NET
NEWS

A-TWITTER OVER TWITTER

By Alan Zeichick

Sometimes I feel like I'm the only person in the world who doesn't "get" Twitter. Paradoxically, many of my friends tell me they feel the same way.

Twitter is an Internet-based application that lets people post short "status updates" up to 140-characters long. You can see what your friends are up to by subscribing to their Twitter updates (called tweets). Twitter aficionados love that the tweets are very short and easy to read. Some people post tweets constantly, many times an hour. Others do it only occasionally. You can post and follow tweets using a browser, special desktop applications, mobile applications on smartphones, or even Short Message Service broadcasts to standard mobile phones.

With Twitter, there seems to be little middle ground: Either you love it or you don't and think it's just another time-wasting craze. Yet this social networking service has taken off like a rocket since its launch in early 2006.

Many people consider Twitter a next-generation social network with the potential to replace other social network sites, including the mighty Facebook. Yet others see it as a supplement to these other services. In fact, it's common for people to link their Facebook status updates to their Twitter accounts, so updating one automatically updates the other.

Not all Twitter users are humans, by the way. News organizations use Twitter to send links to breaking news stories, tweeting a story's headline and a short URL. In this regard, Twitter acts almost as a replacement for the more traditional Real Simple Syndication service feeds.

You know that Twitter has hit the big time when it's covered in the mainstream media. Both David Pogue of the *New York Times* and Lucy Atkins of the *Daily Telegraph* both recently wrote articles about the Twitter phenomenon, proving it's not just for early adopters any more.

Browser Wars Are Hot Again

In the beginning there was Mosaic, which begat Netscape Navigator. It was good, but not good enough, and so Microsoft's Internet Explorer won the first Browser War and took over the Web.

IE was good, too, but not good enough, particularly in terms of adhering to Internet standards and running on platforms other than Microsoft Windows. And thus there came Mozilla, Firefox, Opera, and Safari, and they were good, too, bringing peace throughout the Web.

More recently, Internet Explorer 7 and Firefox 3 enjoyed a comfortable duopoly, with alternative browsers, Opera and Safari, gaining small but loyal followings. These modern browsers did a reasonable job of supporting Internet standards (incompatibilities still crept in), and security was fairly well implemented (most of the time). What's more, the browsers usually didn't crash more than two or three times per day.

But then came Chrome and a new Internet Explorer, and the Browser Wars were hot again.

Chrome is a browser from Google. Based on the same WebKit rendering technology as Apple's Safari browser, Chrome debuted to mixed reviews in December 2008. Google committed several public-relations stumbles, due to a poorly written license agreement (which seemed to give Google a license to all content viewed by the browser), along with some instability. Having the initial release support Windows exclusively also failed to impress Google fans, who often view the company as the anti-Microsoft. Mac and Linux versions of Chrome are promised for late 2009.

In January Microsoft offered up a public-release candidate of its forthcoming Windows-only Internet Explorer 8. Early comments were favorable, focusing on its improved compatibility with Internet standards and built-in phishing filter.

With a new version of IE getting ready for its final release, and a new giant entering the market, détente is over. Prepare for the next thrilling episode of The Browser Wars.

Don't Touch That Dial

If you're in the U.S. and you watch television signals broadcast using terrestrial radio, you may not have TV much longer... unless you change your hardware.

By regulation of the Federal Communications Commission, all U.S.-based television stations are about to switch over from analog signals to digital. This move has been in the planning for years, but as the scheduled date—February 17, 2009—for the actual switchover approached, some government officials panicked, worried that TV watchers would see their beloved screens go dark.

The move to digital affects only televisions that receive their broadcasts "over the air" from TV broadcast stations. Those that receive their signals from cable, satellite, or other sources are not affected.

On February 17, 421 stations, which the FCC says are mainly in smaller markets, indeed turned off their analog transmitters and switched to digital. Thanks to a reprieve endorsed by President Barack Obama, broadcasters now have until June 12 to make the transfer. For the next few months, U.S. TV watchers will inhabit a mixed analog/digital environment.

A related challenge for consumers has been the question of government funding for converter boxes—essentially digital tuners designed to receive the new digital broadcast and rebroadcast them using a very low-power analog transmitter to supply signals to older analog TV sets. New televisions sold since March 1, 2007 are equipped with digital tuners and won't need the converter boxes.

The U.S. government funded a program (www.dtv.gov/) to issue $40 coupons to let consumers purchase as many as two subsidized converter boxes per household... but the coupon program was clumsily managed by the FCC and poorly publicized.

Many households have been unable to get the coupons or replace coupons that expired 90 days after they were issued. Plus, it's unclear how many television owners are still simply unaware of the looming (but now delayed) transition.

When the switchover is complete, the U.S. will be one of the first nations to go from analog to digital television, trailing only a handful of smaller countries, including Finland, The Netherlands, and Sweden.

Robots Go to War

One phrase often used to characterize warfare is that countries spend their "blood and treasure." The U.S., along with many other nations, is increasingly willing to spend more treasure in order to spend less blood—by sending machines to war instead of humans. That's one reason why, for example, the U.S. military prefers battlefield drones to manned surveillance planes and cruise missiles over bombers. Not only does it cost less, it also avoids the risk of losing a pilot.

That's great for aircraft, but what about ground forces? While it would be rather scary to see a Cyberdyne Systems Model 101 Terminator advancing across a futuristic battlefield, many would

argue that if robots could do tasks instead of humans, thereby saving lives, the technology would be a good investment.

Consider the Roomba. It's a popular device, manufactured by iRobot Corp., for vacuuming the floor without human supervision. The Roomba is a true robot, not a remote-controlled toy; it senses its environment, detects changes, and decides how to respond, thereby acting on the environment, all with a great deal of autonomy.

Could Roomba-style technology be adapted for the battlefield? It already is. iRobot, which also makes industrial robots, has been exhibiting its products at military trade shows, including those run by the National Defense Industrial Association and the U.S. Army's Institute of Land Warfare. Indeed, iRobot says the following about its "iRobot Warrior 700" model as a "next generation force multiplier":

Successfully execute EOD [explosive ordnance disposal], reconnaissance, and other missions...

• Get real-time intelligence and complete situational awareness...

• Move weapons and other heavy payloads...

Featuring an advanced digital architecture, the iRobot Warrior 700 is a powerful and rugged robot that carries 150-pound (68 kg) payloads, travels over rough terrain, and climbs stairs while performing a variety of critical missions:

• Bomb Disposal / EOD (IEDs / VBIEDs / UXOs)

• Route Clearance

• Surveillance / Reconnaissance

From household labor-saving robots, like the Roomba, to noncombatant life-saving battlefield robots, like the iRobot Warrior. Is the Terminator next?

The Magic and Beauty of Computer Science

Computing is pervasive. Increasingly, however, computer scientists are not. Let's face a harsh reality: Our schools, and society as a whole, don't do a good job of persuading young people to study computer science or view "computing" as a profession.

Looking at the public school curriculum, you see classes on mathematics, biology, chemistry, and physics. Where are the classes on computer science? Perhaps there's an elective where kids can study Web design or programming, but computer science isn't part of the curriculum in primary and secondary schools. In the broad society, there's little understanding of what computer science is and what a computer scientist does.

Confusion in society is mirrored in the world of computer science itself. At the Rebooting Computing Summit: The Magic and Beauty of Computer Science in January, about 250 computer scientists, including ACM Turing Award winners, university professors, secondary-school teachers, industry experts, and technology journalists (like yours truly) came together to debate the problem. However, even we couldn't decide what computer science is, splitting as to whether or not it's correct to consider it synonymous with "programming."

This isn't just an academic exercise, which is why the National Science Foundation convened the Summit. Enrollment in computer science degree programs has dropped 50 percent since 2001, and K-12 students, especially girls, have a strongly negative perception of computing.

After three days of introspection and brainstorming, the Rebooting Computing Summit accomplished little more than a beginning. Attendees acknowledged the problem but found little common ground on what to do about it. Is it establishing marketing and brand awareness about the value of computing in our society? Do we need to reform the K-12 curriculum? Do we need professional licenses for computer scientists, as we require for doctors, lawyers, contractors, beauticians, and professional engineers? Do we still need to find a clear, concise, compelling definition of computer science itself?

At the conclusion of the Summit, attendees divided themselves into 17 working groups charged with researching practical solutions to the challenges facing the profession. Stay tuned; we'll bring you periodic updates on our progress.

Alan Zeichick (zeichick@acm.org) covers the tech industry as a longtime journalist and analyst in the San Francisco Bay Area.

DOI: 10.1145/1516035.1516037