ONLINE IDENTITIES: RE-CREATING OUR SELVES
by Jerry Michalski

In his 1994 book Flesh and Stone: the Body and the City in Western Civilization, New York University historian and sociologist Richard Sennett describes how people in classical Athens believed that the noblest, most credible citizens were those who quite literally exposed themselves, making themselves vulnerable in public. Part of this was based on their belief that "better" people had more personal energy or body heat (vital force), and therefore could stand more exposure to the elements. (The Athenians used this belief in vital force to justify slavery and unequal treatment of women, too, but that's fodder for a different debate.)

In his 1981 science-fiction short story True Names, Vernor Vinge describes a world in which the most catastrophic thing that can happen to someone is to have his True Name divulged. That's what happens to Mr. Slippery, the protagonist. The US Department of Welfare discovers his True Name and blackmails him into helping them identify and combat a character called the Mailman, who is causing major disruptions on the global networks. (We won't spoil the suspense for you here.)

In Orson Scott Card's 1977 science-fiction novel Ender's Game, two children, Peter and Valentine, sway public opinion through their pseudonymous postings to the world data net as "Locke" and "Demosthenes." Demosthenes, the conservative character that Valentine writes, begins to affect her personality. Card writes, "Perhaps it's impossible to wear an identity without becoming what you pretend to be."

Finally, in her 1995 book Life on the Screen: Identity in the Age of the Internet, MIT sociologist (and 1995 PC Forum speaker) Sherry Turkle describes how the personalities of people who spend considerable time online in MUDs and MOOs (multi-player online environments) can fragment. Turkle cites Doug, the memorable Midwestern college junior who inhabits multiple MUDs while he does his real-world work and says that, "RL [real life] is just one more window, and it's not usually my best one."

What's going on here? Are these really indicators of where we are — — — — — — — —

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headed socially and personally? Does cyberspace inevitably drive us to maintain multiple, hidden personae? How do its attributes affect our conceptions of identity and personality? Will we all eventually have explicit, socially acceptable multiple personality disorders, or is this just a stage on the way to something else? Maybe we're all destined to become Walter Mitty clones, leading vicarious fantasy lives online but never quite getting on with our real lives.

This issue of Release 1.0 explores virtual identities -- especially how online services and Internet technology affect the personal and social dynamics of identity. The question of whether we will maintain multiple virtual identities in the future is interesting and warrants discussion. However, we find more fascinating (and spend more time investigating) the more immediate stuff, such as how the many features unique to the online world affect our perceptions of ourselves and others, and how that interaction may change over time.

The larger, tantalizing question is whether current trends in the online world will lead to better communications -- and maybe completely new forms of social organization and interaction. If they will, what should service providers, software developers and the government do (or not do) to help the medium along? If they won't, are there steps anyone can take today to improve its chances?

This month we don't explore how people are represented online visually or how people can manage and direct those representations, which are often called avatars. Those topics we leave for a future issue. We also don't explore the legal issues of online identity, which we leave to experts such as Michael Froomkin at the University of Miami (see Resources, page 18).

New wrinkles on age-old issues

Our search for identity is not new. It consumes a large proportion of our life energy already. We author our lives quite explicitly, though often unconsciously. We take special care to present ourselves in certain ways around others. More precisely, we selectively present various facets of ourselves to different people and in different settings. We try to control what others think of us.

How well we manage and integrate the many aspects of self is a measure of our maturity, communicational competence and mental health. If we do this job well, we are likely to lead calm and happy lives.

People are naturally rich and complex; we just don’t see much of their richness most of the time. A circuit-court judge might be a medieval cook

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1 You may wish to register for the Virtual Humans conference, June 19-20 in Anaheim, CA. See Calendar, page 20.

2 The late sociologist Erving Goffman pioneered thinking about the constructed nature of personal identity. His books include The Presentation of Self in Everyday Life (1959) and Stigma: Notes on the Management of Spoiled Identity (1963).
or a grand duke in the Society for Creative Anachronism. A bicycle messenger might be a performance artist or struggling amateur investor. Some of the hidden facets may be illegal or embarrassing, such as Heidi Fleiss’ entrepreneurial venture or J. Edgar Hoover’s extra-curricular evening wear. Identity management is a process of selective revelation -- of managing what we present to whom.

In the course of everyday events, we often tuck the non-standard parts of our lives away and instead wear the various "fronts" of our daily work: office manager, president, sergeant, rabbi, cab driver, newsletter writer. That makes it easier for others to deal with us, although it often limits our ability to express our individuality. We get stereotyped.

**Person, persona, personality**

If we had full freedom of expression, what would we use to explain who we are? Would we use our curriculum vitae or resume, where we present ourselves in the best light possible and elide those few embarrassing details about our lives? An introductory video clip that says, "Hi, I’m Phil. I like clogging and collect waffle irons."? The clothes we wear? Our hot list of Websites? Is it the 5000-word essay we wrote, our daily journal, or the compilation of all our works and behaviors to date?

Perhaps the core element is our personality. It is the hardest thing to hide and the easiest for others to remember. The word "person" comes from the Latin "persona," which probably dates back to the Etruscan "phersu," or mask. In early theater, actors wore masks, partly to identify their characters and partly to project their voices to the audience.

When we use the word "persona," we generally refer to the mask-like properties -- rather like a veneer. "Personality" is somehow clear of the mask associations and closer to our essence. Things that express our personality come closest to showing our "true" identities -- even though they have many manifestations and are constantly evolving.

Stacy Horn, founder and owner of Echo, a lively online service based in New York City, says of people she has observed trying out many roles and personalities online, "You can't invent yourself; you always come back to yourself. The only play that works is the one based on yourself." Nevertheless, some people get trapped in their online personalities when some event changes their character in a way they like. (Horn, also a speaker at the 1994 PC Forum, is at work on a book about her experiences with online identities. It is tentatively titled, "And Now?,” which is the prompt that users see all the time on Echo.)

Some people create elaborate gender ploys for their characters. A man plays a priest online who is rumored to be a woman. The rumors (which he starts and feeds) somehow make the character more trustworthy; people disclose all sorts of things to him.

**Identity crises online**

Things can get complicated quickly. On Echo, Horn recently had to decide whether or not to allow a transsexual person into a conference that’s exclusively for women. After hesitating and hoping Echo members would reach
an agreement on their own, she made the decision herself. People who want to get into the gender-exclusive conferences can do so, as long as they meet two conditions: They have to have lived as the other gender in real life for at least a year\(^3\) (which the person requesting admittance hasn’t completed yet) and have been an Echo member for at least six months. The key issue, to Horn, is about trust, which in this case means taking steps to know whether the person’s intentions are serious.

Invented personalities can raise quite a ruckus, particularly when they are used outside the context for which they were conceived, as happened recently on the WELL (see box, opposite). The Echo and WELL cases recounted here led to considerable soul-searching by the systems’ participants and some tweaking of the relatively broad system ground rules, but in the end the solutions were social, not technological.

Identity as a social construct

Identity is not just something we construct by ourselves. It is also a social construct. It materializes when people meet, as they piece together the cues that are available to them. It emerges, like a hologram, in the intersection of people’s perceptions in social settings.

In each setting, the assembly process is quite complex. It involves the rapid integration of many cues and signals. Some of the cues are hard to disguise in physical meetings, such as age, gender and ethnic origins. Some we control and create (the pipe we light with a flair; the nose ring and purple hair), others we give off involuntarily (the dandruff, the Boston accent, the word out of context). Some attributes people infer about us (those practical white shoes must mean she’s a nurse), some they project on us (he looks just like my horrible sixth-grade algebra teacher!). Sometimes our reputation precedes us, or others research us before meeting.

The settings themselves are replete with signals. We can tell many things about people’s status, intent, history and relationship from their posture, actions and relative positions. Our expectations and behaviors are different for a yacht club, a nursery school, a college dorm room or a cocktail party. Each setting has its own framework of assumptions.

Business meetings offer information about people’s titles, as well as the size and location of their office or cubicle. Some companies, such as Hewlett-Packard, consciously mess with these status markers. In others, such as IBM in its mid-80’s heyday, the grade of an office’s veneer or carpet were subtle signifiers of rank and privilege. As Dilbert knows, much of that attitude lives on inside the phone companies. And every good traveling salesperson knows to check on the presence and nature of wall hangings, desktop pictures and other office accessories to determine status (and buying power) and establish rapport.

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\(^3\) Gender lexicon: Transvestite (TV) and cross-dresser (CD) are equivalent terms for someone who identifies as one gender but dresses as another. Transsexuals (TS) don’t identify with their birth gender; they are generally in the process of moving to their gender of choice. All of the above are considered transgender (TG) personalities.
The WELL's virtual arsonist

"Boswell" is the longstanding username of an obstreperous and creative member of the WELL. (He is the host of the "Weird" conference on the WELL; he also started the "Zine" conference, where we first heard the term years ago and in which he put his favorite selections from other conferences around the WELL). He is Gerard Van der Leun in real life.

During a chat late last month, Gail Williams, the WELL’s conferencing manager, asked him whether he was planning an April Fool’s prank this year. He replied later, proposing to create a fake character on the WELL and mess around with it in Weird. She approved. Van der Leun called the new character Fred McNair (fredm@well.com). He posted a naive, midwestern conservative profile and began posting comments in a few of the more obvious conferences on the WELL so that nobody would question what a newbie (new user) was doing in Weird.

Then he (fredm) began to post naive questions, not only about how to use the service, but also about other people’s posts on controversial topics such as homosexuality, prostitution, adultery, S&M and so on. To get things moving, he picked a fight with himself -- as boswell. Van der Leun was chumming the waters for a fight, and he knew the sharks’ names and all their sensitive spots. Many rose to the bait.

As fredm got deeper into his arguments with boswell, a strange thing happened: Other people began to send fredm private e-mail. Many told him not to be concerned because boswell was, well, not a nice guy. Some of those messages came from people whom boswell had helped in significant ways. He was shaken, but he kept playing the ruse.

Some technically astute WELL members got suspicious and began to realize that fredm and boswell always logged in from the same Internet address, but it wasn’t until Gail returned from a trip and told everyone what had really happened (on April 1) that the fredm character was unmasked. Even before the unmasking, topics arose on the WELL discussing fredm. Boswell posted blithely on them, teasing and cajoling others as he denied being fredm. After the unmasking, boswell’s actions received a mixture of responses, ranging from outrage and calls for his banishment to kudos for an entertaining spoof. Like the OJ Simpson trial in the world outside, this event was a loss of innocence for some.

Van der Leun’s prank would have been fair game within Weird, which is considered an anything-goes free-fire zone. But he kept it alive outside of Weird, in the general WELL system, where it was taken very seriously. Van der Leun is cynical about the online world’s ability to foster community and considers what he did a form of virtual arson. He posts, "Fires are very beneficial in forests in that they clear out a lot of dead wood and other trash." Williams feels that characters such as boswell/fredm are necessary components for the existence of communities, though she does not want to see this experiment repeated. The episode’s repercussions are probably not over.
Clearly, the online world doesn't offer the wealth of cues that the physical world offers. It does offer some novel ones, which we describe in this section. What isn't so obvious is the wealth of information that is available online about a person's actions and identity. Compared to physical meetings, where we know little about people's prior actions, the online world is a treasure trove of such information.

Markers and actions flip

In fact, cyberspace flips the balance between markers and actions. Physical meetings offer many markers from which we can infer aspects of someone else's identity, but they offer little information about the other person's actions. Online, we have few markers but potentially much more information about activities, particularly if the person we're dealing with is active in public spaces online, or if she offers some identity information voluntarily. Also, much of the time that we meet people online, it is not in real-time settings, so we have the time to do some research.

If you're not convinced that there is information out there, search for someone's name in Alta Vista (Digital Equipment's speedy Web search engine), Switchboard (Coordinate.com's white-pages directory) and Deja News (the Austin, TX-based Usenet news search engine). You'll be surprised how much information shows up. Participating in open online spaces leaves a trail that gets indexed, cross-referenced and used by others. Often you can relive lengthy conversations by reading someone's past postings. On the Web, one piece of information often leads to another.

Unfortunately for those who want to do this kind of research, conversations that occur in private e-mail or in closed systems such as CompuServe or AOL forums are seldom indexed. Also, many more people lurk (read without posting) than post online. What's fascinating is that many people are making voluntary, unilateral offerings of things they care about by creating Websites, a phenomenon we'll return to in a moment. First, here is a description of some of the basic affordances about identity available in online environments.

Inferred identity

Posting is active and, to some extent, expected to be public. Browsing and reading are far more private, yet these activities stand to be affected, too. Many companies would like to have more information about who is visiting their Internet sites and, more specifically, who is using their intellectual property. Asking visitors to register hasn't worked, because many visitors refuse, and because the burden of entering a user ID and password each time discourages repeat visits (never mind managing all the passwords). One reason we like electronic calling cards is that they can offer a simple, painless way to voluntarily identify oneself if they're properly integrated with accompanying software.

Many companies have resorted to using identifiers such as the "cookies" that are part of the Netscape Navigator to track users. They also engage in increasingly sophisticated "clickstream analysis." Of course, for every measure there is eventually a counter-measure. The Anonymizer is a Website
at Carnegie-Mellon University that hides personal information from sites you visit by playing the role of blind intermediary (see Resources, page 18).

However, the Anonymizer and things like it will not eliminate the threats to privacy that the new technologies pose. "What we read is even more important, identity-wise, than what we say or write." says Lee Tien, an attorney and Ph.D. candidate in jurisprudence and public policy at UC Berkeley. "One may read *Mein Kampf* without any desire to affiliate with Nazism. There's a greater danger that one's reading choices, choices going to how we formulate our thoughts, may lead to our being mislabeled. Reading, in a sense, is prior." Private behavior is now more easily monitored than ever.

**Mask management 101**

Our primary identifiers in cyberspace are user IDs. Sometimes they can be moderately descriptive (e.g., john_doe@sales.acme.com) or whimsical (zigezunt@aol.com or spingo@echonyc.com). Having a clever, short Internet address -- say, sally@kins.com -- confers status on its owner.

Many systems, services and games allow for user-chosen monikers that are separate from permanent user IDs. These monikers add color to messages that people post without disguising the authors, whose permanent IDs still appear with their postings.

Often, though, user IDs can be limiting. Because user IDs offer so little information, people tend to project what they feel about the user IDs or service providers onto their owners. For example, some services are stigmatized. There are many smart people on AOL, but when its subscribers began to post on Usenet, they were often belittled. This has changed over time, as the novelty has worn off and as those users have participated in various ways.

Services with weird numeric or alphanumeric user IDs, such as CompuServe, Prodigy, MCImail and AT&T's PersonaLink service, put their subscribers at a disadvantage. Generally, these services' attempts to add user-selectable IDs (not merely firstname_lastname) have been too late and too cumbersome.

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If you can't remember your Internet address, it's a sign that you should try to get a new one.
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**Profiles and pointers**

The most typical way to identify people online today is through user profiles, which many services offer. For example, AOL members can fill out a user profile that is viewable by any other member. It's voluntary. Unix-based systems have ".plan" files that are viewable with the "finger" command. People put all sorts of information in their .plan files.

E-mail often carries additional identity information. Many e-mail client programs allow for signature files, which get appended automatically to every outbound message. These signatures often hold the sender's name, title, company, phone number and e-mail address. Profiles and signatures are, of course, voluntary and can be as funny or fictitious as the account
Disclosure and credibility

In online discussions, some people identify themselves and others don't; some have user profiles. Often, the nastiest and fiercest participants in the discussions don't identify themselves. Every so often, participants challenge the anonymous posters' credibility. "Why should we believe you," they ask, "if you're not willing to tell us who you are?" Not all participants are that skeptical.

As societies explore the online world as a forum for political discussions, will they be foiled by issues of identity? Can public opinion be swayed easily by pseudonymous characters, as Card suggests in Ender's Game?

Increasingly, people who would formerly never have found an audience can now be heard. The trends seem to indicate increased voluntary disclosure coupled with increased skepticism. Participating in this medium takes some faith that it will work. The medium is also fragile. A few people bent on destroying the quality of discourse in an online forum or mailing list can wreak havoc easily, and it doesn't matter much whether they're anonymous or not.

Increasingly, e-mail signatures include links (URLs) to personal or corporate Websites. This is a big deal. It introduces a simple and rich way for people to present themselves. When every message we send can easily lead to an extensive explanation of who we are, what we do and what we care about, communications can open up dramatically.

More software developers are incorporating this kind of feature. For example, in OnLive! 's multi-party audio and 3D chat environments, participants can click on other participants' avatars to see (and follow) their URLs. In the PowWow multi-party text chat system, discussants can specify an image, URL and e-mail address that then appear as buttons on their frame (both are described in Release 1.0, 11-95).

The electronic calling cards that many Forum attendees created in the Rumpus Room with help from Versit and Now Software are a more structured way to present personal information (see Release 1.0, 9-93 and 3-96). The structure is important and useful in a different way than the content of a Website. When you present yourself voluntarily with a vCard, the recipient can store and re-use the information effortlessly.

Beyond markers and actions

Cyberspace has many other effects. For one thing, it blurs many boundaries, such as the one between fact and fiction. It's difficult to assume an invented identity in real life; it takes the Witness Protection Program or similarly drastic measures. (You also have to destroy the old identity, which may be even more difficult.) Not online. The online world brings people's fantasies out and gives them places to play them out.

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The side effects have a way of affecting "truth." When Time magazine reported on the deeply flawed Carnegie-Mellon study about pornography online as if it were fact, discussions on the Net offered far more insight than Time's one-page follow-up article. When an anonymous person posts a damaging note about someone else, it's hard to find the truth. It's also hard to ignore the statement's negative effect. (Who did write Primary Colors?)

Online, truth is decentralized; all statements end up bathed in a more skeptical light. Participants have to be more critical and use more judgment.

Or, of course, people can give up and fall into fantasy roles or act more irresponsibly. There is a risk that the dissolution of these boundaries indicates that the online space is simply not conducive to civil dialog. We do not believe so.

Another boundary that is affected is the one between public and private life, which is sometimes just a Web link, file path or mouse click away. It only takes one keystroke for your private message to go to the "all employees" address or to an entire mailing list, instead of your conspirator or secret pal. More activity that used to be private is now conducted in the public view. Conversations are now held in larger forums. People are spontaneously publishing their opinions in places where others can read and respond to them.

Some people obliterate this boundary on purpose. You can find out practically everything that Steve Mann is up to. He's the fully wired (and wireless) MIT Media Lab student who is always online. You can see what he sees at any given time by visiting his Web page.

**Employee show and tell**

A third boundary that is blurring is the one that separates our corporate and personal identities. This is manifest in many different ways. Company service representatives posting tech-support answers on the Usenet are far more visible than call-center reps whose interactions are always with one person at a time. Customers and prospects who participate in the online discussions answer questions for each other and recommend or pan the products. It can be hard to tell who is really the sales or support person. Disclosure of official roles is important in such settings. Companies that go this route are becoming more transparent. They must also find new ways of measuring employee productivity.

Employees are starting to put up personal Web pages that describe their interests and hobbies. At Eli Lilly, IT managers debated whether to allow employees to have personal pages and decided that, as long as people stayed within certain taste guidelines, there was little harm. As all of these things happen, they raise the issues of privacy and freedom of expression. It gets harder to tell what a worker does as an individual or as an agent.

A final boundary that is blurring is the one between the self and other people. The simplicity of text masks many differences that would ordinarily keep people from contacting each other at all. The medium's nature allows us to see how similar we are to each other. The sheer volume of participants and postings helps, too. As Paul Kelly, who teaches at York University in Canada notes, it can be pretty humbling when you realize that your "unique" opinions have been reiterated in Usenet newsgroups hundreds of
times, and that they seem pretty superficial. New audiences can mean new responsibilities -- or just new places to play the fool.

Interestingly, beyond the first expensive hurdle of getting online, money matters little in cyberspace. The most expensive computer won't generate better e-mail on the receiving end. Literacy, however, shows clearly, as does mastery of English (unfortunately) and typing skill (especially in real-time settings). Long run, status comes from the way others in a discussion treat you. Performance over time matters. With the exception of the Net's language bias, the medium tends to downplay national identity and heighten feelings of global connectedness and world citizenship.

### The new naughty nineties?

There's something strangely counter-Victorian about what's happening these days online -- and in real life. In Victorian times, people obeyed social strictures and filled roles. Markers and social status were paramount. Families' ornate and regimented facades hid things that were going on behind the scenes.

These days, the ornate roles are in disarray, the traditional social masks are peeling off and the stuff behind the scenes is often on stage, front and center, for all to see. People are creating new masks for themselves, experimenting with aspects of themselves and telling others about them. When the facets are more explicit, it's hopefully easier for us to work on them.

Mass media emerged in the Victorian era with the first widely read newspapers. As mass media evolved, it was able to create and control the images by which people measured their lives. Now we have media from and for the masses. The message is out of control, and nobody knows quite what the consequences will be.

Secrets are still alive and well, of course; they have taken new dimensions. It's more difficult to know who knows a particular thing because the groups can be much larger and the medium allows for constant conversations and multiple, private sub-channels. People talking about us can forward our private messages without our knowledge. There is broader, uncontrolled dissemination of materials. Knowing this makes some people warier of writing things than speaking them. Others are less cautious. Nevertheless, the general trend is toward more explicitness, more communication.

### Sharper images

Not everything gets blurred in cyberspace. Some things are sharpened, some loosened and some mixed up in ways that are difficult to understand. For example, cyberspace has a pretty good memory. Events and conversations in cyberspace get recorded on magnetic disks, copied and transmitted around the world, indexed, and cross-referenced. Strangers keep private copies. These records are more permanent than ordinary media and far more so than conversations. Expect to see new epistolary works that contain faithful transcripts of e-mail messages and forum postings.

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Some places in cyberspace are quite flexible and forgiving. They offer us the leeway to act outside the ranges of normal behavior. Some of them are explicitly role-playing spaces; others simply have looser social strictures. Think of them as consequence-free zones.

These are places where, as Turkle says, people can find moratorium. In them, it is easier for people to manifest other aspects of self, give them a workout and perhaps re-integrate them. Many people are managing multiple characters online (and in real life), all of which manifest some parts of their personality. But performing all the time takes energy and can set up some jarring conflicts. Eventually, it takes its toll on the performer. Our belief is that safe exploration helps speed re-integration, though it by no means guarantees it.

Finally, cyberspace creates some odd juxtapositions. Take, for example, the beguiling combination of emotional intimacy and physical distance that it offers. Anyone who has been in an online romantic flirtation (or more!) knows that electronic communications can create a feeling of safety, intimacy and connectedness that is sometimes misleading. In strange ways, technology separates us, even as it links us. We hope that people will use technology to start and coordinate more real-life interaction.
This is clearly a young medium with a lot of unsolved problems. Anonymity makes it easy for people to cause mischief and get away with it. The ease with which people can exit discussions makes it hard for them to justify staying when the going gets tough. Cyberspace can be a world of snap decisions based on scant evidence. It's easy to misinterpret someone's intent, and once flame wars begin there are few damping mechanisms.

The ways to deal with unwanted people -- bozo filters, kill files, mute/ignore buttons -- are crude and only moderately effective. Part of the problem is that people who have been muted don't even know it. People want to be noticed, even detested, but not ignored.

It's hard to punish people online. For example, on AOL, getting caught crossing the boundaries of acceptable behavior is called a Terms Of Service violation. If the violations are severe or numerous enough, the subscribers are "TOSsed" from AOL. But re-entry is as simple as opening a new account with a different credit card or under an assumed name, creating a "cover" with which to do more mischief.

Nobody has found the cyberspace equivalents of good old ostracism, banishment and shunning.

Ideally, people invest enough time, energy and emotion in their online environments that they feel rewarded for participating and find leaving too painful to contemplate. But few people invest enough to take responsibility for an online space and to care whether they get thrown out or not.

This section describes some potential technological fixes to these problems. There are plenty of interesting things one can do with online characters, as we will describe in the future issue on avatars, but few of those things solve the thorny social problems. It is most likely that solutions will require old-fashioned, time-consuming social interaction. A trustworthy and well-educated citizenry won't really need technological gizmos that guarantee identity in everyday interactions.

Anonymity's useful side

Anonymity isn't negative per se, though it causes plenty of grief and is often cast as a bad thing. There are many good reasons for its use. For example, if Steve Case and Bill Gates would like to participate in public online discussions but not be identified (and have what they say show up in the papers and move their companies' stock prices), they should be able to count on reliable pseudonyms.

There are also reasons to remain anonymous to certain intermediaries, such as the system that carries your calls or packets, your bank, or the merchants you deal with all the time. Some of the efforts to create digital cash tackle this issue (see Release 1.0, 1-95).

In real life, some groups, such as Alcoholics Anonymous (AA), institutionalize anonymity (AA does it online, too, as do other 12-step programs). Participants at AA meetings are expected to keep their last names confidential. This procedure helps participants feel safer, so they can discuss
things that would be too sensitive. Online, sometimes a simple banner or an occasional reminder about the nature of the group can create similar feelings. It's remarkable how simple and effective some solutions can be.

Note that if you use the same anonymous identifier a few times, you have created an identity. The identifier is your pseudonym -- sometimes referred to online simply as your "pseud" or your "nym." "Anonymous" and "Jane Doe" aren't especially helpful pseudonyms. "Mr. Slippery" and "George Sand" are.

From anonymity to authentication

Anonymity is, of course, relative. It varies along two dimensions that are easy to confuse: the degree of certainty about someone's identity and the amount they disclose about it. ("They," of course, might be you.)

Let's start with certainty. In the extreme case, you want to be completely certain that the person you are dealing with is exactly the same character it claimed to be last time, even if you have no idea who it is. Certainty ranges from casual to definitive. The casual way to be certain of someone's identity online is to keep track of the person's user ID, which is typically unique and hard for others to appropriate.

The definitive way is to use digital signatures in combination with digital certificates. The signature indicates you want to do something, such as sign a contract or charge something; the certificate validates that you have the right to do it. Application software that receives a certified document checks the certificate to see that it comes from a valid certificate authority (CA) and that it is still valid. It may also check an online "hot list" of revoked certificates. Depending on the importance of the item in question, certificates might need to be no more than a week, day or hour old. There are also many levels of certification, starting with the CA itself, which holds a "root" certificate (see box, next page).

Disclosure (without Michael Douglas)

People who are fully disclosed are exactly whom they claim to be. Ideally, they can be located and held responsible for their actions. Disclosure is a measure of vulnerability and a guarantee of presence.

Disclosure ranges from untraceable (one use of a completely anonymous ID) to fully traceable (you have someone's True Name). To avoid disclosure people use anonymous remailers, which hide their identities by swapping address information in a way that is relatively secure done once. Chaining remailers (repeating the process several times) can mask a message originator's identity almost perfectly. All of the links in the remailer chain have to be compromised for the person to be identified.4

4 On his Website, University of Miami law professor Michael Froomkin describes anonymous IDs, pseudonyms, remailers and the legal implications thereof (see Resources, page 18).
Making really certain

Certificates rely on encryption techniques and exist in hierarchies. Some certificates offer more certainty than others. Here, for example, is how a four-level certificate system might work. The lowest-level certificate would be an on-demand variety that anyone can request and involves no checking into the individual who wants it. One individual might easily have many such certificates.

Getting a certificate at the next level up would require a routine credit check; spoofing it would be similar to creating a fake driver’s license or other ID. Many people wouldn’t undertake falsifying it, but those who wanted to and knew what they were doing could probably do so. The certificate issuer might require applicants to take extra steps designed to foil impostors.

The third-level certificate would entail a comprehensive security clearance with in-person interviews. The ultimate certificate might require blood tests and scans or readings of multiple body parts that are extremely difficult to fake (e.g., retinas, fingerprints, weight, DNA). Intelligence services and other high-security installations might require such stringent identification.

Companies will require different levels of certainty. Using technology such as that from VeriSign, the principal vendor of digital certificate technology, they will be able to issue their own certificates or use third-party services.

Reality

Regardless of the benefits, today it takes knowledge and effort to use certificates (which are just coming to market) and remailers. Both must be transparent to use, which is not yet the case; each presents unique issues.

In some settings it may be hard to figure out who should pay for authentication. Certificate authorities may not want to be liable for mistaken authentications, which may lead to new kinds of insurance. If these issues can be resolved, certificates may well offer some of the guarantees that are missing in cyberspace today. Remailers offer anonymity in limited situations. They work only for store-and-forward communications, and then when there’s time to include pauses of arbitrary duration. What happens with real-time communications?

The simple, troublesome kind of anonymity offered by normal online service accounts is probably the most relevant to our concerns in this issue.

Balancing media types

Much of the identity-hiding in cyberspace occurs because of the environment’s heavy reliance on text. Images and audio clips embedded in e-mail and online postings will change this, as will more ubiquitous video. Audio (stored and live) is likely to become pervasive much sooner than video. If so, it may change the dynamics of online communication considerably.
It's possible that we will remember the 1990s warmly as a short, exemplary period when wonderful things could happen because we didn't know much about the people with whom we were communicating. We believe that text will remain an essential part of communications (could we think otherwise?). Its many practical virtues include being easy to scan, excerpt and forward. But its social virtues will give it an even longer life.

On the Internet, nobody knows you're in drag.
-- boswell@well.com

Mixed signals and historic baggage

Online service providers and Internet technologies entangle several attributes that should be separate from each other. As a result, the service offerings are surprisingly inflexible, which stifles innovation.

For example, identity attributes such as your degree of anonymity are inseparable from online services as a whole. You are less anonymous on the WELL, where every post is tagged with your single user ID, than on AOL, where you can create up to five user IDs and are more likely to blend into the much larger crowd. With the exception of a few role-playing games, most services have no special places inside where you can be much more (or less) anonymous. These should be separate variables that services and users can vary depending on what they want to do.

History affects our expectations of various online technologies, too. We tend to use technologies the way we always have and ignore potential new uses that are "out of character." MUDs originated as gaming environments, which is still their principal use. But MUDs have serious uses, too. Note Amy Bruckman's MediaM00, which requires participants to be in the media studies field, as well as the BioM00 hosted in Israel and other educational systems. There is little about MUD technology that makes it unsuitable for more serious activities. Yet MUDs carry the stigma of being play environments peopled with fantasy characters, just as the Macintosh carried the stigma of being a toy computer for its important early years. Internet Relay Chat (IRC) now has a stigma similar to that of 900 numbers: that of anonymous sex services.

Can we afford new affordances?

What would it take to create more variety, to separate these intertwined variables? We're tempted, for example, to find ways for participants to know which people in an online space have disclosed their identities and which ones haven't. Perhaps a small mask icon could appear next to those people who have not disclosed their identities. Or it could be a traffic light: bright green next to characters that are fully disclosed, red lights next to the incorrigibly anonymous. Making these attributes more explicit should help us weigh what each character contributes appropriately. It might be legislated. Governments could require avatars and plain user IDs to sport labels that map to their attributes, held in government databases.

We have immediate misgivings about such a solution, and not just because of governments' potential role (governments have proven themselves untrust-
worthy in areas of identity and control). Of course, people will probably find ways to spoof the system, but the issue goes deeper. How explicit can identity be? Even if someone’s proper name is revealed through technology or legislation, what does that say about the aspects of identity that matter? We might want to know that person X is an employee of RJ Reynolds or the NRA, but will that be part of the identity marker? It’s like caller ID, the telephone-system function that tells you what handset the call came from but not much else of use.

That’s my bot you’re insulting

It doesn’t help that it’s becoming less clear when we are actually dealing with another person. An autoreply message ("I’m on vacation and can’t reply quickly.") is a small piece of your identity that lives separate from your presence. This and other identity stubs such as voicemail prompts will grow, integrate and begin to take on more complex roles. For a glimpse of what this might look like, check out the synthetic characters, or bots, that inhabit MUDs today.

These programs may soon welcome all callers and assess which ones should go to the message bank and which ones to alert you about. They might even be able to conduct simple transactions, though we’re not too hopeful that truly smart, general-purpose agents will be commercially available in our lifetimes. Imagine instead a system that combines the capabilities you now find in voicemail and voice-response systems, Websites and Wildfire (the personal telephone assistant; see Release 1.0, 10-94; see also 12-93 and 1-94 on unified messaging).

You can also attach a program to someone else’s character, or set up alarms that notify you when the character logs on or changes status. All of these mechanisms will affect our sense of personal boundaries and capabilities, as well as how we interact with others.

Social issues

These are social issues with technological complications, not the other way around. The two answers that make the most sense to us are design and education. Cyberspace needs markers that we all understand: boundary markers for online places, as well as identity markers for individuals. It needs people to build special places with identity guarantees. It needs systems that allow for easy creation and dissemination of a variety of community standards that others can subscribe to. The standards form important boundaries, too.

At the personal level, cyberspace needs explicit settings for identity disclosure, as well as clever ways for people to transmit emotion through the electronic medium.

Overall, the medium needs to be shaken up and reinvented so we stop thinking in terms of the legacy technologies we are far too accustomed to using,

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and therefore too blind to change. The telephone, for example, is not the
design ideal that all new forms of communication should aspire to emulate;
it represents a mode of interaction that is too limited for the future that
is possible now.

Our experience of privacy is greatly affected by the technological choices
we have at hand. Imagine if we all had to use party lines or speakerphones
to make phone calls. People who work in cubicles or share offices feel the
lack of privacy. To some, it matters a lot. Similar issues dog desktop
videoconferencing: If there's a camera pointed at us all day, how can we
be sure nobody's snooping?

Education can help people be more sensitive to issues such as evaluating
online participants' credibility, deciding how broadly to broadcast a mes-
sage and knowing when one is acting individually and when one is an agent
for one's employer. We need induction courses, boot camps and newbie
training. We need to find, nourish and train great hosts and moderators.
We need conflict-resolution and best-practices social skills teams. These
don't need to be separate corps of specialized folk. Everyone needs to
participate and take responsibility.

The sociotechnical setting

Perhaps our individual selves will gradually matter less and we will become
part of a collective self (or simply realize more fully that we already
are). There have been several credible presentations of such entities or
processes, including the hive mind that Kevin Kelly describes in his book
Out of Control, the ecology of collaborating systems described in Marvin
Minsky's Societies of Mind, and the so-called implicate order that the late
physicist David Bohm believed connects us all.

Until recently, individual identities were mostly a function of where we
were born (and still is, in many cultures). Our family status and clan as-
association, skin color, caste or gender dictated what we might become, whom
we would marry, and so on. Since the creation of mass media and mass cul-
ture, our identities are in large measure determined by what we consume.
Demographic studies categorize and measure us. Testimonial and man-on-the-
street advertisements are calculated to create proxies for social experi-
ences that carry cues for what we should aspire to. Technology has clearly
changed our perception of identity.

Now we seem to be on a path toward a concept of identity that says that we
are what we produce and how we behave. We are as we act over time. Every
decision and commitment we make shapes our identity. We hope it is not too
optimistic to think so.
RESOURCES & PHONE NUMBERS

Stacy Horn, Molly Ker, Echo Communications Group, (212) 292-0900; fax, (212) 292-0909; horn@echonyc.com, molsk@echonyc.com
Linda Stone, Microsoft, (206) 936-1826; fax, (206) 936-7329; lindas@microsoft.com
Sherry Turkle, MIT, (617) 253-4068; fax, (617) 258-8118; sturkle@media.mit.edu
Gerard Van der Leun, Penthouse Magazine, (212) 702-6000; fax, (212) 702-6262; boswell@well.com
Lee Tien, UC Berkeley, (510) 525-3015; tien@well.com
Peter Kollock, Ph.D., UCLA, (310) 825-3914; fax, (310) 206-9838; kollock@soc.sscnet.ucla.edu
Michael Froomkin, University of Miami School of Law, (305) 284-4285; fax, (305) 284-6506; froomkin@law.miami.edu
Stratton Sclavos, VeriSign, (415) 961-7500; stratton@verisign.com
Paul J. Kelly, York University, (416) 536-8116; pkelly@calumet.yorku.ca

For further reading:


On the Web:

Anonymizer, Carnegie-Mellon University; anonymizer.cs.cmu.edu:8080.
Paul Kelly, York University, Metropolitan Life; www-home.calumet.yorku.ca/ pkelly/WWW/1920.htm.
Peter Kollock and Marc Smith, Managing the Virtual Commons: Cooperation and Conflict in Computer Communities; www.sscnet.ucla.edu/soc/csociety/vcommons.htm.
Steve Mann, MIT Media Lab; http://18.85.0.199.
COMING SOON

- Avatars: motion and emotion online.
- Collaboration and conversation tools.
- Networked object graphics.
- Navigation.
- The analog world.
- And much more... (If you know of any good examples of the categories listed above, please let us know.)
April 22-24  Storytelling for the New Millenium - Kauai, HI. Organized by the Kauai Institute for Communications Media and the American Film Institute. With Rick Smolan, Todd Rundgren and Thomas Dolby. Call (213) 856-7690; fax, (213) 467-4578.


April 23-26  Multimedia '96/China - Beijing, China. Sponsored by China State Economic and Trade Commission. Kiosks, CD-ROMs and multimedia PCs; anything but the Net! Call (818) 353-8652; fax, (818) 353-8215; cdm96@wave7.com; www.wave7.com/cdm96.


May 5-6  Object World East - Boston. Organized with the OMG. Call (508) 820-4300; fax, (508) 872-6500; ow@ow.com; www.ow.com/ow/objwrl.htm.


May 7-10  etaCOM-96: The First Annual Conference on Emerging Technologies and Applications in Communications - Portland, OR. Sponsored by IEEE. Covering technical issues from the future of ATM to Internet security. Call Rosie Green, (503) 381-3051; fax, (503) 378-4455; rosy@sequent.com.


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<td>Information Security Conference (2nd Annual) - Chicago. Sponsored by CMP, Gartner Group and the National Computer Security Association. From cyber-terrorism to IT security controls. Call (800) 808-3976 or (516) 733-6770; fax, (800) 858-0412 or (516) 733-6730; <a href="mailto:confreg@cmp.com">confreg@cmp.com</a>; techweb.cmp.com/conferences/current.</td>
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<td>Symposium on Parallel and Distributed Tools - Philadelphia, PA. Sponsored by ACM. Call Bart Miller, (608) 263-3378; <a href="mailto:bart@cs.wisc.edu">bart@cs.wisc.edu</a>.</td>
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<td>The Future of Money in the Information Age - Washington, DC. Sponsored by the Cato Institute. Hear Intuit's Scott Cook, DigiCash's David Chaum and CyberCash's Bill Melton amid the Cato analysts and policy wonks. Call (202) 789-5296; fax, (202) 842-3490; <a href="mailto:bart@cs.wisc.edu">bart@cs.wisc.edu</a>.</td>
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<td>TWO BBSCON '96 - Munich, Germany. Organized by Trans World Online. Call Gerald Meier, 41 (75) 373-2832; fax, 41 (75) 373-3062; BBS, 41 (75) 373-6680; <a href="mailto:twobbs@online.li">twobbs@online.li</a>.</td>
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<td>May 25-26</td>
<td>Workshop on Parallel Algorithms (part of FCRC '96) - Philadelphia, PA. Sponsored by ACM SIG/ACT. Call Uzi Vishkin, (301) 405-6763; fax, (301) 314-9058; <a href="mailto:vishkin@umiacs.umd.edu">vishkin@umiacs.umd.edu</a>.</td>
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<td>Connected Classroom Conference - Baltimore, MD. Sponsored by the National Education &amp; Technology Alliance. See what K-12</td>
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education is doing with the Internet. Call (800) 638-1639; fax, (717) 393-5752; register@classroom.net; www.classroom.net/connected.

June 6-9 5CYBERCONF - Fifth International Conference on Cyberspace - Madrid, Spain. Hosted by Fundacion Arte y Tecnologia de Telefonica. Call 34 (1) 542-9380; fax, 34 (1) 521-0041; 5cyberconf@ceai.telefonica.es; www.telefonica.es/fat.


June 11-13 National Educational Computing Conference, "Call of the North" - Minneapolis, MN. Sponsored by Technology and Information Educational Services (TIES). The big education conference of the year. Call Jamie Schultz, (541) 346-241300; fax, (541) 346-5890; necc@oregon.uoregon.edu.


June 18-19 CyberPayments '96 - Dallas. Organized by the National Automated Clearing House Association (NACHA). Call (800) 529-7375; fax, (216) 466-6601; fbma@en.com.


June 18-21 Digital Media World - Berlin, Germany. Organized by Berlin Fairs and Conventions. Call Kim Rosia (540) 372-3777 or 49 (30) 3038-2077; fax, (540) 372-1414 or 49 (30) 3038-2059; dmw96@illuminet.net.


July 21-24 Interactive Services Association 11th Annual Conference - San Diego. Sponsored by the ISA. Call Patti McKnight, (301) 495-4955; fax, (301) 495-4959; isa@isa.net; www.isa.net.

July 28-30 Spotlight - Laguna Niguel, CA. Hosted by Spotlight. Call Denise Caruso, (415) 312-0545; fax, (415) 286-2750; dcaruso@aol.com.

August 8-10 ONE ISPCon - San Francisco. Sponsored by Online Networking Expositions. The creators of ONE BBSCON and Boardwatch Magazine start a conference for Internet service providers. Call Peg Coniglio, (303) 693-5253; www.one.ispcon.com.

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September 16-20  Networld+Interop '96 - Atlanta, GA. Sponsored by Softbank Expos. Call (800) 488-2883 or (415) 578-6900; fax, (415) 525-0199; www.sbexpos.com/sbexpos/interop/.

September 17-19  IMA Expo '96 (1st Annual) - New York City. Organized by the Interactive Multimedia Association and IDG. Covering multimedia tools, technologies and services. Call (415) 286-2531; www ima.org.


September 25-27  3rd International Workshop on Mobile Multimedia Communications (MoMuC-3) - Princeton, NJ. Sponsored by Rutgers University WINLAB. Call Judy Clark, (609) 951-2443; fax, (609) 951-2499; momuc3@crl.nj.nec.com; winwww.rutgers.edu/pub/symposiums/momuc3/.


November 16-20  @CSCW '96 (Computer-Supported Cooperative Work) - Boston. Organized by the ACM. Call (410) 269-6801; fax, (410) 267-0332; cscw96-info@media.mit.edu; http://info.sigchi.acm.org/sigchi/cscw96/.


* Events Esther plans to attend.
@ Events Jerry plans to attend.

Lack of a symbol is no indication of lack of merit.
Please let us know about other events we should include. -- Christy Snipp
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