Circuits

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STATE OF THE ART

David Pogue

The Big Picture: Megapixel Race At Milestone 8

ON UK’s final exam, the section intended to gauge your maturity and wisdom will probably look like this: "Which statement true or false? More money always makes you happier. A larger refrigerator always tastes better. More megapixels almost always means a faster computer."

Too easy? All right, then, answer this: Why are some people convinced that more megapixels mean a better digital camera?

Within three years, camera companies rolled out four-megapixel cameras, then five, then six, and now seven. No, you can’t believe it, eight-megapixel consumer cameras are available for under $900.

Let’s get one thing straight: the number of megapixels is a measure of how many bits make up a digital photo, not its quality. An eight-megapixel photo can look just as good as a three-megapixel one — just much, much bigger.

The problem with this dizzying arms race is that more megapixels mean bigger files. You need a much bigger memory card, you’ll pay more for the camera (for its faster processing circuitry) and you’ll have to wait a lot longer for those giant files to download to your computer. Once there, they also take longer to transfer and edit.

All right, now that you’ve been given the lectures, it’s only fair to acknowledge that more megapixels do come in handy in three situations. First, an eight-megapixel photo has enough resolution for giant prints — 20-inch-by-20-inch posters, for example. Second, more megapixels give you the freedom to crop out a huge amount of a photo to isolate the really good stuff, while still leaving enough pixels to make reasonably sized prints.

Third — let’s be honest here — it’s fun to have people over by telling them you have an eight-megapixel camera. Free Gigabyte camera companies make eight-megapixel models under $900. Nikon, Olympus, Konica Minolta, Canon and Sony. (Sony declined to provide a camera for evaluation in this roundup, saying that its entry has reached the end of its life cycle.avanaugh services have not yet been scheduled.)

As a practical matter, the only real advantage an eight-megapixel camera offers is the ability to flip up eight-megapixel sensors into a camera. The cameras can take excellent scenes, fast circuitry, and other

WHAT’S NEXT

For Simpler Robots, A Step Forward

By ANNE EBENSEEGER

WASHINGTON

The most important thing has come for the three-high robot standing on its improved version at a hotel conference.

Reporters circled its knees, its micromanipulation and camera controls; the machine as it stood up. Then a curious 7-year-old boy who had joined the throng reached out, picked his fingers between the robot’s metal legs and gave them an expulsive push.

With that, the robot, built at the Massachusetts Institute of Technology, looked up to its nickname, the Toddler. It blinked gently until the blinking stopped, smiled itself and marched firmly across the surface of the floor, a tabouret propped up on children’s shoulders.

The two-legged robot is ever going to walk among people, they may look a lot like this sturdy machine and two others, introduced Feb. 17 on the mainstage, on the annual meeting of the American Association for the Advancement of Science.

The robots — the others were built at Cornell and at Delft University of Technology in the Netherlands — are designed in a way that differs significantly from standard creations. One of the robots moves so efficiently that in the future it may be able to serve food along a day, not the 20 or 30 minutes robots now manage without recharging or refueling.

And our robots walk far more naturally," said Andy Ruina, a professor at Cornell who took one of the robots to the meeting and who replaced John Bennett, the former chairman, with Cherry Chase, Mi., and the uncorked peeling.

The design may not be important not only for future energy-saving robots, but also for intelligent prostheses — leg and foot replacements for amputees. Ruina’s robot and its companions from Cornell and Delft are descendants of some early anthropomorphic robots that were built around for a century. These contraptions — toys making fun — had five more legs than originally, which were not powered in any way. Instead, their legs sat on gravity and the mechanics of objects in motion to walk stably down sloping surfaces.

Modern versions of the machines, called pantomimic dynamic walkers, have been built for decades and

IN THE NET

On the Net, Unseen Eyes

As video cameras increasingly relay their images online, the audience may be wider than intended.

FEATU RED REVIEW

By PATRICK DI JUSTO

ACCORDING to the complainant filed in United States District Court in Nashville, a member of a girls’ basketball team visiting Livengood Middle School in Tennessee spotted the camera right away. "It was high up in a corner, near a ceiling tile in the visitors’ locker room," said the girls’ lawyer, Mark Catterton. "It seemed to look out from the roosting area."

The girls were wary at first, Mr. Catterton said, but ultimately decided not to press charges. The complaint was filed in court.

Yankelovich Group, a market research firm, estimates that as many as 13 percent of American households have a Webcam attached to use to monitor their home or communicate with a monitor in a living room or a bedroom.

Like many Web pages, each camera on the Internet has an address, and unless the cameras have been concealed behind software firewall, their addresses make them specifically search-
Tools to Add Moving Images To Online Musings

By SANDREEP JUNNARKAR

The old tale of "moving images" is back in vogue. With blogs — the personal online journals of the Web's new media — a visit to the Web is never completely without the moving image. Mobile blogs, or blogs on the go, talk to the traditional blog format on the go, through your phone or pocket lap top. Blogs and videos are now more and more becoming a part of the regular routine for most bloggers. The medium of video, which is the most popular among the Web and mobile blogs, is used to enhance the experience of reading a blog and make it more dynamic.

Some bloggers are even beginning to use video in their blogs as a way of expanding their reach to a wider audience. They are using video to tell stories, share experiences, and connect with their readers in a more personal way. Video can be used to create a more engaging and interactive experience for the reader, and it can also help to build a sense of community within the blog.

Blogging on the move

Many bloggers prefer to post their blogs on the move, using their mobile devices to create and share their content. This allows them to stay connected and engage with their audience even when they are on the go.

In addition to using video in their blogs, some bloggers also use audio elements to enhance the user experience. Audio can be used to create a more immersive and engaging experience for the reader, and it can also help to build a sense of community within the blog.

For Simple Robots, Taking a Step Forward

Continued From First Circuits Page

There have been many successful robots that have been built and used in different applications. These robots are now being used in a variety of industries, including manufacturing, agriculture, and medicine.

Some robots are being used to perform tasks that are too dangerous or difficult for humans to do. For example, some robots are being used to inspect power plants and oil rigs.

In the future, it is likely that robots will become even more common and will be used in a variety of new and innovative ways.

Using a less-is-more design approach to show that complex objects can be controlled simply. And walk like a human.

In the move: Retro, from San Diego University, of Technology, and M.I.T. and Cor- nel, were unveiled at the national meeting of the American Association for the Advancement of Science.

Regrettably, the most important lesson that can be learned from this new robot is that complexity is not necessary. It is possible to create a robot that is both simple and effective. Simple robots can be easier to control and more efficient in terms of power consumption.

In this case, the key is to focus on the most important aspects of the robot and to eliminate any unnecessary complexity.

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Clifford, a doctoral student at the University of Southern California, was inspired by the idea of a robot that could walk and talk. When he was an undergraduate working under Dr. James J. Gibson, "We did a lot of work on the concept of a robot," Clifford said.

"The robot was not only an object of study, but also a model for developing new ideas. It was a way of testing the limits of our knowledge and our ability to design and create new technologies.

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