The CyberNavigators of Chicago Public Library and the 'informatics moment': On a budget, democratizing information flows in low-income neighborhoods

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Abstract:

In *Code*, Lessig identifies software code as the architecture of the virtual spaces we depend on and inhabit, either enabling or blocking our motion. In the public library, occupational structures and professional identities are part of the 'code' that either enables or blocks effective public access to information. Today computers are not only for librarian use, they are for public use. And they are expensive, and so is computer expertise. With its Cybernavigator staff, the Chicago Public Library has found a way to economically provide computer/internet help to patrons, working around the training gap we find in the library profession/paraprofession.
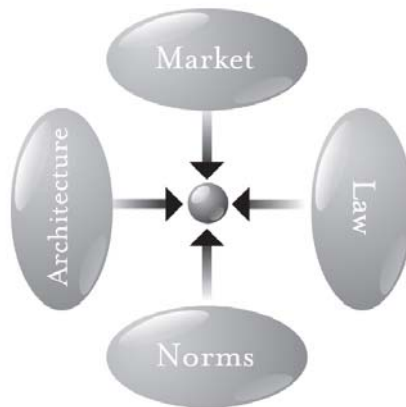
A study underway in Chicago is drawing lessons from cybernavigators and librarians in order to update professional preparation by incorporating public access computer service into the skill set. Archival work, ethnographies, surveys and focus groups suggest that library workers should be from the community they serve; skilled at networking with community members and groups; at least one step ahead of their patrons technologically; and possessed of a 'hacker ethic' (Himanen). A community organizer, social capital, or 'collective intelligence' (Lévy) approach also works best to mobilize local talent to resolve digital inequalities. Staff should also understand the patron (and thus the branch) as creating and uploading information and not only downloading and using. One tool (among many) we find useful for teaching this new information-sharing approach to students, patrons, and librarians is Wikipedia; another is Lessig's own *Free Culture* and Creative Commons, which counter today's draconian copyright regimes in a popular, imaginative way.

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Introduction

The focus of this paper is the CyberNavigators program that was launched by the Chicago Public Library (CPL) in 1999 and operates today in 40 of the library's 79 locations. CyberNavigators (CNs) are hired for $14 per hour, 20 hours a week, to help people use the library's public access computers and internet. This paper puts the program in the context of the library and its history and presents preliminary findings and key ideas. Stage one has focused on gathering data from the CyberNavigators themselves; stage two will collect data from other staff working in the library.

Lessig as a starting point

Graphic from Lessig's *Code: version 2,* page 123.

In his book *Code*, Lessig identifies four factors—he calls them constraints—that either enable or block human activity: architecture, the market, law, and norms. (Lessig 2006, page 123) His central argument is that code—software—is the architecture of cyberspace, and its power to enable or block our online activities is too much overlooked or taken for granted. Since so much of the world's information flows has moved online, and even our offline information flows are subordinated (Castells 2001) to the online, code is unquestionably important.

As librarians we want to democratize information flows, to enable people to use, create, and share information. So we must attend to the code. This is a challenge; hardly any of us are trained code-writers. But at the same time there are other approaches to take, and Lessig has pointed the way with his four factors. First, there is more architecture to attend to than software code alone. Second, there are norms.

This architecture includes the hardware and software, the internet connection, the electricity supply—the entire computer infrastructure. It also includes the library's occupational structure: who works there, what are their skills, what are their duties. This occupational structure has a big effect on what patrons can and cannot do. Norms include the practices of the library staff, which over time form the culture of the library itself.

Computer infrastructure is very expensive, as is computer expertise. But with its CyberNavigator staff, the Chicago Public Library has found a way to economically provide computer/internet help to patrons, working around the training gap we find in the library profession/paraprofession. Their presence in the library is an experiment with the occupational structure and the culture of the library. By archival work, ethnographies, surveys and focus groups we are gathering data about this experiment. We ask, What is cybernavigating? What is the future of the branch public library? And guided by past work on community use of information technology (Alkalimat and Williams 2001, Williams 2005, Williams and Durrance 2008), we ask, What is the role of social capital here?

Historical background

The two linked histories of the Chicago Public Library and the CyberNavigator program contextualize and even help to explain our findings.

History of the Chicago Public Library: The social libraries, the public library, and the public computing library

The history of the Chicago Public Library can be divided broadly into three eras since the founding of the city in 1833: the social libraries, the public library, and the public computing library. Prior to the 1871 Great Chicago Fire, people were served by a number of social libraries. When the fire turned a huge and central swath of Chicago to a plain of cinders, elites of what was already a global city were able to secure the right to tax for library expenses, and draw on donations from as far away as England to open the library. Within a year of the fire, the Chicago Public Library as a formal institution came into being. By 1981, the first computers were installed in a branch for use by the public, a service that has expanded ever since. This transformation towards a public computing library was not led by elites; rather, the central library was fully occupied integrating computers into its own administrative processes. It was staff and patrons in the branch libraries who were the first to find funds and volunteers and equip and staff community-

based computer facilities. Central library leadership caught on and caught up, and by 1997 every branch library had public access computers and internet access.

History of the CyberNavigators: An experiment, affirmed, then expanded

Likewise, the history of the CyberNavigators program has seen three stages: experimentation, affirmation, expansion. From 1999 to 2002, it was an experimental summer program funded by AT&T in roughly one-third of the branches. Then the funding ended, but demand continued, so from 2002–2007, the program operated year-round, placing part-time CyberNavigators in approximately five branches. In 2008, having secured major new funding from the Bank of America, CPL expanded it to more than half of its branches. As of 2010, the experiment has become a major system-wide effort towards digital literacy in the library and across Chicago. But its character as an ongoing experiment can be seen in the fact that CyberNavigators are not paid staff of the library, but continue to be paid by the Chicago Public Library Foundation, outside occupational structure of the library, on "soft" money raised from grants.

Key findings

Thus far, we have many lessons from the research, but four key findings:

1. A core process is underway in the library that many can learn from: the informatics moment.
2. Four types of digital literacy work are involved in this informatics moment.
3. Social capital is a critical contributing factor here, although so far somewhat overlooked
4. The conscious invention of the branch library of the future is already underway.

1. A helping interaction, an informatics moment

At the core of the CyberNavigator experience is a moment of help given to a patron. That help gets the patron across whatever digital divide he or she is facing at that time. The moment might last a few seconds or an hour. CyberNavigators provide this help constantly on some days, intermittently on others, but they are always 'on call' and available to the patron.

We have created a technical term for this moment of help because it has to be understood in context. We call it an 'informatics moment' in order to contextualize the CyberNavigator program within today's information revolution. This social process has been described (Toffler 1980) as a wave moving across one sector of society after another, where what results is a transformation of the institutions we live and work in.

With ebooks, public computers, databases, and the many-to-many multimedia experience that the internet has become, the Chicago Public Library (with every other public library in the US) is experiencing and even shaping this transformation. The CyberNavigators—at work in the public spaces of branch libraries, sought after by Chicagoans of all types—are at the center of this transformation.

To start: On one level, the informatics moment is when a CyberNavigator is helping a patron with computer literacy. Prior research leads us to investigate how social capital may support this process, and this is very meaningful when other forms of capital that might support digital literacy are scarce: money, human capital, and so on.

On a more abstract level, the informatics moment is something that each society, each sector, has passed through or is passing through. Industrial society is giving way to an information society. To take as an example a social sector we are all familiar with: the world's postal systems have been transformed by new developments such as DHL and email that each rode into existence on networked computing. The word informatics signifies the digital revolution and the network society: reorganizing and reengineering social and economic processes around digital information flows. This is a computer enabled transformation, but is social as well as technical. The tools change and so do the people, the social arrangements, the division of labor in workplaces and the social relations between people. The postman may still bring the monthly bills, but DHL delivers documents to business, and, even more likely, email and its attachments ping us all day long with what used to be notes, letters, and memos.

To understand the informatics moment in the branch public library—when the patron is making a leap as the broader society did when we shifted away from snail mail and phone calls towards emails and IM—we looked back at reference service.

Under various labels, reference work is one of the most examined processes in the library. In the US, This began in the 1870s as the dominant library form morphed from the private lyceum to the public library and librarianship became professionalized. Industrialization was on the rise and the library shifted from a handicraft mode of service to serve a narrow elite to a factory system to serve the broad population, with interchangeable parts (catalog cards) and a search for the "one best way." (Taylor 1911)
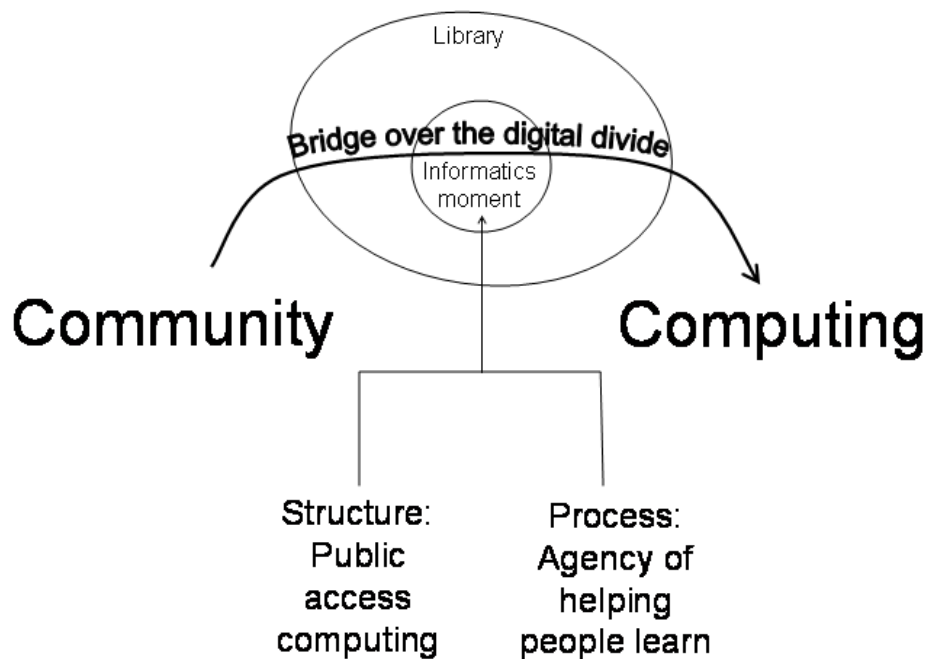
In sum, over 130 years, as the US public library was institutionalized and standardized, public adult library service delivery was codified in the framework of the reference interview. At one point the literature debated, What in fact was reference success? One scholar provided an answer that regardless of the source that was provided or not provided, the criteria was simply "willingness to return" (Durrance 1995) to the same librarian again. Social relations had come to the fore.

The very most recent breakthroughs in research on reference make a leap to a phenomenon they call social reference, that is, people volunteering to helpeach other via their social networks. (Shachaf 2010) Thus, through examining an earlier library service, we reinforce our understanding of the role of social capital.

But the CyberNavigator is not hired as a reference librarian. She does not sit across a desk interviewing someone in order to convey resources or facts or information leads to a patron. Her knowledge base does not include 130 years of library practice. She sits next to the patron providing just in time training (or sometimes an organized lesson) as the patron tackles a task he has in mind.

Conceptually the historical shift is from "the reference interview" to "the informatics moment." The reference interaction was paradigmatic for the first century of the public library, and continues today. The informatics moment—cybernavigating—may be paradigmatic for the present and the future, now that public computing is available in the library.

When the library placed computers in a common space as a lab the digital divide became a serious library issue: How to help? Who would help? What help should be available? These were questions that were outside of the skill set of even the professional library staff. What emerged as a paradigmatic library service is helping people with the computers, and this we call the informatics moment.

Our model for the informatics moment (above) includes the community moving through the library as a way of crossing over the digital divide. Inside the library the necessary ingredients are the computers and internet along with staff—the agents who help people learn. Perhaps they are the spark plugs of the library as an engine of the information society.

2. Four types of digital literacy

The informatics moment consists of patrons overcoming four kinds of literacy challenges. They seek out the CyberNavigators for four categories of help. These are:

1. Basic literacy: Reading and writing.
2. Computer literacy: Using the mouse, the browser, the Windows operating system, free email services and other applications, even buying and maintaining a computer.
3. Library literacy: Using library-specific systems such as printing, reservations, the online catalog, and databases the library makes available to patrons.
4. Domain literacy: Functioning in specific domains of modern life—job seeking, getting government benefits, doing homework, learning about health, even navigating life in Chicago itself—that draw on the CyberNavigator's own knowledge, experience, and resourcefulness.

Quite often higher level literacy challenges have lower level ones embedded in them. The best example—and far and away the most common, as job losses have spiraled in the US and nearly all job applications are on the internet—is the job search. From the ethnographic observations in the branch libraries, we collected field notes on 156 distinct informatics moment. Here is one:

> Female looked for a website for the job application. CN [CyberNavigator] saw her with someone else at her computer desk, so he went to her an offer for help. Needed to know what to do with the application. He asked which McDonald shop she want to work at, its zip code. Did not know the address or zip. He navigated her to locate the shop by asking which neighborhood and city name using MapQuest. Did not know (or forgot…) how to access to the website. He asked her if she wanted him to do it. She said yes. He began reading aloud what the site asks to fill out one step at a time. The website requires to fill out online resume type of information as well as 60 questions maybe about her past experiences. She has handwritten information of her past work experiences such as address and name of the company she has worked, year, and length of the employment. CN helped her quite a long time reading it aloud and teaching her how to use a mouse and how to click. In the middle, when it asks social security number, he told her "You need to fill all the blanks, there are 60 questions you have to answer. The application for the management, you have to answer a lot of questions." He also offered her an extension of time to use the computer. Set-up time for reserved computer use is 60 minutes.

3. Social capital a semi-invisible resource to draw on

Community-based social capital is a critical factor that can and does contribute to the success of the CyberNavigator program and the informatics moments it facilitates.

The community itself is formed of social networks that may be robust or weak, densely knit or sparse, and the patrons reflect this. Patrons frequently (73% daily) know the CyberNavigator by name. They often indicate that they were referred by someone they know (28% daily, 50% weekly). And they often come in pairs or groups for help (14% daily, 41% weekly).

Social capital indicators: How often do you...		Daily	Weekly	Monthly	Less than monthly or never	N
Community	...help someone who already knows your name?	73%	22%	3%	3%	37
	...help someone who tells you that non-CPL-staff referred them to you?	28%	50%	8%	14%	36
	...help a group of two or more people who have come together for help?	14%	41%	24%	22%	37

These and other similar indicators brought social capital to light where it could be elaborated on beyond the basic understanding of all CyberNavigators that they are effective to the extent that they are familiar with the neighborhood and its patrons.

4. Designing the branch library of the future has begun

In their practice and their discussions, CyberNavigators and library co-workers are designing a new branch library. From what this study has turned up, researchers and practitioners can codify and put to use a deeper understanding of the informatics moment to sustain and inform this new design, for a better branch library for the digital age we live in. Stage two of the study, listening to the non-CyberNavigator staff in the branch, will continue to help flesh this out. From the 598 useful segments in the transcribed focus group sessions, here are two CyberNavigator comments on the future:

> I think, actually, we get used more than the librarians. Like, especially at my branch because I feel like nobody goes to the library for books anymore. Everything seems to be online. So it would only make sense that, you know, with books came the librarian, and with computers came the CyberNavigator, you know?

> My library has discussions on their library. Patrons and staff, they have discussions about the impact of the computers on the concept of library. On the impact of computers. I can think of discussions that I have been party to about how the computers detract from what a library is suppose to be. And it's just very relieving I guess. When you start talking about library and what a library should

be. Some of think of books. Some of us think of access, generally speaking. I'm traditional from the standpoint of when I think of a library I think of sacred space. … There are whole generations of people, for them a library is not represented by that model. It's just very interesting conversation. If you define library as a compendium with information then the computers are just another arm of that compendium. But that assumes that you're looking at information. It's just a very interesting conversation on both ends.

Implications

These findings underscore the importance of harnessing key tools and ideas about the information age to help library workers and libraries make sense of their role as information revolutionaries, shepherding people through many different informatics moments: The ideas of *Code* from Lessig himself can be made concrete and popularized. Our research team has also considered the network society (Castells 1999), the hacker ethic (Himanen 2001), collective intelligence (Lévy 1997), over-the-shoulder learning (Twidale 2005), social reference (Shachaf 2010) and of course the substantial experience of Wikipedia, all as ways to describe 1) the informatics moment, 2) what can make it more successful, and 3) how to better enable and organize the library to assist more people with their informatics moments.

A particular lesson from carrying out the study in close collaboration with Chicago Public Library staff, is that while the academic article or the formal study report has a narrow audience in the library, it can stimulate better ways to share ideas across the library. Our latest idea is to recruit a cartoonist; the informatics moment is in fact quite ubiquitous. Who has not either helped someone use computers, or been helped? There is something rather hopeful to be learned about our information society by looking closely at these interactions, and we have found a motherlode in the library.

Bibliography

Alkalimat, Abdul, and Kate Williams. 2001. "Social Capital and Cyberpower in the African American Community: A Case Study of a Community Technology Center in the Dual City." In *Community Informatics: Shaping Computer Mediated Social Relations*, Leigh Keeble and Brian Loader, editors. London: Routledge.

Castells, Manuel. 1999. "Grassrooting the Space of Flows," *Urban Geography* 20, 4, p 294-302.

Castells, Manuel. 2001. "Informationalism and the Network Society," epilogue to *The Hacker Ethic and the Spirit of the Information Age*, by Pekka Himanen, New York, Random House.

Durrance, Joan C. 1995. "Factors that influence reference success: What makes questioners willing to return?" *The Reference Librarian*, 49/50, p 243-265.

Himanen, Pekka. 2001. *The Hacker Ethic*. New York: Random House.

Levy, Pierre. 1997. *Collective Intelligence*. 1st New York: Basic Books.

Lessig, Lawrence. 2006. *Code: version 2.0. 2nd ed*. New York: Basic Books. http://codev2.cc/download+remix/.

Shachaf, Pnina. 2010. "Social reference: A unifying theory." *Library & Information Science Research*, 32(1), 66-76.

Taylor, F. W. 1911. *Principles of Scientific Management.* New York and London, Harper & Brothers..

Toffler, Alvin. 1980. *The third wave.* New York : Morrow.

Twidale, M.B. 2005. Over the shoulder learning: supporting brief informal learning. *Computer Supported Cooperative Work* 14(6) 505-547.

Williams, Kate. 2005. "Social networks, social capital, and the use of information and communications technology in socially excluded communities: a study of community groups in Manchester, England." Unpublished PhD thesis, University of Michigan.

Williams, Kate and Joan C. Durrance. 2008. "Social Networks and Social Capital: Rethinking Theory in Community Informatics," in *Journal of Community Informatics*.