



CENTER FOR
DIGITAL INCLUSION

WHITE PAPER

Digital Participation and the University of Illinois:

Prairienet, Community Informatics, UC2B & CDI

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“It’s not about the technology, and it’s also not about the money. It’s about the relationships . . . the relationships that already exist in the community . . . the capacity that already exists.”

— *Ann Bishop, cofounder of Prairienet and the Community Informatics Initiative and professor emerita, University of Illinois*

1.0 PRAIRIENET

Pioneering new technologies

More than 15 years after Prairienet was launched at the University of Illinois’ Graduate School of Library and Information Science (GSLIS), the people who had planned and planted it, tended and shared it, were still trying to explain it. This was not a case of confusion, but a matter of different perspectives and the changing nature of Prairienet itself, and it highlights the diversity of the collaboration that has been essential to the ongoing success of this digital initiative.

During a panel discussion at the 2010 conference “50 Years of Public Computing at the University of Illinois”, Prairienet cofounder Greg Newby described the beginning of the community network. “We all had ideas of what Prairienet was and what the Internet could be, and many of us were sort of figuring that out as we went along. People had different ideas about what it was there for, this whole experience of Internet and dial-up and community computing, the public workstations and all that.”

In the years since, the organization and the technology that spawned it had changed considerably; the diversity of viewpoints among the organization’s members had not. Given 20

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minutes to share personal memories of Prarienet's early days, the panel members described the technology, the people, and the grant funding with varying degrees of emphasis. However, the picture that took shape was not of three opposing forces, but of three strands that were woven together to form a strong information network for the support of the community. Over time, it would become more widespread than anyone had imagined.

As a communication type, the free-net was unprecedented, though it represented a blend of prior forms such as the telephone, books, letters, and face-to-face conversations. Perhaps ironically, these old interpersonal exchange types are the ones Newby and his colleagues found themselves referencing back in 1993 as they explained the free-nets to those who had never heard of them. Though the subject was highly technical, even then it was the interpersonal element that took center stage: "At the time, we weren't thinking so much about the technical side of the Internet, but rather how people could use it for information exchange."

Information exchange is still at the heart of the Prarienet mission statement, a clearly written set of principles that remain in force today. The following points may still be found on the Prarienet website, making it clear that the mission is still to:

- Strengthen community organizations by helping them provide and retrieve networked information;
- Empower individuals by providing access to networked information and by teaching the skills necessary to access and use this information;
- Facilitate information and resource sharing in support of community development efforts;
- Promote equity of access to computer resources for everyone in the community.

When Prarienet was conceived in the early 1990s, the Internet was still in its infancy. At first used almost exclusively by governing bodies and large educational institutions, for many Illinois residents it had not yet moved beyond novelty status to the realm of popular public use. But this would soon change, thanks in large part to the advent of Prarienet, one of approximately 30 free-nets that predated the public version of the Internet.

In the fall of 1991, freshly minted Syracuse graduates Greg Newby and Ann Bishop began their careers in library and information science at the University of Illinois. Both products of East Coast education systems that were early adopters of information technology, Newby and Bishop had used the free-nets in their personal research. "The idea, started by this guy Tom Grundner from Cleveland's Case-Western Reserve University, was to . . . open this really cool system up, this emerging form of human communication, this access method to all kinds of electronic information, to the general public; to sort of get it 'out of the academy' to a reasonable desktop [computer] system, which at the time cost about a thousand dollars."

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Newby and Bishop continued to use the free-nets at GSLIS, in the process developing a strong respect for the free-net movement. One fateful day in the hallway of the library school, Bishop casually asked Newby if he wanted to start a free-net. His initial reaction was that such an enterprise would be too large an undertaking; however, as a communication specialist and an enthusiastic user of free-net systems, he was intrigued. He told her he would give it a try. After doing some research to find out the probable start-up cost of such a venture, the pair took their idea to GSLIS dean Leigh Estabrook to see if there was any possibility of GSLIS underwriting the project. The dean had to break the news that the \$20,000 equipment cost was not in the school's budget, but she agreed that it was a worthwhile undertaking and encouraged them to make it a community venture.

From the beginning, the Prairienet project was one of collaboration, a partnership among GSLIS, the cities of Champaign and Urbana, and several other community stakeholders. The informal planning meetings held in 1992 and 1993, which were open to everyone who was interested, were well attended by a broad spectrum of computer enthusiasts ranging from members of a local computer hobby group to representatives of the National Center for Supercomputing, as well as the Champaign *News-Gazette*. Not far into the planning process, an information organization committee was formed.

In the meantime, with a lot of technology and infrastructure support from the university's Computing Services Office, Prairienet staff and volunteers continued working to build a prototype. The demonstration model, along with Newby's original menu system, was in operation by the summer of 1993. That summer was also pivotal in terms of funding, as UI Vice Chancellor Dick Wilson supported the effort by soliciting financial commitments from university and community organizations, with the donated funds to be used to cover the cost of start-up hardware and ongoing maintenance of the free-net. Some of the first donations were received from the National Center for Supercomputer Applications (NCSA), Illinois Cooperative Extension, Parkland Community College, UI's Continuing Education Department, and the *News-Gazette*, with more financial commitments to follow as fundraising efforts continued throughout the next year.

During the fall of 1993, using modems and an Internet connection that had been donated by UI's Computing and Communications Services Office, Prairienet went live for the first time. By November, the online registration program was activated, offering a free username to any adult resident of the State of Illinois — though all new registrants were encouraged to include a donation when they sent in their paperwork. Also during the fall of 1993, Prairienet was officially founded as an organization. In the beginning, it was run completely by volunteers; nevertheless, the new organization was large enough to have a board of directors and working committees. Some of those early volunteers, including committee heads, were Paul Adams, Linda Bauer, Tom Cornelius, Karen Fletcher, Chuck Isdale, Stuart Laird, Melissa Records,

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Mary Wilkes Towner, and Martin Wolske. Jay Greenberg, a part-time graduate assistant, was hired to work with the Prairienet board, committees, and new information providers, as well as to respond to the many inquiries that were coming in.

Later that winter, the first Prairienet homepage became available on what had become known as the World Wide Web. Another step in the free-net's establishment was that information providers such as the City of Urbana, the Champaign *News-Gazette*, the local chapter of the National Organization for Women (NOW), and the Champaign Public Library began to sign up. By the time of the grand opening picnic in June 1994, 70 information providers had joined the community network.

The first iteration of Prairienet after its launch in 1994 was as an email provider. Given that email had been in public use for only a short time and was therefore relatively unfamiliar to a large segment of the population, this was an innovative use of technology. Also in 1994—1995, the online bulletin board function was expanded as Prairienet partnered with the City of Champaign to set up a website for the municipality. While the prototype website was mostly text-based, it performed a valuable function as a conduit for information about available programs and services. Not only was this successful in practical terms (individuals were receiving information), it was important in a more esoteric sense (the free flow of information to individuals was being facilitated).

However, before the project could move forward effectively and the new communication method could reach its full potential, specific problems needed to be addressed. The first barrier was the lack of access to equipment. Since public computing was only beginning to become popular, most people did not own or operate a computer; neither did they have Internet access. Equally important, the majority of the population did not know how to type, that being a skill that had traditionally been considered the domain of secretaries and data processors. But Prairienet had an education committee (initially comprised of Mitch Duszynski, Brad Cronk, and Graham Houser), and the barriers began to come down as the public took part in the free training classes that were offered even prior to the planned launch date. Classes continued to be offered as needed; in addition, GSLIS volunteers offered free technical support for users experiencing difficulties using Prairienet.

Mary Wilkes Towner was one of those volunteers who sat in a small room in the basement of GSLIS and took tech-support calls from local Internet users, many of whom, as first-time users, were initially confused about how to access the Internet from their personal computers. However, since one of the main objectives in establishing this free-net in the first place was to help the public become accustomed to the new information technology, Towner and the other Prairienet volunteers considered it their mission to patiently help users overcome their technical difficulties. The information that was available to users in the beginning of the

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free-nets ranged from the periodic table of the elements to geographical information, to online chess games and international subway information: a promising start.

By the fall of 1994, Champaign-Urbana's free-net was beginning to receive publicity from outside the immediate area. In the November 27 issue of the St. Louis *Post-Dispatch*, a short article in the newspaper's business section informed readers of the North American free-net movement, then about 30 members strong. It went on to describe Prairienet, which by that time had grown to six public access sites and about 5000 members. The article also made readers aware of the free-nets' funding issue, explaining that for the successful development of the Illinois sites then in the planning stages, a statewide initiative in addition to public donations would be necessary.

Three years into the program, Prairienet was still a viable organization performing a valuable service to the community, as seen by the 1996 report "Community System Users and Uses" presented by Bishop and Newby to the American Society for Information Science (ASIS). The preparation of the report entailed conducting an analysis of usage patterns and logs, by which the colleagues sought to answer this central question: "To what extent is Prairienet serving its intended purpose as a community forum for education and information access?" The report proceeded to delineate the services and features that were currently offered by Prairienet:

- public-access modems allowing terminal logins;
- free usernames for the residents of Illinois, including email, limited disk storage space, and access to the Prairienet content and other services;
- content provided by over 400 information providers;
- a menu interface to the information provider content, in addition to other material;
- Internet information servers for the World Wide Web, Gopher, anonymous FTP, electronic mailing lists, and network news for access by individual users and information providers;
- complete access to Internet facilities through the menu system;
- training and support for information providers;
- essentially unlimited access to the various Internet servers, disk space, and technical support;
- telephone and email help for end-users, in addition to a walk-in office open 40 hours per week; and
- support for regional public-access sites for walk-up use.

The report also stated that, on average, 15 new users were added to the Prairienet system each day, most of those being from the local Champaign-Urbana [telephone] calling area. Of these, the majority (79 percent) were adults between ages 18 and 44, with about twice as many males as females registering. Having analyzed these data, Newby and Bishop recommended that

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Prairienet work on developing programs or partnerships to reach out to women, children under age 18, and adults over age 45.

By that time, more than 425 information providers had joined the network, though only 231 (54 percent) were active. Of these, 41 percent were businesses and 59 percent nonprofit entities including community service organizations and charities (16 percent); social clubs and associations (12 percent); churches (8 percent); individuals (6 percent); health-related groups, municipal and county service groups, and educational entities (4 percent each); political action groups (3 percent); and professional organizations, the University of Illinois, libraries, and municipal and county governments (2 percent each).

The authors observed that Prairienet's focus on organizations, which ran counter to the for-profit business focus of the Internet as a whole, was supported by these data. However, they also cautioned that while the figures seemed to indicate Prairienet's fulfillment of its mission to make the Internet accessible to a variety of community organizations, clubs, businesses, and other groups, it was likely that some groups had been unable to join Prairienet because they lacked a computer- and Internet-savvy member who could make that happen. And, though Newby and Bishop realized that it might be possible to help the underserved groups by finding, reaching out to, and training them, they also recognized that because their resources were already stretched thin due to Prairienet's rapid growth, this was unlikely to happen without additional funding.

On the plus side, Prairienet was being utilized to access information via the bulletin boards, the websites, and the network news feed, as well as to communicate via email and Internet Relay Chat (IRC). This was both a fulfillment of the Prairienet mission statement and a significant accomplishment for a non-profit free-net competing with the for-profit Internet. But were these accomplishments enough? Rapid advances in Internet technology brought increased user expectations, many of which were difficult to meet without adequate funding.

Even without these expectations, however, the handwriting was on the wall. For the sake of its very survival, the free-net would need to adopt a fee-based system. From the very beginning, new Prairienet members had been encouraged to make a \$35 annual contribution toward expenses, though since this was a free-net any donations were completely optional. As a result, in spite of time-consuming volunteer fundraising efforts, by 1997 only about a third of Prairienet's 13,500 members were actually contributing financially. This was particularly problematic because member contributions comprised the largest portion of Prairienet's budget.

The newly instituted member fee was a modest one — \$65 a year for a family, or \$45 for an individual — but it still resulted in a drastic reduction in Prairienet users as thousands of members chose not to renew their memberships. Fortunately, this did not sound the death knell for Prairienet, which was still recognized as a convenient and inexpensive way to access the Internet. And while for the moment there were fewer members to enjoy Prairienet's benefits,

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with a stabilized budget more improvements could be made, which would hopefully result in an increase in membership.

Fortunately, a vast improvement in Prairienet's economic outlook was on the horizon. Over time it would become obvious that this was Prairienet's defining moment; but for the present, it was enough that the immediate pressure of survival was lifted and the future looked much brighter. With a vision toward increased community outreach, Bishop had written major grants soliciting additional funding from the federal government and other sources. The outcome of her work did not disappoint.

In 1997, a total of \$1.3 million was awarded to GSLIS, Prairienet, and the Urban League of Champaign County for the specific purpose of helping bridge the Digital Divide in the geographical area surrounding the UI campus. The Community Networking Initiative (CNI) was a groundbreaking project. Slated to last two years and cost a total of \$1.3 million, approximately 48 percent of which was covered by a \$625,000 grant from the U.S. Department of Commerce's Telecommunications and Information Infrastructure Assistance Program (TIIAP), it made a positive difference in thousands of lives. The purpose of TIIAP being to "demonstrate how technology and telecommunications can be used to improve U.S. communities" (Washington Telecom Newswire, 24 April, 1997), these funds were earmarked primarily for the distribution of free computer equipment and technical support to over 1000 low-income households. Free or low-cost Prairienet memberships were also provided.

The \$675,000 balance was covered by additional funding from several local community agencies, as well as the W.K. Kellogg Foundation, a philanthropic organization with a long history of helping disadvantaged children. In the current situation, the money would be used to provide computer-repair training to 100 economically disadvantaged teens, a prospect that Bishop found particularly exciting as the community benefits would be multilayered and, hopefully, ongoing. This short-term educational outcome also got right to the heart of Prairienet's *raison d'être*, as Bishop saw it: to improve the quality of people's lives, to provide educational opportunities, to link citizens to government, and to offer financial opportunities for information providers — in sum, to create a greater sense of community.

Facilitated by the TIIAP grant, Prairienet experienced a period of rapid growth during which it was able to provide new products and services for the benefit of the community, including:

- greater online access;
- computer training for community members;
- computer labs at public access sites; and

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- a computer recycling program to provide free computers to low-income community members.

With the donation of hundreds of used computers by the City of Champaign and Parkland College, it became possible for Prairienet to give even more concentrated technical assistance to low-income local residents. Prairienet volunteers refurbished the computers as needed and gave them to those in need. The program, which included about 16 hours of free computer training and free Internet access in addition to the computer hardware, benefited about a thousand people in Champaign County over a 10-year period.

In her remarks at the “50 Years” conference, Bishop explained this new direction that Prairienet had taken as the difference between public *computing* and *public* computing. In the first instance, in which the technical aspect is emphasized, she saw four possible definitions:

- computing done at a public university;
- computer access provided in public places;
- computer applications and digital content created in the public interest; and
- computer use enjoyed by the general public, and studied and supported by academics and others.

But while Bishop recognized the validity of all four of these aspects of public computing, she felt that the social science focus represented in the second instance, *public* computing, was the most valuable facet of Prairienet’s work. Her inspiration for this was the Progressive Era work of Jane Addams’s Hull House in Chicago, which Bishop described as “a small community of neighbors, some university-educated and others just poor immigrants, who worked together to solve social problems such as violence, disease, and human rights.” Collaborating on innovative projects for the common good was Hull House’s strength and true mission. The same was true of Prairienet, Bishop believed.

She described Hull House’s holistic social reform model, in which neighborliness and cooperative investigation often combined to produce desired results for the benefit of all in the community. One noteworthy example of this was the detrimental health situation related to the filthy garbage bins in the ward (neighborhood) where Hull House was located. Suspecting that the bins were somehow connected to the elevated local death rate, Hull House reformers undertook a public investigation (community-based research to uncover facts and build understanding, yielding a transformative power) with the long-term goal of getting the bins’ owners to clean them up, thereby eliminating one of the neighborhood’s main breeding grounds of pestilence. The grassroots, door-to-door educational campaign yielded even more positive results than expected. In addition to helping bring down the ward’s high death rate, it produced

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valuable data that were later used in other epidemiological research, thus affecting a much larger community than the relatively small neighborhood in which Hull House was located.

Bishop pointed out that the type of holistic investigation that was routinely performed by Hull House was at the time, and remains today, a radical way for an educational institution to conduct research with respect to its home community. This same avant-garde approach is the one that has been used by Prairienet, resulting in a similar legacy of significant impact on behalf of those least able to help themselves. But that is not to say that disadvantaged individuals should be considered capable of nothing more than receiving help, she clarified. “If you look at the community, especially the so-called ‘marginalized’ community, the low-income community, people of color, people who supposedly don’t have much education, don’t know very much; when you look at the community as bereft of capacity, as a set of problems that need the university to come and help, you’re totally missing the reality of the world.”

The word *community* and the relational concept it represents were integral in the formation of the CNI. From its inception, this project was intended to be neighbors helping neighbors, a partnership of equality among its participants. It was in this spirit that all Prairienet members, regardless of background, were encouraged to actively participate in the program by contributing whatever skills they had. Beneficiaries of free Prairienet assistance were considered equal members on a par with paying members, and therefore worthy of making a contribution of time or skill in whatever capacity they possessed. In her 2002 thesis about computer and internet use by low-income individuals, Cece Merkel recalled the volunteer efforts:

The CNI Program had a relatively stable set of people who volunteered with the program. Their volunteer activities included serving as helpers during training sessions, occasionally co-teaching training classes, helping during the times that computer [sic] were distributed to the community, answering phones in the office, and doing clerical work. In return for volunteering, the community member was able to earn upgrades for his or her computer based on the number of hours worked.

Also informally, CNI members (neighbors) helped each other adapt to the new technology.

Even if the CNI volunteers did not always provide technical troubleshooting advice, they seemed very good at teaching others how to use technology and showing them the possibilities of the technology. The CNI volunteers often played this role within their own networks. The volunteers spent countless hours helping people they knew who went through the CNI program. Much of this helping involved showing people how to do things and sitting with friends as they learned how to use the computer (Merkel 180).

Not only volunteer opportunities, but also authority over Prairienet’s content was offered to its users. Network administrators chose not to enforce content standards but, instead, to leave

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those up to the users — the goal being to “provide members with access and then allow them to do what they want[ed] there . . . to empower their users, rather than police them” (Webb 184). This open policy created a sense of shared responsibility consistent with and supportive of the notion of community.

The shared-responsibility model was more than just an idea; it was the philosophy that undergirded all of Prairienet’s work. In a very practical sense, it was also the driving force behind the creation, in 1998, of PrairieKNOW (Prairie Knowledge Networks on the Web), a resource developed for the support of the CNI. Recognizing that one major impediment to community development was a lack of specific knowledge concerning what resources were available at any given time, Prairienet leadership decided to take the bull by the horns and implement asset mapping. From the 1998 paper “PrairieKNOW: A Tool to Assist the Study, Creation, and Growth of Community Networks” (Contractor, Bishop, and Zink): “[Asset mapping] is based on the assumption that community problems can be addressed from the inside out, if people knew who had what resources (including skills, time, supplies, facilities, and financial assets) and service interests, and who has collaborated with whom in the past.”

As a means of identifying the community’s “hidden” shareable assets so they could then be deployed rather than going to waste, PrairieKNOW provided local organizations with the means of visually matching their resources with the needs of other organizations. Characteristically, the initiative began with a series of meetings to which community partners were invited, the organizations represented at the meetings being the Urban League of Champaign County, Family Services, Senior Services, and A Woman’s Place (a temporary shelter and social service for abused women and their children), all of whom were enthusiastic about the concept of helping each other address specific societal needs by sharing resources. The following incident seemed to predict the future success of PrairieKNOW’s asset mapping collaboration model:

At one meeting, a representative from one organization noted they often have leftover food that goes to waste because they have no means to discover, quickly and easily, what other organizations might be able to use it. The representative of another organization quickly noted that they could use the leftovers, and the two people exchanged phone numbers so that, in the future, they could contact each other when food was available.

Other important insights that came out of these meetings, which while positive about the efficiency of online asset mapping also pinpointed viable concerns, included:

- the inability of community organizations who lacked computers and technical skills to participate in the system;
- the demands associated with maintaining the online asset record repository; and

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- the need to keep private that information which organizations did not want to make publicly available (“PrairieKNOW”).

In the final analysis, the new asset-sharing network was viewed as having great potential to support the community by:

- providing participating organizations with a set of visual tools to inspect, identify, and critically analyze the existing and potential collaborations and partnerships among the local government and non-profit and health organizations in the community;
- offering participating organizations the ability to track over time the growth characteristics of the community network (size, density of interconnections, and content areas);
- providing participating organizations the ability to efficiently and effectively identify other organizations represented on Prairienet that offered specific complementary or similar services; and
- giving citizens in the community the ability to identify organizations on Prairienet that offer specific services.

2.0 COMMUNITY INFORMATICS

Promoting social justice

Seeking to continue its mission of providing support to the community, at the end of 1999 GSLIS formed a new partnership with a local nonprofit organization for African-American women. As described in a press release from Oct. 27 of that year, the purpose of the new GSLIS — SisterNet collaboration was to “break down the barriers and build community capacity through collaborative projects to develop networked community information services.” SisterNet coordinator Imani Bazzell, whose friendship with Ann Bishop had led to the partnership, brought her perspective as an African American woman to the discussion of equity in information literacy: “If you want to open the library’s doors and be inviting to Black women, that means transforming the whole organization and how you do things. If the library wants to make sure it reaches members of that community, it needs to alter its relationships with them. Libraries should not just serve information; they should help build the community’s capacity to create information.”

The partnership was given the Swahili name *Afya* (“health”), as a reflection of SisterNet’s commitment to developing lifestyle, behavior, and support systems that would result in better health for women. Following after the Hull House model wherein consumers were also providers and the efforts of all participants were valued equally, the work of *Afya* was a manifestation of

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social literacy designed to promote equity of access to information and health resources at the neighborhood level. Other goals were to provide training both in the use of these resources and in the creation and sharing of original content.

When SisterNet and GSLIS approached the federal Institute of Museum and Library Services (IMLS) with a proposal outlining these goals, they were awarded a two-year grant for the Afya project in the amount of nearly \$220,000. Afya also received substantial support from both Prairienet and Parkland College: Prairienet's help included local digital content, Internet access, public access computers, and user training and support, and Parkland's consisted of in-kind support and access to computer hardware and software, as well as to other resources.

The women of SisterNet took on the role of "pinpointing key problems in community healthcare services . . . evaluating existing digital services, and framing project goals and activities to address the problems they identified" (Bishop, Mehra, Bazzell and Smith). When they met to discuss health care issues, more often than not the conversation was characterized by anecdotes of their own experiences with health care as well as the experiences of others within their circles of acquaintance. By the use of these scenarios, which examined health care services and information in the light of values, they took on a leadership role in the formation and implementation of a Community Action Plan for the Afya project. The respect implicit in this collaborative paradigm proved to be one of Afya's primary strengths, empowering women to take control of their own health care and helping them to effect positive change for the health care of other women.

Respect was also the underlying tone of another of Prairienet's projects, the Inquiry Page. Developed by GSLIS professor Bertam (Chip) Bruce in 1995, the Inquiry Page enjoyed substantial popularity between 2001 and 2004, receiving over a million page views per year. Its popularity was directly tied to its utility; as a multifunctional technology tool, Inquiry Page was "simultaneously a Web site, a community of learners, and a locus for collaborative knowledge construction" (2004 article). Using Inquiry Page templates, Prairienet members were able to develop digital resources such as curriculum, action plans, and infrastructure (Web-based discussion forums).

A large number of users took the opportunity to formulate content for their own use; even better, they also shared this original content with other users, who then were able to customize it for their own purposes. In this scenario, users were not just passive recipients of information but active agents in the creation of what they received. This content-creation model was an example of *pragmatic technology*, the aim of which is further spelled out as being "not . . . a finished tool to be delivered to users, with training in its components and guidelines for its application, but rather . . . an environment in which users create the technologies appropriate to their situations and their needs" (Bishop et al). As stated on the page itself (see image below), and as seen in the page's

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flow chart, the Inquiry Page was a “dynamic virtual community” designed for interaction and collaboration, both of which enriched the learning process.

Inquiry Page™
Learning begins with questions

Site Map / Search
Help
Feedback Form

Join in Log in

HOME
Inquiry
Inquiry Units
Inquiry Action
Events
Dialogue
Evaluation
Community Inquiry
Labs
Other Resources
About Us

QUOTE OF THE DAY
Learn about pines from the pine, and about bamboo from the bamboo.
[Basho]

Welcome! The Inquiry Page is more than a website. It's a dynamic virtual community where inquiry-based education can be discussed, resources and experiences shared, and innovative approaches explored in a collaborative environment.

Here you can [search a growing database of inquiry units](#), and you can also [build your own inquiry units](#). You can [see pictures of inquiry-based activities](#) and learn more about some of [our partners who use inquiry methods](#). [Learn how to assess and evaluate](#) inquiry-based education or look for more [inquiry resources](#) to support what you're doing. Or you can simply find out more about what [inquiry](#) and [The Inquiry Page](#) are all about.

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graph TD; Ask((Ask)) --> Investigate((Investigate)); Investigate --> Create((Create)); Create --> Discuss((Discuss)); Discuss --> Reflect((Reflect)); Reflect --> Ask;
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Based on [John Dewey's](#) philosophy that education begins with the curiosity of the learner, we use a spiral path of inquiry: [asking](#) questions, [investigating](#) solutions, [creating](#) new knowledge as we gather information, [discussing](#) our discoveries and experiences, and [reflecting](#) on our new-found knowledge.

Each step in this process naturally leads to the next: inspiring new questions, investigations, and opportunities for authentic "teachable moments."

Questions or comments? [Contact us](#)

Copyright 1998-2010, Inquiry Page Version 1.35
594,184 visitors between November 4, 2001 and October 27, 2010 when the website was archived.

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Inquiry Page users were not required to pay any registration fees for this service, nor did they have to pay for any of the electronic materials, which included articles, presentations, bibliographies, and other information related to inquiry. In addition to content, the Inquiry Page also offered several free site-building applications (“bricks”), including:

- Inquiry units — a searchable database of collated materials and plans for inquiry-based learning;
- Quote of the day — a collection of online quotes on inquiry;
- Calendar — an online calendar within which any registered user could post descriptions of events;
- Member profiles — a tool that allowed inquiry communities to create their own online member profiles with biographies and photographs.

As Inquiry Page users gained proficiency with these basic information communication technologies (ICTs), more advanced tools were developed. These would offer more flexibility and greater user control over content, but would not necessitate PHP coding skills. The resulting suite of open-source software tools were dubbed *community inquiry laboratories* (iLabs). It is worth examining the reasoning behind this particular choice of words:

- *community* — emphasized support for collaborative activity and for creating knowledge that is connected to people’s values, history, and lived experiences;
- *inquiry* — points to support for open-ended, democratic, participatory engagement;
- *laboratory* — points to learning that brings theory and action together in an experimental and critical manner (Bishop et al).

It is also worth mentioning that the software tools that were developed for small- to moderately-sized users were later adapted for use in the construction of a website for a large, worldwide community-action initiative, the NSF-funded Center for Advanced Materials for the Purification of Water with Systems (CAMPWS). In addition, iLab bricks were used by several other inquiry communities and individuals:

- CAMPWS, to develop summer educational camps for underserved high-school students;
- a county-wide environmental panel, to survey residents regarding proposed environmental plans;
- a cross-campus initiative, for undergraduates to conduct and report ethnographic studies of the university;
- a doctoral student, to organize and share his work-in-progress with his committee;
- an artist, to create an international gallery of children’s art and poetry.

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Most often a particular user need was the impetus for the development of an iLab application. In fact, it was SisterNet's request for more controllable and customizable tools as they were building the Afya site that had sparked the creation of the iLabs. Over time, as other inquiry communities began working with iLab features, more bricks were developed and shared with all who needed them.

Another example of this development process was the Paseo Boricua Project (2003–2004), in which youths from Chicago's Humboldt Park neighborhood cataloged materials for their local cultural center in collaboration with Inquiry Page programmers. The result of this cooperation was a web-based catalog application that was then added to the suite of iLab tools and subsequently made available to the public.

The contributions of the women of SisterNet and the youths of Paseo Boricua demonstrate the impact that individuals and groups often deemed to be powerless can make to society, especially in the current context of community inquiry and informatics theory. They also “provide new understandings of how people from all walks of life can work together across distance, time, and radically different institutions to learn together and achieve shared goals” (Bishop, “Supporting Community Inquiry”).

The Paseo Boricua Community Library Project was a good example of this, as the program's benefits to the student participants included technology training and training in soft skills such as collaboration and presentation, as well as in skills specific to librarianship such as administrative planning and cataloging. In the process of acquiring these new skills by working with co-participants from the University of Illinois at Chicago, Columbia College, Northeastern Illinois University, and Chicago Public Library, the student librarians achieved the shared goal of cataloging several collections of books, art, artifacts, and human rights network archives held by the Puerto Rican Cultural Center (PRCC), for the purpose of making them accessible to the community.

Community engagement continued to be GSLIS's heartbeat, and in 2006 the library school led 14 projects designed to bring information literacy to its neighbors in East Central Illinois and beyond: three in Champaign, nine in the East St. Louis area, one in St. Louis proper, and one to all the way to West Africa. All of the projects built upon prior community informatics efforts and research that had been carried out by Prairienet and CNI workers, and most or all of them capitalized upon the abundance of youthful student energy available to the library school. In the case of the trip to São Tomé and Príncipe, Africa, even younger students — high schoolers from the St. Louis Metro area — were invited to participate.

Though individual project details varied slightly, in general the work involved teams from GSLIS professor Martin Wolske's LIS classes setting up computer labs that could be used by underserved people to effect positive changes both for themselves and for their neighbors. For

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maximum effectiveness, each project was tailored to the specific needs and goals of that community, and all were collaborative efforts with local change agents. Many of the community partners were local churches or other nonprofit organizations with neighborhood outreach efforts already in place. Of these, some were designed for specific populations such as at-risk youths or female victims of domestic violence, while others were more general in scope.

It would be difficult to calculate how many individuals were helped by these collaborative community efforts, but a low estimate would be in the thousands, in part because program was so successful that it continued to be a major focus of GSLIS for the next several years.

In the midst of this activity, in 2007 GSLIS received five more IMLS grants, two of them earmarked for the development of community informatics projects. Professor Chip Bruce's "Community Informatics for Youth: Using the Extension Network to Recruit Future LIS Professionals" received nearly \$800,000 to fund partnerships between GSLIS and University of Illinois Extension 4-H clubs statewide. The aim of this new program was to provide activities for underserved junior- and senior-high youth, as a means of encouraging them to consider LIS careers. The program was piloted in Champaign-Urbana, Chicago, Danville, East St. Louis, and Rockford; in addition to Bruce's main goal of LIS recruitment, an additional benefit was the development of a curriculum for use in other settings.

Professor Kate Williams' "Chicago Community Informatics: Places, Uses, Resources" received nearly \$200,000 to research information technology use in six disadvantaged Chicago communities. Specifically, the study examined both actual and potential technology use and analyzed ways in which their lives and identities might be represented in the cyber-infrastructure of the United States.

In another important 2007 initiative, GSLIS professor Jon Gant studied the ways community members could use Geographic Information Systems (GIS) technology to improve information sharing. Community partners in this initiative were Lumity (Chicago), CTCNet (Washington, DC), and Neighbors for Better Neighborhoods (Winston-Salem, NC), organizations whose goal was to improve access to resources through the use of information technology. The \$27,000 fund Gant received came from the IMLS and from GSLIS, which matched the IMLS grant, and it covered the cost of researching the following issues:

- how GIS technology might improve participation in community-level decision-making;
- how community members could be encouraged to participate in creating and sharing knowledge using GIS tools;
- how folksonomies (user-generated search terms) developed; and
- how community members' relationships were structured.

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The funds also paid for the development of curriculum for two new LIS courses related to Gant's research.

Also in 2007, the Community Informatics Initiative (CII) featured a variety of service-learning projects that built on earlier work in East St. Louis, Chicago's Paseo Boricua, and Champaign-Urbana. In East St. Louis, the new CII projects included:

- in conjunction with the Digital East St. Louis Collaborative, the Teen Tech Team allowed East St. Louis youths aged 14 to 18 to gain basic computer and business skills in the process of repairing donated computers, which were then passed along to community members who needed them; and
- the archives project for the Katherine Dunham Centers for Arts and Humanities, in which students performed a number of hands-on tasks in the archiving, storage, and curation of materials related to noted African American choreographer, entertainer, anthropologist, and human rights activist Katherine Dunham.

The CII also returned to Paseo Boricua and conducted research to assist famed Latino poet and playwright Tato Laviera in writing an original play based on the history of the Paseo Boricua community. Program participants also:

- created a prototype for a digital archive of PRCC artifacts and materials;
- developed a resource directory about the local history of the community;
- wrote a community health program manual;
- conducted a needs assessment for local nonprofit organizations; and
- assisted with curriculum development at the local high school and day care center.

Locally, the CII reached out to both youths and adults. It provided after-school tutoring and technology training to the K-7 students of Champaign's Booker T. Washington Elementary School and, and it started the Books to Prisoners program to improve the circumstances of local prisoners. It was a busy year for the CII, which also launched eChambana, a research initiative designed to research local public access computing resources.

In the rest of the state, eBlack Illinois, a service-research project, built a virtual representation of the experiences of black Illinois residents for the purpose of providing data that would later be used to build a research environment for digital scholarship about the black experience.

In June 2008, the São Tomé and Príncipe Partnership that had started in 2007 continued with another visit from PrairieNet director Paul Adams and other volunteers, who worked to install computer labs in several locations on the island. Having just won its independence from

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Brazil in 1975, the tiny nation welcomed the urgently needed technology help with open arms, and citizens were soon able to access information via the Internet in the National Library of São Tomé and Príncipe, other libraries, schools, and community centers. This much-needed project, which grew out of Adams' personal visits to the island, also used the ESLARP Teen Tech Team model to train local teens in computer repair and maintenance. In fact, youths from the Teen Tech Team were on hand to help train the new computer techs. It is safe to say that the visits to this West African nation were life-changing for everyone involved.

Continuing the mission to help at-risk teens during the summer of 2008, the CII launched the Youth Community Informatics (YCI) workshop "Information Spaces in the Community". The IMLS-funded program, built on a strong foundation of prior GSLIS community informatics work, promoted group inquiry among youths in Paseo Boricua (Chicago) and Champaign County. Redesigned Inquiry Page iLabs became part of the new web page provided as an online information-sharing space where students could write blog posts, add events to a calendar, and upload documents for public viewing. In the process of discovering community information spaces and producing a report on their findings, the participants learned to use computer programs as well as media and Internet tools. The electronic resource that was created by University of Illinois's Campus Information Technologies and Educational Services (CITES) in support of this program benefited the public as well, as it was made available everyone who was interested in using it.

By the fall of 2008, the growing influence of GSLIS's community informatics efforts was evident as CII representatives attended five conferences to present their research and network with other information professionals. In locations as varied as Chicago, Los Angeles, Denmark, Italy, and Turkey, GSLIS faculty were there to share their knowledge of community informatics.

Not surprisingly, 2009 was another busy year for the library school, with multiple opportunities for community engagement in Champaign-Urbana and beyond. While another team returned to São Tomé and Príncipe, other teams worked more locally, installing yet more computer labs in the Champaign-Urbana area. With respect to community work in the St. Louis Metro area, this summer was a little different; it marked the beginning of big broadband high-speed Internet service. As part of a larger ongoing research project studying the feasibility of bringing the most advanced Internet capability to that region, a team of LIS 451 students led by Martin Wolske traveled to nearby sites to evaluate the effectiveness of other broadband service points. The team members also surveyed the landscape in an effort to discover the best location for the installation of fiber optic infrastructure.

3.0 UC2B and the CDI

Planting seeds of change

While the team was working to bring high-speed Internet access to the Illinois side of the St. Louis Metro area, a plan was underway to do the same in the Champaign-Urbana area. In August of 2009 Kate Williams, assistant professor at GSLIS, testified before the Federal Communications Commission (FCC) concerning the proposed adoption and use of broadband service in Champaign-Urbana. The library school also sponsored a forum, assembled a committee, and published a white paper (“Educause”), on the subject. As it happened, the paper received attention from then-senator Barack Obama, who championed it in the Illinois legislature beginning in January of 2009.

The timing of all of these efforts was critical, as the federal National Telecommunications and Information Administration (NTIA) was poised to disburse cyberinfrastructure funding to selected broadband projects nationwide via the State Broadband Initiative. With so much at stake, competition was fierce to win one of the available Broadband Technology Opportunities Program (BTOP) grants. Though a total of \$7.2 billion had been allocated to the nation’s broadband cause, each individual project would be quite costly — \$29.4 million in Champaign-Urbana alone. Fortunately, nearly 77 percent — \$22.5 million — of this huge capital expenditure was covered by the BTOP grant that was awarded in March of 2010. Another \$3.5 million was awarded by the State of Illinois, and matching funds in the amount of \$3.4 million were given by public-private donors.

With the University of Illinois leading the way, it was the university’s Board of Trustees that was named as the recipient of the funds, which were earmarked for the creation of infrastructure that would benefit the entire community, with a special emphasis on low-income households.

The NTIA announced the grant as follows:

“The Urbana-Champaign Big Broadband project

plans to construct 187 miles of fiber-optic broadband network to provide high-speed connectivity to area community anchor institutions and support fiber-to-the-home services in four low-income neighborhoods. Known as a leader in computer networking technology, the University of Illinois plans to bring its experience to bear as it works to close the digital divide in Urbana-Champaign. The project will directly connect 143 anchor institutions, including 40 K-12 schools, 17 social service agencies, 14 healthcare facilities, nine youth centers, four public library systems, and two higher education institutions. A majority of these institutions



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expect to receive their first high-speed Internet connection via this project. The project proposes to create a fiber-to-the-home project for 2,500 low-income households to purchase an affordable high-speed Internet service plan from commercial providers. In addition, the project expects to spur affordable broadband Internet access for local consumers, including up to 50,000 households and 3,700 businesses, by enabling local Internet service providers to connect to the project's open network.”

Support for the Big Broadband project, which became known as “UC2B”, had been vigorous. Just prior to the March 2010 NTIA announcement of the winning grants, letters from community partners poured into GSLIS dean John Unsworth's office in anticipation of what all could see would be a defining moment for the community. It was an exciting time to be in Champaign-Urbana; in addition to the main proposal for infrastructure support (“public computing”), a second but equally important proposal (“sustainable adoption”) hung in the balance. The provision of sustainable adoption funds would allow local nonprofit agencies to improve and expand their computing, and by extension their services to the community. To this end, many of the community partners wrote their own mini-grant proposals to GSLIS, which had the responsibility of assessing partner needs and allocating funds.

During the UC2B startup, GSLIS's commitment to community partner needs and the larger cause of social justice continued without interruption. A good example of this continuity was the CYI, which in 2011 published a youth curriculum (“Community as Curriculum”) designed to help youths get involved in social justice by exploring issues such as poverty, racism, violence, substance abuse, and education. In a series of reflection- and action-oriented exercises, the learners were encouraged to experience community leadership roles by imagining themselves as curators, social networkers, journalists, community planners, artists, librarians, and other leaders, as well as to produce creative works that could make a positive difference for others.

Another youth program that was still going strong in 2011 was the “Turn the Page: Extending Library Services to Empower Youth” (ELSEY) collaboration among GSLIS, the Champaign County Juvenile Detention Center (CCJDC), and various local community groups. Founded in 2009 by the Peer Ambassadors and the CYI, the new program sought to help incarcerated youths by enabling them to become literate, a goal that involved restructuring the detention center's small library into one that would be relevant, attractive, and useful to them. In addition to reading materials, ELSEY provided programming designed to link the incarcerated youths to the public library. As GSLIS assistant dean Rae-Anne Montague observed when discussing ELSEY in the Summer 2011 issue of *GSLIS Magazine*, “If the library is a democratic institution that seeks to promote access to information, then library services must expand beyond the walls of the library.”

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On a sunny afternoon in September 2011, a large crowd gathered in an open field to witness the official start of UC2B, which would forever alter the landscape of information acquisition for thousands of local citizens. About a year later, in August 2012, in the midst of continued UC2B construction, information scholar and activist Virginia Eubanks gave a lecture at the Champaign Public Library. Fittingly, its title asked the provocative question “Can Technology Serve Social Justice?” Eubanks, who had also written a book on the subject (*Digital Dead End: Fighting for Social Justice in the Information Age*), expressed her concern that the new technologies, far from supporting such social justice goals as peace, freedom, equality, and dignity for all people, were actually at odds with them.

Many at the proposed Center for Digital Inclusion (CDI), which had sponsored Eubanks’ lecture, agreed. Sharon Irish, project coordinator of the proposed center, stated that the book’s focus on the power-technology relationship resonated with CDI faculty and students, who supported Eubanks’s advocacy of “popular technology” (defined in the book as “broadly participatory, democratic methods of knowledge generation”). This knowledge generation paradigm, while relatively new to the public debate of socially just technologies, was the foundation upon which Prairienet, the Community Informatics Initiative, and the Center for Digital Inclusion were built, as well as one of the guiding principles woven throughout the work of the past two decades.

In the spirit of broad, democratic participation in the generation of knowledge, in 2013 the CDI co-sponsored a conference on “Nexus, Confluence, and Difference: Community Archives Meets Community Informatics” in Prato, Italy. Conference attendees and co-collaborators on this important subject were members of the Community Informatics Research Network (CIRN), an international alliance of researchers, practitioners, and policy makers with the common goal of using ICTs to enable communities.

The annual CIRN conferences, which CDI director Jon Gant identified as very important for GSLIS faculty, staff, and students interested in community informatics, serve as a gathering place for international researchers concerned with community informatics issues. The 2013 conference was especially important for the CDI because not only did the newly formed center co-sponsor the event, it sent Martin Wolske to lead a workshop in which was created a draft of principles and beliefs that became part of the official CIRN policy, which in turn helped guide future work in the community informatics field.

Another significant development at the end of 2013 was the completion of UC2B, bringing to a close several years of planning and research and two years of heavy construction work. As promised, the Big Broadband project revolutionized computer use in the Champaign-Urbana area, which went a long way toward bridging the digital divide for local residents. It also proved to be instrumental in opening up the possibility of further cyberinfrastructure

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development designed to expand high-speed availability to those parts of the community not included in the UC2B area, further enabling the cause of equitable access to information.

However, the vision has always been to bridge the digital divide in every way possible; that is, to first enable access to the Internet and then build on that capability to foster economic development, thereby helping individuals improve their circumstances and quality of life. At the end of 2014, with a \$300,000 grant from the University of Illinois Extension, the CDI launched a new community outreach initiative (The Illinois Digital Innovation Leadership Program) that will improve Illinois citizens' access to the latest digital tools. Besides furthering Extension's education and outreach mission, this initiative is designed to promote increased opportunities for economic growth.

What is striking about this project are its innovative delivery method and tools, which will provide both access to learning opportunities and encouragement toward innovative thinking as program participants learn and grow in entrepreneurship. The program itself is a startup, beginning with one "digitech hub" and hopefully expanding to more as the scope of the program grows. Each hub, also known as a "makerspace", will be equipped with digital design and other tools for the production of podcasts, small robotics, microcomputers, and 3-D printing projects. As the labs rotate among Illinois Extension sites, Digital Innovation Leadership staff will work with 4-H clubs, public libraries, and public schools to develop permanent community-supported studios, with an eye toward increasing statewide capacity in digital design, manufacturing, and entrepreneurship.

Further explaining the program's mission, Gant said, "Enabling this kind of innovation and creativity is key to twenty-first century technological and economic development. We're committed to expanding economic development and digital inclusion opportunities across Illinois by helping to build institutional capacity with Extension and communities across the state."



DIGITECH HUB INTERIOR

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The vision for the future of the makerspaces is actually much larger than the State of Illinois. Funds permitting, the CDI hopes that the Digitech hubs, once established, will serve as a blueprint for similar programs in global communities around the world — especially in countries with developing economies such as those in West Africa. While the reality is most likely years away from the present, one thing that has been repeatedly demonstrated by GSLIS is that visions become plans, which often become realities. With the legacies of Prairienet, the Community Informatics Initiative, and UC2B to guide and encourage future efforts, it is most likely that they will come to fruition.

Twenty years from now, what technologies will be the new kids on the block? Who will be the community partners, and what changes will they be making? There's no way of knowing exactly what the future will hold, but we can make an educated guess —at GSLIS, neighbors will be helping neighbors, here and around the world.

Afterword

This white paper was written in 2015 by Sally van der Graaff as part of her master's degree in English from Eastern Illinois University. Ms. van der Graaff is also an alum of the MS LIS program of the School of Information Sciences at the University of Illinois, Urbana-Champaign.

The Center for Digital Inclusion is grateful to Ms. van der Graaff for her careful research and summary of an enormous amount of primary and secondary materials that related to our work from 1993, when we were still known as the Graduate School of Library and Information Science (in 2016, we became the School of Information Sciences). This paper contributes to a very complex story, which involved many participants and has many versions.

Sharon Irish and Jeanie Austin lightly edited and formatted this document in order to share it more broadly. As others contribute more details, we may update it in the future.

April 2017