

# Digital Architect

## Participatory design with the Internet

By Jonathan Cohen, AIA

The Internet is maturing, and as it does, so too are the ways that architects use it. In the mid and late 1990s, firms scrambled to set up Web sites and e-mail systems for their practices. Since then, architects have come to rely heavily on the Internet to communicate with clients near and far, to thumb through virtual product catalogs, to present their projects to the general public, and to perform myriad other tasks, including the very one envisioned by the Internet's pioneers: building virtual communities.

In these days of far-flung project teams and interested parties spanning the gamut from clients to community activists, gaining consent on projects as they move forward could mean the difference between a lukewarm and an enthusiastic reception. For many practitioners, the Web is proving to be an excellent platform for communication of this sort. Architects and planners say that providing Web sites that solicit comments on proposed projects has enabled them to create interested communities where none existed before. "More and more, citizens expect to have a say in public and private investment decisions that impact the public domain," observes Berkeley-based urban designer Bruce Race, FAIA.

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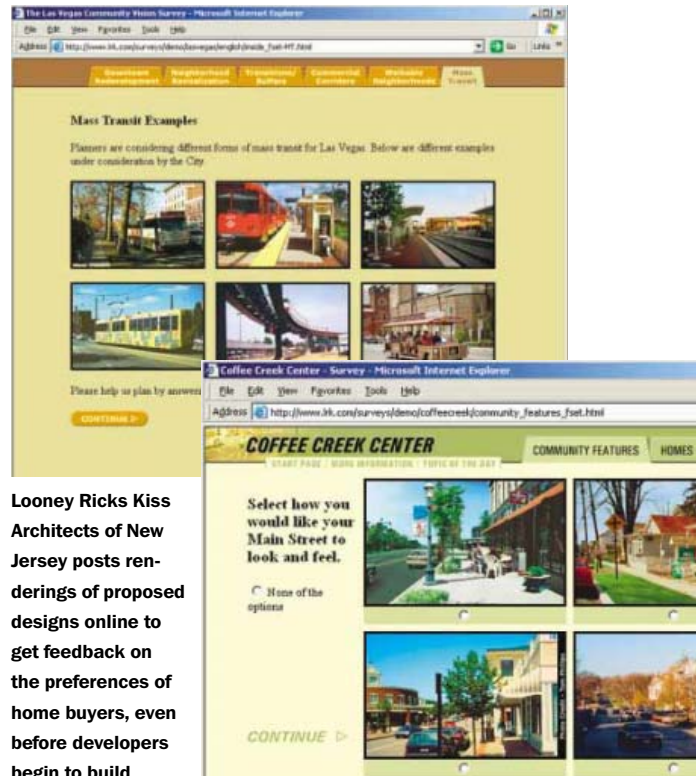
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### A university weighs in online

Projects for colleges and universities tend to be particularly stakeholder-driven, with faculty, students, administrators, alumni, and highly articulate neighbors who are more than willing to make their opinions known. In such cases, the Web is indispensable for consolidating disparate and numerous opinions. In 1999, Simon Ruffle, an architect and researcher with the Martin Centre at the Cambridge University department of architecture in England, worked with colleagues Michael Trinder and the Martin Centre's director Paul Richens to develop a Web-based bulletin board for collecting comments on the design of a new computer-science building. The impetus for creating it came from the faculty at Cambridge, who were loath to attend meetings but insisted on having a way to communicate with the architect.

Once the Web site went live, vigorous debate ensued over everything from bicycle parking to energy-efficiency. Researchers noted that the "finger plan" organization for the building proposed by the architects made circulation among the various labs difficult and suggested a courtyard plan instead. They also thought the private offices were too narrow, at 6.5 feet by 16.5 feet. A computer room originally located along a sunny southern facade was moved to the north to avoid problems with heat buildup.

The success of that experiment persuaded university administrators to take on a more ambitious project: creating an information and consultation Web portal for Cambridge's entire \$750 million capital building



**Looney Ricks Kiss Architects of New Jersey posts renderings of proposed designs online to get feedback on the preferences of home buyers, even before developers begin to build.**

program, comprising 60 projects spread across four areas of the campus. In developing the portal, Ruffle's first task was to evaluate other participatory Web sites for large-scale urban planning projects. The best sites, he found, had common characteristics: punchy, colorful graphics for conveying broad-stroke planning principles; links to related information, such as transportation and development plans, and local planning agencies and advocacy groups; and tools for interacting with the public, including a systematic method for authenticating and recording public comments.

The Cambridge University site went live in July 2000 and serves about 10,000 pages of content per month. Ruffle used relatively low-

tech media for the site, including isometric views constructed by combining CAD files, photographs, and line drawings. He also devised a procedure for converting layered CAD drawings to simple image files viewable in a Web browser without plug-ins; visitors can turn layers of the images on or off to see how the elements of the campus's master plan will be put in place over time. Interactive panoramas of the campus, along with roof-mounted Web cameras, add a sense of presence and immediacy for the online viewer.

### Creating a custom portal

San Francisco-based McCall Design Group's bread-and-butter work is high-end retail and hotel interiors for national chains, and they needed a Web-based tool for

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communicating with their far-flung clients and consultants. After trying several subscription-based extranet solutions, which they found sluggish and feature-bloated, they turned to a free management portal software package called open-source Zope, which runs on both Windows-based and Macintosh computers, as well as the Linux operating system. Senior vice president John Chan, AIA, said he “couldn’t believe how powerful it could be—and it’s free.” He customized Zope to create a design portal that centralizes all project communications, including an issue tracker, management and markup of drawings and sketches, and other functions.

Chan says you have to be “a little bit geeky” to develop such a system in-house, but once completed, it runs at no cost and shares the same server (and some of its content) with the firm’s external Web site. Most importantly, the Zope-based portal preserves the firm’s image and brand with its distinctive aesthetic. Compared to other extranet solutions, Chan says their homegrown system “allows us to control our own destiny.”

### What look do you like?

James Constantine, an urban planner and principal with Looney Ricks Kiss (LRK) of Princeton, New Jersey, uses the Web to conduct visual preference surveys for communities as diverse as Las Vegas and Denton, Texas. Building on the pioneering participatory design work of Anton Nelessen, who devised a system for citizens to choose between paired images of urban scenes, these surveys let residents indicate preferences for streetscape and open-space design, and even architectural style. In an intriguing synergy between the firm’s planning and architecture practices, LRK leveraged the same technology to assist its housing-developer clients to identify style and feature preferences of potential home buyers,

even before preliminary design begins. Such online “focus groups” have provided valuable insight into location-specific market demands. Constantine says, “We’re able to find out what kind of [environmentally friendly] features people are willing to pay for, for example, and what kind of trade-offs they’re willing to make.”

### Taking the pulse of the public

Uncertainty about public reaction to proposed projects is a major risk for developers, but the Web has been a promising vehicle for increasing the transparency and efficacy of public consultation in such matters. A truly interactive Web site can help build trust among stakeholders and offers developers a way to anticipate community objections early in the design process.

One such planning tool is Neighborhood America, founded by veteran land-use attorney Kim Kobza. This Web-based system integrates the internal communications of the project team on a development proposal with the public process of stakeholder consultation. As an active participant in many a heated late-night public hearing about proposed development, Kobza was often witness to chaotic planning processes that left developers, activists, and planning agencies equally frustrated. “I knew there had to be a better way to manage communication at a public level,” he says.

Neighborhood America provides the Web infrastructure for groups such as Imagine New York, an advocacy effort of the Municipal Art Society to engage the public in sharing ideas and visions for



A Web site at Cambridge University in England provides the community with interactive access to detailed information about the campus’s master plan and building activities.

of this West Yorkshire village the chance to access and interact with a wide array of social, physical, and environmental information mapped to the familiar terrain of their neighborhood. Users can zoom and pan the colorful maps, ask questions about specific buildings, and then leave comments for the planners.

rebuilding Lower Manhattan following 9/11. The Web site records the history of this once-in-a-lifetime process and has become an online gallery for comments and sketches from thousands of participants. When workshops for public comment on nine proposed designs were held in January 2003, about 300 people attended the live sessions at St. John’s University, but more than 6,000 others participated and gave feedback through the Web site. Comments and images are fed to a database that can be sorted and viewed online.

### Information is power

The Web’s ability to offer access to planning tools such as geographic information systems (GIS) and virtual-reality techniques offers a tantalizing vision of an informed and democratic urban-planning process. In England, the Slaitwaite virtual decision-making system, a project of the University of Leeds School of Geography, gave residents

Like CAD, GIS works with layers called “themes”—data sets that are tagged with information about geographic components, such as census tracts, neighborhood association boundaries, or property-tax assessments. One of the most ambitious online GIS projects is Neighborhood Knowledge California, a project of UCLA’s Advanced Policy Institute. Users can map an area by drawing its boundaries online and can even upload their own data into NKCA’s mapping system, as when a Koreatown parents group entered the location of child-care facilities in that Los Angeles neighborhood and could see where such facilities were lacking. Tools like this help small businesses and underserved communities bridge the digital divide—one of the highest hopes of Internet visionaries. Professor and NKCA director Neal Richman says, “I’m excited about using this technology to share information, and therefore share power.” ■