The biggest shift caused by the Internet is not the technology that people use. It’s how people interact with one another and with the institutions in their lives (also composed of people). The power institutions once held over them is eroding for three technology-based reasons:

First, people have better information about everything – about the behavior of institutions, about the provenance and cost of goods, about one another. They also have the opportunity to interact with far more people and institutions than ever before.

Second, because of the freer flow of information and the abundance of processing power, it is now possible for anyone (but especially for institutions) to “mass-process” individuals and track them and even treat them as individuals if the institutions so desire.

And third, much the same processing power and information are potentially available on a retail basis to individuals; they can benefit from economies of scale, while institutions generally still lack the flexibility and the ability to innovate that individuals and smaller teams have, even though they have the tools.

Of course, all these trends are in their infancy. Freedom of information about the activities of most governments and government officials is still a theoretical concept; most people are treated by most institutions as numbers, not as individuals; and don’t even try to get an intelligible explanation of your medical bills.

But the fault lines are becoming visible. At the leading edge – empowered rich consumers in developed markets – self-determi-
nation, self-expression, informed consent and comparison shopping are all taken for granted, if not yet delivered. Yet the transition won’t be easy.

It won’t be easy for a number of reasons. First, some fault may lie within ourselves. As author Barry Schwartz describes below, too much choice may leave us uneasy – not simply confused, but continually in doubt that we have chosen wisely. With choice comes responsibility: Do we really want to be making choices and taking on the burdens of responsibility every moment of the day? Isn’t it simpler just to leave the driving to someone else?

Second, institutions and the people who hold power within them give that power up reluctantly. We remember how the least significant of the deputy vice chairs of the subcommittees of the advisory councils of ICANN would proudly emblazon that title on their business cards. And, as hinted above, it’s not just those with a little power: Power seduces as much as it corrupts. People familiar with a system uphold the rules of that system and curry favor with its agents; it’s secure and comfortable to know your place within an institution, and you can always work for incremental benefits.

Third, change itself is tough. We need to build new technology, new applications, new habits. Just knowing that individuals should be in charge doesn’t make it so. What are the mechanisms? What do people need to know and learn about new rules and conventions? How can we provide the right defaults with visible but not confusing alternatives? How much disruption can people stand?

**A précis of the Forum**

These are all things to keep in mind as you read the pages that follow. We start with an overview of choice. . .and creativity rather than lack of power as the counterpoint, leavened by insight from Ajit Balakrishnan of India, where choice about anything at all is still a new concept for many people.

On Monday, we look at individuals as consumers, in charge of data about themselves. In the first panel, we consider how consumers can
manage and even sell their own data. In the second, we look at how two established marketing companies and one startup are using behavioral targeting. Next we tackle health care. Here, we take a step back and look at the unique and dysfunctional institutional infrastructure. . .and conclude that it will take institutional muscle to change anything. In this case, the institution best aligned with the interests of individuals is, amazingly enough, their employers (along with their unions). In the evening, William Haseltine takes another crack at the health-care challenge, and points at India as a model and a source of technology, process and inspiration.

On Tuesday, we start with Bill Joy – an individual who has already made a difference in many ways. Now he’s working at Kleiner Perkins and helping to lead its efforts beyond information technology into areas such as water and energy. It’s a deep pleasure to watch as institutional pools of innovational capital (led by individuals!) start to tackle the big, long-term problems – not just higher-definition TV but higher-quality water; not just lower-cost everything but more sustainable everything.

Next we turn to security – traditionally the province of the authorities, but in an increasingly decentralized world it is beginning to resemble public health, with shared responsibility. Are individuals up to the challenge? How can governments and vendors’ technology effectively empower citizens to protect themselves and isolate the bad guys?

Then, two panels on new business models: First, we consider how a variety of different companies – role models for others – are shifting power: Augmentum represents the rising power of Asia and particularly of its creative developers; Salesforce.com illustrates a new form of soft power and how vendors can provide a delivery as well as a development platform; Brightcove is eroding the value and therefore the power of traditional video and content distribution channels and upending an entire industry. Meanwhile, Microsoft is kicking up its heels and considering what it has to gain as well as to lose from new models.

In search, the model seems clear, but what do you do for an encore? In fact, now that it has found a business model, search is likely to evolve rapidly in two directions that empower the user to filter rather than find: Domain-specific information services such as Zillow use the ad-supported model rather than the more familiar exchange/transaction model in specific vertical markets, even as their information empowers users to negotiate more effectively. And personalization is key to Yahoo!’s community services, many of which also encourage users to generate content for others to find. Yet behind all this, marketers and advertisers will continue to search for optimization
techniques that let them target their messages to the most lucrative recipients. Where that leaves the less lucrative recipients long-term is an open question.

On Tuesday afternoon, we empower the Forum’s attendees, inviting them to engage in two bottom-up roundtable discussions. The first, on the accountable Net, considers the interacting concepts of trust, reputation and identity, with a swirl of interacting tools and services that can help users identify, authenticate and assess one another. One person’s privacy is another person’s lack of transparency, so how can we create granular mechanisms to reveal some of ourselves to some other people, without revealing all?

The second covers Me Media, the proliferation of platforms and models for user-generated content, from blogs and tags to video and long-tail advertising. Amid the frenzy of activity it’s difficult to discern differences among all the players and to distinguish passing fads from lasting changes. Why do people participate in this social media? Can social media supplant traditional media outlets, not to mention editors and opinion-makers? Are there viable business models in this space?

Finally, we close the Forum with a look at the future, inviting young attendees to sit up front near the stage while three leaders of online communities take on the challenges of empowered users: LinkedIn and Facebook are evolving even as their user bases change, tweaking the rules as they go. And startup Seriosity raises the fundamental question: What is the difference between work and play if you are having fun?

We hope you have fun over the next three days, and that you leave feeling newly empowered with useful business models, stimulating ideas and thought-provoking questions.

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**PC FORUM ONLINE ACTIVITIES AND TOOLS**

*IntroNetworks*, which helps members of “gated communities” discover mutual and complementary interests, will provide its networking service for PC Forum attendees.

*LinkedIn*, the business-networking company (SEE PAGE 66), is providing its group-networking tool, LinkedIn For Groups, again at this year’s Forum. Open exclusively to Forum attendees, it will help you maintain your relationships after the conference.

PRESENTATIONS – Blind Choice and Intelligent Design

The Internet and all its applications give us great freedom and a seemingly infinite array of choices, yet it’s not clear how much happier that makes most people. That’s the contention of psychologist Barry Schwartz in his book “The Paradox of Choice,” but it’s also the experience of many people we talk to. For them, opportunities are merely obligations in disguise. If you can do anything at all, then you are responsible if you fail to achieve greatness. You can no longer blame things on circumstance, lack of opportunity or other external forces. Any flaws in your life must be due to some personal unworthiness.

But it’s not all this bleak. Perhaps the antidote to this dilemma is not less choice, but a greater chance at creativity. In Linden Lab’s Second Life, you can create a new life – your own second life, not merely a prepackaged choice. And with Rediff.com, India’s leading portal, millions of Indians are also creating new real-world lives for themselves in a world where many of them once had extremely limited choice.

Barry Schwartz, Swarthmore College: The paradox of choice

Schwartz develops his thesis about the downside of choice at considerable length and with specific analysis in his book. A psychology professor for 35 years, he’s talking not just about the angst of freedom but about specific psychological mechanisms. For example, take our experience the morning of the day we went to meet him in Philadelphia. (He teaches at Swarthmore College, surrounded by bright but often unhappy students for whom everything is possible.) Our regular YMCA swimming pool was closed for maintenance, so after some deliberation we went to another Y. No problem there: reasonable hours, free (to us as a Y member), on the way to the train. But…this Y had two pools: one large but too cold, and the other small and too hot. The choice was easy: We picked the larger, more invigorating pool. But for that whole hour of swimming we thought of how comfortable the other pool might be. The very availability of choice made us less satisfied with the option we had freely chosen.

It’s not simply the confusion of too many choices one can’t understand, but the way that all the options erode the pleasure of the best option. This explains so much that is familiar but heretofore inexplicable. Why do more vacation choices lessen the pleasure of the vacation you actually take? And perhaps, why do too many online “friends” reduce the appeal of the friends you already have?
The solution to this challenge for each individual starts with constraining one’s own searches, says Schwartz: “Determine to be a ‘satisficer,’ happy with ‘good enough,’ rather than an ever-searching ‘maximizer’ discontented with anything but the best.” (. . .and with the Internet’s array of choices, how could you ever be sure?)

A second tactic is commitment, he notes: Those money-back guarantees, while valuable in objective situations of defective products, decrease our commitment and lead to doubts. People who make irrevocable decisions tend to justify them and like what they have bought or done; people who dwell on an opt-out continue to agonize over whether they like the choice they have made. Mentally healthy individuals, in general, tend not to second-guess most of their decisions.

But more broadly, from the vantage point of society or at least from the IT industry, what are the implications? How can an online business support those personal approaches and make its customers happier – long-term?

One obvious – and currently fashionable – approach is “community everything.” All the services that promise “community shopping” or social search or tagging are really offering ways to filter or constrain choices. They let users leverage the selections and choices of other (presumably similar) people as the putative best method of filtering to produce the best choices for individuals without forcing each person to consider all the options. Individuals who may resist being marketed to by vendors are often perfectly happy to follow the lead of other individuals, who presumably aren’t trying to foist high-margin goods on their friends. But beware when taggers and bloggers are found to have a vested interest in the success of their tags!

Meanwhile, if you are a business, there are some other issues to consider. For example, Schwartz acknowledges, it’s still in the interest of any single manufacturer to produce more varieties of whatever it produces. Each different style or package generates incremental sales. But from the point of view of a retailer, the best strategy is probably to limit choice – or at least to make choosing easy through social networks or Amazon-style recommendations – and to increase your customer’s satisfaction. The effect may be subtle, but it’s real. And, notes Schwartz, limited-line stores such as Costco, Aldi and Trader Joe’s are currently doing best in the market.

Perhaps the commercial message of the paradox of choice is that in a world of abundance it’s better to be a retailer or a community site or a vertical-search service, helping a user deal with the challenges of choice, than a manufacturer adding new choices to an already overwhelming array.
Philip Rosedale, Linden Lab: Freedom to choose vs. freedom to create

But freedom isn’t only about choice. The real value of the Internet is how it unleashes individuals’ ability to create. (Economically, you can argue that efficient markets realize latent value, whereas the enablement of creativity actually generates value.) Take Second Life, the online world founded by Philip Rosedale of Linden Lab. It now has 150,000 users, with about 20,000 people online daily, on a total land mass of about 32,000 acres. Linden’s basic business model is that of a landlord. It sells parcels of land (about $80 an acre), and then charges “maintenance” of about $15 per month per acre, which covers bandwidth, power and Linden’s own markups. Thus Linden operates as a super-landlord, and residents pay to set up a permanent existence (with a home, storage for their stuff and so forth). A new resident buys land and then proceeds to build what he needs...or he can get integrated more quickly by buying or renting what he wants. But the socially successful members design housing, clothing, avatars and other things for themselves.

Visitors can stop by for free, but of course they have to pay to buy or use most things, just as in first life. The average user probably spends $25 a month on land as well as things, but more active people pay Linden hundreds of dollars or more.

As noted, land is a scarce and costly resource dependent on the number of physical servers in Second Life, and doled out by the landlord or traded in the aftermarket. Other items cost as much as their makers can get for them. Rosedale says, “In January, 180,000 different distinct items were sold. So this was not like shopping at Costco!” The transactions happen in convertible Lindendollars on the “LindeX.”

In theory, members of Second Life have almost infinite choices about how to look, what to wear, what to create, how to run a business...although they also face virtual constraints, including zoning regulations and community standards. But, says Rosedale, “The things you create are yours; that’s different from picking from a horizontal array of choices. We’ve created an environment that just begs to be altered.”

He continues, “Our challenge is to figure out the toolset that makes it easier for people to do things” without turning the world into a “pick one from menu A and two from menu B and follow the dots” kind of system. In Second Life as in real life, some people pick up the rules quicker and are more creative with the tools and resources they find. But whether the constraints are real or imagined, people find themselves freer and more creative in Second Life, says Rosedale. Although the user base skews towards the Bay Area because that is where the company started and where its viral adoption began, it has fewer members in New York than you might
expect (0.16 per 1000 residents vs. the US average of 0.38 per 1000), says Rosedale. He attributes that to the openness of New York’s culture: “In New York, you can be your own avatar in real life.”

Of course, blogging sites, photo-sharing sites and the like also encourage users to be creative, but Second Life challenges people not just to create in particular media or formats but to re-create themselves. Adds Rosedale, “A good day on the mainland is a hundred times better than the best day on any single island. The pleasure of creating things is greatly multiplied both by frequent feedback (people wandering by as you build and commenting) and by active collaboration (someone gives you an elevator to attach to your home-in-progress, or makes an impromptu piece of art for your living room). Those interactions depend on chance intersection and diversity, and are less likely to happen on your own island.”

Indeed, the social value of Second Life may well come from the personal interactions it fosters. It’s a serious place, with events catalogued on eventful.com, certified sexual-harassment training offered by consultant Freada Klein and the opportunity for hundreds of people to start their own small businesses. If Web 2.0 is creating a proliferation of startups with inexperience, perhaps the solution lies in cadres of Second Life-experienced small-business managers. (See also Helen Cheng interview, page 64.) People who are too young or otherwise seemingly unqualified in real life – living in the wrong country, for example – are getting real experience running teams, persuading others to do things and the like – and earning or spending real money. Because Second Life generally runs “faster” than real life, they have more opportunities to learn from trial and error.

**Ajit Balakrishnan, Rediff.com: A second world**

But if you find Second Life too, well, frivolous, consider Rediff.com, India’s leading general-interest consumer portal with a range of news, sports, marriage, finance and other consumer content and community.

Rediff offers a new life to some people who barely had a first life. . .although for now its user base is drawn primarily from India’s 200-million-strong middle class, not from its poor. India is currently going through a transformation, says Rediff.com founder Ajit Balakrishnan: ”The traditional bazaar is giving way to big-store retailing: from a choice of two car models to more than 50, from one state-owned TV channel to 100 independent privately owned satellite TV channels, from waiting five years for a telephone connection to off-the-shelf phones with service plans from
seven mobile operators, from waiting in line for two hours for a rail ticket to online ordering and same-day home delivery, from marrying the boy your parents found for you versus finding a boy yourself... all leading to an explosion of bewildered citizens looking for answers and guidance in making choices.”

Balakrishnan, who previously founded ad agency Rediffusion and still owns 30 percent though he is not active, started Rediff.com 10 years ago; it has been listed on NASDAQ (REDF) since 2000. It now has 40 million registered users of which 10 percent come from outside India, mostly expatriate Indians in the US. About two-thirds of them use Rediff on PCs (many on dial-up); the rest communicate via cell phones, mostly with SMS (text messages). “We do all our cricket reportage and offer searches for air ticket prices and jobs in dispatches of 160 characters each [the SMS single-message limit],” says Balakrishnan. The current Indian Internet user base is 38 million users, increasing 30 to 40 percent each year. The current cell phone subscriber base is 80 million, an increase of about 40 percent over the past year.

Meanwhile, Rediff has another competitive weapon against Google and Yahoo!, both of whom have operated in India for the last few years. That’s its strong local profile and local content. Plain algorithmic search revenue is relatively small. “So much of search revenue [in the US] is based on commercial searches – people looking for things to buy,” says Balakrishnan. But because there are fewer online vendors, Indian users go to them directly – often via Rediff – rather than searching. For now, Rediff is helping them make choices rather than abandoning them to the undifferentiated vastness of search.

He continues, “But where we are able to serve our users best (I’d venture to say better than Yahoo! and Google) is in vertical searches: Fare Search that keeps track of airfares in a very exciting market where six new airlines have launched this year, Ringtone Search, Jobs Search which searches all other job sites, Product Search which checks [offline] consumer electronics product prices in 10 [Indian] cities, and so on.” Nonetheless, Rediff has just unveiled a new version of its own search engine that “will hopefully make waves internationally for its technology,” says Balakrishnan.

Rediff also has a social-network service, with more than 2 million users. Last year, Balakrishnan gathered the top 10 (by number of connections), including the leader, a woman with 30,000 connections who speaks little English (the site’s language and the unifying language among India’s 14 major languages and several dozen dialects). She communicates in rudimentary English with these contacts and makes her living selling insurance to them. Rediff is her principal source of new business leads.
“We are firmly allied with citizens and users and look out for their interest and help them navigate through life,” says Balakrishnan. “This to me is how the Internet has made a difference: We are on the side of the consumer not the advertiser, the citizen not the government.”

**INTERVIEW – Pierre Omidyar, Omidyar Network: Rules for Freedom**

Some people look at eBay and see the triumph of little-guy capitalism or the long tail. Others see an emergent community, strengthened with a reputation system and social rules that enable it to evolve through a variety of crises. Yet others see a business that provides social benefits as a by-product, sustained by a profit-seeking engine that keeps it going independent of the motivations of its users and employees.

For Omidyar himself, who as a small investor bought into the 1993 3DO public offering at 50 percent more than insider institutions paid, eBay was simply a market that would be fair. He didn’t want to compete with Wall Street, he says, but he did want to make the market for used goods “more efficient and give the power and benefit of an efficient market to individuals.” As it happened, eBay first uncovered latent value in what people had in their closets; later on, it allowed individuals to create value, either by sourcing goods or even making them specifically to sell on eBay. Along the way, it created communities of buyers and sellers and networks of trust. *(See Release 1.0, April 2004.)*

“How do we create social value?” asks Omidyar now. “We help people to pursue their own self-interest. Without anyone consciously trying to save the world, an efficient market can benefit the public interest. In the right environment, profit is evidence of social value...and of course it also fuels the creation of that value.”

Now Omidyar is pursuing both his own and the public interest more consciously and in tandem. After eBay’s IPO in 1998, he and his wife Pam formed Omidyar Foundation, intending to leverage their entire wealth over their lifetime toward making the world a better place. But in June 2004, they disbanded the foundation and created a new organization, Omidyar Network, to fund both for-profits and nonprofits. (The initial capital was $400 million, but ultimately the Network has access to the Omidyars’ total wealth.) They switched because the restrictions on the activities of a chari-
ty were too onerous, but eventually they concluded that the financial self-sustainability of for-profits is often a better approach anyway, even for social ends.

But in any case, such ventures operate in a complex world. For-profit enterprises are just part of a broader environment that includes governments and nonprofits. Ideally, governments create and enforce rules wanted by the majority, and engage in collective action where markets won’t work: deterrence and punishment of crime, various kinds of regulation, enforcement of antitrust (to make the market work), education and a variety of public services and subsidies for those who can’t fend for themselves. Both nonprofits and governments, even as they try to do good, can inadvertently interfere with efficient markets; they can compete with and squash enterprises that might otherwise be self-sustaining. For example, says Omidyar, “Many of the most effective and profitable microfinance institutions are funded by philanthropic capital. This ultimately distorts the market, creating no incentive for reporting standards among microfinance institutions and crowding out private investors.”

Omidyar thinks the market usually works best, but people often miss the point that a market can work well or poorly. The trick is designing the proper environment, he says, so “you can unleash the players and be confident that you will like the results.”

The environment, as he sees it, comprises three major aspects: first, access, which means that it’s open to everyone (or at least to anyone meeting clear and fair criteria). Once you’re inside, you have access to resources and information on the same basis as anyone else. You can find out as much about others as they know about you; you can see the rules and you can see that they are applied. The system is visibly fair.

Second, there’s connection – everything from the ability to transact business to the ability to communicate (recently enhanced at eBay with the addition of Skype). For a market to work, people need to communicate, interact and choose one another.

And finally, says Omidyar, there’s “skin in the game” – ownership and accountability. All parties have a vested interest in the system and feel the consequences of personal or market failures. At eBay, for example, stockholders, employees and members/users alike want the company to succeed. Certainly, members would prefer transaction fees to be lower, but they want the benefits eBay provides. The system is open: They can leave if they find the fees too high, but most don’t; they stay and complain. That’s the advantage of an open system: It enforces discipline in both directions. The system needs to be attractive enough to attract and keep people…but it doesn’t need to keep all of them.
PANEL - Users in Charge: Where’s the Virtual Upright Wheelchair?

Imagine this: Juan enters a bar in a wheelchair, pushed by Alice. Fred the bartender turns to Alice and asks, “Would he like a drink?” Juan is perfectly capable of speaking for himself, but Fred doesn’t get it. Back in the real world, Dean Kamen revolutionized many disabled people’s lives with an upright wheelchair that changed everything – putting Juan’s head level with Fred’s. But where is the virtual wheelchair for all consumers, who are generally talked about or even to, but rarely listened to?

A large number of companies now claim to listen to consumers, but they tend to listen for market research, not for the words of individuals. That is, companies collect user feedback and consider it as they develop new products or programs, but they still sell to customers as segments. They guess at preferences rather than asking consumers directly. In short, they make offers; they don’t generally consider bids. They produce configurations to meet market needs, but they don’t produce to order.

The new balance of power

But that will change. Consumers will begin to have the ability to set terms with institutions: Would you like to buy my data? Or, I’ll give you my data because I want you to extend me credit. Or, Will you build me a system or design me a dress with these and these specs?

Of course, the underlying power balance of size versus the individual doesn’t change, but the fact remains that the consumers have the money that the institutions want. In our current world of abundance, no one has to persuade an institution to sell its goods. But now institutions will have to design for their customers, treating them as individuals. This is not so much because customers want it; they have always wanted it. It’s because competing vendors now have the capability to do so, and no company wants to be the last.

Once users get control over data that was previously controlled by institutions, many markets will change fundamentally. Currently, most data about users as consumers is in the hands of financial institutions and marketing intermediaries such as ad networks, who sell the use of it to one another. (Alas, we are talking only about private institutions and commercial data here.) Increasingly, these institutions are begin-
ning to develop some kind of consumer strategy, if no more than Fair Isaac’s MyFICO, a website that lets consumers pay to see their FICO scores (one from each credit bureau). It was during his time at myFICO that Scott Mitic (below), who went on to co-found TrustedID, “got” the powerful connection between consumers and their data. But these services aren’t core for the institutions and – let’s face it – they are rarely sincere. In the end, Mitic left to realize his vision elsewhere.

Indeed, the more convincing efforts are startups that have consumer power in their genes and individuals as their primary source of revenue. They see an opportunity to provide control over the use of such data directly to the individuals who generate it. Like a bank holding money, they hold the data on behalf of individuals, not on behalf of marketers.

“Users in charge” can be an empty promise – everything from “Have it your way!” to “The customer is king.” But three startups, in different spheres, are planning to offer true control over their information directly to consumers. Note that this does not mean privacy in the sense of “I can stop people talking about me.” Nor does it enable someone to change a poor credit record into a good one, or to disown a bad reputation. It means control over the use of the data, not the facts in it.

Opinity offers a reputation/credential-verification service that allows people to assert and back up such claims as college degrees and medical credentials as well as online identities and reputations earned at sites such as eBay and LinkedIn. It’s a key part of the accountable Net we envision in Tuesday’s roundtable (PAGE 91) and will support and use reputations from the virtual communities discussed in the Forum’s final panel (PAGE 63).

Root Markets is starting out with a vendor-side lead-generation business but allowing the consumers whose leads it collects to control and get money for the further disposition of their data (as described in our book, “Release 2.0”). And finally, TrustedID gives individuals the practical tools to control the release of their credit data, which in turn gives them a new weapon against identity theft.

In the past, a variety of privacy and identity services have failed to gain traction. What is different now? For starters, these companies aren’t selling “privacy” or “identity.” They are talking about money and reputation – a person’s ability to engage in transactions on- and offline. But in a world where many people don’t trust even long-established institutions, why should they trust a startup?
Ted Cho, Opinity: Proving you’re a dog online

Most Web-based services around identity are concerned with authentication: “Are you really the Alice Holmes who owns account 4239, and are you good for a $2900 lingerie purchase?” Or, “Are you really Juan Tigar with the 150,000 frequent flier miles, or are you his ex-wife trying to find out where he’s going for the weekend?” And from a consumer point of view, much of the concern has been with privacy and confidentiality.

But consider the consumer’s other point of view, as someone granting trust to another person: “Are you really an MD?” And, “Did you actually graduate from Harvard, or was it the Harvard Summer School?” Or, “Are you the same Fred Bloggs who has the good reputation on eBay, or are you a trickster posing as him?” Having reliable answers to such questions benefits all parties: The individual with credentials gets (appropriate) trust, the third party can trust someone, and the world gains an interaction or transaction that both parties presumably want and that might not have occurred otherwise.

People develop reputations and amass credentials both online and offline; Opinity plans to help them back up assertions about themselves – and to let others safely rely on those assertions. It was originally conceived as a technology play that would provide the technical platform and tools for users to aggregate their online digital identities and assert their credentials. It still does that, but it has also added less automated, more value-added services that hook users up with offline authentication bureaus and background-checkers; users will pay fees to those third-party certifiers, including a commission to Opinity. In practice, users will be able to link to their Opinity profiles from their profiles on other sites, such as those for dating, photo-sharing and job-search. Opinity will market to and through these sites, as well as interacting directly with consumers from its own site. The pitch to websites is to increase trust and community among their users. Over time, Opinity hopes to make revenues both from websites and from individuals.

One benefit of such services is that a person can reveal some information without revealing all of it: For example, revealing “I’m older than 21,” but not how much older. Or, “I own a home worth more than $200,000” without revealing its exact valuation or its address.

Interestingly, in Release 2.0 of Opinity, a user will be able to remain anonymous-pseudonymous, by asserting, for example, “I call myself Tina Trump and I really went to Harvard” or “really worked at Cisco” or whatever. “Tina Trump’s” seal will
indicate that her claims about her credentials are true even though her “real” (or legal) name is not Tina Trump. This is not, of course, a system for bulletproof anonymity; if Tina Trump confesses to murder, Opinity won’t be able or willing to shield her. And Cisco itself, on the basis of its own records, her other credentials and a little sleuthing, could probably figure out who Tina Trump is. But this level of pseudonymity is enough to let Tina post freely as an expert without giving up her identity publicly, and to make comments that won’t be linked back to her under her real name in her new role as VP of communications at Juniper Networks.

Ted Cho, CEO of Opinity, says he hasn’t had much demand for such pseudonymous credentialing, but we’re sure that’s partly because no one has offered it yet. Perhaps pricing could be $10 per month for your first identity, $30 each for the next five fake ones, and then a volume discount after that. . . .

Because Opinity uses third parties for many of the verifications, the range of assertions that can be verified is broad. In the beginning, we suspect, the identity of the third parties – the Big Three credit bureaus, for example, or Edufacts, an established academic-credentials validator – will back up Opinity’s more modest presence, but if Opinity is successful, people will come to trust it without checking on its partners. Obviously, Opinity will have to be scrupulous to earn and retain that trust.

The overall promise is to provide a web of assertions around a person, and each counterpart can pick those that matter. For example: You don’t much care if an eBay seller is married or went to Harvard, but you would if you were on a dating site. Likewise, if you’re an employer or a business partner, you’d worry most about the person’s education (especially for a young person) and career history. And of course you’d be concerned in any situation if there was a discrepancy between what the person claimed and what Opinity verified. Would someone be careless enough to make such a claim? Who knows? That person would win another credential: clueless.

**Seth Goldstein, Root Markets: Liquidity and transparency rule!**
Root Markets was founded early last year by Seth Goldstein, who founded online ad agency SiteSpecific in 1995 and Wall Street research boutique Majestic Research in 2002. Both a math geek and a consumer-rights fanatic (we mean that kindly!), he helped launch AttentionTrust.org, a foundation that advocates users’ right to their data; better yet, it provides a Firefox extension that allows users to track and monitor their own clickstreams and to share that information selectively with third parties. *(see release 1.0, December 2004.)* Root Markets is a commercial complement to
AttentionTrust: a marketplace for consumer intentions, known in missionary circles as “attention” and in more mercenary environments as “leads.” Consumers who wish to participate directly in the trafficking of their data can open a “vault” at Root Markets and represent themselves directly to third-party marketers. For some people at least, that’s a lot more meaningful than the traditional implicit trade of free content for their data.

Goldstein may believe in consumer empowerment, but he’s also a canny businessman comfortable with the numbers and ratios that drive Wall Street and other markets. The market for consumer data owned by consumers just needs a little efficiency, he thinks, and perhaps some more transparency. Says Goldstein: “The basic idea is to apply to the otherwise opaque lead-generation market a far more transparent financial-market structure [along lines described by Omidyar, page 10]. Such an open market will benefit people, publishers and companies looking to trade consumer data for cash, not to mention the much broader and not necessarily commercial environment of personal information exchange.” He adds, “In the past few years, a number of lead-generation firms such as Nextag, Lowermybills, Adteractive and QuinStreet have benefited from a lack of central price discovery with $100-million-plus top lines and 40 percent margins.”

Root Markets’ challenge is not just how to get consumers excited but also how to get vendors’ respect for the likes of AttentionTrust. Who wants data about surfing habits from a bunch of privacy nuts anyway? . . .perhaps certain lobbyists or “authorities” do, but certainly marketers prefer to buy leads by the thousands without the overhead of dealing with picky consumers.

Root Markets decided to get into the business in a serious way from the start through the acquisition of a mortgage-leads auction marketplace called Lead Filter. Typically, “lead generators” buy ad space on mortgage- or housing-related sites (or, nowadays, relevant audiences from behavioral-targeting networks). They place ads that invite users to apply for mortgages, often with clever inducements such as a widget for calculating monthly payments.

Then they try to sell those leads, mostly to mortgage lenders. If sellers met buyers on the Lead Filter exchange, for example, Lead Filter got a 30 percent commission. The buyers of the leads don’t generally know where they came from, while the publishers who host the ads don’t know the ultimate value derived from their ad space. (Nor do they know much about the quality of those advertisers; see Release 1.0, April 2005.)
Done well, that’s a highly profitable, numbers-driven business. But it’s also inefficient... just as Wall Street was long ago. Enter Goldstein’s co-founder, executive chairman Lew Ranieri, the legendary head of mortgage trading at Salomon Brothers who created the multi-trillion-dollar mortgage-backed securities market in the ‘80s (and more recently chairman of Computer Associates where he engineered its turnaround). Now he wants to do the same for mortgage lending, while Goldstein builds a customer base not just of lenders but of end-users as the ultimate beneficiaries.

Root Markets is now overhauling Lead Filter’s business model. Instead of charging a commission, it lets buyers and sellers trade for free. As in any successful commodity marketplace, there are natural buyers such as mortgage lenders who are in the business of procuring customer leads. There are also natural sellers, which are initially lead brokers but over time promise to be the same publishers who are selling CPM ads now to these aggregators.

Root Markets will make money as the middleman, buying from the sellers and selling at a markup (it hopes) to the buyers. Also, for a fee, it will let buyers and sellers see the (anonymous) market, which should have spreads far lower than 30 percent. (Eventually, Root Markets may invite other market-makers into the game, but for now it’s the only one.) Root Markets will also develop precise criteria for defining and classifying leads, all leading to greater liquidity and transparency (despite the anonymity which will keep participants from going outside Root’s market).

Nature vs. nurture
The benefit is a quick start; the challenge is Lead Filter’s background in an opaque business that cared nothing about consumers. Can Root Markets change its culture? Or will the company always be two separate operations: the consumer side and the operations side? Says Goldstein: “I think this overdramatizes a rift between [consumer] vaults and LeadFilter. Lenders desperately want to cooperate with consumers and would prefer not to waste their money on consumers who have no interest buying their products and services.”

And that’s the twist. Root Markets invites the leads (i.e. mortgage applicants) to store 28 fields of personal information securely in a vault, which they can augment with other types of data, such as credit ratings, purchase histories, clickstream data and even medical records or credentials (see opinion, above). Renowned open-source hacker r0ml Lefkowitz is designing the database.
Root will then suggest ways to enhance the value of the data and monetize it; Root and the consumer will share the revenue. The consumer can actively enter data into her vault, or she can configure a collector such as AttentionTrust’s to do so for her.

How will users react to this pitch? Can a company based on numbers and born in a world of hard-sell marketing succeed in catering to high-end customers concerned about their privacy? We wonder: Perhaps it’s not a warm and cozy culture that’s key to the enterprise, but a culture of transparency and disclosure – the best of Wall Street rather than the worst.

Scott Mitic, TrustedID: Financial jujitsu

By contrast, TrustedID will be using fear – or perhaps desire for control – rather than money as its basic pitch. The company was founded two years ago by Scott Mitic, formerly VP of business development at Fair Isaac, and Omar Ahmad, formerly VP of operations and infrastructure at both Napster and Grand Central. Although Mitic helped lead a consumer-facing unit (now myFICO.com) for a while, it never quite “took” within the Fair Isaac culture and its mission of serving financial institutions. (Fair Isaac is the creator of the famous “FICO” score, for Fair Isaac & Co. It measures a consumer’s creditworthiness and is derived from payment data held by the big three national credit-reporting agencies – Experian, TransUnion and Equifax.)

Mitic wanted not just to let users find out their own scores – as myFICO.com does for about $40, including credit agency reports. He wanted to give them control – not over the content of the scores but at least over the use of them. In short, TrustedID plans to do a legal jujitsu move, using laws that allow users to freeze the use of their credit reports. That’s the bargaining chip that will let them get control over the use of their data by setting the terms under which they will unfreeze it.

That will stop the flow of unsolicited credit offers in the typical consumer mailbox. More important, as long as TrustedID’s own authentication process is airtight (see page 91, accountable net panel), it will prevent new credit from being extended to the wrong person... i.e. identity theft.

Currently, California and about a dozen other states have confirmed the right of consumers to freeze their credit reports, but there is no effective mechanism for consumers to do so. In fact, only about 3000 Californians have figured out the process since the law went into effect in 2003. A similar federal law will likely be enacted by Congress this year, giving Americans nationwide the same rights. Meanwhile, dozens
of state legislatures are considering laws modeled after California’s. (In general, even the credit-reporting agencies are in favor of it, since they’d rather contend with a single, national set of rules than with different requirements in 50 states.)

In fact, the law is a blunt instrument. There’s no practical way to exercise your rights; it’s a lot more complicated than simply getting some data from a credit bureau. Just as credit-reporting agencies don’t want to deal with the laws of 50 states, neither do they want to deal with millions of individuals. Reporting about them is one thing, but actually communicating with them, potentially many times a year, is another.

TrustedID is jumping into the breach with a service that gives individuals the powers of an institution and lets them send data back to the credit bureaus – specifically, just one bit of data: on or off, frozen or unfrozen, for their specific account. And it allows them to set granular conditions for locking or unlocking the freeze. For example, a customer could say (for a small fee): “Unlock the report only for the HSBC credit-card division” or “Unlock the account for 30 days for any mortgage lender in my state.”

The business model is fairly straightforward: Trusted ID will be selling through partners – initially Suze Orman, author of a widely popular consumer-finance tome, and (yes!) QVC. It is also lining up consumer-finance institutions – a long sales cycle indeed. TrustedID will charge consumers enough to cover the costs, but Mitic says, “In the long run credit-granting institutions should be willing to pay a premium for access to unfrozen accounts, since those are precisely the ones that will not be fraudulent, and they will belong to individuals who are unusually careful with their finances.”

In the long, long run, of course, TrustedID hopes that every legitimate individual will freeze his account by default, and then TrustedID customers will no longer be special. But by that time, the TrustedID service (or its competitors’) should be firmly baked into the credit system, and with luck TrustedID will have figured out other enhancements to sell to consumers. Meanwhile, the credit-reporting agencies will have no choice but to respond to consumer requests via TrustedID and other channels, and TrustedID’s goal is to be the easiest channel to deal with. (Disclosure: Esther Dyson is an investor.)
PANEL – Behavioral Targeting 2.0: Transparent Spyware?

Marketers and “efficient-market”-ers will inexorably create and tie together more information, matching online behavior to purchasing and income and other metrics (online or offline) in order to spend their marketing dollars more effectively. How do we handle the inevitable privacy backlash? There’s really only one solution: Put the data in the hands of the users – with proper security so that they can’t unilaterally upgrade their data and erase their debts.

The marketing world is starting to pay attention to a phenomenon called behavioral targeting, in which users are defined by their behavior rather than their demographics. Long ago, adware companies such as WhenU and Claria tried to sell behavioral targeting – a.k.a. user-controlled ads – but they couldn’t gain much user traction and resorted to sleazy distribution practices to build their “customer” (or victim) bases. This approach, in which users download tracking software unknowingly, is called “spyware.” (See RELEASE 1.0, April 2005.) Privacy activists exposed the devious plots of vendors such as DoubleClick to match online data with offline data. . . . And then even the nonparanoid discovered the heartbreak of spyware – not so much the spying, but the pop-ups and the redirected pages and the performance problems. Then anti-spyware vendors got into the act, labeling everything as spyware. Now WhenU and Claria are trying to be born again, WhenU with reasonable success, but they are carrying heavy baggage.

Another form of this watch-the-user approach was collaborative filtering, where users shared their preferences. Amazon offers this successfully as its recommendation function, using only data collected on its own site and shared (anonymously but openly) with other users on the site. And then there’s the anonymous tracking of which ads people see on multiple sites via so-called tracking cookies, which some people also consider spyware. Others call it giving users what they would want. . . if they only knew enough to ask. But it was too complicated to tell them, so users are mostly given what someone thinks they want. . .

None of these approaches will succeed long-term if vendors can’t get consumers actively and knowingly engaged.

The problem exists because marketers go only halfway to consumer empowerment: They watch what Alice does and figure she’s a 1-2-5. Then they “target” her. They watch but do not listen. They slot Alice into a bucket. They may put a little link
somewhere saying “for more information. . .” That’s too subtle. Alice doesn’t want to spend a lot of time understanding the complexities of cookies or figuring out spyware. . .and marketers aren’t motivated to educate her. But eventually she will get an education. . .probably from alarmist anti-spyware vendors.

Yet there is a solution. It’s time to press the reset button and get the consumers actively involved.

The cake-mix principle
Consider what we call the cake-mix principle. Long ago, cake mix was truly simple: All you had to do was add water. But clever marketers discovered that this approach left the housewives of the time feeling uncreative and disempowered. It was their job to bake cakes! So the cake-mix makers took out a few ingredients and required the “cook” to add a fresh egg for herself. In the same way, behavioral targeting shouldn’t be too good. It should get the user involved and leave a few errors or glitches for the user to fix for himself: “No mere machine can understand the true me!” That’s what mSpoke (below) does particularly well.

The three companies below show a range of approaches and potential. All three companies do the most natural thing in the world for good marketers: They have designed a variety of tools to figure out what individuals want. They are delivering that capability through third parties to whom they sell their services, so they don’t have ultimate control over the message that consumers get. In all cases, consumers are semi-aware of the deal; they know the site is responding to them as individuals, but the bargain may not be entirely explicit.

We believe that should change. Rather than offer a trade-off – let us do this and we’ll give you something good – they need to say, “This is something good. We’re giving you control of your experience – the products you see on a commerce site, the ads you see as you browse and the content you see on publishers’ sites.”

Two of the companies – Compete and Grassroots – come more from the vendor side and are just learning to talk and listen to consumers. By contrast, mSpoke is a completely new entrant (though it comes from another, nonconsumer background where it sells to Wall Street customers who understand what it does). Like the others, its web-based customers offer their end-users an implicit bargain. But the preference information it uses is visible to consumers and editable by them.
Don McLagan, Compete: Don’t compete. Connect!

Compete, based in Boston, is building a consumer-facing personalization service on the basis of what was formerly a research business that collected no individual data—and realized it was leaving a lot of value on the table. The company was founded in 2000 as an Idealabs company. Investors brought in marketing-data entrepreneur Don McLagan to evaluate it in November 2002 and then gave him the CEO job when he judged it to be “way cool.” McLagan had earlier built information businesses including NewsEDGE (sold to Thomson), the Lotus information-services unit that spawned OneSource (sold to InfoUSA) and Data Broadcasting (sold to IDC) and Data Resources Inc. (sold to McGraw-Hill in 1979). Compete has built a healthy business in tracking aggregate user behavior to predict things—primarily buying patterns. In 2005 it occurred to McLagan that all this predictive power could be put to better use when applied to specific individuals.

That required a big shift in thinking: Anonymized data had been at the core of Compete’s culture. However, Compete is still selling technology and background services to advertisers and websites; it does not have its own customer base. Those merchant customers in turn provide what amounts to behavioral targeting in a way that they hope will appeal to consumers—discounts and rebates in explicit (for those paying attention) exchange for the consumers’ preference information.

Compete’s first big customer is Upromise. Rather than pitch “behavioral targeting” to the consumer, Upromise has always offered rebates for purchases made online by its 7 million members at 400-plus “brand partners”—mostly retailers and financial institutions. Upromise puts those rebates, about 3 to 5 percent of most transactions, into the consumer’s tax-free 529 college-savings account, administered by Upromise.

Before and after

But until recently, the Upromise process was rather kludgy: The consumer had to go to the merchant through a link from Upromise’s website to get the bennies (and for Upromise to get its share).

Now, about 10,000 Upromise members have signed up for Compete’s Voicebox toolbar, still in pre-launch. It watches the consumer’s behavior—what sites and particular pages she visits, but not (at this point) specific purchases. With Voicebox, the user gets recognized and notified and sees the Upromise offers whenever she happens on a Upromise-endorsed website. She also gets lured to Upromise partners by targeted ads when she researches a decision at a competitor: “We notice that you’re looking at home-equity loans. Take advantage of Citicorp’s offer and add $1,000 to your 529!”
When she hits the partner site, her toolbar displays a welcome message from Upromise and reminds her of the rebates she can earn. She can also see what she has earned transaction by transaction – but she can’t see a record of the surfing behavior on, say, Land’s End that led to her getting an ad from L.L. Bean.

For every dollar the user earns from the merchant, Upromise also gets a dollar from the merchant. Compete shares in Upromise’s revenue, but it won’t say how much.

Voicebox is an interesting step towards user empowerment, but it’s still more of a marketing service than a user-empowerment tool. Underneath, the model – as opposed to the language – is fairly consumer-empowering. The combined weight of Upromise’s 7 million members gets enough attention from 400 websites to negotiate real discounts and rebates. The consumers – through their toolbars – get good comparison-shopping information, and they get to read reviews from Upromise partner Epinions of the products they are buying – though not of the intermediaries they are buying from.

But the shift in Compete’s thinking hasn’t come easy. Try as McLagan might, he still talks in marketing-speak rather than consumer-speak: “Compete’s new Voicebox platform allows marketers to engage their customers online and reward the customers for opting into a marketing conversation with the brand. The C2B [consumer-to-business] consumers have seized control of the marketing information flow; they search and research just the content they want and ignore the rest.”

The challenge, of course, is that Compete and its competitors still need to go through established channels to reach those millions of consumers before it can aggregate and leverage their buying power. . .in order to empower them.

Arvind Rajan, Grassroots Enterprise: Politics – The root of all marketing?

We were originally drawn to Grassroots because of its name: What could be more empowering than a firm working with the grass roots? In fact, Grassroots works for large clients trying to influence the grass roots, but it does it so much more cleverly than your traditional marketer-with-a-message that we decided to include it here and at PC Forum. These are the methods we predict everyone will be using some day – and if it’s done transparently, so much the better. At its best, the kind of work Grassroots does will indeed empower individuals to influence their government more effectively – though it will empower only those individuals on its clients’ side of an issue.
The point is that manipulation doesn’t need to be underhanded. The most effective salesman often says straightforwardly, “I want your business. I’m going to learn all about you and understand your objections, and then I’m going to tell you why this car is perfect for you.” And then the salesman does the right thing: He listens.

Indeed, Grassroots Enterprise is perhaps the most effective, most one-to-one marketer in this issue of Release 1.0, and it’s not even in the traditional marketing business. It may be that an individual activist is worth more than a car buyer or an account-holder; or it may be that people in politics are looking to motivate attitudes rather than behavior, and so they understand the subtlety and detail required to communicate one-to-one. Founded in 1999, it started as a consumer destination website, a political portal called Grassroots.com. “In 2000,” says co-founder and CEO Arvind Rajan, “with a little bit of the dot-com money left, we changed directions and began building an ASP platform for public-affairs campaigns. We had our first release in the fall of 2001.” A year later, it began offering strategic consulting services around its product; today, it gets most of its revenues from professional services.

Once its clients get people to their Grassroots-enabled websites, either through e-mails or through regular mail or non-Web ads, Grassroots technology tracks each user’s behavior. (It discloses the presence of cookies but doesn’t highlight them – and of course it can’t use them at all on official government sites.) “We record what stories they read and what they click on,” says Rajan, who previously was a marketer/business developer for power-storage company Solectria and broadband company WarpSpeed. “We know if they went through five steps towards making a donation but didn’t complete when it wanted their home address. We can tell whether they find the education-reform or the mortgage-deduction proposal more compelling.”

Grassroots is not just watching behavior on its own site. It watches follow-through, as well. For example, it can distinguish between Juan, who sends 45 letters to friends and gets 40 of them to visit the client’s site, and Alice, who sends 100 letters but doesn’t generate any follow-through.

“We develop customized messaging for each stakeholder,” Rajan continues. This messaging is delivered either through follow-up e-mails or in the selection and presentation of the content the next time that individual visits the site. Usually, Grassroots will try out five to ten messages, find that half of them work and then match the messages to the people who react best to them.
Those famous e-mails to Congress that you read about, he adds, rarely have much impact unless they’re raising a new issue, says Rajan. “We use them more to see what people are willing to do. We customize the user experience in a way that will get them more vested and help the core people make the next step. We don’t ask for money all the time. We’re trying to build a base of people that will endure long-term.”

So much is issue-specific, he adds. “Many political operations go out to the same activism databases,” just as mass-marketers buy generic mailing lists or ad placements. He continues, “But we’re always looking for people who resonate with a specific issue” — whether it’s an experience with a specific drug that’s being recalled or some tax break that they benefited from. “We aren’t always looking for political activists, but someone with a unique interest or relationship that we can leverage.”

Of course Rajan can talk about specific clients in only the vaguest of terms, but they include corporations, trade associations and political figures on both the Right and the Left. Occasionally the firm will turn down a client – not because of company policy, which is bipartisan, but because the client is so polarizing it would jeopardize other business, or because Grassroots simply can’t find staffers willing to work on a particular campaign or issue. One such example is tobacco companies.

More typical was a trade association representing most of the Fortune 500, working on a particular financial issue, says Rajan. The client couldn’t convince Congress that anyone cared other than corporations. Grassroots tried out seven different messages, including one framing the issue as a danger to the benefits of working women. From that point on, it went after working women with that message, and 92 percent of those who visited the site signed up to support the client’s side and to communicate that to their senators.

This is the kind of stuff that commercial marketers know they should be doing, but few of them seem to be doing it. In a world where all agree it’s about loyalty and influence, not just immediate purchases and clicks, perhaps politics is the place to look.

**Dean Thompson, mSpoke: Field of memes**

mSpoke began its life in 2002 as Peak Strategy, a developer of predictive models for Wall Street traders, a community not known for its consumer orientation. But as founder Dean Thompson and early investor Dave Mawhinney decided to scale up the business last year, they came to the completely rational yet counterintuitive conclusion that the largest customer base was individuals. The problem with traders is
that there are relatively few of them, and a couple of predictions go a long way when you’re trading billions of dollars. The returns to the algorithm providers, unsurprisingly, are small.

By contrast, if you could scale to millions of specific predictions on behalf of millions of consumers, you might have an interesting business. That’s what Thompson and CEO Mawhinney are now building. Thompson was formerly a researcher at Carnegie-Mellon and co-founder of fault-tolerant transaction-software vendor Transarc (sold to IBM); Mawhinney co-founded Industry.net, among other startups.

The company’s new business unit, called mSpoke, uses a platform called the mPower Adaptive Personalization Engine, which interacts with content-management and ad-serving tools and manages personalization for each registered end-user. mSpoke sells to online publishers who want to allow users to manage their own content and ad preferences.

The business as it appears to users is basically a transparent version of what normally hides under the covers. Their preferences are derived from their behavior (primarily click-throughs and other expressions of interest) and represented in expressions visible to the user that mSpoke calls “memes.” (You could call them second-generation tags.) A meme can be simple or complex, such as “comes from NY Times most e-mailed” or “was read by at least two of your friends,” or “has the keyword ‘Dick Cheney,’ which was hot today in the news feeds you prefer.”

Thus Juan will see a story about Eos Airlines with an ad for an iPod bodysuit, while Alice sees a story about AIDS prevention in Africa with an ad for Cingular’s new Follow-Him™ boyfriend locator. But now Juan and Alice can click on any item (ad or content) and see why they got it: Juan recently read a story about United Airlines’ re-emergence from its fourth bankruptcy and has expressed an interest in knowing about the devices his friends buy, whereas Alice regularly reads about humanitarian causes and recently purchased a new SonyOla Razr through Cingular. Then they can edit, adjust the weighting or delete their memes: Alice is planning to cancel her Cingular account and doesn’t want any more messages from the company. Furthermore, she’d like to read some good news for a change, and she modifies her preferences to exclude AIDS. Next time she’ll see a story about educational reforms in Chile.

Depending on the implementation, Juan and Alice can also specify the individuals or communities with which they wish to share their memes (in both directions) and the level of visibility.
MSpoke’s direct customers are online publishers, who buy the service in two forms. In the first offering, large publishers license the mPower engine and integrate it into their existing content-management and ad-serving systems. Behind the scenes, mSpoke indexes and classifies the site’s content as it’s generated. mSpoke’s first big-name customer is CMP Media’s Information Week website, which will license the mPower Engine to personalize content and ads for its 547,000 unique monthly readers. The business model is an up-front integration fee plus shared ad revenues.

“The ad and content targeting must balance the goals of the user and the publisher,” says Thompson. The ads come from the site’s inventory of ads and follow the publisher’s rules, such as “Show this ad to at least X number of visitors.” Within those constraints, the user’s memes drive the choice of advertising. Accordingly, says Thompson, “The template we provide to our publisher customers includes a statement at the bottom of the list of memes for each ad, which says essentially, ‘Hey, we tried to show you relevant ads, but if we can’t find any, we still are going to show you some ads to enable us to show the content at no charge.’”

In the second offering, niche publishers, bloggers and other long-tail content providers who don’t want to manage their own ads or dynamic content selection can subscribe to a hosted, turnkey solution called mSpoke OnDemand. In this model, they offer their readers a link to a hosted site (which maintains the publisher’s look/feel/branding) where the selection and display of the content is personalized for their readers. If they want, the bloggers can also create their own memes at mSpoke OnDemand and let their readers share them. And then, in the virtuous cycle mSpoke hopes to create, each reader can use his own memes across all the mSpoke sites or pages he visits. One prospect for this service runs training for salespeople at a large IT vendor. He plans to lead the group in building a set of memes for following the activities of the company’s customers and competitors.

A meme by any other name
It’s amazing how calling these things “memes” rather than “metadata” or “algorithmic preference rankings” – and making them visible – can change the tone of the offering. mSpoke’s memes are an arbitrary combination of metadata, and can include tags, user behavior data, explicit preferences, demographic information and content-publishers’ tags, keywords or categorizations. The concept is almost infinitely extensible. There’s no reason a meme couldn’t include item-specific price ranges (expensive = “camera > $500” or “hotel > $200 except in Washington where it’s hotel > $350”), geographical indicators or anything else that could specify or filter content and ads.
The trick will be to set the right defaults between guessing and asking, so that users feel they are tuning their own system rather than doing a lot of work for no apparent gain. MSpoke has a taxonomy of interests, so that, for example, someone interested in Google is presumed to be interested in search, or someone interested in Porsches is presumed to be interested in cars. If the system’s presumption is wrong, the cake-mix principle applies. The user can fix it by editing the memes: No, I’m not interested in cars; I’m interested in German manufacturers.

No doubt “meme leaders” will emerge – that is, people who develop memes that others adopt. Someday, perhaps, memes will be traded on eBay 2.0.

**PANEL – Health Wanted: Only Individuals, Unions and Employers Need Apply**

Currently the US government is ostensibly empowering consumers by getting them to pay for a greater share of their own health care. The theory – that if they actually pay for it, they will make more rational choices and market forces will improve health care – makes sense, but in practice most of these programs are doing more to confuse than to empower their putative beneficiaries.

The basic problem with the government’s idea is its assumption of an effective and transparent market with informed, self-disciplined, empowered participants. But most individuals have neither the information nor the experience to manage their own health care. And institutions, which have more information – but not enough – have the wrong incentives. Finally, both the costs and the value of treatment are obscure, and the outcomes (especially of preventive care) are delayed well past the time of payment.

In a sense, too, we’re facing a health-care version of the paradox of choice: Now we know we can save, say, 1000 people years of pain at the cost of 10 more deaths from liver cancer. Or we can delay one death for three years at a cost of $1 million – the same amount it costs to prevent hundreds of cases of diabetes-induced blindness if patients comply with doctors’ instructions. Where should we apply our resources? Who should make the choices? Who is responsible for the consequences and who suffers the consequences?
Bottom-up change
But let’s think about what could change without resolving all these sticky issues, and without “enabling legislation” or any of the other structural changes that seem so hard to achieve. What models and tools can we build unilaterally that will spread despite all the structural impediments? (And are there any structural incentives we can leverage?) What can happen through empowered users? And, of course, how can those users get empowered?

It’s not simply a question of consumer information. Even informed consumers may buy too much or too little or the wrong care, and they certainly tend to engage in behavior that will cost them plenty in the future, in health as well as financial terms. So we can forgo any notion of fully rational consumers in this market even though there is room for improvement from the current ignorance.

Absent a health-care system that tracks individual outcomes over years and rewards providers and payers now for predicted improvements, the most “rational” players are employers and unions. They have an interest in the health of their employees long-term, even as they also have an incentive to reduce costs. More than that, they have more market power in negotiating with vendors and in setting standards, and they have tools to get and analyze information that a single individual lacks. Yet they are not insurers interested only in cutting costs.

(Note however that unions and employers don’t always act in a single individual’s interests, as Christina Koukkos points out. For example, if an employee contracts some chronic, expensive, incurable (but manageable) disease, all of a sudden he becomes a cost center rather than a valued employee or member to keep healthy. Also, public companies face heavy pressure to hit their numbers every quarter rather than to generate value long-term.)

What are employers and unions doing about empowering individuals as health-care consumers? So far, not much. But we believe that can and should change.

Scott Cook, Intuit: Time Health care is money
What needs to happen in health care is akin to what happened with consumer finance: Consumers empowered with personal tools persuaded institutions to give them back their data. Long long ago, Intuit developed a little checkbook package called Quicken. Its goal was not to “enhance” the experience of consumer finance
but to quicken it and thereby make it less unpleasant. For many people, health care – especially the payment side of it – needs quickening, too.

Quicken was a really handy tool, but it came into its own only when people could connect to their banks and brokers online. From a mere work-reduction tool, it became a communication tool. Eventually, the pressure from Quicken's millions of users forced many financial institutions to adopt standard formats for representing their customers' data and to allow users to download and manipulate their own data directly. The institutions had to forgo their onetime monopoly on the consumers’ data, but market forces made them accommodate their customers – and in the end, they reduced customer-service costs and made their IT systems more efficient.

Similarly, income-tax prep had become another complex problem that consumers were ill-equipped to handle. That is, until TurboTax, acquired by Intuit in 1993. Says Intuit founder and chairman Scott Cook, “It replaced deciphering tax forms with answering questions in an interview in simple English. Intuit has now hooked TurboTax up online to thousands of employers and dozens of brokers...automatically filling out much of each form and calculating what you need to pay.” TurboTax now accounts for over 70 percent of all consumer tax-prep technology used, both Web- and CD-based, Cook notes.

Cook believes health care is about to undergo the same wrenching changes that have transformed consumer finance. “In our grandfathers’ day many important financial issues were handled by institutions on behalf of consumers, leaving the consumer with little decision burden or complexity,” says Cook. “Retirement was handled by the government and the employer’s pension. Investing was handled by passbook savings, which was simple, as the government forced all banks to pay the same interest rate. Taxes were far simpler and bills fewer. Now that’s all changed, moving burden, choice and massive complexity onto the consumer for investing, for retirement, for tax preparation” – and creating an opportunity for Intuit.

Second verse, same as the first
Intuit just entered another sector where complex burdens are being shifted onto consumers, leaving millions of people with real problems...and where a little automation could help a lot. Medical billing for those in PPO plans is about where bill paying was 20 years ago, says Cook. “It’s un-automated and confusing, and it drives people to distraction. It’s so complex that consumers often can’t tell if they’ve been billed correctly or which bills they should pay and which ones insurance will pay. There are few standards across companies, in terminology, practices or rules for reimbursement.”
As often happens, Intuit’s new Quicken Medical Expense Manager grew not from a market research study but from one employee’s experiences trying to deal with the medical bills for his son’s care. Although the parallels aren’t exact, Cook expects Medical Expense Manager and its competition to level the playing field, making it easy for consumers to know what they owe and what insurance owes, driving up patient satisfaction while driving down customer-service costs and complaints for insurers. “But something else happens in the background,” he says. “Just as paying bills with Quicken creates solid financial records, using the Quicken Medical Expense Manager will create the beginnings of a personal health record that’s totally private and safely offline.”

In the world of health care, the same issues mostly apply but some with a twist. Consumer trust is crucial as most consumers are paranoid that their private health information will leak out. Here’s the intriguing difference, as Cook points out: “In finance, consumers fear criminals will get their financial data. In health care, consumers fear their insurer or employer will get their medical data. All too often consumers do not trust their insurer or employer and hide from them some medical information. This reality will shape the topology of health-care technology.”

**J.D. Kleinke, Omnimedix Institute: Not as cranke as he pretends to be**

Indeed, health care isn’t consumer finance. It’s even more complicated, in ways that user tools alone can’t fix. As J.D. Kleinke of Omnimedix Institute points out, “Over the past few decades, the steady expansion of the health-insurance enterprise to pay for almost all our routine care has created de facto buyers’ clubs – large, bureaucratic, breathtakingly inefficient and often hostile-to-their-own-members buyers’ clubs – that take 20 percent off the top in transaction and other administrative costs without adding much in the way of real value.”

Kleinke believes it would make more sense to pay for routine care in a way that encourages direct consumer involvement and price/performance discrimination (although, we point out, then you have the issue of individuals reluctant to pay for preventive care). By contrast, catastrophic care is more appropriately a matter for insurance. Among other things, catastrophic care often involves situations where individuals simply can’t be well-informed, empowered buyers. As Kleinke says, “Most people will take paternalism from their doctor, but [unless desperately ill] they won’t take it from an insurance company!”
The challenge is that some people want to control most aspects of their own health care, and others don’t. But a critical mass of empowered individuals is likely to change the system for everyone over the long run.

So how do those individuals get empowered? Right now, they are underinformed and have little market clout. But employers can help – and have an incentive to do so. Kleinke is betting on that, among other developments, at Ominmedix Institute, the nonprofit organization he founded in 2004 to research, test and disseminate ways for consumers to manage their own medical data, with a focus on personal health records (PHRs) as a key mechanism. (See RELEASE 1.0, January and September 2005.) Omnimedix is working with a group of large employers led by Intel Corporation to develop and roll out a free, truly portable, public-utility-type PHR designed to break up what he calls “the classic health-care IT logjam.”

“There are hundreds of commercial PHR vendors,” Kleinke says, “all hamstrung by the absence of a viable business model. None of them is near the critical mass necessary to force open the health-care institutions’ legacy information systems in the way Quicken opened up the banking institutions. We think we can be most effective working with a group of large employers to promote the use of a single but portable system among their workforces and communities. The infrastructure we are building with these employers will allow millions of consumers to manage all of their own medical data using a common network. This is a significant departure from the paternalism and proprietary lock of the institutional relationships and IT vendor models that dominate the US health-care system. And our status as an independent nonprofit will reduce the mistrust inherent in other employer-sponsored approaches to PHR deployment.”

Kleinke believes the timing is right, based on the transformation he has witnessed during his 15 years in health-care informatics. Now vice chairman of Health Grades, a publicly traded health-care ratings company, he has watched his own businesses slowly transform from developing and marketing their information exclusively to hospitals, health plans and other institutions, to selling the exact same information to consumers, now the biggest growth opportunity. “A decade ago, when we were creating the commercial health-care informatics business at HCIA [now Solucient, where Kleinke worked as VP of corporate development], there was no consumer business,” he says. “There was no Internet to distribute the small bits of industrial-strength information that an individual patient needed. There was no IOM report [the landmark 1998 Institute of Medicine report that quantified the nearly 100,000 deaths each year attributable to medical errors in hospitals]. And most important,
until recently patients had never confronted high deductibles, large co-payments and other new economic mechanisms that have jarred them from complacency.”

As the Web has become more of a consumer medium, Health Grades’ business has expanded rapidly, and today consumer reports are among its fastest-growing businesses. And it doesn’t rely on advertising: It sells its reports, for about $12.95 a pop. Kleinke is dismayed that consumers don’t want to pay much for what could be life-saving information. We’re impressed that they pay at all.

Jeffrey Rideout, Cisco Systems: Employers unite!
Jeffrey Rideout, an MD and corporate medical director at Cisco, represents exactly the kind of employer Kleinke wants to get on board for his employer-led health-care coalition. Cisco’s 38,000 employees worldwide average 38 years old and have 2.7 dependents. Cisco spends more than $300 million a year on their health care, and they probably kick in some more themselves. They are active, healthy and computer-literate, and they are worth keeping healthy, at about $750,000 in revenues per employee per year.

Rideout joined Cisco in 2004 from Blue Shield of California, where he was chief medical officer. “How can I put this in an upbeat way?” he asks. “I joined Cisco because I thought my chances of transforming health care would be better outside the industry rather than inside. I was fascinated with this culture of risk-taking and innovation that was so different from the health-care world I had been kicking around in for ten years.”

At Cisco, he plays multiple roles across its relatively flat organization: He’s the leader for health care in the Internet Business Solutions Group, a non-(direct-) revenue consulting organization that works closely with customers where innovation, strategy and policy intersect. He also provides oversight over Cisco’s health-care purchasing, more on the strategy than the cost side. “We want to define ourselves as an influential purchaser in this space; we’re not trying to cost-shift or cut. We are trying to anticipate our needs five to ten years out and avoid the issues other large companies are facing now,” he says.

Some of the new approaches Cisco is using include pay-for-performance for health IT adoption, onsite clinics (to save employees time and everyone money), and reimbursement for Webvisits (secure online medical consultations using technology from RelayHealth; see Release 1.0, September 2005).
Rideout also coordinates customer-facing support for all the units that sell to health-care customers throughout the US and Canada, crossing Cisco’s mostly geographical structure. And finally, he’s in charge of Cisco’s health-care “transformational” agenda, helping to shape it and also representing it in public at venues such as PC Forum or in industry initiatives such as the National Health Information Network, the Secure Messaging initiative organized by the American Health Information Community Chronic Care Workgroup, and various efforts to promote the use of personal health records (PHRs).

“We feel that at a basic level we have to be more active as an employer-purchaser,” says Rideout. “But we can’t drive this on our own. We can’t make much change without the plans, government and other employers.”

“A key transformational concept is the PHR,” he says, “but a key hurdle is who controls the data. Everyone wants to be the guardian – plans, employers, insurers, WebMD. Ultimately, none of those organizations are trusted by most employees. Well, maybe the providers are, but no one provider has all the data. So we understand that the data should be independent even of us; health-care information should go along with the employee wherever the employee goes. Cisco’s interest is to help create the infrastructure for that as a third-party, not-for-profit initiative. The PHR data can also be a common information set for physicians that are treating any single patient, especially the 80 percent that aren’t ready or able to adopt full electronic health records yet.”

However, he adds, “In order to make it work, we have to be realistic about the downside. We’re asking employees to think about decisions they didn’t have to worry about before. We’re rocking the boat for HR, which is looking at this as part of a range of benefits and worrying about employee privacy and control of the data” . . .to say nothing of short-term costs.

Gina Glantz, Service Employees International Union: Call it a steak!

Amazingly, Kleinke and Rideout are likely to get firm support from Gina Glantz, senior advisor to the president at SEIU and formerly manager of Bill Bradley’s presidential campaign during a long career of political activity. “Why not outsource the provision of health-care benefits and the data management to a union?” she asks. “If it scares people to call it a union, call it ‘a steak,’ or whatever folks want. It is health care employee by employee, not employer by employer, joined together in their ‘union’ to their and their employers’ advantage. In New York, SEIU and the Greater
New York Hospital Association created the New York Health Care Project. Hospitals [as employers] fund it and the union manages benefits including retraining and placement when hospitals close or downsize. Participating hospitals get first dibs on well-trained folks. It works for everyone. The moral of the tale: Don’t manage health care firm by firm. Increase the pool size and reduce the costs. At the same time, be held accountable.”

That’s an intriguing idea. SEIU president Andy Stern, at last year’s PC Forum, indicated that his union at least is ready to focus on conditions of employment such as training and health care (and minimum salaries) across an industry, rather than on salaries at any single employer. He invited the audience to work with him. He didn’t provoke derisive laughter, but he didn’t get any takers that we know of, either.

The SEIU doesn’t traditionally serve IT workers. Actually, no union does. And that’s probably the way everyone reading this likes it. But as employment becomes tougher – except, perhaps, for star programmers at Google – both employees and employers are looking at new approaches to health care, among other issues. Meanwhile, the SEIU is widely considered a troublemaking iconoclast within the labor-union community.

So it’s unlikely that the SEIU and Silicon Valley’s employers will find common ground, but stranger things have happened.

Meanwhile, the SEIU does have a lot of skin in health-care issues. Its current member base includes 900,000 health-care workers, including all of Kaiser Permanente’s service and clinical staff except doctors. Aside from that, most of its members are in traditional low-pay service work – janitors, teachers’ aides, home-care workers, public workers, child-care workers and security officers. “Our members are just about the only workers in each category who get any health benefits at all,” says Glantz. “As that becomes a bigger and bigger issue, union membership becomes more attractive,” whether it’s about all terms of employment or perhaps, for IT workers, mostly just about health care.

SEIU has made radical proposals work before. At Kaiser Permanente, when headquarters was about to close a number of eye clinics, employees argued that they could run them better if management would only accept their suggestions. Management did, and the Berkeley Lab, among others, is still open – and profitable. “The Kaiser Partnership [between Kaiser management and its unions led by SEIU] is the most forward-looking partnership between a health-care provider and a union
anywhere,” says Glantz. “They have changed the entire style of how they work together. . .and improved care and the bottom line.” She cites data from Mary Ann Thode, president of Kaiser Permanente, Northern California: improved quality ratings from the National Committee for Quality Assurance (NCQA), $40 million in cost savings and a 29 percent reduction in injury rates.

SEIU’s workers could also help solve some longer-term health problems. Many of them are home-care workers. “If properly trained and compensated,” emphasizes Glantz, they could become an active force in the huge amount of data collection from patients that will be needed to monitor the delivery and continuous improvement of health in the future.

**SPEECH – William Haseltine, Haseltine Global Health: From Knowledge to Practice**

Our earlier discussion of health care asked what employers and individuals can do in the real world of the US. William Haseltine believes that isn’t enough.

“I like to tackle big problems,” he says. Now chairman of Haseltine Associates and active in a variety of other organizations, Haseltine is best known for his work on projects to facilitate better understanding of diseases such as HIV/AIDS and cancer, and for Human Genome Sciences, the company he founded in 1993 and served as CEO until 2004.

“I started out trying to understand things no one understood, to get to the starting point of how things work. That’s how I got interested in genomics,” he says. “I was trying to find a systematic starting point for curing disease, rather than haphazard attacks on the problems.” He pioneered an approach to drug discovery that places discovery of genes first and of their functions later, a sequence that is now standard in academic, pharmaceutical and biotechnology research.

But over time he concluded that all that new knowledge hasn’t changed much about how health care gets delivered. So now he’s more interested in “getting existing knowledge through the pipeline and into practice.”

Specifically, he sees a rising crisis in health care. “No matter how you look at the future, the biggest economic drag is health care,” he says. “It’s not just the costs of
health care but the costs of poor health...in productivity and in its effect on the way people live their lives. It’s a recipe for disaster.”

Since leaving Human Genome Sciences, he has been spending significant time in India and China. His initial mission was to develop a self-sustaining model for the treatment of HIV/AIDS. But now he thinks the systems and thinking he has discovered in India could be helpful for health care in general, in other developing countries and in developed countries as well.

“We have discovered how to make high-quality health care affordable and accessible to all – and sustainable,” he says with the conviction of a missionary. “I’m not talking about government funding or the whole system in India. What we’ve found are pockets of success: a group of independent doctors in India who have created their own social-entrepreneurial health-care systems in specialist clinics. Each has found a related but similar path. All of them are self-financing and self-sustaining and have the capacity to be scaled up.”

The best examples so far are in a limited number of specific areas such as eye care, artificial limbs and open-heart surgery, where economies of scale apply. It’s a well-known fact that doctors (like everyone else) improve with practice, and high-volume, dedicated facilities deliver measurably better care.

Haseltine argues, “These groups are now doing much more general types of surgery. They’re doing maternal and child care. We’re definitely thinking about this issue, and I think we can scale up and broader without losing the gains.”

The point, he says, is that India is not actually the poor country you might imagine: “It’s not even a microcosm of the world; it’s too big for that. It’s a model of the world: a few centers of rich and educated and high-tech people in a sea of poor people. If you can make it work in India, you can make it work anywhere.”

The Indian health-care system may strike some Americans as paternalistic; there’s little choice for most people. But these private hospital networks are delivering high-quality care on a broad scale, partly by being designed to work at scale. One thing India has in abundance is people, including sick ones, so it is easy to build high-cost centers with modern, cost-effective equipment and cadres of specialists – and then to flow patients through them at a rate that puts the per-procedure cost well below Western norms even as quality and outcomes exceed Western standards. Can you keep that edge and allow for choice?
The clinics Haseltine has worked with are not inhuman factories, he says: They make intensive use not just of highly educated doctors but also of large numbers of specially trained nurses and other clinicians who can support doctors and deliver care more cheaply in the field. Many of them are villagers who go through a year or two of training; one challenge is how to help them develop further in more-formal educational programs.

Haseltine also sees India as an ideal place to test new medical devices and drugs, not as a third-world anything-goes country but again, as a model of the larger world. There are issues around informed consent for testing anywhere; anyone see “The Constant Gardener,” based on the novel by John Le Carré? Haseltine responds, “The standards in India for medical testing are second to none, and I am committed to keeping them that way.”

Indeed, assuming that the testing companies operate honestly, there are far fewer financial concerns around medical information in a society where most people don’t pay for their care anyway. Haseltine envisions huge amounts of interoperable inputs-outcomes data that makers of drugs and devices can use to improve their products. That is indeed the vision of the power of information; let’s just hope it comes from empowered individuals.
INTERVIEW – Bill Joy, Kleiner Perkins Caufield & Byers:
Big Swings at Big Problems

Five years ago Bill Joy, who co-developed BSD UNIX and co-founded Sun Microsystems, was most widely known for his March 2000 cover article for Wired magazine, “Why the Future Doesn’t Need Us.” In this piece he warned of the harm that super-empowered individuals could cause using new technology. While this warning struck us as alarmist at the time, it now seems more prescient than gloomy. The threat of terrorists using biotechnology, for example, has moved from science fiction to documentaries.

But Joy is more cheerful now. It’s not that the dangers have receded, he says, but now that people are well aware of them, he has moved on. “Why be redundant?” he asks. He has shelved the book he was writing as a follow-up to his Wired article, and, since the beginning of last year, he has been a partner at leading VC firm Kleiner Perkins Caufield & Byers.

He and his partners are taking on new challenges that others are shirking. Indeed, it’s nice to see broad imagination matched with broad resources. While hedge funds make waves with big amounts of money acquiring single, mostly legacy firms, certain “legacy” VC firms such as KP are still trying to change the world – just with a bit more resources at their disposal.

Specifically, KP’s partners are spending substantial time “looking for technologies where a small thing could make a big change – in energy usage, for example, or in clean water,” Joy says. “Moore’s Law enabled enormous transformation in computing and communications in the past few decades. Now, new technologies and materials made possible by nano-scale engineering will radically transform how we use energy and other resources; we’ll use less but they will feel more abundant. This is good business, sure, but it’s also good for the planet. . .and it’s the most exciting thing I have ever worked on.”

And KP is looking for such opportunities worldwide. “We’re still based in Silicon Valley, but our partners are now traveling all over,” Joy says. “They are fanning out to Europe to learn about green innovations there, and to India and China to understand those markets and the cost efficiencies available there. Moreover, there will be so much innovation everywhere in the flatter, more educated 21st-century world.”
Ironically, though the US considers itself the home of innovation (much to discuss there!), innovation matters much more in other, less-developed markets. The incremental value of a switch from ubiquitous cable TV to high-definition TV, for example, will have far less impact on the lives of far fewer people than, say, a method for making dirty water clean. Even though those billions of people may have less money as individuals, they represent a huge market.

Meanwhile, it’s easy enough to solve a small problem by brute force. You can open an orphanage, start a soup kitchen, tear down a polluting factory. But if you want to solve a big problem, says Joy, “You need to find an innovation that will flip something in a positive way.” Moreover, it needs to be profitable. “We can’t scale new technology to solve the huge problems we face with the economics against us,” Joy says. “The new and innovative technologies we’re looking for – and looking at – will pay their own way.” (Pierre Omidyar agrees and is putting his own energy and resources behind this concept; see page 10.)

Joy continues, “Information technology is a key part of this, but as a tool, not a goal. Imagine a 4G handset with everything on one chip, so cheap anyone can have one, and so powerful it can replace a PC. That handheld will be your [online] identity. There will be a wave of innovation around the handheld, though I don’t see it yet. And it’s not going to be video porn to the handheld; it’s going to be communications empowering people, delivering news and information and improving education to help people better their lives.”

(We’d say, Give it time! And also, take a look at Novatium, page 85.)

So Joy is busy hunting up new technology, everything from better power sources, including renewables such as wind and new technologies from ethanol, to fuel cells to fusion. He concludes, “If Gore had become president, I would have worked with him on public policy, but right now I don’t see the government helping much. I’m looking at profitable ways to make change – big swings at big problems. In the end, markets are the strongest force.”
PANEL – Security and Citizens: Peer-to-Peer Security

What does security mean in the context of “users in charge”? Isn’t security all about some authority monitoring people to ensure their safety? That might be the case if you’re Saddam Hussein. Even for more benign authorities, a bottom-up approach may seem antithetical to security, but it’s not if you’re trying to keep a free society secure. Indeed, it wasn’t government that caused Flight 193 to crash in a Pennsylvania field instead of sailing into the White House or the Capitol on September 11; it was a bottom-up, self-organizing band of citizens.

We won’t descend into current political arguments, but it’s worth noting that “perfect” systems tend to be brittle; they can’t accommodate change, disruption or the inevitable breaches without crumbling. It’s better to have a robust immune system than just a perimeter defense: What about all the strangers in our midst?

The best way to ensure security is to put the users in charge, we believe. Give them the tools to protect themselves and the education to use them, along with a transparent government so they can check abuses. It’s true that we have little expectation of privacy anymore, but at least those with the most power should have the least privacy. In the end, security is too big and broad a job to be left to the authorities. Yet do we really want a world of peer-to-peer surveillance? Not all individuals are good guys, either.

There are no pat answers to any of these questions, including the question of who does what. Sometimes security means that people need to buy good locks to protect themselves, sometimes it means that every homeowner has to leave the porch light on, and sometimes it means that the government should put up streetlights. The same is true in technology communities.

We want citizens monitoring their government and corporations opening their books (without revealing trade secrets) to investors and customers (and yes, inevitably, to competitors). But individuals should be able to keep to themselves within their own walled gardens, revealing themselves to friends and family and trusted merchants and outsiders. In order to get behind those walls, outsiders can be asked to reveal themselves in turn; if they don’t want to, they can stay out.

Of course, in real life, tax authorities and medical providers can get inside anyway – tax authorities by law, medical providers because individuals often have no choice. But the overall paradigm of individuals protecting themselves is a good place to start. (See Page 91, Accountable Net Panel.)
Stewart Baker, DHS: Pushing at millions of pieces of string

Says Stewart Baker, former general counsel for the NSA (1992-94) and now assistant secretary for policy at the Department of Homeland Security (DHS), “Americans tend to have two completely opposite views of government: First we [the public] like to think that government is incompetent and should butt out. But if there’s a disaster, we want everything fixed in 24 hours. Government officials who take on that responsibility then start thinking, ‘My job is to take care of these people as though they were children, because if there’s a disaster everyone will panic. Only I will keep my head.’ So they don’t expect enough of the public or give them the tools to help themselves. That’s where technologists can help. What is the open-source equivalent of FEMA? Can government build a lattice on which individual volunteer efforts can crystallize?”

Baker, who was general counsel to the Weapons of Mass Destruction Commission, says that job didn’t change his life, but it gave him new material to think about. He was confirmed as assistant secretary in October of last year, and when he’s not avoiding questions about NSA wiretapping (not his responsibility anymore), he’s charged with thinking broadly – and coming up with specific ideas – about public response to disasters. “When I first agreed to join the Department, I expected to do a lot of thinking about the impact of large-scale terrorism,” he says. “But Katrina showed that we need a better system for responding to all kinds of disasters. Still, most of the response issues are the same, and we need to learn the lessons of Katrina to cope with future disasters, whether the cause is people or nature – or people using nature.”

Certainly Katrina didn’t reveal government at its best, and the failings were not (mostly) in equipment or technology. Yet the mere process of developing systems and response mechanisms will make it easier for officials to take action when something does happen. People who have developed systems and used communication tools among themselves and with citizens won’t be paralyzed when emergency strikes. They’ll be in the habit of communicating and they’ll be ready to use those tools to talk to each other – and the public.

Unless you think an ineffective government is incapable of causing harm, you have to want the government to become better at distinguishing threats from mere anomalies and at coordinating efforts within and among different agencies and departments. (Perhaps in the end it would feel safe collecting less information and focusing more on real threats.)
Things Baker is mulling over include how to build an effective text-messaging network that will make much more effective use of damaged or overloaded cellular capacity than voice calls. Should everyone have a text equivalent of 411 on their buddy list? (How would you avoid spam?) Is there a way for the government to send text messages to everyone (or everyone in the danger zone) during an emergency? Such messages could be much more targeted – and intrusive – than a television broadcast. “For example,” Baker says, “just a few months ago the Kennedy Center [near the Watergate in Washington, DC] held a dance program that ended with a big surprise.” He cites one observer’s comments: “The coda, though, was frightening: three blasts like galaxies exploding [outside] that shook the river’s banks and could be heard as far away as Maryland. Smoke resulting from this volley looked like atom bomb clouds that blew in the direction of Kennedy Center and Watergate.”

He adds, “You won’t be surprised that a lot of people who don’t follow the Kennedy Center’s performance schedule were pretty worried. But even when the government established that this was just a performance, it had no good way to communicate with people in the neighborhood.” Whether it’s a real disaster or a false alarm, there’s got to be a more effective way for authorities to reach people.

Further, he asks, is there some kind of way to create an eBay for donations of goods and services in the case of a disaster, or to reassemble medical records and get them into the right hands? Unfortunately, he notes, “all these systems need to be built in a way that recognizes that not everyone is well-motivated.”

Veni Markovski, Bulgarian Council of Ministers: Stamping out the virtual coca fields

What happens when people aren’t empowered, either as users or as citizens? Often, they turn “bad.” Then, if they do get power, things get even worse. Anyone who has had the experience of living under a dictatorship knows that a bad government is not just corrupt itself; it also corrupts many of its people. That’s the environment Veni Markovski grew up in; he was one of those who escaped the corrosive effects – perhaps because his parents were writers and poets and had lived through the concentration camps of Tito in Yugoslavia. They moved to Bulgaria when Markovski was only two months old. “They managed to ensure for me the freedom we all take for granted in the US,” he says. (He now lives part-time in New York City).

At the age of five he wrote his first short story; at 22, in 1990, he got a job working for the local Borland Software distributor and discovered...not the Internet, but first FidoNet and then MCI Mail, which was a standard facility for all Borland part-
ners. “That’s how I met Vint Cerf,” with whom he now works on the ICANN board, says Markovski. By 1993 he started the second Bulgarian ISP, BOL.BG (named in honor of AOL, he notes). In 1995 he founded the local chapter of the Internet Society (ISOC), its sixth local group worldwide.

Unfortunately, by then Bulgaria was already becoming a hotbed for computer crooks, says Markovski. “We had too many trained software engineers with no jobs,” he says. In other words, their powers were useless in the legitimate market but quite effective in crime. Dark Avenger, the first “big” virus writer, came onto the scene from Bulgaria in 1988. Even though researchers could track his viruses to the source on a BBS in the Bulgarian capital, Sofia, there was no law under which to charge the creator. Then the criminals got more businesslike and greedy, and started ordering computer equipment with stolen credit-card data.

Markovski and his colleagues at ISOC-Bulgaria worked hard to get some laws enacted, and in 2002 they finally got a computer-crime chapter in the penal code with penalties of up to eight years in prison. But not much happened until late last year, when the newly elected government of Bulgaria created the State Agency for IT and Communications, to which Markovski is an advisor. It deals with cybersecurity among other issues.

Now Markovski’s primary project is a joint US-Bulgarian cybercrime-fighting coalition. It comprises many US organizations, including the Department of State (where the Bulgarian foreign minister recently talked with Secretary of State Condoleezza Rice on this subject), the FBI and the US Secret Service. From Europe, it includes 40 ministerial experts from countries such as Bulgaria, Hungary, Romania, Moldova and Ukraine. They are establishing an emergency response center in Sofia, modeled on CERT (Carnegie Mellon University’s Computer Emergency Response Team), with 24/7 phone support and an outreach effort to train judges and law-enforcement personnel. “Fortunately,” says Markovski, “many of the prosecutors and police are young enough to understand computers.”

He also wants the center to start a training program that could equip Bulgaria’s best minds to use their know-how and skills to build businesses that will be more lucrative than crime in the long run. Such an institute could serve only a small number of students, but it could help establish more positive role models for the rest.

Meanwhile, lest you think Markovski is simply an authoritarian apologist, consider that as head of the Bulgarian Internet Society he also led a coalition of Bulgarian
users and ISPs in a lawsuit against the Bulgarian government in 1999. That was when it started requiring licenses from ISPs operating within the country. “We used Russia under Yeltsin as a negative example of government regulation, and the government backed off,” he says. “Later, as a result of our work, we have had two presidents and two prime ministers (including the current ones) join the Internet Society as members, which of course helps a lot when we need to push forward privacy concerns on the public agenda.”

**Stratton Sclavos, VeriSign: Virtual locksmith to the world**

VeriSign used to be strictly in the business of selling security tools and services to businesses (notably website certification), but things have changed over time. It acquired domain-name registry/registrar Network Solutions in 2000, just after deregulation of that business (plus the Internet’s growth overall) had ended Network Solutions’ monopoly but created a much larger pie for it to share. With lower prices and aggressive marketing, domain names became a consumer as well as a business product.

Meanwhile, VeriSign’s basic security business has also been shifting towards individuals. “In the physical world we teach our children to lock the doors, stay away from strangers and call for help when something goes wrong,” says VeriSign CEO Stratton Sclavos. “We should be doing the same online – and give them tools to do so.”

Currently, VeriSign has two big initiatives. One, VeriSign Identity Protection Network and Services, was announced last month at the RSA conference. It’s a two-factor authentication service that lets a single individual authenticate himself to a variety of counterparts, often with different ID tokens for different parties (so that each can choose its own level and method of security). We like what VeriSign is doing as a counterpoint to other “identity” efforts: It’s a simple authentication service that can be used across platforms, and it’s relatively open, working with the likes of Microsoft (InfoCard), Yahoo! and eBay/PayPal. (Can Skype be far behind?) Those partnerships also give it a substantial leg up in terms of a potential customer base – along with all the banks, whom the Fed has told to fix their username/password authentication by year-end. VIP doesn’t purport to add huge amounts of value or tie you in…though clearly the goal is to be well nigh ubiquitous.

The other, less discrete initiative is a gradually growing business in fostering security around blogs and user-generated content, based on VeriSign’s acquisitions of the Weblogs.com ping server and of Moreover.com. VeriSign will make security a selling
point in its part of the blogosphere, just as it is now doing for companies and individuals with its site certificates and VIP service. “We [the general Internet population] have a chance to get it right this time from the start,” said Sclavos. “VeriSign and other leading companies are working hard behind the scenes to make sure we do.”

VeriSign now runs the ping-server infrastructure for 75 percent of blog ping traffic (whereby blogs send out updates to subscribers) and backs it up with identity management, ad-serving and other functionality. The model of the blogosphere is a fully distributed, peer-to-peer open space; inevitably, blog spam and most likely RSS hijacking and other ills will beset it soon. With luck VeriSign can head some of that off at the pass with an authenticated identity infrastructure underneath, politically incorrect as this may sound.

Adds Michael Graves, CTO and strategic architect of VeriSign’s Information Services division (and part of the Tuesday afternoon accountable Net roundtable, page 91): “We have the vision and capabilities to provide infrastructure in this arena – lightweight, open, community-based – and unify with it the ‘big back-end’ – network infrastructure that powers high-value transactions in highly secure, low-tolerance contexts. This unification of the low end and high end of the identity spectrum will provide a technology continuum that scales from low-value blog comments to medium-value content-license assertions to strongly authenticated buyers and sellers for capital-equipment auctions, all based on open protocols and standards.”

In fact, to return to the domain-name business for just a moment, we might not have had quite the big phishing problem we have now if we had had a less open system for registering domain names. It’s just great that anyone can register a domain name – but that includes bad guys using recently stolen credit cards. You can put up such a site, send out a few million phishing spams, collect a whole lot of information and disappear again, all within 24 hours. That system helped create the open Internet, but it’s also now part of a world where shadowy people come and go at will. (ICANN’s regulations, which virtually eliminated product differentiation among registries and registrars, meant that they could compete only on price rather than on quality, with predictable results.) We still think there’s room for a more secure subset of top-level domains someday, when all domains are authenticated and harder to spoof.
PANEL - New Business Models: Power to the Edges

The Internet supports a variety of new businesses and business models. Internally, corporate structures are changing as outsourcing becomes easier and easier via the Internet; companies need to define focus on their core competences and let other specialists take care of the rest. Externally, industries are often redefined not by new competitors but by new models that erode the value of an existing function or market. What used to be value-added becomes merely a bottleneck that legacy companies cling to – and that new companies either automate cheaply or simply bypass with new models.

In the examples below, Brightcove is routing around and automating many of the video distribution and payment mechanisms of old, which threatens established patterns (and companies). Salesforce.com is embedding itself ever more tightly within its customer base by creating an ecosystem and development platform that includes not only customers but also third parties. Most of them never negotiate a big contract with Salesforce.com, but somehow the Saelsforce software gets under their skin and they come to depend on it nonetheless. Augmentum is creating value in China by delivering innovation and design there. As CEO Leonard Liu points out, the location of customers often influences where value is added. . .and as the largest customer bases emerge in Asia, so will many of the new products and new designers. And finally, Microsoft, one of those established, incumbent powers that faces certain doom. . .is instead kicking up its heels, newly liberated from its previous role as number-one target and free to consider new business models and new markets.

Jeremy Allaire, Brightcove: Friction-free syndication

Brightcove started in 2004 as an ambitious project to democratize the world of online video, allowing the little guy not just to post videos but to market and sell them on an equal playing field. That didn’t mean they would match the big guys’ marketing or production budgets, but they would have equal access to viewers’ desktops. Founder Jeremy Allaire wanted to allow “any publisher to offer monetized video products,” he said in Release 1.0 last year. Call it the eBay of video. Just like eBay, it has turned out to attract the big guys, too.

Brightcove allows content producers and video rights holders to have a direct relationship with the viewer rather than dealing with intermediaries such as cable operators, distributors or retail stores (in the case of DVD sales). The small guys especially
are excited about distributing directly to consumers, but they’re ultimately looking for help with marketing, discovery...and frankly, with just getting paid,” says Allaire.

The idea is to use the Internet to eliminate current “scarcities” or bottlenecks, says Allaire: “The limited number of theaters that can support limited studio output, retail constrained by need for physical presence and reach as well as limited physical inventory (biggest retailers have fewest titles), and broadcast and cable limited by spectrum scarcity and scarcity of user-premises devices.” At the same time, Brightcove enables the producer to reach the consumer more directly, whether through a direct sale, an ad-supported channel or Brightcove’s own ad-supported syndicated search service. It parses what it can of the text and data around the videos and supplements that with the producers’ own metatags. (We foresee a need for spam control.)

For now, there is no “Brightcove destination site.” Instead, Brightcove supports multiple suppliers reaching consumers either directly or through multiple third-party sites. Almost the only thing it doesn’t explicitly support is exclusives, though someone could certainly restrict its content through a direct contract with the exclusive partner...but then why use Brightcove?

Last May to October, the company ran a “VIP Beta” with independent producers, existing small- and medium-size cable channels, VOD networks such as WheelsTV, Steve Case’s Lime and Alphamom, and larger broadcasters including Reuters, Oxygen Network, A&E Networks and divisions of Viacom. The experience was useful for learning the realities that overlie a technical distribution/transaction system, says Allaire: “the required consumer experience for watching video on the Net, what advertising formats would be acceptable and possible, how people wanted to charge for their content, what they thought would be viable in terms of syndicating to other websites and how they’d want to manage that.” After making many requisite tweaks, the company then launched a second beta, still on an invitation-only basis but with content now available to the general public.

The expanded beta includes several hundred content owners including independent artists, production companies such as Barrio 305, Eco-Nova Productions, and national media brands such as National Lampoon, Oxygen Network, Reuters and The New York Times. Says Allaire, “They’re distributing free-to-consumer and advertising-supported content. That is, no consumers are ‘paying for media’ from Brightcove yet, but advertisers are buying audiences using Brightcove’s advertising products and services.”
Ultimately, when the service goes fully open in the next few months, money will flow in many directions, says Allaire. “It flows from content owners and broadcasters to Brightcove for the use of its platform, from consumers to content owners for paid viewing, from Web affiliates to content owners for use of media, from advertisers via Brightcove to content owners. Some of the company’s revenue streams are built on fees, others on revenue-sharing of advertising. In all cases, Brightcove operates the media distribution system: the publishing and delivery, advertising, paid media, syndication and reporting. All that's needed to operate in the system are rights to media and brand assets, though we can't help you create great content or a great brand!”

Despite its friendships with the big boys (and their money), Brightcove’s mission is to remain accessible to the little guy, who in the end is likely to pay retail for its services, giving Brightcove a larger share of the take than the high-end suppliers who hold market power. On the other hand, consumers will want the mass-market product only the big guys can supply as well as the long tail of user-generated content and limited-interest videos on how to skin a raccoon, speak conversational Urdu or decorate an igloo.

Brightcove threatens the traditional television model of by-appointment viewing, but it also threatens the hegemony of large content producers and distributors. In short, it's a guarantor of Net neutrality: It helps its producers offer their content anywhere, but in the end, it’s the users who get to decide what they want to see.

**Marc Benioff, Salesforce.com: Soft-power software**

Like a sculpture emerging from a hunk of stone, Salesforce.com’s database platform has emerged from the company’s online software-as-service CRM offering. “It became clear to us last March that this was happening,” says CEO Marc Benioff. “Customers were customizing their apps, but there was no way to save or reuse what they were doing. So we just added those two buttons: ‘save’ and ‘load.’ That made all the difference!”

That, plus a little tweaking underneath. In many ways, it helps to be the third or fourth generation of a product, because by then the developers have figured out how to abstract away the peculiarities and there’s a nice clean platform underneath. In the case of Salesforce.com, the system was already designed for substantial customizability on a common platform, since all customers are running off the same basic app hosted by Salesforce.
In the end, Benioff proclaims, “I’m a tools guy! That’s what I did at Oracle for years. Now finally we have a development [and delivery] platform as a service.”

Rather than sell a runtime to third parties, as traditional vendors of database development systems do, Salesforce simply invites third parties to sell (or co-market) their add-ons or plug-ins or customizations directly to its customers via its AppExchange application-sharing service. Salesforce continues to get per-seat revenues from its installed base, while its partners can charge according to their own models. Their presence makes Salesforce.com’s service more attractive, while Salesforce.com gives them a reason to exist. For that, it charges the developers a cost-based certification fee, for which they get free use of the software; their apps ultimately drive usage and revenues for Salesforce. The idea is to support friction-free development, Benioff says, and friction-free marketing.

In short, the company has created an ecosystem around itself, comprising 20,000 customers with more than 400,000 seats and 2000 certified developers, including PC Forum debutante invisibleCRM (Page 80). This includes many nonprofits, who get free access to the platform (though not necessarily to the third parties’ software), including United Way, March of Dimes and Habitat for Humanity. “United Way’s Katrina relief was run off AppExchange applications,” notes Benioff. “Its instant-on data management is great for emergencies. It’s tough to warehouse vaccines, but Salesforce.com offers the equivalent of an always-available application warehouse.”

What’s interesting about this development is the shifting of the rigidities and fault lines. Salesforce.com’s seamless ecosystem forces the software to be well-defined, with clean interfaces so that components can be modified without disrupting the whole. It’s the epitome of good software design: a model of continual incremental adjustment and internal consistency. It will be interesting to watch it spread.

Yet ironically, the interfaces between Salesforce and its customers and partners are correspondingly less crisp and explicit. Each individual link in the system is a loose one between small components; everything happens by the piece. Customers pay by the month and are free to leave at any time. Yet users are tied in by all the data and processes they have that now depend on Salesforce.com’s and related third parties’ services and software. For its part, Salesforce.com is restricted by its installed base; it can’t make wholesale, disruptive upgrades that would disturb either its users or third-party software vendors.
The old world of software was a model of hard power and external controls – licenses, periodic wrenching upgrades and winner-takes-all massive contract negotiations. This new model is software as soft power: You infiltrate common territory so deeply that there are no boundaries left.

**Leonard Liu, Augmentum: The edges take charge!**

Leonard Liu was born in Hunan Province, China, studied engineering at Taiwan University and made his way to the US in search of opportunity. After earning a PhD from Princeton he started his career at IBM, where he was responsible for the creation and implementation of SQL and initiated much of the groundwork for IBM’s current high-end development environment. Over the years, he became a successful senior executive for hire: president of Acer Group, chairman and CEO of software vendor Walker Interactive and COO of Cadence Design, in each case performing something of a strategic makeover. He also established captive offshore operations for Walker and Cadence.

Now he’s back in China, again in search of opportunity. And he’s in charge of his own creation, Augmentum, a software company based in Shanghai and Foster City, CA, that “augments” its clients’ own development teams in ways beyond traditional “staff augmentation.” Unlike many outsourcers, who mostly build software for clients to use in-house, Augmentum is also an ODM, or “original design manufacturer,” a play on the old term OEM for original equipment manufacturer.

In fact, Augmentum is so useful to its clients that most prefer to remain unidentified; one of the few the company can talk about publicly is Intel, for whom it designed and developed the user interface for the Digital Media Infrastructure, part of Intel’s new digital-lifestyle line. Other clients include Microsoft, Motorola, Business Objects and Palm.

We visited the company in Shanghai and got to see a broad range of carefully separated and secured areas dedicated to IT-household-name clients. These clients don’t give Augmentum piecework; they send it interesting and challenging product-development tasks. For its part, Augmentum now has a 450-person staff of experienced developers who go through constant training and skills-upgrading. They work closely with Augmentum’s US staff and with its customers.

He recalls, “When I went to Acer as president in 1989, we were just at the beginning of the rise of PC companies in Taiwan. I remember vividly how designers in Taiwan
were viewed as not as capable as those in the US. We even thought so ourselves. We considered that we were good at handling manufacturing issues, but not ‘real design.’ Over time, we have learned a lot. We have changed from OEM to ODM models. Yet in this world, the Dells still control the world of the PC and dictate what should be provided. Dell still controls the marketing and the final specs.”

“Who makes more money?” he asks rhetorically. “The one who controls the customer does.” But in case no one noticed, the former IBM ThinkPad is now being designed and sold by a Chinese company called Lenovo.

Now, Liu continues, “The supply chain that goes across the globe – increasingly in design as well as manufacturing – enables the rise of certain companies away from the center of the market,” says Liu. “There was a time when we [the West] had 60 percent of the market in the US and Europe, but that will change as the center of the market changes. As Asia rises and becomes the main economic power block, we’ll see changes in market and technology leadership to where the new customers are. In televisions and cameras, Japan is already the leader and China is coming up at the low end. The next interesting market shift will be in mobile phones and handheld devices.” And, he notes, each of those has software, much like Intel’s new digital-lifestyle line.

**Eric Rudder, Microsoft – Innovation and reality**

It’s fair to say Microsoft has lost some power in the past few years – and it has gained correspondingly in other ways. People trust it more. It appears less arrogant. There are genuine internal changes too: the hiring of CTO Ray Ozzie (with his company Groove) and blogger Robert Scoble, its new initiatives in identity management (InfoCard, see page 45) with a less centralized model than the ill-fated Passport, discussions of a cheap PC. . .overall a new humility and willingness to take risks.

Eric Rudder, formerly senior VP of the server and tools business and now senior VP of technical strategy reporting to Bill Gates, epitomizes the new Microsoft. He’s open-minded, but he still defends Microsoft’s special place in the world – including all the responsibilities and constraints inherent in its huge installed base, both external and self-imposed. “We’re in a unique position in that we sometimes compete with ourselves,” he acknowledges.

He is acutely aware of the new software-as-service model but conscious of the challenges. “There’s no question that services will complement existing on-premises
software,” he says. “It is already happening today at tremendous scale. Services such as Windows Update drive a petabyte of traffic a month. All of us are relying on the fabric of the Internet itself. When will the infrastructure be ready to support these new models? In our case, imagine if Office was a service business and stored all your data in the sky. What if something happened to the communications layer and hundreds of millions of users couldn’t use Office for 24 hours?” There are also the regulatory and access issues recently highlighted by Google (the new target) in China and vis à vis the US government. “No one knows what it means to put all your data in a cache on the Web. Where does your data live, country by country?” he asks. “It’s not just the economic consequences of risk. Suppose a government (and not necessarily your government) demands access to all of your data?”

Microsoft is looking at all these new models, including subscriptions and transaction-based pricing. But there are some tough issues with new models. He asks, “What happens on termination of a subscription? Do you lose all your content? How do you extract your data and in what form? Do you get 30 days, 60 days, a year? What if the company goes bankrupt or changes its plans? It does surprise me how much risk people are willing to take. I think this illustrates the underlying value that people feel that software services can offer.”

Yet he cites Windows Defender, the security tool based in part on technology Microsoft acquired a year ago from Giant and which it is currently distributing in a free beta. “This will serve as one of the key building blocks for a new [subscription] security service.” This is both a new model and a new market.

Microsoft also considers advertising an increasingly important opportunity. MSN alone is a billion-dollar advertising business. “Where can ads add value?” he asks. “There’s a good case for them with search. It’s not as clear where the balance is in productivity apps, yet we know there are opportunities. This is one reason we launched our beta of Office Live so quickly – to listen and learn from our users.” (We’re sure Google could make a case for spreadsheet ads, just as it did for mail.)

With a growing $40-billion revenue base, the company has a hard time finding new markets that matter. Perhaps the biggest opportunities lie in new geographies. Not that those are new to Microsoft, which already has operations in more than a hundred countries, including R&D facilities in more than a dozen, but the company is giving new emphasis to those markets. Rudder numbers Russia as one of his range of special-project responsibilities. “Our business is growing much faster outside the US,” he says. “Should we go for the top, middle or bottom of the pyramid? We will
probably go for all of them over time, but we have to be realistic about where the market is really ready: We’re aiming at 300 million Chinese for now, not a billion.”

That leads to new business models too. “Cell phones are important when you’re looking at back-end services,” says Rudder. “Maybe someone doesn’t own a PC, so they go to an Internet café. Today when they sign on, we get nothing. Maybe we can save their data and could get a few rupees or renminbi every time they sign on and use it.” That battle has already been lost with free e-mail, but it’s the model that Novatium is using (see page 85), with its always-on hosted terminals. Novatium’s current offering uses open-source software, but imagine such a service using Windows and a hosted version of Office.

Certainly, Rudder is as intrigued as anyone with the concept of the $100 networked device. “We know what $100 buys today and what it will buy a couple of years from now. It’s close in capability to a great cell phone. These devices are more useful when they’re connected, and that might lead you down a different path from Negroponte’s $100 PC.”

He concludes: “Most people’s first computing experience will be via a cell phone. Software can have a big impact on that scenario. There are 881 million cell phones in the world, and many more to come, especially in Africa and Asia. I’d certainly bet on cell-phonish devices continuing to mature.”

**PANEL – Search: What Can You Do for an Encore?**

*Search! Glorious search! What else do we live for?*

It’s as if we had found the Holy Grail, but what have we got hold of? On the one hand, advertising agencies feel threatened by search and search-based advertising, perhaps forgetting that their job is to create demand as well as cater to it.

Meanwhile, searching behavior doesn’t always indicate purchase intent. It would be interesting to know what percent of searches are in fact commercial – people looking for something to buy – rather than purely informational – the population of Hungary, how old is Dick Cheney, who said “the Queen thinks the world smells like fresh paint”? Of course, someone hunting for how to baste a chicken may ultimately be a good candidate for Bobby’s BBQ sauce.
None of those four searches, for what it’s worth, generated an ad on Google. So there’s still space left. If there was nothing to sell based on our queries, should it have been filled by ads targeting us as a middle-aged woman? Would we have clicked on any of them...or would that spending have been wasted? Perhaps if an ad had been targeted enough (“a new chlorine-resistant bathing suit at 20 percent off”), we would have clicked, but we – and people in general – just aren’t always in a buying mood.

But beyond the business model, when does search in its current form reach its natural limits, and what comes next? Two trends are obvious: greater personalization, with all the attendant privacy backlash ([see pages 12-28](#)), and greater verticalization.

Both Google and Yahoo! are heading towards both personalization and verticalization, each in its own style. Google represents blind evolution: Various internal projects emerge and interact, sometimes competing and sometimes complementing one another, and the successful ones vie for budget, revenues and user attention.

By contrast, Yahoo! embodies intelligent design. Jeff Weiner and his colleagues are constructing a portal of complementary services, increasingly focused on integration through a carefully constructed unified user interface and a single login. Of course, that’s a gross simplification, but it carries enough truth to start a conversation.

Both companies are interested in increasing the content available to search: Kordestani points to AdSense as sustaining (and empowering) individual content producers, whereas Weiner focuses on social incentives for users to produce content.

Meanwhile, if search is to get “better,” it has to know not just about the user, but more about whatever the user may be looking for. Over time, we expect more and more “search” to look like Zillow: a domain-specific service that helps the user do something with the results of a constrained, structured search. Interestingly, Rich Barton’s first company, Expedia, makes revenue from transactions; his current one, Zillow, uses the ad-supported “search” model instead.

Finally, Efficient Frontier helps advertisers use search advertising efficiently, but its very premise raises an eerie long-term question: If we get really good at tracking advertising efficiency, does that mean that people who don’t buy things will no longer get free content and services? How empowering is that?
Rich Barton, Zillow: The titillation of transparency

Rich Barton is best known for founding and building Expedia, but he’s always been a bit of a real estate guy. Indeed, his mother was a Realtor while he was in college.

“When I started Expedia [inside Microsoft in 1994], I was also quite excited about online real estate, and I helped kick off Home Advisor,” he says. “But travel looked like a better bet. You were totally disempowered by what the travel agent told you over the phone and frustrated when you read in the paper about a $149 special. . . . Then a couple of folks like Expedia connected into these big pricing databases and voilà!”

In real estate, by contrast, the Realtors were organized and kept a hammerlock on market information. The first time around, they managed to hold online services such as HomeStore at bay.

Even now, Zillow isn’t exactly welcome – even though it’s not a transaction service. It simply offers, says Barton, “transparency in a market that heretofore was opaque.”

It provides carefully calculated market-price estimates – “Zestimates” – and data for about 60 million homes in the US, 70 percent of the 85 million-odd market. A home’s price is always something of a constructed reality – one that ultimately gets tested between a buyer and a seller. But there are lots of techniques real-estate agents, assessors and other market participants use to gauge the value of a house: They start with specs (number of bedrooms, square feet, etc.), tax assessments and sale-price history, and include data on comparable houses in comparable neighborhoods, with other factors such as location on a street, views, remodeling and the like all figured in. The computer can’t go look at a house as an agent can, but it can see that a house historically has been worth 15 percent more than its neighbors and factor in that differential.

Of course, not all industry players see it that way. Barton cites e-mails he has received, along the lines of: “A computer trying to do what I do is just not possible. Your Zestimates are inaccurate and you shouldn’t be allowed to publish these things!”

He’s well aware of the challenges. “We’re aggressive about making the accuracy data available,” showing sources and estimated accuracy in order to forestall gotchas from users. And Zillow can “get inside the home” via a tool called MyZestimator, which allows users to add recent changes, such as a kitchen remodeling or deck addition, to a personal worksheet for a home. Barton adds, “In the future, we will have a way for
people to send in corrections. But we’ll tag them for whether it’s an owner” in order to avoid skewing the accuracy in favor of a would-be seller.

Barton is taking a different approach from the “exchange” you might expect: At least for now, he’s going after the $11-billion market for real-estate ads rather than the $60-billion market for real estate commissions. So far, Zillow’s ads are about 30 to 35 percent finance companies and banks, and 30 to 35 percent Realtors; the remainder is generic ad-network advertisers such as Netflix. But perhaps he’s smart. The commission pool is likely to shrink as the market becomes more efficient – spurred by Zillow among others – while the ad market is likely to grow. Moreover, this way he can win at least some Realtors and agents as partners rather than enemies.

Beyond that, what’s the implication of all this? The San Francisco Chronicle headlined its coverage of the Zillow launch “Real Estate Porn.” Barton acknowledges the analogy: “The most empowering things are also titillating. People get jollies from viewing it. Expedia had that angle too. People can imagine going on vacation in Bali with a hot local. . .” More likely, you can fantasize about selling your house, or going into a meeting with a buyer armed with knowledge and a resulting sense of power.

What does Barton’s mother think? Barton replies, “A mother’s pride tends not to be discriminating. She’s a real-estate junkie as well, and loves using Zillow for the combo of entertainment and utility.”

But let’s get real: We’re talking about privacy here, not just fantasies. The answer is the usual one: This is merely an assemblage of public data, newly accessible to a broader public. Objections would be more justified if, say, Dick Cheney were able to remove his house from the database.

Says Barton: “We’re not going into this thinking we know what the prices and the spreads should be. There’s a great play to lay the foundation and then let participants do the capitalism thing.” Unlike Expedia et al. in the oversupplied air-travel market, Zillow is unlikely to change overall prices much. But it is likely to reduce the spread between bid and asked. . .and the amount left over for those middlemen who add little real value. Yet, says Barton, “There will always be a role for Realtors as trusted advisors. Realtors are like congressmen. It seems people always complain about them in general, but they love their own.”
Omid Kordestani, Google: Just a li’l old gateway!

Omid Kordestani was not Google’s first advertising guy. He was Google’s first business guy. He’s intensely aware that there may be business models beyond advertising, and user activities beyond search. “We still want to focus on organizing the world’s information,” he says, “but there are many ways to do that. We have always had a variety of revenue streams, including enterprise sales and partnerships” even though the advertising gets all the attention (and generates most of the revenues).

“We like to work with our customers the way they like to work with us,” he says. “AdSense was a way to make content creation more sustainable,” giving Google more content to point to as well as ad dollars to earn. It is lightweight and automated enough for almost anyone to play. In fact, just as Brightcove is turning out to be a convenient vehicle for high-end video publishers, so is the entire Google advertising enterprise turning out to be convenient not just for the long tail but for the “fat front” of large advertisers. Google is now threatening traditional advertising agencies, and they are running scared. It is offering not just ad placements but analytics, optimization and even a little hand-holding at the high end.

“A large segment of customers can manage their own ads,” says Kordestani. “They can work with our tools directly. We very much want to be as efficient as possible where it makes sense.”

But, he adds, there are also segments of industry that require a lot of work and hand-holding. “Our sales force focuses on the higher end of the market,” he says, “but the trend is always toward more automation. In Europe, for example, our employees looked like an ad agency internally – brand- and banner-focused. But we are dramatically transitioning that. We are learning what it takes to scale these businesses and to automate a lot of manual work. We reward advertisers who take on more of the work for themselves.”

Much of that “manual work,” of course, is the ad agencies’ bread and butter. On the other hand, Google shows no inclination to get into the softer side of the ad business. Says Kordestani: “As a company, we’d rather be an efficient switchboard or gateway to the world’s content.”

Yet there’s so much more to do than just search and ads. The question is whether Google wants to do it, and whether it can. Certainly it could buy a traditional ad agency, just as it could buy a content company – or did indeed buy dMarc, which places ads on local radio stations using techniques similar to Google’s.
But Google faces special challenges, much as Microsoft did until Google took over as prime target. Its every move is scrutinized for evidence of evil. Says Kordestani: “We’ve become a big company and we have big responsibilities. We need to debate things more carefully. We have always been very conscious of the privacy questions. We need to be clear what the advanced features are about and what the impact would be on your data.”

And, he adds, Google is willing to impose those requirements on its partners. “We didn’t want our resources to be empowering people who don’t agree to our principles,” he says. He recalls one example: “A renewal that should have taken one month took six months. At the end, that company followed our principles. That was the origins of the ‘Stop Badware’ program with [Harvard’s] Berkman Center.” But in the end, he notes, “That didn’t end up being a sacrifice. . . . In the end, everyone agreed the deal was good” and will maintain Google’s reputation for the long run. Indeed, much of not being evil revolves around considering the long-term consequences.

Another hot button is China, where the long-term consequences aren’t clear. “We delayed our entrance into China in order to comply with local laws. . . . which means we are behind,” says Kordestani. Opinions are divided on whether the company’s mere presence in China will have a positive influence or is evidence of shameful capitulation. It could be both. The only thing that’s objectively clear is that Google could not long operate in China if it refused to abide by the government’s rules. It’s also Google’s (and our) clear belief that some information is better than none: Information has a way of getting into cracks and opening up fault lines.

Kordestani says he often flinches when he looks at headlines: “The articles may be completely fair to us, but the headlines aren’t. . . . *Time* asks on its cover, ‘Can we trust Google?’ On the other hand, bigness means more resources and a louder voice. There are more things we can do to deliver messages.”

**Ellen Siminoff, Efficient Frontier: Numbers in charge**
Efficient Frontier proves that you can differentiate yourself even in a numbers-driven business. Its numbers are simply more useful than most, presented in a way that helps its customers act on them. Efficient Frontier’s CTO and co-founder Anil Kamath has been perfecting optimization algorithms for more than 16 years. Currently, the company manages more than two terabytes of search data and is growing by more than four gigabytes a day, with more than 50 servers of management and forecasting data.
Its basic business is to monitor an advertiser’s online ad spending and results, and to suggest more effective ways to spend a budget to achieve business goals.

“I’m always excited when I get to amortize some of my economics education [from Stanford],” CEO Ellen Siminoff says cheerfully. “The business is all about curves and diminishing returns. The goals and constraints change through the month.” The fundamental trade-off is reach versus profitability: You can spend a small amount to reach a small number of good targets cheaply, or you can spend more – and more per target – to reach a larger number of prospects.

And measurements of “reach” vary too. Previously, advertising was focused mostly on impressions – on the shaky assumption that exposure yielded love (or at least purchase behavior). Now, with the more measurable Web, results are measured in click-throughs or actions such as filling in a form or, ultimately, online and even offline purchases. All this is predicated on increasingly pervasive monitoring of user behavior. Ironically, the reason marketers want to know who you are is in order to predict how you will behave. The more they know about how you (as identified by an anonymous cookie) behave, the less they care who you “really” are.

Search advertising will likely continue to grow explosively for the next few years, especially in new markets outside the US and outside the major categories served by domain-specific sites (e.g. travel, real estate, health care, electronics, finance and the like). Says Siminoff: “As search continues to grow, the marketplace will become increasingly complex, and this complexity is best managed with real numbers,” no matter how the “searches” themselves may be transformed.

But people don’t search all the time – and as vertical and transaction- or function-oriented sites proliferate in new categories, advertisers will want to learn how to reach online consumers in other venues too. People visiting other parts of the Web may simply not be in need of anything. Behavioral and content targeting can help uncover – or arouse – latent desires, but in the end consumers have only so much money to put into the system and fund the advertising that to some extent creates demand but to some extent only shifts it around. (Wouldn’t we like to know what those proportions are?)

Moreover, not only do people not search all the time; they’re not even online all the time. The market will change with the incursion of companies such as Google into offline advertising. They will carry an obsession with measurement with them and Efficient Frontier will support these newly “biddable” marketplaces, says Siminoff.
They include not just Google’s dMarc for radio and its print ad placements but also Spot Runner (page 89) for local television (even as local television is moving online via Brightcove and other “convergence” plays).

There’s resistance to these new models, mostly from people who have built comfortable lives under the old rules, yet marketers with faith in their own craft (and don’t they all have that?) welcome an opportunity to prove their worth. The smarter ones also welcome the feedback that will enable them to improve their campaigns and refine their targeting. Yet, interestingly, advertising has some of the same challenges as health care (page 28) — though with less serious stakes, to be sure: The links between inputs and outcome are hard to discern and may take years to play out. Search advertising, if you will, is like acute care, whereas branding is more like preventive medicine.

For now, at least, Efficient Frontier is focused on online behavior and search advertising, but that could certainly change as more data becomes available from offline sources. “What we like,” she says, “is a biddable market with lots of variables. It lets you try things out, measure results and refine your strategy. You can alter your criteria or your pricing, and you can optimize for any particular factor.”

**Jeff Weiner, Yahoo!: Outside the box**

Jeff Weiner sees search as a way for people to find, use, share and expand all human knowledge. He sums up his notion of how to make it better as “better search through people — not so much man versus machine but man and machine.” First, there’s the question of what a good search result is. It depends on the context, of course, and also on the social group. Yahoo! has long organized its site within defined spaces — movies, jobs, finance — that set the context, and by encouraging users to define a social group whose collective choices will mediate what the user sees. Says Weiner: “What’s different now is the way each of these vertical properties is increasingly leveraging search technology and community tools to create a more relevant experience.”

“In a world of so many choices,” he continues, “search is just one tool. We – the industry, not Yahoo! in particular – are overly concerned with the query box, when we should be focusing on the purpose or the task that users are trying to complete.” In addition to robust search technology, “you need shortcuts that get you to some action or application or result faster, not just a seemingly infinite set of search results. You need the equivalent of ‘end-of-aisle’ display space” — where the mer-
chants or publishers offer their most relevant (and lucrative) offerings. “You need better tools for discovery, in part based on the knowledge of people you know.”

Weiner’s remit includes not just Yahoo! Search and Search Marketing but also Yahoo! Local and the Marketplace properties – Shopping, Travel and Autos – and Yahoo! Small Business. Each of those subsites has its own predefined context and assumptions about what the user might be looking for or wanting to do.

Furthermore, in other parts of Yahoo! not under Weiner’s direct control, there is burgeoning support for community: shared content and shared choices. We expect much of this functionality to migrate to Yahoo!’s search services as well. In a way, though less visibly to users, this is what mSpoke (Page 25) is trying to achieve across sites. MS spoke makes the scaffolding visible to users; Yahoo! works hard behind the scenes to make the community feeling comfortable and automatic.

As the famous English saying goes, The Queen thinks the world smells like fresh paint...and each visitor to Yahoo! should feel that she’s in her world, with things arranged according to her/her community’s tastes and natural defaults. The question is, Is it possible for a machine to do this accurately? Or do you have to ask the user (in whatever way): What context are you in? Are you at work or at home? Are you heading out for a night on the town, or feeling remorseful after a night on the town? Should the site try to pick this up from the user’s behavior, or should it just go ahead and ask?

As a media company with a broad range of content, community and technology, Yahoo! is able to deliver advertising to the person as well as with the content. That’s an echo from traditional advertising, where advertisers marketed to demographics, and direct marketing. On the Web, that approach will only grow.

Beyond that, Weiner is trying to figure out incentives to get people sharing knowledge. He considers real estate as an example. Recently, he wanted to know the answer to a question on residential home valuations and bidding tactics. He could have gone online, he says, where Yahoo! has indexed tens of billions of objects. “But no site had the answer to my question. It simply didn’t exist in the form I needed,” he says. “So I called my mom, who’s been a real-estate agent for 26 years [like Rich Barton’s mother, page 56] and she gave me some great advice. The question is, How can we build the right tools and incentives for people like her to share what they know online? It’s not just about ad-sharing and economic incentives. It will be about personal and social incentives as well.”
PANEL - New Forms of Life

In the brave new world of users online and in charge, people should be visible and accountable, living in environments and among people they trust. But of course it’s not that simple. As Pierre Omidyar (Page 10) indicates, healthy online communities don’t grow like trees...or perhaps they do, but many trees die young. Healthy online communities have rules, some imposed by the authorities, some user-generated. In a living community the rules should be constantly changing...but there should be rules for how the rules change; the changes cannot be arbitrary. Note also that only the rules, not their enforcement, should change, explicitly and fairly. Enforcement should be consistent.

With these meta-rules in place, there’s some hope of coming up with a community that can evolve.

One key virtue of online communities – as opposed to, say, online workplaces – is that they are voluntary. Unlike in real life, people can just leave when things go horribly wrong. And they don’t leave behind a burned-out neighborhood or a devastated country, though they might leave a disappointed owner in the lurch.

But it’s in everyone’s interest for the members (or whatever they are called) to feel enough investment that they want to stay and fix things. The challenges come when different members have different notions of what the community rules should be. What happens when the members of a community rebel, whether it’s eBay power sellers protesting listing fees or Flickr users in protest against Yahoo!’s more-corporate terms of service?

In the end, online life is no longer “virtual.” It’s just another form of life, with work and play, even though it’s easier to move. Yet the online world also calls into question some of our deep-seated notions of work and play. Some people are lucky enough to love their work (online or off), so it feels like play. Or are they people who get paid for playing?

We wonder: Does the third-world whiz who’s making a good living (for his country) of $1000 a year playing games online and amassing tradable weapons and status items really feel he’s playing? Does he have the same feeling of community that a “voluntary” World of Warcraft gamer/soldier has, or does he regard the people online as co-workers – or worse yet, in the same way a used-car salesman might
regard prospects? Some people build genuine communities at work, even with customers, but somehow, for most people, work still feels like work.

If we can go in the other direction and make real work feel like the best of online activity, we will have made a big win. That’s the promise of Seriosity, a stealth startup that promises to infuse work with the best of gaming culture.

Meanwhile, LinkedIn helps individuals make use of their connections online with no pretense of fuzzy feel-goodness, but it is seeing something of a battle between the site’s owner and the substantial majority of its members on the one hand, and a group of “open networkers” on the other, who think the purpose of LinkedIn is to enable them to amass huge networks of links to people they don’t know. We’re not sure what the endgame is for the open networkers, because those links are likely to prove useless in any serious business dealings and will get further diluted over time. Perhaps, though, the open networkers will have achieved one goal: turning business into a game – and one with no tangible rewards.

And finally, Facebook is the venue of choice for people whose lives are just about to turn serious. Facebook was named after the colloquial term for Harvard’s freshman register. It started life as a place for college students to post their profiles and photos on the Web, accessible only to their friends and classmates. As its users age it will become dominated by alumni, who may start using it more like LinkedIn or Match.com.

Helen Cheng, Seriosity: Tom Sawyer online

It’s only fitting that Helen Cheng didn’t know she was in a job interview during her initial interview for her current job as assistant producer at Seriosity, a still-in-stealth startup currently incubating at Alloy Ventures. Co-founder Byron Reeves, a Stanford professor, sent an e-mail to a couple of Stanford mailing lists asking to talk to students about their experiences with gaming. “I thought it was one of those 30-minute studies for $10 and then you go on your way,” Cheng says. “A few weeks later, I got a call back for a second interview.” So how did she win the job? “I had so much game experience,” she laughs, especially with her favorite, Blizzard Entertainment’s World of Warcraft. “But I was also fascinated by the social effects. They were interested that I was so fascinated, and that I could articulate it.”

Two years later, the company is still under wraps, but its goal is pretty clear, says Cheng. “The initial idea was very broad: How can we make work more fun and
interesting?” The idea was not to make Excel look more like a twitch or shooter game, but something more fundamental and deeply social.

“In many multiplayer games, you see lots of people doing work-like tasks. They’re sitting enthralled by this virtual world more than 40 hours a week. Wouldn’t it be cool if we could use some of the same design elements and social mechanisms and apply them to something that’s useful and productive [in the real world]? These games all have metrics of achievement, incentive systems, team structures and leaders. They understand the psychology of a player, what motivates them to work so hard.”

She adds, “What you can see in most workplaces is that people aren’t motivated to work on that spreadsheet. Yet in Warcraft, you have people doing these really boring tasks; they’ll stay there and do it for hours and hours because they’re motivated by social status or esteem.”

Beyond that, she adds, “One big theme of Warcraft is this need to come together in groups [guilds] to get things done. Running a guild is so much work. It’s just like being a manager in a corporation where you have 100 subordinates. And you never see these people; you have to communicate with them on IM or voice-chat over IP. There are so many facets and events and objectives to keep track of. The interaction and communications are so densely packed that you learn at an extremely accelerated rate. Raids or battles go very fast; you have 40 or more people fighting all at once.

“The leaders have to work hard and work together to acquire the raw resources – items and potions. The hard-core players invest so much time that it’s like a second job. It takes an incredible amount of leadership skill, integrity, intelligence. Not everyone can be a leader.

“Speaking for myself,” she concludes, “I learned so much from playing these multiplayer games, how to deal with conflicts and arguments. Everything is so transparent. Your character is defined by your behavior. You don’t see people face-to-face, but if someone has a bad track record, everyone knows. You get a reputation, good or bad.”

So what makes it all so easy online and so hard offline? Indeed, what is it about real life that reduces people’s motivation? Why should the knowledge that one is getting paid for work make such a difference? And if the money makes all the difference, then why don’t more rich people, who don’t need the money, seem to enjoy their work more? It’s hard to believe that the online world has a monopoly on good motivators.
Perhaps it’s because less is at stake; perhaps it’s because people can learn and play again somewhere else without the burden of their past reputation. Perhaps it’s because they get to choose the game. And of course, Cheng acknowledges, “There’s no clear mapping of how to transform, say, City of Heroes into selling products for your company.”

**Reid Hoffman, LinkedIn: Avoiding friend inflation**

Reid Hoffman is a master networker. At his previous company, PayPal, he was executive VP and in charge of all its business relationships, including with eBay (which ultimately acquired the company). He regularly called on friends to help him get in to see or forge relationships with new people and through them, with companies and governments. Now, as co-founder and CEO of LinkedIn, he’s developing and selling a service to help people do what he did so well with nothing more than phones and e-mail.

He started LinkedIn in 2002 as a very simple service – knowing that eventually it would need to get more complex to fit human social rules. It was around the time that social networks in general (e.g. Friendster) were getting “hot,” and the term was synonymous with online dating. (See Release 1.0, November 2003.)

But LinkedIn was carefully constructed to be different. One of the first and simplest decisions was no photos. There are no fields to indicate gender, marital status, age or any dating attributes. That immediately differentiated the site from most of the others out there. Second, LinkedIn was focused on transactions, not conversations.

“The vision of LinkedIn was to give every professional an ability to hang out a shingle about what they can do as an individual or as a representative of their company,” says Hoffman. LinkedIn gave its users a place online where people could find them, and it also made usable (but not easily visible) the networks linking people, so that you could go through a friend (or a friend of a friend) to reach a known third party. Call it workflow for networking, along with an underlying database to help reveal (to appropriate parties) real but invisible connections.

LinkedIn doesn’t aim to get you to spend hours each day playing with it; rather, it helps you stay in touch with your professional network and is available when you need to make a transaction – such as hiring, checking references, making deals and finding clients. You can have your conversations elsewhere and then instantiate the
links you form on LinkedIn, but LinkedIn is not a place to meet people; it is a place to establish contact and arrange a meeting or some kind of follow-up.

Over time, it has become successful – 5 million members – and developed a revenue model. It now has three revenue streams – subscriptions, mostly for professionals who are actively trying to get introduced to prospects, employees or employers (with a reputation element, notes Hoffman, so that excessively pushy people can get dinged and stopped); anonymized targeted advertising (targeted by Revenue Science among others); and job listings.

Most users understand the site’s main mission, though some tend to stretch the rules a little. Instead of following LinkedIn’s explicit instructions to “connect only with professionals you know well and who you are generally willing to recommend to your other business contacts,” they send connection invitations to everyone in their contact database. They probably figure that a little over-eagerness is no sin – and people who don’t want to reply don’t have to. There’s even a feature to “defer” an invitation, so that it’s easy to say no by saying “not now” politely.

But then there are “the open networkers,” says Hoffman. “It’s a small subset. What they believe in is not the network of trust but the network of connections. They believe that everyone should be connected. But that’s a mistake. Reputation and trust really do matter.”

They are being quite vocal about their dissatisfaction with LinkedIn’s evolving rules, which prohibit precisely the behavior the open networkers espouse. Blogs Christian Mayaud of Verticom Group, who has more than 500 connections, “As LinkedIn now attempts to purge LinkedIn of all signs of ‘networking life,’ there is going to be a bit of mayhem. LinkedIn is now banning, blocking, and eliminating the ability for you to direct and control the growth and direction of your own networks.”

For example, there are limits to how many invitations you can have outstanding, and those limits go down if your response rate is low – that is, if you invite a lot of people to link who don’t respond positively. Users who annoy too many people ultimately lose mailing and connection privileges. And, a less draconian new limit but offensive to some: In the old days you would have known precisely how many people Mayaud considered close personal friends, but now that number defaults to “more than 500” at 500 or more.
In case you ask, no, LinkedIn’s VCs – Mark Kvamme of Sequoia Capital and David Sze of Greylock Partners – are not encouraging the open networkers and their attempts to grow, says Hoffman. “The VCs have usually experienced that spam too, so they think those limits are a good idea!”

This little storm is the obverse of the cheerful users-in-charge concept. As a vendor, you need to decide which users should be in charge. It may be that some you want, and some. . .well, let them find another business to be in charge of. That, in the end, is the luxury of any company that does not want to be a monopoly – and something that’s very different for governments, which need to serve all the people. For LinkedIn, it’s a continuing battle. And it’s one that will probably never end, as LinkedIn fights the conflicting demands of growth, etiquette and human nature. The rules do matter, and LinkedIn is trying to create an online space that improves upon real life – one where people’s reputations do matter and where reciprocity rules.

Mark Zuckerberg, Facebook: Content for communication

Mark Zuckerberg founded Facebook, the college and now high-school networking site, almost by accident two years ago, but he has a solid grasp of its mission: “We’re not a content business. We’re about information flow. The primary thing is to make the information flow more efficient.”

Whereas Google (for example) sees information as primary, “We think sharing information is of most interest to people,” says Zuckerberg. Google sees communication as a means for exchange of information; Facebook sees information, and especially social information, as a means of communication among people. Moreover, says Zuckerberg, “We’re creating an emergent system. We keep moving towards equilibrium, but we never reach it because things keep changing. The most important rule is who can see which part of your profile. The default for students is for your friends [as you specify them] and people from your school to see you. For alumni, it’s other alumni who were in your school the same years as you.” He prefers to offer deep information such as telephone numbers to a few people, rather than to make lots of information broadly available. The point is to reinforce connections rather than create them, he says.

“There’s lots to do,” Zuckerberg continues. The company is continually adding new features and functionality, such as increased privacy granularity, new search capabilities and communication between the formerly separate high-school and college networks – and of course among alumni too. “I can program by speaking,” he says, as
40-odd programmers sit outside the couch-and-vending-machine room doing his – and the users’ – bidding. You get the feeling that he’s just one more empowered user, with greater-than-expected resources at his command.

Currently the service has more than 6.7 million registered users and is advertising-funded. It has grown rapidly, though not as rapidly as MySpace, and strikes observers as a more secure environment. For starters, just like LinkedIn, it works off existing relationships between people who know each other in real life – or at least, on campus. That limits users’ ability or inclination to fudge the truth; people don’t generally make up tall tales just to get attention as they do on, say, MySpace.

Zuckerberg knows things will change. For starters, by next year the proportion of alumni to college students will tip in favor of alumni. In fact, more than a third of Facebook users will be out of college by this summer. Instead of socializing in dorms and playing pickup sports, they’ll be out looking for jobs and connecting outside of campus. How will that change the conversation? “At school, you can be open-minded. You don’t know what you’ll do afterwards,” says Zuckerberg. As Barry Schwartz points out (Page 5), that range of choices creates angst. As its users venture out into the world, they may cling to their friends on Facebook and use their advice to help them with all the choices they face.

Facebook is not Zuckerberg’s first project. As a student at Harvard, he built a natural-language interface to his MP3 collection so he could instruct it to play the songs he wanted. Then he built a HotOrNot-like site that allowed users to compare the photos of random Harvard students; that prank almost got him thrown out. But metaphorically, it was Release 0.5 of Facebook. The real Facebook was his sophomore-year project, and its success allowed him to leave on his own terms. Facebook is now two years old and is the eighth most-visited site (unique visitors) on the Internet according to Comscore – just behind Google.
AFTERNOON SESSIONS

THE GALLERY

BY CHRISTINA KOUKKOS

From snippets of JavaScript code to full-featured enterprise applications with ironclad security, this year’s PC Forum Gallery reflects the wonderfully diverse instantiations of creativity possible on the user-empowered Web.

**Bitty Browser: Picture-in-picture for the Web**

Bitty Browser, created by “self-employed Web wonk” Scott Matthews, is what it says. Conceptually, it’s like picture-in-picture for Web pages: Publishers can add a little window of content – Web search, a blogroll, scenes from another website – onto their own pages, or they can broadcast their content out through Bitty windows on other sites. What’s interesting is that this window is fully navigable – it works exactly as a separate browser window would – but it’s embedded within the page. Adding a Bitty Browser requires no set-up or management: Just copy/paste a snippet of code and use a form on the Bitty website to configure what should appear in the window. “In fact, visitors to Bitty-enabled sites can copy/paste the code from one site to another, forming viral grassroots networks,” says Matthews.

Matthews hopes to sell sponsor-driven functionality (search, menu items, etc.) into the Bitty Browser windows. He’d prefer to make money by offering people “things that do useful stuff” rather than ads, he says. But in the meantime, while he builds a customer base, he’s supporting the project via AdSense ads. We have to admit, when Matthews first told us about Bitty Browser, we sort of shrugged our shoulders. Why would anyone need such a thing, with dynamic Web 2.0 technologies and tabbed browsing and even old-fashioned browsing in multiple windows? But then we actually saw it in action.

**imeem: AIMing to be the best IM client for rich-media users**

Palo Alto-based imeem is a classic “Me Media” company. It offers media-sharing capability built on top of a person’s existing social network. What sets it apart is its head-smackingly simple approach to discovering that social network: Use a person’s instant-message buddies. Duh! This approach reflects the company’s target audience of young people as well as the relative youth of CEO Dalton Caldwell, age
26, all of whom grew up using IM to keep in touch with friends. “Our fundamental thesis is that the center of your digital life is your IM buddy list,” Caldwell explains. He and co-founder & CTO Jan Jannink figured “there are a lot of features that you can do around your buddy list to make it more interesting and useful.” They created a desktop client that acts like an IM client, with presence and chat, but that also serves as an interface for all sorts of personal media features: profile creation, photo- and file-sharing, tagging, rating, blogging (with comments) and more.

While imeem offers all these features within its own service, Caldwell stresses that interoperability with other services is crucial: imeem users can import buddy lists from any major IM service (AIM, MSN, Yahoo!, etc.) and can import/export RSS feeds of their activity to/from TypePad, Blogger, Flickr, iPhoto and iTunes (for the Mac client) and so on. Users can share their media privately with individuals or groups from their buddy lists, or publish any or all their media to their personal imeem website. Individuals can even subscribe to an RSS feed of their friends: If a friend posts to her blog, shares a photo or takes any other public action on imeem, the subscriber will know about it. So far, 25,000 people have downloaded the application, registered on the website and used the client at least once. The media- and recommendation-sharing activities are the perfect context for media companies interested in promotion, says Caldwell; the company is talking to a number of them.

“The major difference between us and other [Me Media companies] is that we’re not just a Web company. We integrate much better with a person’s regular activities and have the same ease of use as any other desktop application.” The company’s goal, insists Caldwell, is not to innovate in the social-networking space but to “build the best IM client for rich-media users.”

Kalat Software: Action-oriented
Members of the increasingly mobile workforce quickly learn the necessity of having access to home and office computers while on the road. A number of vendors have sprung up to provide that access – by mirroring key data to a Web-based storage site or by offering remote control of a personal computer. Kalat offers both of these services, but in the context of a key insight: Users don’t just want to view files; they want to perform actions with them and on them – edit, convert to PDF, encrypt and e-mail, publish to a secure (or open) Web page, fax . . . or even print, bind and FedEx.

The Kalat service turns any mobile device with Web capability into a sort of remote control for all Web-connected devices an individual has access to: home and work
computers, corporate intranets and the Web itself. (The software has full logging and application-level security built in.) The product allows users to search across all connected devices and applications and delivers results with a list of possible actions to take, such as “e-mail,” “send to photo site” or “print at my local camera shop” for a JPEG file.

Where relevant, the presentation engine also creates a context around the results: For instance, says CEO Aki Hashmi, “If I click on a V-card with your name, Kalat shows me our lunch appointment from my calendar application as well as a list of nearby restaurants pulled from the Web.” In a nod to the smaller screens of mobile devices, search results are sorted by most relevant vis-à-vis the search terms and the user’s most recent activity around that topic or person. Finally, users can subscribe to a Kalat service that makes all of their most recently used data available and searchable offline – stored on Kalat servers. Hashmi sums up the Kalat service like this: “Our job is to help you complete a task.” (DISCLOSURE: ESTHER DYSON IS AN INVESTOR.)

**Movo Mobile: Text messages for sales**

Movo Mobile has developed a system that puts users in charge of text-message marketing on cell phones. More accurately, it’s an on-demand information service: The user calls an advertised number from her cell phone and enters a code, and the system sends out a text message with the information requested. The service, says president & CEO Dan Miller, is handy “when you’re out and about doing something and you want to get the information now, and you don’t want to have to talk to anyone to get it. It’s like the Internet.”

Movo’s choice for its first application is brilliant, we think: real estate. In addition to the name, phone number and photo of the selling broker on the for-sale lawn signs, brokers could add a Movo Mobile code number. Interested buyers (or nosy neighbors) researching neighborhoods can get instant data in the right context: While they’re standing outside what appears to be the perfect house in the perfect neighborhood, they can find out – oops! – it’s got only three bedrooms, not four. (And, pretty soon, they could also get the Zillow Zestimate; see page 56). It saves them a call to a pushy broker – and saves the broker time wasted with the wrong buyer. The broker who pays for the number on the for-sale sign (charging a markup to the seller, of course) also receives a list of qualified leads: the cell-phone numbers of those who inquired about the property.
In January, Movo began a soft launch with a few real-estate brokerages in Florida. “We’re getting good feedback,” says Miller. “We’re learning a lot before we launch.” The company hopes to open up the service and turn it into a more public mobile-classifieds system. Movo has already launched its Agency platform, an ASP solution that allows advertising agencies to develop, deploy, manage and measure mobile marketing campaigns and broadcasts.

**Riya: Self-tagging photos**

After seeing a demo of Riya last October, we invited CEO Munjal Shah to speak at our December When 2.0 conference. In fact, we like Riya so much we’ve invited the company to be in the PC Forum Gallery as well. Riya hopes to take the pain of naming, organizing and tagging digital photos out of your life. It uses timing and other cues to improve the accuracy of its text and facial-recognition technology and then automatically tags photos with the names of the people who appear.

It also leverages the existence of social networks by getting individuals to share their “training sets” – that is, a set of photos that can train its engine to recognize a particular person. Those sets are sent to Riya, which then uses, say, Alice’s photos in order to recognize Alice in the photos from other Riya users she designates as friends. That is, Alice’s friend Juan gets to use her training set (via the Riya service) on his own photos. It makes sense: Friends take photos of friends, so the network supplies both the data and the privacy constraints to support effective recognition. Time figures in the recognition, too: Photos taken close together are more likely to contain the same person.

Riya does have a consumer site of its own, but we expect it to succeed primarily on the basis of a back-end distributed model that supports a broad range of third-party photo-sharing sites. Of course, Riya will control a hugely valuable (and vulnerable) asset in the ability to recognize all those people. And by collaborating with third-party sites rather than competing with them, it has some hope of becoming a central utility – with all the responsibilities and accountability that implies. (DISCLOSURE: ESTHER DYSON IS AN ADVISOR.)
Company Presenters

BY CHRISTINA KOUKKOS

So, what can we as users actually do with all this power we have? This year’s company presenters are helping us figure that out. Some are finding new ways to help find the information we need; others have discovered new niches where the little guy can make (and spend!) money; still others are trying to bring more of us online...and to keep us safe even as we wield our power.

Search

HEALTHLINE leverages a deep medical taxonomy in its health-care search and information site.

ILLUMIO from Tacit Software brings “knowledge search” to social networks.

KOSMIX indexes the Web and automatically categorizes vertical information spaces so that they are more easily searchable and navigable.

New business models

EDGEIO uses RSS and tagging to collect, index and redistribute online classifieds.

INVISIBLECRM has built a platform and toolkit for adding Outlook front-ends to enterprise applications including CRM software.

SPOT RUNNER brings easy, affordable television advertising to the little guy.

Access & control

IOVATION has created a reputation system for devices.

NOVATIUM SOLUTIONS has developed a $100 PC that offers full desktop-PC functionality on a thin client with the guts of a cell phone.

SITEADVISOR scrutinizes and rates every site on the Web for illicit spyware installs, spamming practices and other irritations.
**Edgeio: Classifieds on the edge**

“Data is more valuable the more distributed it is,” says Keith Teare, co-founder of edgeio (“edge'-ee-oh”), a marketplace of online classified-like listings – jobs, items for sale, personals, etc. – that are aggregated and redistributed using RSS. “We’re seeking to change the architecture of marketplaces from publish-at-the-center/search-at-the-edge, to publish-at-the-edge/intelligence-at-the-center.”

Before co-founding edgeio, Teare co-founded Easynet, a European ISP he took public in March 1996. In 1997 he founded RealNames, which foreshadowed the Overture model by selling cost-per-visitor keywords typed into the address bar of a browser and into the search box of its search partners. Mike Arrington, edgeio co-founder and creator of the popular technology blog Tech Crunch, formerly served as an attorney to RealNames while at Wilson Sonsini and then joined the company as VP of business development, in 1997.

Edgeio applies to classifieds the power of RSS to aggregate and redistribute data, plus tagging to classify and recombine that data. Edgeio gathers listings two ways: first, by trolling ping servers – the sites that validate and index new blog entries – and then indexing any post that includes a “listing” tag. (“We chose the ‘listing’ tag because it is not currently in wide use,” explains Teare. “In that sense it is a ‘clean tag’ from which we can create a new behavior.”) For every new listing added to its index, the service automatically sends a trackback link, which notifies the publisher that some blog or service has linked to that blog entry. Effectively, edgeio is using trackbacks as an anonymous notification mechanism. The second way edgeio plans to collect listings is via RSS feeds from traditional online vendors such as Yahoo! store owners, eBay power sellers and traditional stores with online storefronts.

In addition, the company is following the structured-blogging and microformats initiatives, which seek to create standards for semantic tagging in XML. “We intend to support those efforts as well,” says Teare.

The other tags associated with a listing serve as ad-hoc, searchable categories on the edgeio site. Publishers can create a profile on edgeio, “claim” their blogs and posts, and then add more tags, such as price, location and other useful product information. Potential buyers can search the edgeio site, browse the category structure or subscribe to RSS feeds for searches on particular tags. The listings are even browsable by geographic location – edgeio has geo-coded 3.5 million cities, states and countries globally.
For their part, sellers can use their edgeio profile to build reputation – both on edgeio and by sharing their seller ratings or profiles on other services, such as eBay and LinkedIn. Teare says edgeio plans to work with reputation-validation services such as Opinity (PAGE 14) and Auren Hoffman’s similar service (still in stealth), code-named RealHonest.

Once it rolls out the service and builds its database of listings, the company will experiment with a few revenue models, including “featured listings” as the top five search results or items in an RSS for any particular geography, Yellow-Page-like bolding and guaranteed position above listings from nonpaying members and anonymous sources. It will also participate in the affiliate programs of major vendors, who Teare expects will use edgeio as a marketplace. He hopes to build enough inventory in particular geographic areas to sell to local advertisers as well.

Finally, says Teare, edgeio will “distribute our business model back to the edge.” Niche publishers including bloggers can subscribe to specialized RSS feeds from edgeio and republish those listings on their own sites. “They can have listings, just like a newspaper does,” says Teare. And once edgeio rolls out its paid listings, they will get a cut of the revenue for every click. “It’s like Google AdSense for classified listings.”

Other classified-listing and corporate publishers will be welcome to republish edgeio listings as well, says Teare. “Our business model benefits by having our data republished on Oodle, Microsoft, etc.” Widespread publication improves the placement of edgeio listings in search engines, and all the links go back to the edgeio site anyway, says Teare. “I think Craigslist, by not allowing Oodle to take its data, made a mistake.”

Edgeio is one of many companies launching at PC Forum, where it will announce new funding and partnerships.

**Healthline: Searching the healthful Web**

The US population is aging. The $1.8 trillion US health-care system is pushing patient-consumers to make ever more cost/benefit decisions about treatment options. Doctors are specializing more and spending less time with their patients. (SEE PAGE 28.)
All this means that more and more people are turning to the Web for health information. In fact, the Pew Internet and American Life Project estimates that eight in 10 Internet users have located health information on the Web.

Healthline, a consumer-focused search engine and content site, hopes to serve them all. With the launch of its site last October, the company has returned to its roots: It was founded in 1999 as YourDoctor.com, a medical-content company. But when online advertising dollars dried up in 2001, the company redirected its focus to the enterprise health-care market, developing sophisticated search technology and a corpus of well-vetted medical content for the customers of clients, including Merck and PacifiCare.

The company also spent considerable time building out what West Shell, who joined as chairman & CEO in April 2005, claims is the largest consumer health taxonomy of its kind. Using $14 million in new investment from VantagePoint Venture Partners, JHK Ventures, Reed Elsevier and Mitsui, Healthline has leveraged this taxonomy to add semantic understanding of the health-information space to both its search and presentation algorithms. This distinction is particularly important for health-care information, says West, because Healthline “knows what the medical terms mean and what their relationships are to each other.” For instance, a search on “diabetes” would rank a page with the word “insulin” higher than a plain-vanilla search engine would. Similarly, Healthline knows to include results for medical terms such as “myocardial infarction” in a search for “heart attack.”

Sites that use categorization (such as Kosmix, page 83) or clustering technologies are much less effective when searching for health-related information, says West. “They don’t actually know what they’re looking for. It’s just a more organized way of finding the wrong information. [Kosmix] chose the wrong vertical to launch with. Health is not something that technology alone is going to solve. It’s the most difficult vertical to launch in, because consumer words and medical terminology don’t match.”

“Health is not about finding an article; it’s about understanding a space and finding how things are related,” he continues. “People want medically guided navigation. We can offer that because of our domain expertise, which has taken us six years to develop. And we still have a long way to go.”
That said, Healthline’s biggest headache, we imagine, is WebMD: entrenched, well-known, trusted. “The only search they do is around their own content,” West retorts. Healthline, on the other hand, crawls what it calls the “HealthWeb” – 170,000 (so far) health-care websites that it selects and ranks using its semantic knowledge of the space. It uses criteria such as whether the site is accredited or certified, written for doctors or consumers, and written by doctors or laymen; what sort of relationship the site has to the most reputable websites (the National Institutes of Health, etc.); whether it’s a government, nonprofit, educational or commercial site; and then the usual traffic rank/citation and behavioral analytics. “We have crawled 250 million pages but pared that down to just 130 million Web pages...and growing,” says West.

In short, West thinks WebMD should be a customer, not a competitor. OmniMedicalSearch.com, another potential competitor, is a partner, he points out. As for Google, he says, “We view them as an important part of our growth.”

On its own website, the company serves its own ads as well as Google AdWords text ads. It is also building other content-licensing and revenue-share relationships. Current partners include its preexisting relationships with Merck and PacifiCare, as well as new partners Dartmouth-Hitchcock Medical Center and Reed Elsevier. The company also recently announced that it has licensed its health search and content platform to Info.com.

**Illumio: What’s a little knowledge among friends?**

Illumio is a new consumer-oriented project by knowledge-management (KM) software vendor Tacit Software. With Illumio, Tacit hopes to apply the automated collaboration-brokering technology of its enterprise KM software to the consumer market. Explains Tacit CEO David Gilmour, “Illumio is a product for end-users wanting to put their networks of friends and colleagues to more valuable use.”

In other words, if a knowledge worker can search the collective expertise of his company, why can’t he use a similar system to ask his friends how to fix his inexplicably broken home wireless network, or more mundanely, where to find the best Philly cheesesteak in Chicago? Tacit hopes that Illumio, still in beta, is the answer. “Nobody’s ever tried to make a social network searchable before,” says Gilmour. Or, more specifically, no one has ever added knowledge search to social networks.

The Illumio software works very much like an IM client. The user adds Illumio contacts as he would contacts on a buddy list and then sorts them into groups – say,
sports fans or IT-guy friends. (Illumio helps by providing a contact pick list generated by the Illumio client and any desktop search engine.) Group members receive invitations via e-mail to download Illumio and participate. Until they agree, they won’t be included in any searches the initiates for that group.

When a search is initiated, the request is sent to the Illumio server, which in turn broadcasts the request to the clients in the group. The recipients’ Illumio clients use the desktop search engine to evaluate how well the incoming request matches what’s on that PC. Searches for documents are processed more or less directly by the desktop search engine; more-complex relationship or expertise searches are processed using algorithms that Tacit developed over the past eight years in its enterprise products. Tacit’s algorithms analyze the history, frequency and intensity of the user’s focus on topics related to the search expression.

The server then performs a reverse “auction,” starting with a very high requirement for matching quality and lowering it progressively until the searcher-specified number of positive responses is received. On the client side, when the match meets the current standard broadcast by the server, the user is alerted with an IM-like pop-up window that includes the original request, links to any local documents or files related to the request, and optionally – to make the experience more friendly – a photo of the requester. The individual can decide whether to share the information or not, or simply ignore the request.

If the request is refused or ignored, the Illumio server moves on to the next-best match and so on until the request is met or the options run out. Since all the match assessment is done locally, says Gilmour, privacy is preserved: “The server side of the Illumio service doesn’t need to know who, if anybody, matches a given search.” Communications are relayed via the Illumio server or, says Gilmour, “you can just use e-mail, IM or the phone if you like.”

Most aspects of the process are fully configurable by searchers and searchees alike. Searchers can specify the number of responses, how long the “auction” should wait for a response and so on. Searchees can specify how often they are willing to be interrupted, for whom, at which matching quality, etc.

So far the company is seeing a lot of demand from enterprises – a natural fit with its existing client base. When Illumio launches later this spring, it will be free for indi-

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viduals, up to an as-yet-undetermined number of contacts. Tacit will charge groups a subscription fee based on the number of users in a company or organization.

A much more intriguing use of the technology is what Gilmour calls auto-install Illumio links. If a visitor clicks on a website’s Illumio link, the software is downloaded and installed onto that user’s machine (with permission, of course!), and that person is added to that website group or submitted for approval by a moderator. “So any website with the concept of membership can be an Illumio group,” says Gilmour. “And once you have it installed, anytime you see a website with Illumio you can immediately tap into the network of users of behind that site.”

Privacy groups and adware-watchers will take notice, of course, and Gilmour welcomes their scrutiny: “By reversing the search paradigm so that holders of information, not seekers, are given the opportunity to opt in when there is a match, Illumio allows people to search their social networks for documents, relationships and answers without compromising the privacy of others.”

**invisibleCRM: Outlook interface**

“Most CRM applications are used not at all or not very effectively” by salespeople, says Sergey Yezhkov, CTO of invisibleCRM. “So the management doesn’t get full ROI,” in terms of accurate reporting data or the productivity benefits CRM promises. The solution, he says, is to make it a native extension of the No. 1 productivity application of all time: Outlook. “Users don’t even have to realize that they’re using a different application,” he says.

Yezhkov and invisibleCRM co-founder Anatoly Gaverdovsky developed this approach from their experiences at Vested Development Inc. (VDI), a product-development and engineering service provider they co-founded in Moscow in 1993. “We’re not just an outsourcing shop for software development,” says Yezhkov. “We focus on full-cycle application engineering, including looking at our clients’ competition. We try to be visionary about how they should structure their product line to be competitive in the long run.” Over the years, he says, “we got an understanding of why our clients succeeded or didn’t succeed.”

They noted the success of document-management software vendor Hummingbird after VDI added Outlook-interface capability to its product, and realized that the user uptake of other enterprise applications could be similarly improved. So
Gaverdovsky, CEO of VDI, and Yezhkov, still CTO of VDI, decided to develop a product line to do just that.

The first application for which they developed an Outlook front-end integration was Salesforce.com (page 49) – “because we’re Salesforce.com customers and we like their product,” says Yezhkov. In the invisibleCRM software, all CRM objects – leads, accounts and cases – behave like native Outlook entities and are available offline as well as online – a key improvement in the eyes of salespeople with thousands of frequent flyer miles earned offline. InvisibleCRM also uses intelligent information tools and interface design to automate some of the more mundane aspects of managing sales activities, such as capturing the names and contact information of leads from e-mail messages, or using social networking and other techniques to identify opportunities.

Much like Salesforce.com, the company doesn’t just consider itself a mere software provider. “From a technology perspective, we view invisibleCRM as an intelligent platform to deliver all kinds of business applications natively, with an Outlook interface,” explains Yezhkov. To this end, the company has a toolkit for hooking a native Outlook interface into any back-end application, including those on AppExchange, Salesforce.com’s on-demand application-sharing service. In his ideal ecosystem, says Yezhkov, “we provide the presentation layer and offline support,” the utility developers provide their domain expertise and the software, and Salesforce.com provides the platform and database engine and basic CRM functionality.

Not surprisingly, the company is in ongoing conversations with a variety of CRM vendors about partnering, being acquired, integrating more closely, etc. “We are talking to Salesforce.com and other vendors, especially hosted-application providers such as [Oracle’s] Siebel and NetSuite,” says Yezhkov. The company is also talking to document-management vendors, though it does not have an official product for distribution yet, he says. The product, which will launch at PC Forum, is in extended beta with a number of companies – some of whom say that they chose Salesforce.com because of the capabilities offered by invisibleCRM, says Yezhkov.

Would the company like Salesforce.com to buy it? “It depends on the deal,” Yezhkov hedges. “Our investors expect a longer gestation time so they can multiply their investment. But we are prepared for either.”
iovation: Disabling the smoking gun

In television crime dramas, when detectives find the murder weapon – the smoking gun – every individual who can be traced to that gun becomes a potential suspect. Iovation uses a similar forensic technique to fight online crime – or at least online fraud and malfeasance.

Simply put, the company has created a reputation system for devices. “It’s easy for a person to create a new account after a network has blocked their old account,” says iovation co-founder & CEO Greg Pierson. “It’s much more difficult and expensive to go out and buy a new machine.”

It’s also easy to determine the company’s own provenance: the online gaming industry. It was spun out of ieLogic, a company Pierson co-founded in 1999 to develop critical infrastructure for massively multiplayer online games. Pierson and two other members of ieLogic management sold the company to Excapsa Software, a Canadian gaming-software company listed on the London Stock Exchange, but retained the rights to the fraud-prevention technology developed at ieLogic and already deployed with customers. That technology served as the basis for iovation, which they founded in June 2004.

“We’re building a database of device-to-account relationships at various online networks around the world,” explains Pierson. The first step is for the networks iovation sells to – mostly gaming and transaction-services companies – to ensure that their customers install the iovation software, either by integrating the iovation executable with their own software or by calling a Flash component that creates a unique ID for the machine. The first time that machine connects to the network, the machine ID is sent to the network along with other account login information. The network in turn passes the machine ID and a hashed identifier for the account to iovation. (All this is disclosed in the network’s terms of service.)

Once a device is in the iovation Device Reputation Authority database, the network effect kicks in: When someone tries to log on to an iovation customer from that device, the customer is notified. “Without our technology, the only thing the websites know is what that person tells them,” says Pierson. “This system lets them know what the reputation of that device is across our network.”
In other words, if Juan logs on to his ISP and performs some sort of “bad” activity, his ISP would “enter evidence” to flag his account and device – the problem category (e.g. chat abuse, fraudulent transaction), the date, and comments that may be helpful in future research – into the Device Reputation Authority database. When Juan later innocently logs on to his bank account to pay bills, the bank would receive information about the ISP’s flag ...assuming both the ISP and the bank are iovation customers, of course.

The bank, in turn, has full control over what to do with that information. If Juan was flagged for abusive chat, it might do nothing. But if he executed a fraudulent transaction, the bank could flag the account, refer it to its auditing department for further review or – in an extreme case – reject the login. “Most of our customers just flag the account,” says Pierson. “But over time each network can decide which other networks to trust.”

Of particular interest to businesses trying to combat online criminal networks is iovation’s guilt-by-association approach: It associates each device with all accounts that log on from that device, and all devices from which a particular account logs on. So, continuing the example above, if Juan later tries to log on to his bank account from Alice’s computer, suddenly her machine – plus all her account(s) and any other device she uses to log on to her accounts – inherit his sullied reputation. This exposes relationships between accounts – relationships that would have never been visible before. (In other words, be careful in choosing your friends!)

Pierson notes that all this is done anonymously; iovation doesn’t have and therefore can’t share any personally identifiable information about the account holders.

So far the company has 14 customers, seven of which have the system up and running. Pierson acknowledges that the bulk of the companies are in the high-risk gaming space but says that new customers such as Citadel Commerce are in transaction processing and financial services.

**Kosmix: Categorizing the Web**

Most popular search technologies, says Kosmix co-founder Anand Rajaraman, work best for individuals looking for a discrete answer to a specific question. “If you’re looking for the United Airlines website, Google is perfect for you,” he says. “But if you have an open-ended question, that’s where the power of our technology comes in.”
Kosmix plans to crawl and categorize the Web and organize it into discrete, navigable topic areas. It started with health search (now in beta) and recently launched alpha versions for travel and politics.

To build its index, the Kosmix crawler automatically tags pages with categories from a broad and relatively shallow human-created taxonomy (two levels deep). To determine which category fits, says Rajaraman, the crawler uses proprietary language-analysis techniques such as looking at “how the words are formatted” to “look at what the page says and what linking pages say about it.” This approach allows Kosmix to index and tag the whole Web, says Rajaraman, instead of limiting itself to a predetermined set of websites, as Healthline (PAGE 76) does. “We can expose results that would be deep in the tail of Google’s results,” he says.

“Lots of people search on ‘diabetes’, ” he continues. “But people also search on odd things, like ‘how to make my baby sleep through the night’. To answer these questions, we need a comprehensive view of the Web.” Indeed, we typed that very question into Healthline and got some less-than-helpful results: The first three were links to pages on sleeping disorders, breastfeeding tips and – inexplicably – “comprehensive dentistry.” The results on Kosmix were much more on-topic: An experienced mother’s comment on babycenter.com, a FAQ item on AskDrSears.com and an article from ivillage.com entitled, “Helping your baby sleep through the night: 8 simple strategies.”

He says many of these results would not even be picked up by search engines that use clustering, such as Clusty.com. Clustering involves taking the top few hundred results from a conventional search engine and creating clusters corresponding to common words and phrases. “Sometimes this works reasonably well, but more often than not the clusters are not meaningful,” he says. “For example, a search for ‘brain cancer’ on Clusty has a cluster called ‘Dead’. Since our categories are human-defined, we can pick ones that are useful to people (e.g., Alternative Medicine, Clinical Trials).”

But is such long-tail information reliable, or is it being disseminated by the PR department of a drug manufacturer? “We do give up certifying quality and reliability of information” by searching the whole Web, admits Rajaraman. But it’s a familiar trade-off (quality vs. quantity) and one Kosmix is willing to make.
Kosmix does a reasonable job on the presentation layer: The categories are listed in order of relevance on the results page, allowing the user to get a snapshot of the structure of the space. The user can click on the categories to navigate to more specific areas quickly and easily. Users also can choose to see the first three results in each category, providing what Rajaraman calls the “bird’s-eye view” of the results. However, we feel that specialized search sites such as Healthline have a clear leg up in this regard, since they can use their sophisticated taxonomy to create well-organized, information-rich result pages.

Also, the company needs to work on building out its taxonomy to add value at the edge, where it claims to be targeted. Healthline CEO Shell may have a point when he says that Kosmix chose a difficult topic area to launch with. “I imagine that eventually we’ll have to go beyond the editorially created categories,” concedes Rajaraman. “Right now we accept change and other requests from customers, and we’re working on technologies that can identify new topics.”

Kosmix recently announced partnerships with a number of health-information websites, including The HealthCentral Network, Healthia and HealthBoards.com. But its success doesn’t depend only on health search; its travel and politics search sites are in areas where the specialists and laymen use the same language more often than in the health industry.

Rajaraman and co-founder Venky Harinarayan have a history of entrepreneurial success. They previously co-founded virtual-database pioneer Junglee, which allowed customers to find and collect semi-structured data from multiple websites so that users could query the data as if it resided in a single database. They sold the company to Amazon.com in 1998 for $250 million. After stints at Amazon – Rajaraman as director of technology and Harinarayan as a general manager who helped create its marketplace business – they co-founded Cambrian Ventures, through which they invested in Neoteris and Efficient Frontier (PAGE 59).

**Novatium Solutions: Computing for the next billion**

The idea of a $100 PC for citizens of developing nations has been popular for a few years now – most notably with Nicholas Negroponte’s and MIT’s One Laptop Per Child organization. Novatium Solutions, headquartered in Chennai (Madras), is taking a slightly different approach from most: Instead of starting with a PC and stripping out functionality, explains co-founder Rajesh Jain, the company is developing a PC with “the guts of a mobile phone.”
It all started in November 2003, when Jain, the managing director of software solutions provider Netcore Solutions, met Ashok Jhunjhunwala, a professor at the Indian Institute of Technology (IIT), at a conference in Bangalore. “We talked about my vision for a $100 computer,” which Jain had developed while trying to find ways to promote broadband adoption in India. Jhunjhunwala was just trying to find ways to get all Indian citizens on the Internet – no matter what the connection speed. They began to develop a prototype in an IIT lab and then spun it out as Novatium in October 2004, with financial support from co-founder Ray Stata, chairman of Analog Devices (and father of Raymie Stata of Yahoo!, who spoke at PC Forum 2004). In early 2005 they hired CEO Alok Singh, who formerly led an Indian subsidiary of Cummins, the global power-generation equipment manufacturer.

“We believe that the next iteration of computers must be affordable and manageable,” says Jain. The opportunity for the “next billion” PC users – almost all in developing nations – is to skip the expensive desktop PC entirely. At the moment, he says, there are only 18 million computers in use in India: about 6 million in large enterprises, 6 million more in the 4 million small-to-medium-size businesses (SMB) and another 6 million in the 45 million homes in urban and semi-urban areas.

In contrast, he points out, there are 80 million mobile-phone users (and nearly 5 million new users per month) in India. There are two simple reasons for the disparity, he says: Mobile phones require low up-front and no management costs, and the service is offered on a pay-as-you-go basis. Potential users want the same small-investment, no-commitment structure for computers. For instance, he says, “The largest Indian insurance company recently bought 24,000 thin clients (from VXL Instruments and HCL) because the cost to manage thin clients is much less.”

Jain offers two other reasons why Novatium will succeed where past attempts at popularizing thin-client systems have failed. First, he says, “We are targeting the next set of users. I’m not asking desktop users to give them up. We’re targeting people who need these computers but can’t afford them: SMBs, homes, schools and colleges, and rural areas.” Second, he says, the connectivity part of the puzzle is beginning to be solved: Broadband availability is starting to spread in India – there are a million broadband users, and the Indian government set a target of reaching 10 million connections by 2008. Plus, BSNL (the government-run telecom company) manages 45 million landlines, more than half of which are DSL-capable.
Novatium keeps costs low by using royalty-free software and processors designed for cell phones on the client side and Linux (or Windows, for an extra fee) on the terminal servers. The clients also include multimedia chips, which help the client mimic a desktop experience. “Unlike past solutions like set-top boxes, where all they do is bundle a browser with the hardware, we are giving you a complete virtual desktop,” he says. This means users can take advantage of all software innovations for the PC, including voice over IP and two-way multimedia.

Novatium plans to sell its PC for $100 ($75 extra for the monitor), plus a service offering the full functionality of a modern desktop PC for less than $10 per month. The company is exploring relationships with OEM partnerships in the thin-client market globally.

The company is also working with telcos to bundle Novatium PCs and services with their broadband-connection offerings. It also hopes to sell SMBs a server component with a stack of business applications (provided by partners) in addition to the thin clients. So far, the company has evaluation units in 10 different organizations globally, including companies and schools in India. It plans to launch by the end of March.

**SiteAdvisor: Reconnaissance by fire**

SiteAdvisor grew out of CEO Chris Dixon’s frustration at spending every holiday ridding his loved ones’ hard drives of spyware and spam, and listening to woeful tales of phishing schemes and identity theft. The problem, he says, is not technical: “There are a lot of people solving the technical problems [around online security],” he says. “But there’s a whole other side — the human side. People are being misled or confused. And there is more commerce and more internationalization on the Web, so the threats now cross country borders.”

Dixon, a former associate at Bessemer Venture Partners, recruited MIT alums Doug Wyatt and Tom Pinckney to found SiteAdvisor, a consumer-software company focused on Web security. Wyatt (CTO) and Pinckney (VP, engineering) previously co-founded Vividon, a video-streaming infrastructure company they sold to StarBak Communications in 2003.

SiteAdvisor crawls the Web and assesses the relative annoyingness and maliciousness of websites and any downloadable software and online forms (shopping and otherwise). Its approach is what military folk call “reconnaissance by fire”: The system invites attack by downloading and installing the software, signing up for mailing lists
and so on. Then it checks for hidden adware installations, spam-filled e-mail boxes and other irritations. It also grades the browsing experience for annoyances such as pop-ups, tricks to change the user’s homepage and more serious dangers such as browser exploits and links to “bad” sites. According to Dixon, SiteAdvisor has completed assessments of 95 percent of the Web (based on weighted site traffic), including more than a million forms.

To view the SiteAdvisor ratings, individuals install a browser plugin (for Firefox or Internet Explorer). Once installed, SiteAdvisor adds a green, yellow or red flag to individual search results of major search engines including Google, Yahoo! and MSN. If the user surf from site to site, an indicator in the browser bar uses the same color-coding. . .instead of obtrusive and confusing “security warning!” pop-ups typical of other security software. “We use pop-ups only if your computer is about to be destroyed,” Dixon deadpans.

SiteAdvisor explains its ratings on its website, offering detailed test results for all the sites in its system. “Users will ask, ‘Why should we have faith in these ratings?’ So we’re open about it,” explains Dixon. “We encourage and post comments (including suggestions or disagreements with our ratings) from both site owners and site users. User comments count toward a site’s overall safety score and are weighted according to a ‘karma’ system which gives frequent and insightful posters greater influence. So if reputable users disagree with our ratings, that can quickly change a site’s score.” If all else fails, disgruntled website owners can send an e-mail to complaints@siteadvisor.com. “We respond directly to all website-owner complaints,” says Dixon.

“In turn, we put all our data, including user-generated data, into Creative Commons,” he continues. “We’re already giving some of it to academics for research purposes. [Security on the Web] is too big a problem for one company; we’re trying to work with as many organizations as we can.”

Dixon says that around 25,000 individuals regularly use the software – still in a preview release to the fairly limited audience on security discussion boards. The company plans to offer the basic product for free, and in May it will introduce a premium paid version with additional features and functionality. Much like other security software companies such as Zone Alarm and Norton, it will charge an annual fee for the premium version. “Companies cannot pay us to have their sites reviewed or their
ratings changed,” says Dixon. “We feel that all fees must come from users, to avoid the conflict of interest.”

The company is fielding calls from other security software companies that want to bundle SiteAdvisor with their products, as well as from ISPs and browser developers.

**Spot Runner: Putting Sal’s Pizza on TV**

“The idea behind Spot Runner is fairly straightforward,” says co-founder & CEO Nick Grouf. “We mean to democratize access to TV advertising and become the agency of record for local business.” (Meanwhile, of course, Brightcove (PAGE 47) is trying to make local TV irrelevant, but we suspect it will persist for some time. In the end, the two companies may well end up competing at least for ad dollars.)

Specifically, Spot Runner has launched a service to “make it easy and affordable” for local business owners to advertise on television. Its clients can customize any number of Spot Runner’s thousands of pre-produced 30-second ads and run them on local broadcast or cable channels in all 50 states. “Our clients’ ads run next to ads for Coke and Cadillac,” he says.

Grouf and co-founder David Waxman solidified the idea while working on John Kerry’s 2004 presidential campaign. “We saw that most of the money generated from Internet and grassroots fundraising went into advertising on local television,” says Grouf. “That opened our eyes” to the high production costs of developing TV ads. After having a few conversations with friends from the cable and television industries, the pair raised some money and started the business. Grouf and Waxman previously co-founded two other companies: People PC, an ISP sold to Earthlink in 2002, and Firefly, an online community and recommendation engine sold to Microsoft in 1998.

Since it was founded in early 2004, Spot Runner has spent part of its $10 million in funding to create thousands of ads in about 4000 discrete business categories, from pizza joints to tailors. Each category offers from a few to dozens of choices, which clients customize by filling out Mad-Lib-like voiceover scripts and by uploading their name, logo, slogans and still photos of themselves or their establishments.

Customers then choose the location, time slots and channels on which to run the ad, or tell Spot Runner their budget, goal (limited-time offer? general awareness-
building?) and duration of the campaign, and let the service recommend a media plan. They get an exclusive on that creative in their category and their market for the duration of their campaign. Grouf says that Spot Runner’s media-planning engine takes into account market, industry, geography and customer demographics and psychographics. In fact, he says, in many cases the service can target geographic markets down to particular neighborhoods.

The service launched in mid-January and is working to build its customer base. The company recently announced a partnership with Cendant to be the agency of record for its real-estate affiliates nationwide, including Coldwell Banker, Century 21, ERA and Sotheby’s International Reality. (Meanwhile, Zillow, page 56, hopes to make them irrelevant.) “That’s 260,000 real-estate agents in 9000 offices,” says Grouf.

Grouf declines to give specifics about how many customers have signed up so far, or which categories or geographic areas have seen the greatest uptake. “There is no benefit to tooting our horn about numbers. We have no need to impress financial markets. So we’ve got our head down, building the business,” he says. However, he will say that the company is seeing traction with a variety of small-business owners in big cities, small towns and every place in between.

The bottom line, he continues, is that local businesses will spend $100 billion in advertising this year, but almost none of that will be in TV. That’s the opportunity, he says: “By making TV advertising more accessible, we are creating more demand for airtime and generating more revenue for media outlets.”

The company plans to move into Internet-video advertising as well... eventually. For the time being, it is building its customer base by word of mouth, Internet buzz... and running its own national TV ads. As for competition from established ad agencies, Grouf isn’t worried. “If we build a successful business, ad agencies will see that we can help them reach local markets more efficiently and view us as a valuable partner.”
Roundtable Discussions

The roundtables are a chance for attendees to take charge and get more involved in the specifics of various issues raised in the Forum panel sessions. Each workshop-style roundtable has a couple of lead-off comments, followed by lightly moderated discussion, with the direction led bottom-up. We invite you to join in and help shape your industry.

The accountable Net: Trust, reputation and identity

Gavel: Esther Dyson
Moderators: Fran Maier (TRUSTe), Meng Weng Wong (Karmasphere), Ed Batista (AttentionTrust.org), Michael Graves (VeriSign), Kim Cameron (Microsoft), Johannes Ernst (NetMesh)

Security, identity, reputation and trust are interacting concepts. Consumers who control their own identities (and information about themselves) are less likely to fall victim to online malefactors – and more likely to feel comfortable using the Net. The challenge is both to increase trust...and to make sure that the players and the environment deserve that trust.

Most consumers know by now that the Net can be a dangerous place – they read that everywhere – but they don’t know much about how to protect themselves. Most advertising about security is designed to scare people rather than educate them...and most people are smart enough to know that no single product can make them truly safe despite the maker’s claims.

But things are changing. Consumers are beginning to gain some understanding of identity and reputation management from their own experiences online. They are starting to understand both the need to find out more about the people and sites they’re dealing with, and to be able to assert their own credentials (and prevent others from spoofing them).

And just in time, a variety of vendors and organizations are showing up to help make the Net a more transparent and accountable place for consumers and for the service providers who sell to them. They range from the vendors speaking Monday morning (PAGES 12-28) to TRUSTe’s forthcoming downloadable software/adware certification service, Karmasphere’s open reputation clearinghouse and AttentionTrust.org (PAGE 15), which advocates users managing and monetizing their own clickstream data. Underlying it all is a movement toward bottom-up ID authentication, a capability...
that will be needed to underpin any of these services. Vendors such as VeriSign (PAGE 45) and Microsoft are playing too, helping consumers assert their identity across sites.

All these points of view will interact and ideally emerge into some kind of order at this roundtable session. Will consumers actually use this stuff? Or should service providers such as EarthLink, Yahoo!, Google, Microsoft, Facebook, Opinity and LinkedIn operate most of these services on their behalf? Who will pay for it? How do all these different things interact? Where do we need standards, and where can different products and even different approaches compete? If these approaches fail, what are the consequences for the Internet?

Me Media: Creating, tagging, finding, sharing
Gavel: Christina Koukkos
Moderators: Mary Hodder (Dabble), Jason Glickman (Tremor Media), Michael Tanne (Wink)

The success of Flickr, del.icio.us and other tag-driven media-sharing sites has sparked the development of a breathtaking proliferation of platforms and models for user-generated content. They promise to help individuals create, store and share what we call “Me Media” – everything from blogs, photos, videos and music to less tangible things like attention and “what’s hot.” Amid this frenzy of activity it’s hard to discern differences among all the players and to distinguish passing fads from lasting changes.

That said, the frenzy is a good indicator that there is value here; tens of millions of people are creating and sharing media. What is their motivation for participating? Can social media supplant traditional media outlets, not to mention editors and opinion-makers? What is the social impact of all this online community? Do kids understand the risks involved in participating? Do parents? Are there viable business models in this space?

Discussion moderators Mary Hodder of Dabble, Jason Glickman of Tremor Media and Michael Tanne of Wink will lead a discussion among other vendors, service providers and interested parties from every part of the “Me Media” system: Creators, distributors, taggers, bloggers, hosting-service providers, attention collectors and attention purveyors, advertisers and advertising services, advocates, skeptics. . .and naturally, users!
Resources & Contact Information

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# Calendar of High-Tech Events

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Name</th>
<th>Location</th>
<th>Description</th>
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<tbody>
<tr>
<td>APRIL 9-11</td>
<td><strong>Buying and Selling eContent</strong></td>
<td>Scottsdale, AZ</td>
<td>Today content providers and publishers compete not just with each another, but with thousands of users who are creating content for love. Where are the business opportunities? Speakers include former PC Forum presenters Ross Mayfield and R.J. Pittman as well as our own Esther Dyson. <a href="http://www.buy-sell-econtent.com">www.buy-sell-econtent.com</a></td>
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<tr>
<td>APRIL 23-25</td>
<td><strong>TIE 2006</strong></td>
<td>Sioux Falls, SD</td>
<td>This will be there 20th annual Technology &amp; Innovations in Education conference, offering practical, technology-integrated workshops and presentations for those interested in implementing the use of technology in education, or exploring the market. Register on the site or contact Dr. James Parry, 1 (605) 394-1876, <a href="mailto:jparry@tie.net">jparry@tie.net</a>. <a href="http://www.tie.net">www.tie.net</a></td>
</tr>
<tr>
<td>APRIL 26-28</td>
<td><strong>AD:TECH</strong></td>
<td>San Francisco, CA</td>
<td>One of the largest events of the ad:tech interactive marketing series, this conference and expo will provide plenty of networking opportunities, the chance to hear from experts and leaders in the industry, and all the info you need to meet your company's online marketing objectives. For listings of exhibitors, speakers, events and upcoming conference offerings, visit the ad:tech website. <a href="http://www.ad-tech.com">www.ad-tech.com</a></td>
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<tr>
<td>APRIL 30-MAY 5</td>
<td><strong>NetWorld+Interop</strong></td>
<td>Las Vegas, NV</td>
<td>This event offers a deep focus on networking innovation areas within the context of the end-to-end network. Sign up for registration information online or contact Valerie Leader, 1 (415) 905-2643, <a href="mailto:valerie@interop.net">valerie@interop.net</a>. <a href="http://www.interop.com">www.interop.com</a></td>
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<tr>
<td>MAY 30-JUNE 6</td>
<td><strong>D: All Things Digital</strong></td>
<td>Carlsbad, CA</td>
<td>Sponsored by the Wall Street Journal and hosted by Walt Mossberg and Kara Swisher. This year’s speakers include Bill Gates, Al Gore, Robert Iger, John Thompson and Sky Dayton. <a href="http://d.wsj.com/">d.wsj.com</a></td>
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<tr>
<td>JUNE 13-14</td>
<td><strong>Where 2.0: The Future of Mapping and Local Search</strong></td>
<td>San Jose, CA</td>
<td>Everything Happens Somewhere. The Where 2.0 Conference brings together the people, projects, and issues leading the charge into the location based technological frontier. Register before April 24 and save $400. <a href="http://conferences.oreillynet.com/where2006/">conferences.oreillynet.com/where2006/</a></td>
</tr>
<tr>
<td>JUNE 15-16</td>
<td><strong>Flight School</strong></td>
<td>Aspen, CO</td>
<td>Come to our second annual Flight School, where pioneers and entrepreneurs can talk strategy, tactics...and experience, whether in commercial space or in new business models for aviation. Details available soon. For more information contact Daphne Kis, <a href="mailto:daphne@release1-0.com">daphne@release1-0.com</a>, 1 (212) 924-8800. <a href="http://www.release1-0.com/events/">www.release1-0.com/events/</a></td>
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<tr>
<td>JUNE 21-23</td>
<td><strong>Supernova 2006</strong></td>
<td>San Francisco, CA</td>
<td>Supernova is where the superconnectors of the IT industry connect. Organized by former Release 1.0 editor Kevin Werbach and produced in partnership with The Wharton School. Speakers this year include our own Esther Dyson. For more information visit the website. <a href="http://www.supernova2006.com">www.supernova2006.com</a></td>
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Events Esther plans to attend. Lack of a symbol is no indication of lack of merit. The full, current calendar is available on our website, [www.release1-0.com](http://www.release1-0.com). Please contact Brodie Crawford (brodie@release1-0.com) to let us know about other events we should include.
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