphones.

surround in this column Samsung is calling OmniView, a new word that they added to the technology lexicon. The camera's software then seamlessly stitches all of the video together to create a new type of viewing experience that is 3D using a virtual headset or 2D on your computer, tablet, smartphone, or TV. In a packed room, where you needed press credentials to enter, we were told that this camera was developed by the same Samsung think tank that started the smartwatch revolution by developing the gear smartwatch. With Samsung now in the game will Apple soon follow?

Other smaller companies already have 360° cameras on sale. These cameras all have multiple lenses, though significantly less than Samsung's, and they all instantly stitch videos for 360° surround panoramic viewing. To meet the deadline for this column my experiences with these cameras were limited to the show floors at CES and also Pepcom and Showstoppers press only events.

A standard camera has one lens so how do these cameras effectively use more than one lens to change



At the Samsung press event on CES Press Day, Samsung introduced their Project Beyond professional 360° camera that has 16 lenses (Photo 2). This multi-lenses 360° camera will record 3D HD Panoramic Surround Videography using all of the lenses at the same time (Photo 3). For clarity, what I am calling

your video experience? They stitch the images together so your viewing screen becomes a movable window. My first experience with this new form of videography was at the 360fly booth. Their camera is shaped like a ball and has eight lenses to catch video in every direction. The live feed from the camera was being fed

Photo 2—The Samsung 16-lens 360 camera can capture 35 megapixels per video frame. It processes more than a gigapixel of video data per second on the fly.



Samsung

Photo 3—This exploded view shows how Samsung located the equivalent of 16 cameras in their new Project Beyond camera.

to an iPad that a representative from the company placed in my hands.

The screen of the iPad can best be described as a movable window to what each of the lenses on the 360fly camera was seeing. As I slowly rotated the iPad up, down, left, or right, my view of my surroundings seamlessly changed. The true magic of this new phase of photography became apparent when I looked at a video that was previously recorded

to show what the camera could do out in the field. While watching the video my positioning of the iPad determined what I would see. If I aimed it down I was looking at the ground, up at the sky, and rotating my view provided me with a Panoramic 360° degree view of the scene.

Online videos from 360fly can give you a basic idea what many different new companies hope to sell you soon. You use your mouse or finger to interact with the video and change your viewing angle. The ability to physically change your viewing angle on a computer only works with Google Chrome. The videos are located at <https://360fly.com/videos/>. AllieCam is a similar camera from a different company and their “See How” video located at <https://alliecam.com/> can give you a good idea of what all the 360° cameras from the different manufacturers can do.

The cameras they produced will let you view or edit the 2D 360 surround video on a tablet, smartphone, or computer and share your 360 experiences just as easily as you now

share photos and videos through different apps and even watch them in 3D using a virtual headset. A major word of caution, I played with this technology for a relatively short, supervised period of time in a very controlled environment. The companies that I mentioned in this column, except for Samsung, might not exist by CES 2017. I do consider this to be a new and emerging technology that is amazing. I have been promised loaners to test this technology and if they send them, you will be able to read reviews at my website www.technologytoday.us.

Recalling the Facts

1. How do these cameras effectively use more than one lens to change your video experience?
2. Your mission, if your teacher assigns it, is to design a future Smartphone body that could incorporate this technology.
3. Do you feel that this new technology will coexist or, in time, replace our current forms of still and motion photography? Why? ©

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