BEN SHNEIDERMAN

DESIGNING TRUST INTO ONLINE EXPERIENCES

These principles and their guidelines enhance cooperative behaviors and win user/customer loyalty by giving assurances, references, certifications from third parties, and guarantees of privacy and security.

Ancient social traditions were designed to elicit trust during uncertain encounters. Handshaking demonstrated the absence of weapons. Clinking of glasses evolved from pouring wine back and forth to prove it was not poisoned. Now, new social traditions are needed to enhance cooperative behaviors in electronic environments supporting e-commerce, e-services, and online communities.

Since users of online systems can't savor a cup of tea with an electronic rug merchant, designers must develop strategies for facilitating e-commerce and auctions. Since users can't make eye contact and judge intonations with an online lawyer or physician, designers must create new social norms for professional services. Since users can't stroll through online communities encountering neighbors with their children, designers must facilitate the trust that enables collective action. In parallel, consumer groups must be vigorous in monitoring and reporting deceptions and disreputable business practices.

Political scientist Eric Uslaner of the University of Maryland calls trust "the chicken soup of the social sciences. It brings us all sorts of good things—from a willingness to get involved in our communities to higher rates of economic growth … to making daily life more pleasant. Yet, like chicken soup, it appears to work somewhat mysteriously" [5]. He tries to sort out the mystery by distinguishing between moral trust, or the durable optimistic view that strangers are well-intentioned, and strategic trust, or the willingness of two people to participate in a specific exchange (see Uslaner's "Social Capital and the Net" in this section).

Trust facilitates cooperative behavior. It is a complex term that has generated dozens of doctoral dissertations, not only in sociology and political science, but now in information systems research as well. There are enough dimensions to trust and its failures to keep scholars and philosophers busy for some time, but e-commerce, e-services, and online community designers need a guide to practical action [4].

The designer's goal is to engage users quickly and establish and preserve strategic trust under challenging situations. But for many users, strategic trust is difficult to generate, shaken easily, and once shaken extremely difficult to rebuild. Strategic trust is fragile.

The extensive literature on trust offers multiple perspectives. In his politically oriented book *Trust*, Francis Fukuyama, a former U.S. State Department analyst, claims: "Trust is the expectation that arises within a community of regular, honest, and cooperative behavior, based on commonly shared norms, on the part of the members of that community" [2]. This compact definition embodies several key con-

TERRY WIDENER

cepts—mostly that trust is about the future and concerned with cooperative behavior.

In shifting to electronic environments, B.J. Fogg and Hsiang Tseng of Stanford University focus on trust among individuals mediated by technology, writing that "trust indicates a positive belief about the perceived reliability of, dependability of, and confidence in a person, object, or process" [1]. To separate out the trust for a person from expectations about an object or process, I use the term, "rely on" (or "depend on") for the positive expectations about an object (such as computers, networks, and software) and process (such as credit card transactions and airline e-ticket reservations).

Computer scientists have concentrated on building reliable equipment; more recently, e-commerce and e-service providers have sought to encourage customers willing to use computer networks but who may be reluctant to type in their credit card numbers.

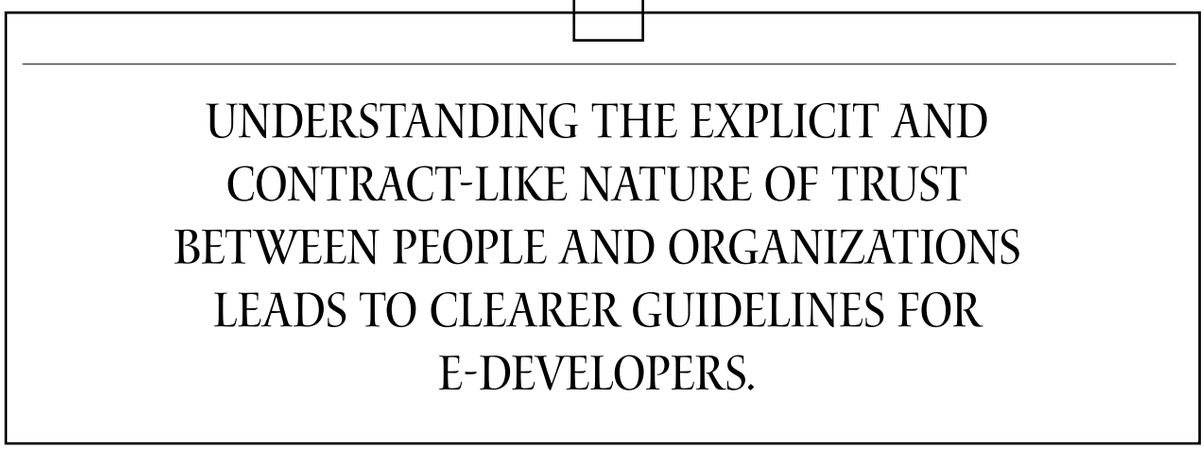
To provide a framework for online developers, I offer this definition of trust: The positive expectation a person has for another person or an organization based on past performance and truthful guarantees. Trust is about expectations of the future. It accrues to individuals and organizations due to their previous good works and clear promises. It implies responsibility for behavior and willingness to make good for failures. It is stronger than reliance, due to the responsibility and guarantee that only people and organizations can offer. If users rely on a computer and it fails, they may get frustrated or vent their anger by smashing a keyboard, but there is no relationship of trust with a computer. If users depend on a network and it breaks, they cannot get compensation from the network. However, they can seek compensation from people or organizations they trusted to supply a correctly functioning computer or communication service. Understanding the explicit and contract-like nature of trust between people and organizations leads to clearer guidelines for developers and monitors of e-commerce, e-services, online communities, and other Web sites.

Principle 1. Invite participation by ensuring trust. Users are more likely to participate in Web transactions and relationships if they receive strong assurances that they are engaging in a trusting relationship. They seek reliable reports about past performance and truthful statements of future guarantees. The branding process generates trust by using familiar logos and names of companies whose integrity is respected. Therefore, success is more likely if Web site developers apply the following guidelines.

Guideline 1.1. Disclose patterns of past performance. Airlines report on-time percentages for flights, and realtors advertise how many homes they've sold. Reliable periodic self-reports of performance may attract users and inspire trust in future performance, as does information about the organization and its management, employees, and history. Openness about performance and personnel may engage and assure skeptical users

Guideline 1.2. Provide references from past and current users. Most people choose medical doctors by asking friends for references, but Web-based medical services are likely chosen by reading online comments from patients. One reason for eBay's (www.ebay.com) success with online auctions is its thoughtfully designed reputation manager (called Feedback Forum) enabling purchasers to record extensive comments on sellers (see Resnick et al.'s "Reputation Systems" in this section).

Guideline 1.3. Get certifications from third parties. Lawyers, doctors, and other professionals are certified by appropriate review boards, which may soon begin certifying certain online services. Seals of



approval from consumer and professional groups, including the American Medical Association and American Bar Association, help establish trust through third-party reports. Logos from TRUSTe (www.truste.com) and BBBOnLine (www.bbbonline.org) and other third-party services that review online privacy practices may also inspire consumer trust, though only if they develop adequate enforcement.

Guideline 1.4. Make it easy to locate, read, and enforce policies involving privacy and security. Although privacy policies are widespread, some are so difficult to find and incomprehensible to read that they only undermine trust. Good policies are enforceable and verifiable, so consumers can be assured that the implementation matches the promise. Expectations are rising rapidly as consumers become informed. Therefore, well-designed policy statements accompanied by reports on effective enforcement will distinguish some Web sites. When violations occur, prompt action is expected.

Principle 2. Accelerate action by clarifying responsibility. As soon as users begin the process of investigating a product or establishing a relationship, their emerging resistance can be reduced by clarifying responsibilities and obligations. A well-designed Web site should have orderly structure with convenient navigation, meaningful descriptions of products, and comprehensible processes for transactions.

Good design can inspire trust. Simple statements of who-does-what-by-when are likely to speed cooperation. For example, a seller who wants to inspire trust might promise to ship orders within 24 hours of receipt of payment or grant a 50% discount. An auction service that includes dispute-resolution policies and provides mediation services reduces the number of its potentially unhappy users. Restaurateurs who offer free desserts when meals are late know that prompt apologies and sincere efforts to repair problems (plus compensation for failures) can win customers for life. Since shallow commitments and broken promises are dangerously explosive, diligent attention to emerging problems is vital.

Guideline 2.1. Clarify each participant's responsibilities. As with any contract or agreement, full disclosure in comprehensible and compact terms builds confidence and trust. When terms for transactions, such as price, delivery time, cost, taxes, fees, and return policies, are spelled out, users know what to expect and are not shaken by unpleasant surprises. Similarly, policies for online communities, such as how long logs are maintained, who has access to archives, and the limitations for threats or libel, generate feelings of safety and promote open discussion.

Guideline 2.2. Provide clear guarantees with compensation. Since all Web providers are relative newcomers, they must overcome resistance to change and specific fears about credit card abuse, privacy invasion, security risks, and interface failures. Guaranteed protection from credit card fraud is a necessary, though not sufficient, starting point. Compensation for delayed delivery is relatively easy to specify, but reputation records, authentication, and escrow—all parts of eBay's Safe Harbor procedures—could facilitate successful transactions.

Guideline 2.3. Support dispute resolution and mediation services. Inevitably, a product or service disappoints some users, and when the standard response fails to satisfy them, there is a problem. A crushed delivery box, a delayed medical lab report, or a breach of privacy can each make for unhappy users who are not placated with an apology or some free service. Customer service managers earn their salaries by handling unhappy users with an appropriate response, but innovative strategies are needed on the Web to avoid litigation or better still to satisfy users and win their loyalty. Organized customer services are necessary, but third-party facilitators and mediators are becoming advisable.

These prinicipals and guidelines are merely a starting point for designers and a challenge to researchers. They need to be refined and validated in field trials and carefully controlled empirical studies in order to better understand the costs and benefits associated with different user groups. C

References

1. Fogg, B. and Tseng, H. The elements of computer credibility. In *Proceedings of CHI'99* (Pittsburgh, May 15–20). ACM Press, New York, 1999, 80–87.
2. Fukuyama, F. *Trust: The Social Virtues and the Creation of Prosperity.* Free Press, New York, 1995.
3. Kollock, P. The production of trust in online markets. In *Advances in Group Processes, vol. 16,* E. Lawler, M. Macy, S. Thyne, and H. Walker, Eds. JAI Press, Greenwich, CT, 1999.
4. Preece, J. *Online Communities: Supporting Sociability and Designing Usability.* John Wiley & Sons, Inc., Chicester, UK, 2000.
5. Uslaner, E. The moral foundations of trust; see www.bsos.umd.edu/gvpt/uslaner/research.htm.

Ben Shneiderman (ben@cs.umd.edu) is a professor in the Department of Computer Science, founding director of the Human-Computer Interaction Laboratory, and member of the Institutes for Advanced Computer Studies and for Systems Research at the University of Maryland in College Park.