Transforming Community Planning through Technology: A Conversation with the Center for Neighborhood Knowledge

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The UCLA Center for Neighborhood Knowledge (CNK) is a research center at the School of Public Affairs at UCLA. The CNK uses information technology to create resource databases for community development.[1] Its projects, which include Neighborhood Knowledge Los Angeles, Neighborhood Knowledge California (NKLA), Living Independently in Los Angeles (LILA), the Land Opportunities Tracking System (LOTS), and California Works for Better Health, have been developed collaboratively with community members to collect and make available information about local environments and services. CNK also acts as a bridge between university-based research and public policy in the Los Angeles region. We invited four members of CNK's staff—Dr. Neal Richman, Director; Alan Toy, Associate Director; Yoh Kawano, Director of Information Technology; and Charanjit Singh, Project Manager—to talk to us about their work.

Introduction

The CNK began with the insight that liens on property were a good predictor of urban decay, and that information technology could be used to track liens, identify neighborhoods in danger of disinvestment, and provide residents and officials with the information they need to reverse neighborhood deterioration. The program that arose from this idea is now NKLA. The CNK's scope has since expanded, and its programs now address not just urban decline but services for people with disabilities, opportunities for infill development, and homeland security. Underlying all of the programs, however, is a belief that information technology can not only bring information to communities that need it, but also help those communities *create* information that will inform policy. Thus many of the center's databases are built by the very people they are designed to help.

Interview

Das: What is the UCLA Center for Neighborhood Knowledge's mission or vision?

Kawano: The belief that technology can improve or change society has been an underlying mission and goal at CNK. I believe that technology can increase participation. When we first started in 1997, the Internet had just started to boggle our minds; today its big advantage over television is active participation, which has a hugely empowering potential.

Richman: We design open-ended systems to promote exploration, rather than provide answers. We encourage people to think theoretically and inductively about information. We don't make projections filled with assumptions, or impose our view of how the world should be; instead we provide people with information and allow them to decide how to use it. To this end, our sites are not text heavy; instead, they are very graphical and intuitive, and speak to people in diverse cultural settings.

Das: How did the CNK evolve?

Richman: The Center has been around, in one form or another, for about ten years. Its origins lie with the HUD (US Department of Housing and Urban Development) Community Outreach Partnership Center program. I began to work with residents on one of the worst slum properties, located at 8th and Union, in the city. While trying to acquire that property we found that there were many liens and administrative actions because of neglect and disinvestment by the earlier owners, who allowed drug dealers and prostitutes to live there, and ultimately abandoned the property—making a lot of money and leaving bills behind. We decided to make searchable data-

bases available on the Internet to pinpoint and target similar disinvestment. All this was still pretty early in the Internet's development. Our proposal to create a Neighborhood Early Warning System (NEWS) was funded by the City of Los Angeles. NEWS was first owned by a nonprofit called the Community Building Institute.

Receiving a $100,000 grant from the Technology Opportunities Program was the next big step. We pressured the city to use NEWS to target efforts at code enforcement, and we developed a system to use Palm Pilots in the field, for inspections and uploading information. That marked the beginning of the Neighborhood Knowledge Los Angeles (NKLA) project.[2] Around the same time, the Community Building Institute sold NKLA and NEWS to us here at UCLA, and we were first housed in the Advanced Policy Institute at UCLA.

The idea behind NKLA was to map residential disinvestment and deterioration by using indicators. Data were not integrated by property address or parcel numbers. Getting different data from individual desktops and integrating them into a unified picture had never been attempted—even real estate firms do not integrate them. With the unified picture, we could see a whole pattern of disinvestment. NKLA provides information about residential properties that are at risk of deteriorating, at risk of loss of affordability, are tax-delinquent, have not paid their utility bills, and where there is risk of subsidies being discontinued. With this information you can create overlays. Where are these properties located? Are

these communities of color? Are these low-income properties? What patterns are evident?

The problem was that everyone in the city and county offices was mired in their own work, and so no one tended to think about data at this meta-level. The city of LA's website had every bit of data, but the data did not tell a coherent story because the indicators were not integrated meaningfully. However, the university [CNK at UCLA] obtained city and county-level data, and integrated them through NKLA, which has led to many positive effects on code enforcement.

Our evolution also emerged out of a dialogue with participating communities. People from these communities said, "This [the database] is great in pinpointing disinvestment, but our communities are not just about deficits. We also have resources and assets such as cultural organizations, social programs, and historical monuments, which this data does not reflect or respond to." So we piloted an 'electronic treasure hunt'—a grassroots data collection effort with community youth to map resources that communities valued, which was supported by Microsoft and the Fannie Mae Foundation.

The next significant move was the inception of the Living Independently in Los Angeles (LILA) project.[3]

[Editor's note: LILA is designed to benefit people with disabilities living in Los Angeles County. LILA uses a GIS-based, interactive information resource database. The LILA database is created by local residents with disabilities, since they have the "expert knowledge" to identify and map local independent living resources. Rather than rely on outside experts, then, LILA aggregates the individual expertise of people with disabilities, and creates a resource from this cumulative knowledge.]

Das: How did LILA begin?

Kawano: The IMLA (Interactive Assets Mapping for Los Angeles) concept, which led to LILA, actually began with some undergraduate class projects by students in UCLA's Chicano Studies program to map the Boyle Heights and Vernon Central neighborhoods. We sent students into the community to gather visual data using disposable cameras. They scanned those pictures, located them by address, and then uploaded them. That laid the roots for the idea of a bottom-up data and information collecting system.

Toy: Microsoft, which had also funded IMLA, agreed to provide seed funding for a project in which people with disabilities would map assets in their own neighborhoods, and LILA was born. We developed LILA by building a close partnership, for joint funding and sharing resources, with one of the 29 independent living centers in California. LILA has taken independent living resources on to the Internet, and it allows people to have 24-7 access to the resources, products, services, and other quality of life things that enable people with disabilities to lead easier and fulfilling lives. People with disabilities are a community that has historically been challenged in

terms of transportation, economic development, education, and connectivity.

LILA was developed on theories and practices of independent living and asset-based community development. Using digital resources, it created an opportunity to connect and develop communities by building upon what exists, rather than focusing on what doesn't. Most of the information contained in the databases of the project has been created by people at the grassroots. People can add their own data to the website and become the webmasters of the project. The LILA site has evolved from being an asset mapping tool to having a community calendar, a sophisticated tool for undertaking surveys, and an advocacy section that puts up alerts and allows people to email their legislators and local representatives. We also have a forum where people can simply exchange ideas and concepts, sell things, advertise events, and so on. We have mapped thousands of resources in LA and the neighboring counties, including, for the first time, affordable housing with accessibility information. The effort now is to make it a statewide project for each independent living center to have its own homepage, supported by an underlying statewide database to locate things by zip code or address.

Das: Tell us about your other projects. What kinds of information do your projects or sites provide?

Richman: About three years ago, Children's Hospital decided that LA really needed an asset map mapping basic health, social, and educational services for children. They wanted something that was similar in concept to LILA, and this resulted in the Healthy City initiative. The Healthy City project included the Children's Hospital, the Center for Nonprofit Management, and the Advancement Project. The project incorporated Infoline, which has an annually updated database of all services available throughout LA County. Prior to our project you had to call up Infoline to describe where you lived and what your needs were, and then they would give you information referrals. We took that same database and used their taxonomy to also overlay census data on a citywide information referrals resource.

Kawano: The biggest challenge was to integrate Infolines's phone retrieval and referral system into our system, which locates resources spatially. Now, instead of calling, people can straightaway go online, execute a series of queries and instantaneously map resources available in their neighborhood or zip code.

Richman: A project to segue from the NKLA project was Neighborhood Knowledge California (NKCA). There was a powerful trade association in Silicon Valley that believed that telecom investment would lead to growth and economic development. The state gave this IT trade association a significant sum of money to be invested in R&D projects that would lead to direct economic growth. We were funded to build NKCA. The donors felt that broadband lacked adequate content to appeal to low-demand groups like nonprofits, low-income communities, and communities of color. NKCA was meant

to address that lack in content by providing information useful for these user groups.

Singh: NKCA data includes census data, Home Mortgage Disclosure Act data, and vital statistics (health data). We will soon have school level data, and point-level data to locate brownfields, banks, nonprofits, check cashers, etc.

Richman: We will be rebuilding the website for First 5, a program for early childhood intervention for education, particularly in low-income communities.[4] [Ed. Note: The First 5 Association of California works to enhance the health and early growth of young children through the dissemination of both information and services.] First 5 is being used extensively as an early warning system to know where young children (under the age of 5) are likely to be at risk, and to ensure that preschool is available for all children throughout the state.

We are also working on a new project with the Center for American Progress, a progressive think tank based in Washington D.C., on issues of broadband deployment. We feel that the FCC and California's Public Utilities Commission have not researched an adequate level of granularity to measure the availability of high-speed connectivity. So we will work with grassroots groups in a few cities for local data collection to identify alternatives and costs, as well as innovative applications of broadband—for instance, for telemedicine and education.

Toy: The eprepared.org[5] is a citizen corps management site that allows volunteers interested in disaster response or homeland security to find opportunities that meet their skills. Agencies can find volunteers with specific skills, or people can look for opportunities in their neighborhood. It also allows citizen corps managers to learn about the people enlisted in Community Emergency Response Teams, and manage their teams efficiently in the event of a disaster. For the first time, volunteers can be managed, through queries and database information, by location, training levels, or skills sets.

Singh: In another project, the Los Angeles Land Opportunity Tracking System (LA LOTS), we wanted to address a critical barrier to infill development in LA—the information barrier—by integrating numerous datasets and making pertinent information available at one source. Development requires both macro- and micro- (existing physical and socio-cultural characteristics of neighborhoods) scale analyses. Our focus is to explore and promote appropriate infill development by redeveloping brownfields and closed school-sites, and reusing abandoned properties for housing.

Richman: The Southern California Association of Governments (SCAG) has done research that shows the need for greater urban density. The question that follows is where to create density? Given spiraling housing costs, sprawl, traffic problems, and air pollution, the answer lies in more inner city infill development. But there is opposition to infill development everywhere. Our idea is to not only assemble parcel level and market data to show the potential for infill development, but to engage communities and

identify where such infill development would be appropriate. SCAG is excited about this tool's ability to realize a new vision for regional planning to mitigate sprawl. Thus we are trying to expand the LA LOTS into a regional project.

Das: Who are the users of the technology that CNK creates?

Singh: There is a broad array of users. NKCA is used by nonprofits, city government and other public officials. Researchers use it extensively, as do students, representatives of various foundations, community groups, and individual citizens.

Toy: LILA is mostly used by people with disabilities, their families, their friends, people who provide services, activists and others. With the eprepared.org website, we now have numerous sheriffs, deputies, fire captains, and other precinct officials using it to manage volunteers. Politicians and administrators routinely use our websites to answer questions posed by constituents.

Das: Since poor communities also have less access to technology, or the skills required for accessing your resources, how do you actively reach out to these communities?

Toy: These days more and more people have access to computers—either at home or in libraries, schools, and neighborhood community centers. We have also provided hardware to some communities. We have ensured that each independent living center in LA County has one computer dedicated to LILA usage.

If these communities have access to the Internet, then practically they have access to all the software underneath our sites. Having the hardware or the software is not an issue anymore; it is just getting access to the Internet and broadband.

Richman: Because of our connections to and networks with nonprofits organizations, a single email about, say, a workshop spreads much beyond the immediate recipients. UCLA's Urban Planning graduates also play a major role in taking our tools to poor communities.

Singh: We build capacity through our training modules for community members on how to use our websites and create GIS maps. Due to the convenience of our websites people do not need to learn the real GIS package, or worry about storage space, or about losing data.

Das: You have stressed the importance of feedback to your work. How do you obtain feedback from the users and how do you use that feedback?

Kawano: During development, we usually go through three phases. In the first, alpha launch phase, we ask a selected group of about ten users to play with the preliminary version for about a week and provide initial feedback. In addition, we create online surveys so that they can then post their comments directly to us. After making modifications based on that feedback, we do a beta release to a much larger group, anywhere between a hundred to a thousand users. We repeat the process of deliberation and modification, following feedback, for two

to three weeks. The whole process can take up to two months before a site is launched

Singh: The feedback that we received while developing NKCA was very useful in addressing issues of information asymmetry and empowerment—to develop easy tools for everyone. In the last two years we have done a lot of outreach in rural areas, and we are trying to develop tools specific to that task, such as adding data using GPS coordinates because rural areas do not have streets everywhere.

Comments on our websites, our training sessions, and regular emails from users also offer continuous feedback. If it is not feasible to change something according to suggestions, we explore the next best solution.

Richman: Our major projects like LILA and NKCA have a system of formal third-party evaluations. A paid evaluator meets with our users, looks at our webtrans, and prepares a formal report for our donors about the growth and utilization of our sites, as well as lingering problems and issues.

Das: Can you cite specific examples of how your technology has led to empowerment of communities or groups?

Richman: This is one of my favorite examples. Alan once planned a meeting of LILA users in Westwood on a Friday afternoon. I thought almost no one would come to Westwood on a Friday afternoon from all over LA County. Well, the turnout was spectacular, probably because of their sense of ownership of LILA. And these were people with disabili-

ties, with all their transportation challenges. The meeting triggered a discussion on the county's decision to reduce the funds for the major rehabilitation center serving the whole region. So on that day LILA generated a regional coalition that forced the county to rescind its decision—without a prior plan to form such a collective opposition.

Toy: Following that episode, LILA increasingly became a platform for advocacy. People used it now to share thoughts and ideas, organize protests, and teach others how to contact their senators and assembly persons. It has become a central meeting point for people with disabilities.

NKLA's involvement in a summer project in the Vernon Central area, to teach the use of technology to youth to identify neighborhood assets and deficits, also led to the creation of a park. A senior official from the Department of Parks and Recreation was present when the youth decided to situate a park opposite the Dunbar Hotel. The youth actually designed the park and Parks and Recreation gladly built it, because it knew that this park would not be vandalized.

Das: More recently, CNK has become involved in international projects. Can you tell us how this interest developed?

Richman: Using one underlying map room, and by creating different windows on different places around the world, we can do for the world, inexpensively, everything that we do for California. Our first international project is to cull indicators of potentials

and obstacles for economic development in Kenya through grassroots data collection using a partner called People Link. People Link's online trading system can access trade guilds and local craftspersons directly and market their products on the world wide web, thereby eliminating intermediaries.

We realized that we can also address an ongoing crisis—the post-tsunami redevelopment in Indonesia—where one of the biggest problems is logistics. In collaboration with a former team member of ours who now works for the United Nations in Indonesia, we want to put together a free digital supply and demand map to spatially locate and match needs with supplies, and link a wide range of actors.

Kawano: Since our technological applications have become increasingly sophisticated, efficient, and scalable over the years, and since the tsunami disaster has affected us profoundly, we want to create this digital map to minimize mismatch, by matching needs on the ground for hospitals, doctors, teachers, housing, etc., with appropriate relief efforts from above.

Das: What has been CNK's most significant achievement? What makes you most proud?

Singh: The fact that these projects build capacity through information democratization, and reduce technical and knowledge divides.

Kawano: That we have stuck to our mission of doing technology projects for the betterment of society. I also think that we are just at the tip of the iceberg in terms of our platform, which can now go from

local to global in an instant. That potential is truly exciting.

Toy: I am very proud that our work benefits so many people and is now getting recognized—people from over ninety countries have logged on to LILA. LILA has twice been nominated for the Innovations in American Government Awards given by Harvard's Kennedy School of Government, and it has been a finalist in the prestigious Stockholm Challenge Awards.

Richman: We have influenced community and metropolitan information systems around the country. Several universities and institutions, such as Fannie Mae, have followed in our footsteps. I am most excited about our technical breakthrough in developing a common platform that now allows us efficiencies of scale.

Das: Is there anything that you would do differently if you were to do it again?

Richman: I think I would be much more open-source with our work now. Once, the City of LA wanted NKLA as a gift because the city had also contributed in developing it. I was mad then because we were always struggling for funds, and it wanted NKLA for free! In retrospect, though, I wish we had done exactly that, with the understanding that the code would not be remarketed. That would have built more ties and fewer barriers. Experience has led me to understand a peculiarity of the digital world: you can get a lot more when you give more.

Das: What do you see yourselves doing over the next five years or so?

Richman: I am really interested in exploring how our tools and data can lead to measurable, progressive social change. I do not just want to see cool information systems, I want our work to directly impact change—policy implications for real change, positive changes in communities, changes in ways people communicate, and so on. I think the business community understands the power of technology. Increasingly, government has begun to understand it too. We want to provide technology to empower civil society, for people at the grassroots, because the power to shape social realities lies with the one who creates data.

Notes

[1] More information about CNK's activities can be found on their website <http://api.ucla.edu/ Master.cfm>.

[2] NKLA provides tools for accessing property and neighborhood data and works with neighborhood residents, community organizations, and policymakers to mobilize support for community improvement in the Los Angeles area. For more information see <http://nkla.ucla.edu>.

[3] For more information see <http://lila.ucla.edu/>.

[4] For more information see <http://www.f5ac.org/ default.asp>.

[5] ePrepared.org is a web-based center for community preparedness and volunteerism. It was created by CNK for LA County's Office of Emergency Management. The project is a collaboration between the university and the county to make it easier for individuals, families, associations and agencies to connect with each other to improve preparedness against threats of crime, terrorism, and disasters. It is a part of the national, community-based Citizen Corps program to prevent crime and respond to emergencies.

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