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PREDICTIONS

The crystal ball, darkly

Summing up favorites from 2013, imagining the future

By Kathleen Maher and the JPR Staff

Some desperate editor somewhere made up a rule that the end of the year is time to make predictions or ten-best lists. We opted for predictions because the ten-best lists cause fist fights. However, since I got stuck with this introduction while everyone went out to shop and Christmas party, I will tell you that some of the best movies for 2013 are:

Gravity: if people didn't make movies like these, movie theaters would be gone in five years.

12 Years a Slave: the sort of movie you think you can't bear to see but you can, and you'll be glad you did.

The Lunchbox: an Indian film by Ritesh Batra that may not get to the neighborhood theater, but watch for it. If nothing else, finding out about the culture of lunch-box wallas in Mumbai will blow your mind and remind you that you know nothing about this world.

Nebraska: haven't you missed Bruce Dern?

All is Lost: haven't you missed Robert Redford? Again, don't be scared of a movie with just about no dialog about a guy all alone in a boat that's slowly falling apart. It's worth the trip.

Okay, back to work.

We've seen 3D come and go, but possibly some of the better uses that have been made of it in *Gravity* and *The Hobbit, the Desolation of Smaug* will give it new life. James Cameron isn't throwing in the towel; don't you. This CES will see a lot of talk about movies being made in 48 fps (like the *Hobbit*), 3D at home without glasses (really!, James Cameron says so), and boatloads of cheap tablets that are probably headed for landfills after their brief outing at CES.

Apple is going to do its damndest to wrench back the workstation market it so cavalierly let slip away. Steve Jobs sometimes seemed to feel that if he couldn't win, he'd take his ball home. Tim Cook has a lot more patient ant in him, and it looks like he'll keep building. That's going to shake up the workstation market, the content creation world, and give AMD a little running room, we think.

Will there be an Apple TV? Honestly, do you care? Do you just keep asking that because it's some kind of brain twitch? TV over IP is here, we may see more boxes, and if Apple throws one into the ring, we'll buy it.

As several people have said on this list, 4K is coming and it's coming much faster than the cynical old poops said last year at the National Association of Broadcasters.

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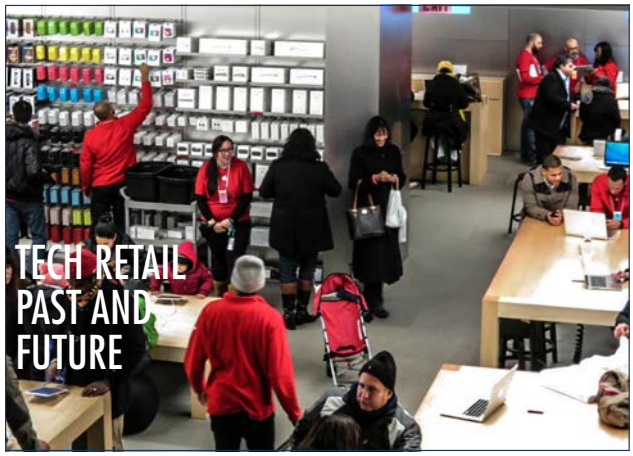

Source: Jon Peddie Research

THE APPLE STORE on a winter's night in New York City—a gathering place, a place for kids to play on machines, a place for two young women to look up directions. No other computer store has managed to create such a welcome space to explore. Apple is going to remain a major force in the tablet industry and shows signs of reaffirming its place in high-end PCs.

AU 2013

Autodesk University exhorts customers to look outside and look to each other

The cloud will become the great equalizer—in a good way

By Kathleen Maher

Compared to years past, this year, the keynote speeches by CTO Jeff Kowalski and CEO Carl Bass at Autodesk University were practical, sober-minded, affairs … up to a point. Instead of demonstrating cool technologies like rendering, point clouds, and animations of people wandering through buildings (all worthy technologies showed at Autodesk past), the company is finally facing up to the challenge of competing on the basis of information management, and they're getting to the importance of infrastructure and managing huge amounts of data. The company has jumped into the PLM market in its own ambitious way, and now it is growing the idea of cloud sharing and collaboration with a wealth of new tools. Autodesk is using their cloud platform to build more purpose-built products that fit in with the highly specialized but totally connected world of bridges, railroads, highways, waterways, sewer works, piping, plumbing, and all sorts of other stuff we don't really want

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NEWS WATCH NEWS WATCH NEWS WATCH NEWS WATCH NEWS WATCH NEWS WATCH

Qualcomm 64-bit Snapdragon 410 chipset with integrated 4G LTE radios

World Mode for high-volume smartphones

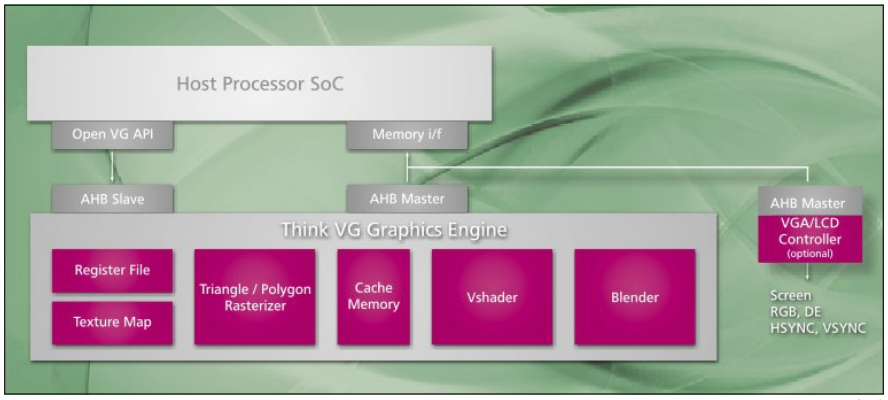
Qualcomm Technologies has introduced the Snapdragon 410 chipset with integrated 4G LTE World Mode modem. The new chipset is targeted at consumers in the emerging regions as 4G LTE begins to ramp in China. Manufactured using 28-nm process, the 64-bit processors include an Adreno 306 GPU, 1080p video playback, and support for cameras with up to a 13 megapixels. Qualcomm expects this chipset to open up the 4G LTE category of low-cost smartphones at a sub-$150 (approximately 1,000 renminbi) price point.

The 64-bit processor is a licensed design from ARM, not a custom design by Qualcomm. Qualcomm has done the same thing with the SD 410 that they've done with other designs like 8x25/8x26 and used ARM cores and custom built the Adreno graphics and Qualcomm connectivity suite into a specialized architecture that allows Qualcomm to integrate the modem and other key elements into the design early.

Snapdragon 410 chipsets integrate 4G LTE and 3G cellular connectivity for all major modes and frequency bands across the globe and include support for dual and triple SIM. Together with the Qualcomm RF360 front-end solution, the 410 chipsets have multiband and multimode support. The 410 also features Wi-Fi, Bluetooth, FM, and NFC functionality and support all major navigation constellations: GPS, GLONASS, and China's new BeiDou. The chipset also supports all major operating systems, including Android, Windows Phone, and Firefoxes.

Qualcomm reference design versions of the processor will be available to reduce OEM R&D for the ODMs. The Snapdragon 410 processor is anticipated to begin sampling in the first half of 2014 and to be in commercial devices in the second half of 2014.

Qualcomm Technologies also announced its intention to make 4G LTE available across all of the Snapdragon product tiers. The Snapdragon 410 processor gives the 400 product tier several 4G LTE options for high-volume mobile devices, as the third LTE-enabled solution in the product tier.



Source: Think

BLOCK DIAGRAM of Think Silicon's 2.5D GPU.

CAST to offer Think2's 5D GPU IP core

Open VG accelerator core to be widely distributed

The community semiconductor intellectual property provider CAST, Inc., will offer its first IP cores for graphics acceleration and display. Available immediately are a 2D/2.5D graphics accelerator and a multilayer display controller, both sourced from new technology partner Think Silicon.

CAST, Inc. (not to be confused with Semi's Collaborative Alliance for Semiconductor Test—CAST), was founded in Woodcliff Lake, New Jersey, October 29, 1993, with an initial mission to develop and sell simulation models.

Think Silicon, based in Rion Achaias, Greece, was founded in 2007 with the vision to provide configurable IP semiconductor modules for complex SoCs. Recently Think has enhanced its 5D core with 2D and 2.5D capabilities. The rendering engine accelerates 2D graphics functions (scaling, blending, drawing, etc.) and pseudo-3D effects for graphical user interface (GUI) elements such as shadowed icons. The ThinkLCD-ML Core is a display processor that composes multi-layer graphics with alpha blending—such as video overlay—and supports popular display connection interfaces.

Think claims their ThinkVG is the smallest GPU on the market supporting the Khronos Group OpenVG 1.1 standard. The company says it is an extremely low-gate-count IP core based on VShader, a C/C++ programmable floating-point SIMD streaming processor designed for graphics applications. The system architecture is scalable, and embedded software allows flexibility. ThinkVG comes complete with a software library implementing OpenVG 1.1 running on VShader and with API package running on a host processor with emphasis on minimizing CPU overhead by the use of command lists and on reducing memory bandwidth by using custom image compression hardware.

Think Silicon is specializing in designing and developing mobile and embedded computer graphics products for low-end and mid-end devices. ▲