

The Creating Community Connections (C3) System: Community Created, Community Focused, Community Content in a Low- to Moderate-Income Community

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ABSTRACT

The Creating Community Connections (C3) System is a web-based, community building system designed at the MIT Media Laboratory to establish and strengthen relationships between community residents, local businesses, and neighborhood institutions (e.g., libraries, schools, etc.) and organizations. C3 is a sociocultural constructionist (Pinkett, 2000) tool, specifically designed to engage low- to moderate-income residents as the active creators and producers of their own information and content, as opposed to passive consumers or recipients. The methodology for deploying C3 is informed by the theory of asset-based community development (Kretzmann & McKnight, 1994). This paper summarizes the results of ongoing research to examine the design and implementation of the C3 system toward building community online and offline at Camfield Estates, a 102-unit, low- to moderate-income housing development in Roxbury, Massachusetts. The study described herein was focused on the 31 families who were first to use C3 beginning in December 2000, having completed a comprehensive, ten-week introductory course at the Camfield Estates Neighborhood Technology Center (NTC) on the premises, and received a state-of-the-art computer, software and high-speed Internet service in November, 2000, as first-round participants in the Camfield Estates-MIT Creating Community Connections Project. Based on follow-up site-visits with each family and statistics from web server and proxy server logs, the system is supporting promising activity along the lines of community building thus far, and the most popular modules are, in order, the resident profiles, calendar of events, and discussion forums. To offer insight to related initiatives, this paper also presents step-by-step recommendations and lessons learned.

Keywords

Community, technology, building, content, digital, divide, web, low-income, underserved.

INTRODUCTION

One of the challenges associated with community technology – using the technology to support and meet the goals of a community (Beamish, 1999) – which has received considerable attention recently, is the provision and maintenance of community content, or the availability of material that is relevant and interesting to a specific target audience (e.g., low-income residents) to encourage and motivate the use of technology (Lazarus & Mora, 2000).

Community content can be classified along many dimensions, including active vs. passive. A passive disposition toward the delivery of content is static, unidirectional and often described as one-to-many. It typically manifests itself in the form of one-way databases and repositories of information that can be accessed by audience members. An active disposition toward the delivery of content is dynamic, bi-directional and often described as many-to-many (Shaw & Shaw, 1999). It typically manifests itself in the form of multiple-way, interactive communication and information exchange between audience members. Furthermore, a passive disposition relies on a core set of individuals who must manage services for the end-user, whereas an active disposition decentralizes and distributes this responsibility across multiple individuals who can provide services for one another. An active disposition not only provides a mechanism for greater sustainability, but also ensures that the content being generated is by the community, for the community, and socially and culturally relevant to the community.

Consequently, I advocate a class of technological tools that engage community members as the active creators and producers of their own information and content, rather than the passive consumers or recipients. Such an approach

requires a reorientation as to how we address different populations through information and communications technology. Rather than seeing our role as designers, we must see our role as designers for designers – or meta-designers (Resnick, 1996) – who provide a set of tools or a virtual construction kit for the end user (Resnick, Bruckman, & Martin, 1996). This orientation is grounded in the theory of *sociocultural constructionism* (Hooper, 1998; Pinkett, 2001; Shaw, 1995), an extension of the theory of *constructionism* (Papert, 1993), which is a design-based approach to learning, drawing on research showing that people learn best when they are active participants in design activities (Papert, 1993), and that these activities give them a greater sense of control over (and personal involvement in) the learning process (Resnick, Bruckman, & Martin, 1996). Sociocultural constructionism argues that individual and community development are reciprocally enhanced by independent and shared constructive activity that is resonant with both the social setting that encompasses a community of learners, as well as the cultural identity of the learners themselves (Pinkett, 2000).

The Creating Community Connections (C3) System is a web-based, community building system designed to establish and strengthen relationships between community residents, local businesses, and neighborhood institutions (e.g., libraries, schools, etc.) and organizations. C3 is a sociocultural constructionist tool, specifically designed to engage low- to moderate-income residents as the active creators and producers of their own information and content, as opposed to passive consumers or recipients. The methodology for deploying C3 is informed by the theory of asset-based community development (Kretzmann & McKnight, 1994). Asset-based community development (ABCD) is a particular model, or technique, for community building – strengthening the capacity of residents, associations, and organizations to work, individually and collectively, to foster and sustain positive neighborhood change (The Aspen Institute, 1997). Asset-based community development assumes that social and economic revitalization starts with what is already present in the community – not only the capacities of residents as individuals, but also the existing commercial, associational and institutional foundation (Turner & Pinkett, 2000). Asset-based community development seeks to leverage the resources within a community by "mapping" these assets and then "mobilizing" them to facilitate productive and meaningful connections.

C3 was first prototyped by the author as part of a pilot study at Northwest Tower, a federally-assisted, affordable housing development, in Chicago, Illinois, in collaboration with Nicol Turner at the Asset Based Community Development Institute at Northwestern University (Turner & Pinkett, 2000) in December 1999. The latest prototype of C3 is one component of a broader initiative known as the Camfield Estates-MIT Creating Community Connections Project. Started in June 2000, the Camfield Estates-MIT project has successfully placed state-of-the-art computers, software, and high-speed Internet connectivity via cable modem, in the units of 60 out of 80 families at Camfield Estates, a 102-unit, predominantly African-American, low- to moderate-income housing development in the South End/Lower Roxbury section of Boston, Massachusetts.

This paper summarizes the results of ongoing research to examine the design and implementation of the C3 system toward building community online and offline at Camfield, particularly given the aforementioned technological infrastructure. The study described herein was focused on the 31 families who were first to use C3 beginning in December 2000, having completed a comprehensive, ten-week training course at the Camfield Estates Neighborhood Technology Center (NTC) on the premises, and received their computers and Internet service in November, 2000.

The following sections include an overview of the C3 system, a description of the research design and methodology, a summary and discussion of the results obtained via one-on-one interviews with each family conducted in August 2000, as well as follow-up site-visits with a targeted sample of families during the months of March and April 2001, and finally, step-by-step recommendations and lessons learned for related initiatives.

THE CREATING COMMUNITY CONNECTIONS (C3) SYSTEM

The Creating Community Connections (C3) System serves two primary functions. First, C3 is a community intranet that facilitates community communication and information exchange. In that regard, C3 offers the following features: *resident profiles* (see Figure 1), *web-based e-mail*, *calendar of events*, *discussion forums*, *e-mail lists (listservs)*, *chat rooms*, and *file storage*. Second, C3 is a community extranet and community building tool that facilitates resource exchange, asset-mapping, and asset mobilization among community residents, associations, institutions, and businesses. In that regard, C3 includes the following features: *news and announcements*, *organization and business database*, *geographic information system (GIS) maps* (see Figure 2), *job and volunteer opportunity postings*, *surveys*, *online résumés*, *personalized web portals*, and *site-wide-search capabilities*.

C3's core architecture is built using the ArsDigita Community System (ACS), a publicly available, open-source software platform. Many of the core ACS modules were reprogrammed and repurposed for C3. The ACS user permissioning schema was also employed and allows C3 to track who is logged on, their membership status in various user groups, and their contributions to the system. C3 uses a dual-server architecture, whereas all of the modules are served by a main server, except for the GIS module, which is served from a separate map server.

To access C3, only an Internet accessible computer with a web browser is required (e.g., Netscape Navigator or Internet Explorer). C3 is being delivered to Camfield by MIT as an application service provider (ASP) – a third party that offers individuals or organizations access to applications (such as software) and related services via the Internet. Camfield residents create and maintain the content, while MIT administers and maintains the associated hardware and software.

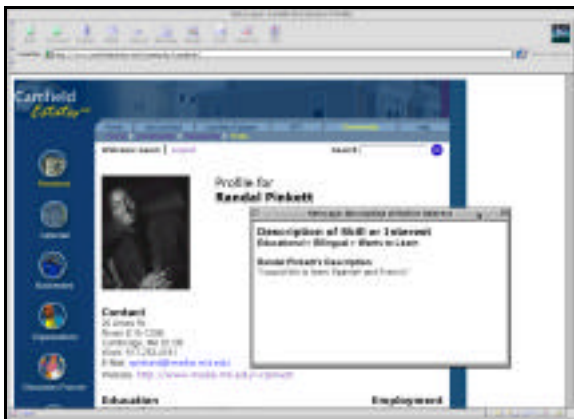


Figure 1: C3 Resident Profile Module

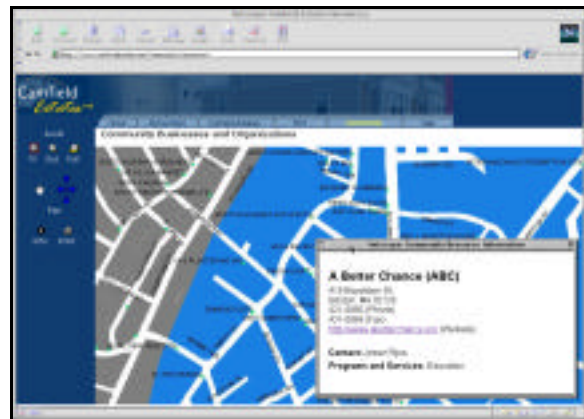


Figure 2: C3 Business and Organization Database/ GIS Maps Module

RESEARCH DESIGN AND METHODOLOGY

Research Site

Camfield Estates, under the leadership of the non-profit, Camfield Tenants Association (CTA), Inc., is one of the leading housing developments in the greater Boston area. In 1997, the 136 apartments of Camfield Gardens, owned by the U.S. Department of Housing and Urban Development (HUD), were demolished and residents were relocated throughout the greater Boston area. Reconstruction of the property was completed in 2000 as residents returned to Camfield Estates – 102-units of newly built town houses. The renovated property also includes the Camfield community center which houses meeting space, management offices, and the Neighborhood Technology Center (NTC) – a CTC and HUD Neighborhood Networks site, managed by Williams Consulting Services. Finally, on June 22, 2001, HUD disposed (transferred ownership) of the property to CTA, making Camfield residents the owners of their own property.

Project Methodology and Timeline

The project timeline is shown in Figure 3.

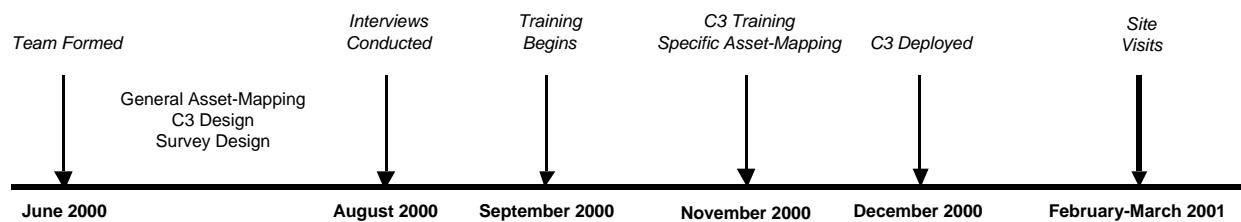


Figure 3: Project Timeline

During the summer 2000, per the asset-based approach to community development, a team of four Camfield residents and two MIT researchers (including the author) led a general asset-mapping initiative. This consisted of mapping all the organizations, institutions (e.g., libraries, schools, etc.), and businesses within an approximately 1.5-mile radius of Camfield, as shown in Figure 4. This broad attempt to identify community resources was done to obtain local information of potential benefit to residents that would eventually be made available through C3, and as a preparatory step for more specific asset-mapping to be conducted after analyzing the results of the interviews (described below). Not surprisingly, the mere process of gathering this information served to heighten residents' awareness of assets in their own neighborhood. For example, the first-pass general asset-map was conducted within a few square blocks of the property. Residents soon discovered there were very few organizations and institutions in this catchment area, and only a small cluster of businesses. The decision was then made to expand the radius of the asset-map to 1.5 miles, which captured approximately 757 businesses, 178 organizations, 67 churches, and 29 schools.

Also during the summer 2000, the project team held weekly meetings to discuss design considerations for the Camfield website including the site-map, graphics, layout, and user interface. An important component of these discussions was determining which of the C3 modules would be incorporated into the first release of the site, given the community building objectives for the project. Eventually, the following modules were selected: *resident profiles, business and organization database, GIS maps, calendar of events, discussion forums, news and announcements, e-mail lists, chat rooms, file storage, and site-wide search*. Scheduled for later introduction were the job and volunteer opportunity postings, and possibly the personalized web portals and web-based e-mail.

During the months of June and July 2000, the team developed a survey instrument which was administered via face-to-face interviews with the head-of-household from 31 out of a possible 66 families participating in the Camfield-MIT project's first round (36 of 102 total units were vacant at the time), and lasted between one and five hours.

In November 2000, these 31 families learned how to use C3 during the final two weeks of their ten-week introductory course at the Camfield Estates Neighborhood Technology Center (NTC) that began in September 2000. As part of these sessions, residents also conducted an asset-mapping of their individual skills and interests. Using a pre-release of the C3 resident profiles module, residents entered their formal and informal skills and interests, by selecting from an inventory of more than 150 items. This same month, residents completed the introductory course and received a state-of-the-art computer, software, and high-speed Internet access. With their expressed, written, permission, a proxy server was also configured at this time to log the web traffic coming in and out of the development (aggregate patterns of use only, and not individually attributable).

In December 2000, the first release of the Camfield site with C3 was made available. Finally, during the months of February and March 2001, site visits with a targeted sample of the families (13 families, primarily members of the tenants association) took place. Site visits were conducted by the author, all of which took place in the interviewees residence and lasted between 20 minutes and two hours.

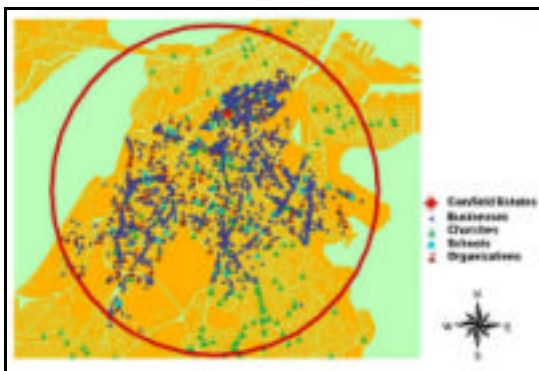


Figure 4: Camfield Estates Catchment Area

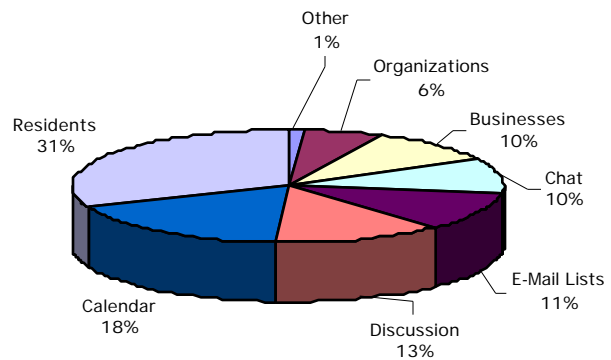


Figure 5: Camfield Estates Web Server Hits By Module (October 2000 to April 2001)

RESULTS AND DISCUSSION

Table 1 lists the items residents wanted to see made available on the Camfield website, in ranked order.

Rank	Item	Rank	Item
1	Employment opportunities	10	Volunteer opportunities
2	Camfield resident's information	11	Organization information
3	Education	12	Weather
4	Local news	13	Sports
5	Safety	14	Regional and national news
6	Government information	14	Classifieds (want ads)
7	Health care	14	Electronic commerce
7	Community calendar of activities and events	17	Online forums and discussion groups
9	Business information	18	Arts and entertainment

Table 1: Items Desired for the Camfield Estates Website

Notice that several of these items were already available through the C3 system, such as the resident profiles module, news and announcements module, calendar of events module, and business and organization database module. Noticeably absent was the top choice, employment opportunities, whereas the job and volunteer opportunity postings module was not incorporated into the first release of the system, particularly in light of the fact that operationalizing this module would require partnering with a local employment agency or other community-based organization to ensure comprehensiveness and sustainability. It was decided to wait until the results of the interviews before doing so. Interestingly, even though this module was not available, a discussion forum was created a few months after the system was released by one of the staff members at NTC to allow residents to post employment opportunities within their purview.

The site visits with families and to the property (e.g., CTA board meetings, CTA general meetings, etc.) revealed that the most popular modules are, in order, the resident profiles, calendar of events, and discussion forums. These findings were corroborated by the web server logs, as shown in Figure 5. Furthermore, the Camfield website ranked fifth among all websites logged by the proxy server, as shown in Table 2.

Rank	Domain	Rank	Domain	Rank	Domain
1	yahoo.com	8	nick.com	15	shockwave.com
2	blackplanet.com	9	oneplace.com	16	uproar.com
3	msn.com	10	wwf.com	17	microsoft.com
4	espanol.yahoo.com	11	gohip.com	18	simmons.edu
5	camfieldestates.net	12	collegeclub.com	19	xdrive.com
6	boston.com	13	musicmatch.com	20	nbc.com
7	aol.com	14	hotmail.com		

Table 2: Camfield Estates Proxy Server – Top 20 Domains (January 2001)

The site visits also provided insight as to how these tools were being used. Residents used the resident profiles to learn more about the skills and interests of their neighbors. This is consistent with the fact that information about their neighbors was ranked second by residents in terms of items they wanted to see made available on the Camfield website. However, it was not readily apparent that residents were making use of this information as of yet. In other words, while residents were curious to browse through the profiles of their neighbors, very few took the next step of contacting a neighbor in this regard. The discussion forum was primarily being used to post and respond to technical questions and problems in the "Help" discussion forum. When the system was initially released, two forums were already created, the "Help" discussion forum and the "News and Announcements" bulletin board. Since then, three forums have been created including "Jobs," as mentioned earlier, for employment opportunities, "Software and Virus Updates" for the latest browser and virus protection releases, and "Websites" for general postings on good Internet resources. These forums received very little activity when compared to the Help forum. Relatively speaking, this is not particularly surprising given the obvious utility (and often urgency) of the Help forum. The calendar of events was primarily being used to communicate intra-community events such as CTA

board meetings, CTA general meetings, resident's birthdays, etc. Residents did not use the calendar to share or advertise activities occurring outside of the development. Finally, it is worth mentioning that a few residents contributed new entries to the organization and business database that they noticed were not included, including their own home-based businesses.

The site visits revealed promising activity along the lines of community building. For example, the following is one of the stories that was revealed:

CTA is always looking to provide opportunities for youth to get involved in the community. Ms. Johnson, a CTA board member, attends a local church that would like to create a website, yet lacks the expertise to build one – she is looking for assistance. Meanwhile, several people at the development have completed the web design course at NTC and are looking for opportunities to apply their skills in a new and meaningful context. Using the C3 system, these residents were able to publicize their skills to the church, while the church was able to easily identify someone with these skills, and notify them via e-mail of this worthwhile opportunity.

We envision similar scenarios such as parents exchanging their child-rearing practices via e-mail, youth identifying volunteer opportunities from a discussion forum, or adults obtaining a new job from employment postings available online. Another story that highlighted promising activity was the following:

Since completing the introductory courses on basic computer and Internet use, Mr. Williams has started his own home-based business on the web that involves direct sales of health-care products. He is interested in developing better marketing materials, in hopes of advertising his business to other residents in the development. Using the C3 "Help" discussion forum, he solicited advice regarding good books on word processing and layout/design. Furthermore, he anticipates using the C3 calendar of events, e-mail lists, and news and announcements discussion forum to publicize his business to neighbors, and announce a reception in the community center where he will showcase his products.

We envision similar scenarios such as a group of single mothers creating an e-mail list to discuss their experiences, a senior creating a website containing her favorite recipes, the tenants association publishing their newsletter electronically, and the social service coordinator advertising activities on the community calendar of events.

LESSONS LEARNED AND RECOMMENDATIONS

The following three steps are offered as a guiding framework (see Figure 6) for low- to moderate-income, underserved, and other physical communities seeking to build community online and offline. They are not presented as strict rules to follow, but rather lessons learned and recommendations so as to build upon our experience in deploying C3 at Camfield.

Step 1: Conduct an Assessment to Guide System Design and Implementation

- *Understand the Social and Cultural Environment.* The results of the interviews has been invaluable. The data has provided tremendous insight into the social and cultural environment at Camfield and how C3 can support the efforts deemed important by residents. While certain results can probably be abstracted to other contexts, such as the desire to obtain and share local information, and the desire for information about employment opportunities, there are other results that are clearly specific to Camfield, such as the problems faced by residents and the ideas they have for improving the neighborhood. Any group seeking to conduct a similar initiative, would benefit from understanding these community-specific issues. Our survey instrument included more than 250 questions for research and benchmarking purposes, however, we have found the seven questions below to be of the greatest value toward understanding the nuances specific to Camfield. In other words, short of conducting a very elaborate assessment, which can be costly and time consuming, these few questions require little effort while delivering worthwhile results toward understanding a particular social and cultural milieu.

What is the best thing about living in Camfield Estates?

What are the problems facing the Camfield Estates community?

What ideas do you have for making Camfield Estates a better place to live?

Please rank the issues that are important to you?

What would you like to see made available on the Camfield website?

What topics would you like to see addressed through training?

Is there any information you would like to share with others by using computers and the Internet? If so, what?

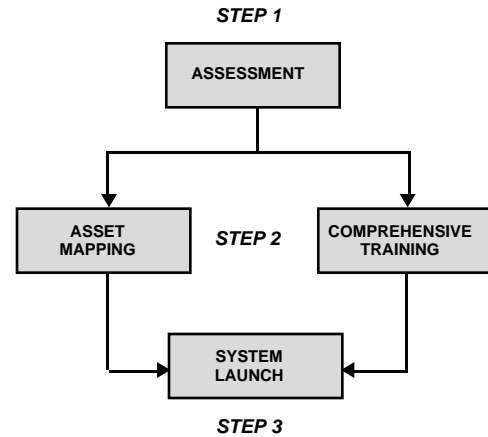


Figure 6: Three-Step Guiding Framework

Step 2a: Conduct an Asset-Mapping of Local Resources

- Conduct a General Asset-Mapping to Identify a Broad Range of Resources.* We conducted our asset-mapping in two phases: general asset-mapping and specific asset-mapping. General asset-mapping consisted of identifying all the associations, institutions (e.g. libraries, schools, etc.), and businesses within a 1.5-mile radius of Camfield, and gathering basic information about these entities such as their contact information and a description of their programs, products, services, etc. Recognizing that much of this information was likely to already exist, we did not want to reinvent the wheel. Consequently, we conducted our general asset-mapping by gathering as many relevant and up-to-date publications, directories, listings, and databases as possible, with a particular focus on gathering these items in electronic format to avoid unnecessary data entry. The process also involved telephone outreach to verify some information, as well as limited data entry when required. Once gathered, this information was formatted and entered into an Excel spreadsheet that could be easily uploaded to C3. This was not necessarily the best approach to gathering community information in terms of keeping it up to-date, especially since it is likely to be subject to change and rendered obsolete. Nonetheless, we have found both the process of residents exploring the assets in their community, and the product of the resulting database to be very useful. Alternatively, many municipalities and cities are known to offer and maintain similar databases. This is an option we have yet to explore.
- Conduct a Specific Asset-Mapping that is Linked to Outcomes.* Specific asset-mapping consisted of cataloging the formal and informal skills and interests of residents at Camfield Estates, as well as a targeted sample of the institutions, associations, and businesses previously mentioned. The determining factor of which skills to catalog and which entities to map at a more detailed level was governed by the results of the assessment. In other words, these decisions were shaped by the outcomes we were seeking to achieve. In the case of Camfield, employment was identified as an important issue. Consequently, we were sure to include skills of interest to potential employers from among the inventory of skills being cataloged. Looking forward, we can now obtain detailed information on the job training programs and employment agencies already identified during general asset-mapping. Furthermore, we can partner with these organizations to design a follow-up training curriculum that meets the demands of the job market, filter their job opportunity postings through C3, and even match these postings against the skill profiles of residents.

Step 2b: Offer Project, Theme, and Outcome-Based Comprehensive Training

- Link Training to Projects and Themes.* The introductory courses at Camfield were project-based, while the follow-up workshops were theme-based. We believe a project-based curriculum is well suited to infusing a broad set of skills within a meaningful context. We believe a theme-based curriculum is well suited for addressing specific topics deemed important by participants. The next bullet expands on this point.
- Link Training to Desired Outcomes.* One of the areas we improved upon between the Round I courses and the Round II courses (presently underway at the time of this publication), was linking the curriculum to our desired outcomes. The Round I curriculum was more generic when compared to the Round II curriculum, which achieves greater depth with respect to how technology can support community building. First, we dedicated more time to learning the C3 modules. For example, after participants learned how to use a browser, they were

required to post subsequent technical questions to the "Help" discussion forum as a way of establishing this habit and acclimating residents to the system. We believed the "Help" forum was a natural entry point due to the inevitability of technical problems. This facilitated a natural transition from a familiar context into other contexts such as the "News and Announcements" or calendar of events modules. Second, we explored how the various modules could improve communication at the development during the class sessions. For example, as part of the introductory courses, each class created an e-mail list so they could stay in touch, and each participant added their e-mail address to their class e-mail list and the residents' e-mail list. Third, we encouraged more resident interaction during classes. For example, in classes where we observed a marked skill-differential amongst participants we facilitated peer mentoring to build relationships.

Now that the results of the assessment are available, we can further refine the curriculum by organizing certain project and theme-oriented sessions around the areas of youth, safety/security, community and employment, given their expressed importance to residents. These strategies, and others like them, address technological, social, and cultural challenges by promoting comprehensive skill development, establishing and strengthening the social ties between neighbors, and helping to foster new patterns of use, respectively. In summary, we believe a project-based, theme-based, and outcome-based curriculum is one that clearly demonstrates relevance, and does so in a way that is resonant with the individual and collective interests of the community.

Step 3: "Launch" the System and Promote Ongoing Use

- *Orchestrate a System Launch.* Another challenge associated with building community online is jump-starting the online interaction. At times, it is a chicken-and-egg phenomenon. Community members won't join if there isn't a critical mass online, and there won't be a critical mass online until community members join. To overcome this hurdle, we found it useful to orchestrate a "launch" of the system, which designates an official day for eligible users to interact with one another online. In doing so, we hoped to create an immediate audience by registering as many people as possible in a relatively short period of time, as opposed to creating an audience gradually as a result of intermittent or sporadic registrations over a long period of time.
- *Identify or Designate a Group of Lead Users.* It is also helpful to identify or perhaps designate a few lead users who can encourage and engage other community members to contribute. I have tried to work closely with the members of the CTA board in this regard by including them in the initial cohort for site visits and by attending several of the CTA board and general body meetings to offer my thoughts and observations. For any initial momentum to continue, a core group of early adopters, in this case Camfield leadership including CTA board members, NTC staff, the resident social service coordinator, and property management, must take an active role in utilizing and promoting C3 as a tool for community communication, interaction and information sharing.
- *Integrate Online with Offline.* The true power of building community online is that it can enhance, rather than supplant face-to-face, or offline community interaction. Therefore, perhaps the most effective strategy for building community online is building community offline. The leadership at Camfield has continued to organize a number of social events and activities at the development including receptions, holiday parties for youth, seniors, and adults, and more. A good example of integrating online and offline was the recent Black Family Technology Week celebration at Camfield. Before the week, a Black History contest was conducted online. During the week, a day was designated for seniors and youth to work together face-to-face at NTC searching the web for additional Black History facts. At the end of the week, a dinner was organized to recognize participants. After the week, pictures were posted to the Camfield website to capture the event. In summary, the integration of online strategies with offline strategies brings together the best that both worlds have to offer.

CONCLUSION

The Creating Community Connections (C3) System, like other technological tools, can never be separated from the social and cultural context surrounding its use. Technology is often seen as a neutral, self-contained tool (DuPont, Hooper, Pinkett & Smith, 1999). Yet, research indicates that there is a culture of tool use that is a derivative of the culture of the community and the affordances of the tool (Brown, Collins, & Duguid, 1989). When a tool is brought into a community, it has meaning to the extent that activities are designed to define how it will be used. These activities have the potential to change the user's view of the world and impact the belief system of the community (Brown et al., 1989) but only if they resonate with existing social and cultural practices.

To ensure a social and cultural resonance with the communities where it is deployed, C3 offers a modular architecture, which provides as much flexibility as possible for the end user. This enables the system to serve a variety of purposes for a variety of groups in a variety of contexts including: asset-mapping, asset-mobilization, and community communication and information exchange – amongst residents, organizations, institutions, and businesses – in low- to moderate-income, urban, and rural areas alike. For the work described herein, C3 was deployed for the purpose of building community amongst the residents at Camfield Estates and its surrounding environs, using a particular subset of the available modules deemed relevant to this objective. Similarly, one can imagine C3 being deployed using a slightly different configuration to achieve a markedly different outcome.

For example, an employment agency would benefit from the user profiles (to catalog the skills of trainees), job postings, and the business database modules, as a means to broker connections between job seekers with job providers efficiently. A non-profit organization might be interested in the user profiles, calendar of events, discussion forum, and e-mail lists modules, to provide members with a means to connect with one another toward strengthening their capacity to work together. Lastly, a community technology center would likely enlist the web-based e-mail, organization database, business database, and personalized web-portal modules, to provide access to local community information and better address the needs of their constituents.

C3 is specifically designed to engage community members as the active creators and producers of their own information and content, rather than the passive consumers or recipients. Thus far, I believe C3 has been successful in this regard, particularly in light of the fact that all of the system's content has been generated by the Camfield community, for the Camfield community. The resident profiles were created by community members as part of the introductory course at NTC. The business and organization database/GIS maps are the result of residents' efforts in mapping the assets within a 1.5-mile radius of their property. The calendar of events, discussion forums, e-mail lists, file storage, and chat rooms constitute an information and communications infrastructure that has been defined, redefined, and utilized by members of the Camfield community. However, there is still room for improvement toward providing a broader range of ways for residents to express themselves. Many of the existing mechanisms available via C3 are text-based or form-based, which does not exploit the expressive power of images, audio, and video. Fortunately, and in response to the interview results, a website design course will be offered during the summer 2001 for first and second-round participants of the Camfield Estates-MIT project. This course will serve as an excellent opportunity for residents to begin sharing information and ideas with one another, while also providing an avenue for expression that leverages the multimedia affordances of web technology.

Given these and other future prospects, we are only beginning to witness the wonderful stories that will emerge from Camfield as a result of their experience with C3. I am now investigating ways to provide C3 for other communities so they can tell their stories too.

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