

# Stabilizing Homeless Young People with Information and Place

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**In this paper we examine how information—particularly, its organization and presentation—and “space” (i.e., a physical location) can be combined to create a particular “place” (i.e., a location adapted to a particular purpose) for engaging and stabilizing homeless young people, aged 13–25. Over 10 months, we used a participatory-design research approach to investigate how an alliance of nine service agencies used information resources to support homeless young people. We collected 250 information resources and analyzed how these materials were organized and presented at four service agencies. In general, the agencies used ad hoc organizational schemes and presentations that were not in keeping with the key values of the alliance, which include human welfare, respect, trust, autonomy, and sustainability. To improve information delivery and the projection of common values, we followed a two-step design process. First, based on a card-sorting activity, we developed a new organizational scheme. Second, we developed four inter-related prototypes for presenting information resources: Rolling Case, InfoBike, Slat Wall, and Infold. To convey the use of these prototypes, three short video scenarios were created to demonstrate how the prototypes would be used by stakeholders, including homeless young people, staff, and volunteers. Feedback from stakeholders suggested that these prototypes, when sufficiently refined, could be useful and operationally viable. By investigating the concept of “place,” reconstituted through organizational schemes and novel presentations of information resources, this work creates possibilities that may allow grassroots service agencies to give more efficient access to information while expressing their values.**

## Introduction

Grassroots service agencies, formed, staffed, and funded largely by members of a local community, play a very important role in helping homeless people survive and transition out of homelessness (Slesnick et al., 2008). In emergencies, such as when a teenager leaves home to escape physical, emotional, or sexual abuse and has not eaten in several days,

service organizations can provide him or her with food, shelter, and clothes. In addition to providing for such basic needs, community organizations can also provide opportunities for respite from the street, through drop-in places for watching television, using a computer, socializing, and engaging in visual art, music, or writing projects. Drop-ins such as these provide places in which homeless young people, aged 13–25, can develop trusting relationships with caring adults. In turn, these relationships can help young people leave homelessness. It is, for example, not unusual for a homeless young person to *not* have government-issued identification, which is needed for accessing many government services, and to have no idea how to apply for it; thus, making contact with a case worker is a critical step. These places for eating, sleeping, and respite are constituted by a combination of elements, including the physical space, the volunteers and paid staff who serve, the time and day of the week, the rules and procedures for entering and leaving, and of course the specific activities.

In this paper, we report on findings from a study that engages intersections between information and homelessness within an alliance of nine grassroots service agencies. Earlier research showed that homeless young people, while participating in alliance programs, encountered presentations of many different fliers, brochures, and other information resources; however, these resources were poorly arranged and presented (Woelfer, Yeung, Erdmann, & Hendry, 2008). Building on this preliminary work, we now examine the connection between the values held within the alliance and its information resources.

Each of the service agencies in the alliance is located within the same eight-block neighborhood in Seattle, Washington, and each seeks to satisfy different basic needs of homeless young people, including health care, food and meals, shelter, counseling, and respite from the street. The operating hours of the service agencies vary to provide a range of activities that young people can choose from throughout the day. This maximizing of coverage is one notable form of loose coordination within the alliance.

Within the alliance, hundreds of documents are available to homeless young people, paid staff, and volunteers. Notably,

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brochures and fliers available in one agency direct young people to the physical locations or the Web sites of other agencies within the alliance or to those of government services. We use the term *information resources* to refer to these documents (e.g., fliers, brochures, etc.), together with related presentation devices for displaying them (e.g., bulletin boards, collapsible tables, etc.). Additionally, face-to-face communication within social networks, which are made up of staff and volunteers at the service agencies and the young people themselves, is also critically important, as Hersberger (2002) has reported for other homeless communities. Within this “information ecology” (Nardi & O’Day, 1999), for an outsider with know-how about information management, document control, and usability, the information resources appear to be disorganized at the individual agencies and across the alliance as a whole.

The major research question, therefore, is twofold: What are the roles, uses, and perceptions of the alliance’s information resources and how might the organization, format, and presentation of the resources be improved? This research question engages the information needs of two stakeholder groups: (a) homeless young people, who might access the information by themselves, but rarely do so; and (b) staff and volunteers who are responsible for arranging and displaying the information resources and, importantly, who typically guide young people to relevant material. In this research we engaged both stakeholder groups, while foregrounding the information needs of staff and volunteers who help homeless people with their information needs. Thus, the research stance is one of intervention—to improve the information ecology within the alliance. That said, our stance is also one of humility. Throughout this research we have proceeded slowly, with design restraint, probing and listening so as to come to an in-depth appreciation of the environment from the perspectives of both stakeholder groups.

In the next section, selected literature is reviewed to explicate several key relationships between the state of homelessness, the concept of “place,” and information. Next, we describe the environment within which the nine service agencies operate. Then, we report on a study designed to envision new possibilities for remaking aspects of the information ecology. In this study, three video scenarios, each showing how places serving homeless young people could be reconstituted with information resources, were created. These videos were presented to homeless young people and service agency staff and volunteers and feedback elicited. Finally, we discuss how these video scenarios, and related research, are shaping a new vision for the provision of information at the service agencies.

## **Background: Homeless Young People, Place, and Information**

### *What is homelessness?*

Homelessness in the United States is a troubling problem. For many reasons, approximately 2.5–3.5 million people become homeless at some point in the year, without a

comprehensive support system (National Law Center on Homelessness and Poverty, 2004). According to the Stewart B. McKinney Act, 42 U.S.C. §11301, et seq. (1994), a “homeless individual or homeless person” is

- 1) an individual who lacks a fixed, regular, and adequate nighttime residence; and 2) an individual who has a primary nighttime residence that is a) a supervised publicly or privately operated shelter designed to provide temporary living accommodations . . . ; b) an institution that provides a temporary residence for individuals intended to be institutionalized, or; c) a public or private place not designed for, or ordinarily used as, a regular sleeping accommodation for human beings.

As with any general population, the homeless population can be divided into demographic segments, each with different characteristics, abilities, and needs (England, 2008; National Alliance to End Homelessness, 2007b). This work focuses on the processes by which “homeless young people” encounter and interact with information and services that are offered through the nine service agencies. By homeless young people we mean adolescents and young adults, aged between 13 and 25, who fall within the Federal definition or who spend a substantial amount of time on the street with other people who are homeless.

Homeless young people present unique challenges to local communities and society at large (Fernandes, 2007), different from those associated with homeless families or adults, such as veterans or reentry offenders. Homeless young people are developing their identities and skills for an autonomous life; however, circumstances force them to do this outside of, or at least with tenuous links to, a supporting family environment, schools, and other community resources (Fernandes, 2007; Wingert, Higgitt, & Ristock, 2005). Indeed, homeless young people often experience situations of neglect and abuse from caregivers. Exacerbating such harmful situations, institutions, such as foster care, are often unable to provide protecting and nurturing interventions (United States Department of Health and Human Services, 2007). Inadequacies in foster care can leave young people homeless, for such reasons as “running away” from abusive or neglectful families (Nesmith, 2006) or “aging out” of care at 18 without suitable follow-on arrangements for education, employment, and living (Roman & Wolfe, 1995). Additionally, once on the street, homeless young people are likely to encounter harmful situations, such as engaging in illegal activities in order to satisfy basic needs (e.g., using drugs in order to be vigilant against theft at night, engaging in survival sex for food and safety, etc.) and being exposed to pimps and drug dealers who seek to exploit homeless young people for their own gains (Ammerman et al., 2004; National Alliance to End Homelessness, 2007a). In addition, simply living out of doors for extended periods of time can make it difficult to eat nutritious food, sleep enough, and avoid and recover from illness (Ensign & Bell, 2004).

Taken together, these experiences with caregivers, institutions, and the street environment inhibit young people’s abilities to form trusting and stable relationships with adults

who can provide guidance and help with basic needs (Slesnick et al., 2008). Homeless young people, to further complicate the situation, are in the stage of life where they want their autonomy to be respected in circumstances that make it difficult for them to remain safe (Ammerman et al., 2004; Wingert et al., 2005). The literature, in summary, is raising critical questions about how to best engage with and intervene in the lives of homeless young people, noting their particular developmental stages in life, the abusive or neglectful circumstances that typically lead to homelessness, and the daily struggle of living on the street.

In reaction, local, state, and federal governments, churches, nonprofit organizations, philanthropists, and other institutions and individuals in American society have developed a variety of means for helping homeless young people. The range of services, facilities, and delivery locations is impressive. On the one hand, government programs, such as health care and social services, have reliable public funding, are usually located in single-purpose government buildings, are staffed by state or city employees, and are open Monday to Friday during standard business hours. However, other important services, such as meal programs, church-sponsored drop-ins for social activities, clothing and food banks, temporary nighttime shelters, and so on, tend to be grassroots efforts that are run by a mix of full-time and part-time staff and volunteers. These are community efforts, with small, unstable budgets and varying operating hours. Often, these efforts are somewhat hidden within our communities and occur intermittently within buildings that serve different purposes at different times. In addition, of course, the Internet contains an enormous amount of information that is relevant to homeless young people, including listings of services, locations, and operating hours of government and grassroots programs. Finally, much information in homeless communities is exchanged through face-to-face interactions within loosely coupled social networks (Hersberger, 2002; Le Dantec & Edwards, 2008).

Stepping back, as a whole, this large-scale system of services and information, residing partly online, partly within oral social networks, and partly within the built environment, is extraordinarily complex. Yet young people must develop knowledge for navigating this system if they are to meet their basic needs and take steps that lead out of homelessness (Ammerman et al., 2004). On the other hand, research has also shown that homeless people are overwhelmed by this system and experience great difficulty obtaining needed information and services (Hersberger, 2002; Slesnick et al., 2008). A key goal of service providers, therefore, is helping to guide young people through this system. Thus, in order to help homeless young people navigate this large-scale system, the nine service agencies perform a crucial role by providing information resources.

### *Homelessness and Place*

The concept of “place” can be distinguished from that of “location,” because “a sense of place emerges from an

interaction of cultural and natural setting and the commitment to place is somewhat independent of location” (Norton & Hannon, 1998, p. 123). This distinction is important in many fields, including geography, anthropology, sociology, and architecture with an accompanying large and diffuse literature (Smith, Light, & Roberts, 1998). A physical location, that is, a “space,” such as a church basement, rather than being defined only as a location, can become one of several places based on how it is used and the interactions that occur there (Harrison & Dourish, 1996). That is, at different times, different “places” can be reconstituted in the same physical “space.” In the reverse, it is also interesting that rather different “spaces,” when endowed with particular materials, people, and activities can become particular “places,” useful for particular purposes (e.g., a Gypsy camp). Refashioning spaces into sleeping places is a defining experience for homeless people. They will invest much time constructing sleeping places within an urban environment, in spaces not ordinarily used for sleeping, building their own illegal dwellings, or creating “squats” in abandoned buildings, and they will develop language and cultural practices around these activities (Hardoy & Satterthwaite, 1989; Seattle/King County Coalition on Homelessness, 2008; Spradley, 1970).

Grassroots service agencies, in a similar vein, typically refashion existing spaces into places suitable for serving the homeless. For example, the 45th Street Youth Clinic, which is part of the service-agency alliance, remakes a general community-based health clinic into a twice-weekly clinic specifically designed for homeless young people (Barry, Ensign, & Lippek, 2002). Staff and volunteers who work in the clinic are selected for their knowledge of street life and for an accepting and enthusiastic orientation toward homeless young people. To address some basic needs, food and supplies, such as toothpaste/brushes, shampoo, condoms, water bottles, and so on, are set out in the waiting room so that they can be freely taken. To address young people’s general shyness and distrust of adults, day patients, researchers, and other adults are excluded from the clinic and staff and volunteers use the clients’ street names. To show respect and encourage autonomy, the waiting room does not contain signs about expected and unacceptable behaviors. These and similar changes (e.g., the clinic is open in the evenings, a convenient time for homeless young people) are made to the clinic, so as to embrace youth street culture and thereby better serve homeless young people.

With this example we see that just as homeless young people carve out places in the urban environment so too grassroots organizations must often refashion multipurpose spaces and turn them into places within which they can serve young people. We shall see that information resources are critically important in the refashioning of spaces into places.

### *Homelessness and Information*

The information-seeking behaviors of homeless people are not well understood. Homeless people are economically impoverished, so access to the Internet is likely to be scarce,

which, in turn, might lead to information poverty. Given this scarcity, how do homeless people get access to information? Hersberger (2002) studied the relationship between economic and information poverty, and found that “lack of access to technology does not affect how the homeless access basic-needs-level information” (p. 45). Rather, homeless parents reported that face-to-face contact and telephone contact with a person were their first and second most valuable modes of information seeking, with a strong preference for face-to-face interaction accompanied by receipt of the proffered information in writing. Similarly, in this study, service providers and written documents seem to play a key, albeit uncertain, role in the dissemination of information to homeless people.

Service providers and written documents are also relied upon because homeless people may have difficulty gaining access to information outside of service-agency venues. For example, at public libraries, homeless people may be categorized as problem patrons or be provided with information that they cannot use (Hersberger & De la Peña McCook, 2005). Homeless people also encounter difficulties traveling to other locations either due to problematic encounters with technologies (Le Dantec et al., 2008), lack of transportation, or to restrictions on their movements resulting from criminal behavior or civility laws (England, 2008).

### **The Service-Agency Alliance: A Mismatch Between Information Resources and Values**

To begin examining the information resources of the alliance of nine service agencies, the authors first attended a training session, called “Homelessness 101,” required of all new staff and volunteers, and became acquainted with the objectives and daily challenges of the alliance and with life on the streets for homeless young people. Drawing on this initial orientation and following the Value Sensitive Design approach (Friedman, 2004), we decided to employ a series of investigations to uncover how individual service agencies used information resources and the values that guided their daily work. The Value Sensitive Design approach framed our inquiry, causing us to seek out the values of the alliance and to draw upon them in our analysis and design work rather than solely attend to efficiency and usability aspects of information access and use.

Over the course of five months, beginning in September 2007, we (a) visited four agencies at seven different sites and collected and reviewed 250 documents, finding diverse content, formats, visual styles, and publishing sources, with most documents focusing on some aspect of human welfare; (b) recorded the methods used to arrange documents at the service agencies, finding fold-a-way tables, cabinets, and bulletin boards to be common, and schemes for organizing the documents to be relatively weak and nonstandardized across the agencies; (c) elicited feedback on the quality and use of documents, finding that agency staff and volunteers were generally not satisfied with the effectiveness of many of the fliers and brochures (e.g., the readability of the alliance map and schedule was considered to be weak) and perceived that

the overall organization of the documents was inadequate; and (d) conducted a stakeholder analysis, showing a diverse range of direct and indirect stakeholders, some with value tensions (Nathan, Friedman, Klasjna, Kane, & Miller, 2008). For example, the values of church-based groups who provide services for homeless young people are in tension with the values of home owners who believe that these services draw homeless young people to the neighborhood and thereby lower property values.

One major constraint, that is, a condition that cannot be easily changed if at all, confronted by all the service agencies is that they each share their spaces with other groups, to some substantial degree. In most cases, when a service agency opens it must set up its information displays and when it closes it must break down the displays and pack them away so that other groups can use the space. In this way, service agencies reconstitute their places, in part, by the placement of information resources within a space. Thus, by examining current approaches and envisioning future possibilities for how service agencies organize documents, pack and unpack them, and arrange them, we can generate possibilities for reshaping and improving the information ecology of the alliance of service agencies.

Based on this initial empirical research, Woelfer et al. (2008) found that (a) staff and volunteers were likely to play a crucial mediating role when homeless young people interacted with the information resources; and (b) homeless young people are likely to experience difficulty when seeking information outside of the service agencies. In addition, they proposed three increasingly comprehensive objectives for improving the information resources, making usability improvements to individual documents, improving organizational schemes that are shared across the alliance, and developing a comprehensive architecture for formatting, organizing, and printing the materials. That said, they also cautioned that any improvement in the effectiveness of the information resources must at the same time preserve the key values of the alliance.

Reflecting on this initial research and with the benefit of additional interactions with the staff and volunteers of the alliance, the most significant finding concerned the apparent mismatch between values espoused by the staff and volunteers in the alliance and written in the agencies’ mission statements, and the information resources available to homeless young people at the service agencies. On the one hand, agencies within the alliance were seen to embrace such values as human welfare, respect, trust, autonomy, and sustainability. The value of “respect for homeless young people” is particularly noteworthy. Throughout the alliance, this value manifests itself in many ways. Staff and volunteers, for example, are trained to model respectful forms of language and communication at service agencies and to respect the young people’s right to confidentiality by constraining interactions when staff and volunteers encounter young people in public settings. As another example, at the evening meal service, the menu is written in beautiful script and in careful detail on a whiteboard so that the young people can see exactly what

will be served, as would be the case at a fine restaurant. Such examples reveal the evident importance of respect, trust, and other values related to human welfare within the alliance.

On the other hand, when it comes to the information resources—their format, visual design, and organization—the expression of these same values is quite weak. Volunteers pointed to the lack of organization for the dozens of fliers and brochures, the poor readability of many of the materials, and the sheer number of different pieces of information that young people might need to select from at a particular service agency. Across the alliance as a whole, we considered the information resources to be largely incoherent, without any systematic presentation or organizational schemes. Furthermore, we predicted that a careful analysis of the content, format, and visual design of the individual resources along with an analysis of their production and distribution would show the problem to be even more severe. Putting this deeper level of analysis aside and focusing just on organization and presentation, a tentative explanation for the incoherence is that alliance staff and volunteers are using information resources to the best of their abilities. Their expertise lies in engaging and assisting homeless young people, not in areas of information literacy, that is, organizing, presenting, and maintaining a large and complex system of information resources. Herein, therefore, lies the mismatch: The quality of the information resources does not match the ideals of respect, trust, and other key values of the alliance. These observations and analysis also raised two key questions: Why do service agencies display information resources in prominent places, and how exactly are they used?

### Reconstituting Places with Information: Envisioning Possibilities for Design

To address the information-values mismatch described in the previous section we decided to pursue a participatory research and design process, which would achieve two outcomes: (a) a scheme for organizing the information resources that would bring greater overall coherence across the alliance of nine service agencies for staff, volunteers, and homeless young people; and (b) a design space and specific exemplars, showing how this organizational scheme could be used to reconstitute a place. To achieve the first outcome, we conducted a card-sort exercise, in which staff and volunteers were asked to consider and organize a sample of information resources for themselves. (The reason we did not engage homeless young people is that results of the preliminary work showed that they rarely accessed information displays without assistance from staff and volunteers. In addition, we decided that the card-sorting task, which required about 1 hour of concentrated effort for university-educated staff and volunteers, would be too challenging for most of the young people.) For the second, we constructed three video scenarios, each of which envisioned a different approach for how a place could be reconstituted with information resources. Then, we elicited feedback on the usability, practicality, and helpfulness of the approaches from homeless young people and

TABLE 1. Category headings for organizing information resources for homeless young people listed in alphabetical order.

Art	LGBTQ
Drugs/Alcohol	Pet Care
Employment	Relationships/Safety
Event/Homeless Advocacy	Reproductive Health
Food	Shelter/Housing
Health	Alliance Programs
IV Drug Use	Non-Alliance Programs
Legal	

*Note.* These 15 category headings emerged from a card sort of 91 documents by staff supervisors and volunteers. The category *Alliance Programs* covers these topics: Art, Employment, Food, Health, and Shelter/Housing. The category *Non-Alliance Programs* covers these topics: Drugs/Alcohol, Employment, Food, Health, Relationships/Safety, Reproductive Health, and Shelter/Housing. (See Table 2 for the 91 documents that were sorted and the meanings of unfamiliar acronyms.)

service agency staff and volunteers. Next, the methods and outcomes are described.

#### *Card-Sort Exercise: Creating a Coherent Scheme for Organizing the Information Resources*

Card-sort exercises are widely used for discovering categories that can be used to organize information (Morville & Rosenfeld, 2007). To determine the categories for organizing the service agencies' documents, we performed a three-stage process. In Stage 1, we first decided on the following criteria for selecting the documents to be used in the card sort: (a) the document was prominently displayed at one or more service agencies; and (b) the document concerned basic needs or information about the alliance as a whole. Then, using these criteria we reviewed the full sample of 250 documents, which resulted in a working sample of 91 documents. Next, we asked six staff supervisors to sort the 91 documents into groups and to assign a category label to each group.

In Stage 2, using a method developed by Spencer (2009), we analyzed the category labels that were generated by participants, and decided on a set of 15 categories and category headings. As shown in Table 1, these category headings organize the information resources according to two different criteria. The first set of 13 categories organizes information resources by the nature of the need addressed, with an emphasis on a single kind of need, for example, reproductive health. The second set of 2 categories organizes information resources according to whether the service is within or outside the alliance. Information resources in these categories tend to be about particular programs; for example, a brochure about a particular alliance program, its opening hours, goals, and expectations or a brochure that was issued by the Federal government.

In Stage 3, we sought to validate the 15 category headings that emerged from Stage 2. This was done by asking a second group of six participants, in this case volunteers and staff at the agencies who interact with homeless young people daily, to assign the category headings to each of the 15 groups of information resources that were created in Stage 2. Table 2 shows the titles of all the information resources,

TABLE 2. Document titles and category headings.

<p><b>Art (3)</b></p> <ul style="list-style-type: none"> <li>• Mockingbird Times</li> <li>• (Untitled) Drawing of Butterfly</li> </ul> <p><b>Drugs/Alcohol (6)</b></p> <ul style="list-style-type: none"> <li>• BRTC<sup>a</sup> Problems with opiate abuse or dependency?</li> <li>• Outpatient Substance Abuse &amp; Addiction Services: Ryther Child Center</li> <li>• Marijuana Anonymous</li> </ul> <p><b>Employment (6)</b></p> <ul style="list-style-type: none"> <li>• Need a job? Working Zone</li> <li>• FareStart</li> <li>• Need a job? Goodwill can help</li> <li>• Real Change: Twice the Sales Potential</li> <li>• Working Zone: Youth Program Application</li> </ul> <p><b>Event (0)/Homeless Advocacy (4)<sup>b</sup></b></p> <ul style="list-style-type: none"> <li>• Seattle/King County Coalition on Homelessness: 2007 Summit</li> <li>• Killing Mockingbirds: Performance announcement</li> <li>• Unite to End Homelessness: Community Resource Exchange Large Flier</li> <li>• Unite to End Homelessness: Community Resource Exchange Small Flier</li> </ul> <p><b>Food (6)</b></p> <ul style="list-style-type: none"> <li>• Feeling stretched a little too thin? Washington Basic Food Program</li> <li>• Washington Basic Food Program<sup>c</sup></li> </ul> <p><b>Health (6)</b></p> <ul style="list-style-type: none"> <li>• Hepatitis C</li> <li>• How Does HIV Affect You?—Planned Parenthood</li> <li>• Should I get a Flu Shot?—Q &amp; A</li> <li>• Public Health Warning: Wound Botulism</li> <li>• All About Abscesses</li> <li>• Country Doctor: Teen Free Clinic</li> </ul> <p><b>IV Drug Use (5)<sup>d</sup></b></p> <ul style="list-style-type: none"> <li>• Muscle and skin popping</li> <li>• What does YOUR Needle Look Like?</li> <li>• Needle Exchange</li> <li>• Stop! Do Not Share!</li> <li>• Your Arms are Not Hopeless! It's True!!</li> <li>• Need clean rigs?</li> <li>• Syringes: Where to get them...How to Dispose of them...</li> <li>• Pharmacies: Selling Syringes to IDU (Intravenous Drug Users)</li> </ul> <p><b>Legal (6)</b></p> <ul style="list-style-type: none"> <li>• Pedestrian Safety Program: Seattle Police Department</li> <li>• 1-800-FYI-CALL If you are a victim of crime</li> <li>• Police Misconduct: What you can do</li> <li>• Seattle Police Department: Office of Professional Accountability</li> <li>• Are you eligible to seal your juvenile criminal history records?</li> <li>• Juvenile Record? Let us help you seal it!</li> <li>• Identification Requirements: Department of Licensing</li> <li>• Mail-In Voter Registration Form</li> </ul> <p><b>LGBTQ (6)<sup>e</sup></b></p> <ul style="list-style-type: none"> <li>• Answers to your questions about sexual orientation and homosexuality</li> <li>• nwnetwork.org—Queer Youth Stop Abuse</li> <li>• Seattle Counseling Service: LGBT</li> </ul> <p><b>Pet Care (6)</b></p> <ul style="list-style-type: none"> <li>• How to care for your pet</li> </ul> <p><b>Relationships/Safety (6)</b></p> <ul style="list-style-type: none"> <li>• 15 Things Every Man Needs to know about Date and Acquaintance Rape</li> </ul>	<p><b>Relationships/Safety (6) (Continued)</b></p> <ul style="list-style-type: none"> <li>• Am I Abusive? Men's Domestic Abuse Checkup</li> <li>• Are you safe in your relationship? Planned Parenthood</li> <li>• Bad Date List</li> <li>• Warning Signs of Relationship Violence</li> </ul> <p><b>Reproductive Health (6)</b></p> <ul style="list-style-type: none"> <li>• Birth Control—Choosing the method that's right for you</li> <li>• Emergency Contraception: What if I had unprotected intercourse?</li> <li>• Free Birth Control for One Year: Planned Parenthood</li> <li>• Medical Services: Planned Parenthood</li> <li>• No One can Afford to Ignore STDs: Planned Parenthood</li> <li>• Planned Parenthood: Appointment Card</li> </ul> <p><b>Shelter/Housing (6)</b></p> <ul style="list-style-type: none"> <li>• AYR: South King County Youth Shelter</li> <li>• Important contact phone numbers</li> <li>• Short Term Emergency Shelter Homes: Friends of Youth</li> <li>• YouthCare: Transitional Living Programs</li> <li>• YouthCare's Alhadeff Home of Hope</li> </ul> <p><b>Alliance Programs (6)</b></p> <ul style="list-style-type: none"> <li>• Roots Young Adult Emergency Shelter</li> <li>• 45th Street Homeless Youth Clinic</li> <li>• Need Help with... What's a Service Coordinator?</li> <li>• ROOTS Need a Place to Stay? Flier</li> <li>• Sanctuary Art Center: Art Flier</li> <li>• Sanctuary Art Center: Music Flier</li> <li>• SLY: Service Links for Youth: Case Management</li> <li>• Street Youth Ministries: Business card 1</li> <li>• Street Youth Ministries: Business card 2</li> <li>• Street Youth Ministries Flier</li> <li>• Teen Feed</li> <li>• The Working Zone: An Employment Program for Homeless Youth</li> <li>• U-District Youth Center Program Overview Handout</li> <li>• University District (UD) Services Flier</li> </ul> <p><b>Non-Alliance Programs (6)</b></p> <ul style="list-style-type: none"> <li>• Cocoon House: U-Turn</li> <li>• Family Works: Family Resource Center and Food Bank</li> <li>• Haller Lake Christian Health Clinic</li> <li>• Hey You! Seattle Counseling Service</li> <li>• Hopelink: Need Assistance and Encouragement Handout</li> <li>• I could be: Peace for the Streets</li> <li>• New Horizons Ministries: Schedule and Services</li> <li>• Seattle LGBT Community Center</li> <li>• Service: Womens Referral Center</li> <li>• Street Outreach Services: Main Offices</li> <li>• Taking care of the basics: The Icarus Project</li> <li>• Teen Link: A Confidential Helpline for Teens</li> <li>• Teen Link: Where to Turn for Teens 2006–2007 edition</li> <li>• Women's Emergency Services: Crisis Clinic</li> <li>• YMCA The Center poster</li> <li>• YWCA Homeless Intervention Project (HIP)</li> <li>• Solid Ground: Have a job, but need a car?</li> <li>• 1.866.TEENLINK Flier</li> <li>• Free Counseling: The Samaritan Center</li> </ul>
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Note. Shown are the 91 document titles organized into the 15 category headings. The number in parentheses (x) indicates that x people out of six agreed with the proposed category heading in Stage 3 of the card-sort exercise (see text for details).

<sup>a</sup>BRTC stands for Behavioral Research and Therapy Clinics, a clinical research program at the University of Washington.

<sup>b</sup>Event (0)/Homeless Advocacy (4) indicates that none of the Stage 3 participants chose *Event*. Rather, four of the six participants chose the label *Homeless Advocacy*.

<sup>c</sup>The similarity between the two titles in the category *Food* illustrates the lack of clarity across the set of information resources.

<sup>d</sup>IV Drug Use refers to Intravenous Drug Use, a common activity amongst this population of young people.

<sup>e</sup>LGBTQ refers to Lesbian-Gay-Bisexual-Transgender-Questioning, a risk factor for young people becoming homeless.

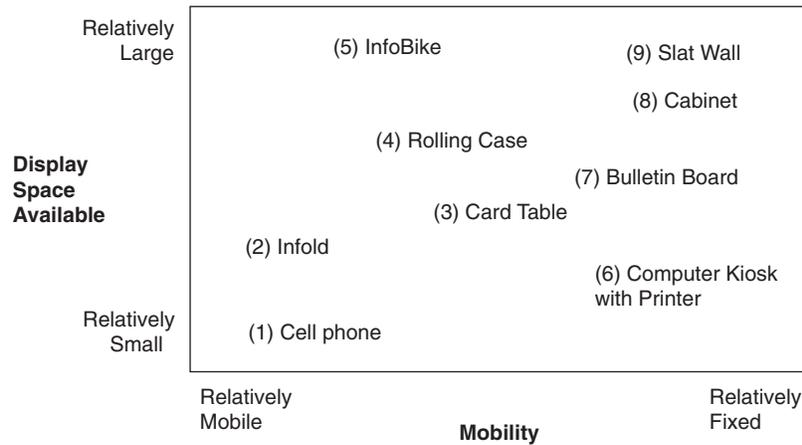


FIG. 1. Design space of artifacts for displaying and accessing information resources. Shown in this figure are nine different kinds of artifacts, each varying by the relative amount of display space available and by its relative mobility. A cell phone, for example, is highly mobile but contains a relatively small display (bottom left) whereas a Slat Wall display provides a relatively large surface for displaying information resources but is, of course, not mobile because it is fixed to a wall.

each grouped within one of the 15 category headings. The agreement between the category headings proposed in Stage 2 and the groups to which those headings were assigned is strong, with six out of six participants assigning the correct headings to 12 of the 15 groups.

*Video Scenarios: Envisioning How Places Can be Reconstituted Using Information Resources*

Drawing on the key observation, introduced above, that the service agencies create their places out of multipurpose spaces, and given the wide assortment of information resources and the organizational scheme discussed in the previous section, we asked the question: What different kinds of presentation devices could be used to effectively reconstitute places with the information resources? To answer this question, we developed a rough design space of alternatives shown in Figure 1. This design space articulated a set of possible modes for delivering the information resources and allowed us to explore the differences between different kinds of presentations. It allowed us, in particular, to examine how these different presentation devices might coexist, holding and presenting specific kinds of information while also conveying a unified, clear view of the large space of information.

Next, we elaborated four points in the design space, as shown in Figure 2. First, the “Rolling Case” is an example of an itinerant display in which information resources are organized into folders and are packed for easy transport, unpacking, and setup. A key aspect of the Rolling Case is that its organization enables different volunteers at different locations to organize and present the information resources in a consistent fashion. It is not so much a presentation device as a storage and structure-preserving device for creating different kinds of presentations. Second, the “InfoBike” is a large-sized tricycle that can be peddled to particular locations in an urban environment and set up. To establish a

strong sense of place and to be inviting, it is equipped with an umbrella, folding chairs, and a small bulletin board. In addition, the Rolling Case can be carried in the tricycle’s cargo basket, along with a wireless computer. Third, the “Slat Wall” display can be used to position plastic holders containing brochures, fliers, and other information resources and headings on a large-sized wall display. The Slat Wall, which is fixed to walls within multiuse spaces, provides an overview of the organizational scheme in a private, highly visible format. Finally, the “Infold” is a folder about the size of a passport that can hold information sheets on the alliance’s programs and services, maps/schedules, and other key topics. Using standardized typography and labeling conventions, each sheet reveals some aspect of an agency in the alliance, consistent with the overall organizational scheme. In essence the Infold holds miniature versions of the brochures and fliers that are available from the Slat Wall or from the Rolling Case with the assistance of a volunteer. In summary, this design space allowed us to explore how different presentation devices could be used to hold and organize the information resources; importantly, it showed us that the devices can complement each other, allowing the sense of the “same” place to be reconstituted in quite different physical settings. For example, a multipurpose room could contain a Slat Wall for displaying information resources appropriate for an art project drop-in, a young person could consult the schedule in her Infold to find a place for an evening meal and the InfoBike might contain information resources arranged in a fashion consistent with elements of the Slat Wall and Infold but be used to project the feeling of a service agency in a street location.

Next, to gather feedback on this general approach for structuring and displaying information resources we constructed three interrelated video scenarios. We decided to create video scenarios because (a) we wanted to illustrate the interactions with people and information and show the physical nature of the presentation devices and settings; (b) we



FIG. 2. Images of the four presentation themes. The Rolling Case (a) holds information resources (brochures, fliers, etc.) organized into categories for easy and consistent access and presentation. The Rolling Case fits on the InfoBike (b), which is equipped with portable chairs (not shown) and an umbrella, along with a laptop computer (not shown). The information resources in the Rolling Case can be unpacked and placed on a Slat Wall display (c). Finally, the Rolling Case also contains an Infold (d), which organizes miniature versions of many of the fliers presented on the Slat Wall. Thus, each of these four presentation devices makes the information resources available in a differentiated format, according to a consistent overall organizational and presentation scheme.

wanted to use a medium that would be accessible to people with low reading abilities and that could be presented in a group setting; and (c) we wanted to project the essential idea of a prototype while also allowing people to fill in the details and to imagine new possibilities. Each video shows a homeless person, a teenage girl dressed in a black hooded sweatshirt with backpack, encountering an agency volunteer, a tall male dressed in relaxed professional attire and interacting with information resources using the InfoBike, the Rolling Case, and the Slat Wall. Each video shows the volunteer assisting the young person, who is exploring the information resources that are arranged in each of these three presentation devices, while a narrator describes the setting, the motivations of the actors, the documents, and the specific qualities of the presentation devices. Table 3 summarizes the key elements and values of the video scenarios.

To elicit feedback on the videos, 12 young people and 6 agency staff/volunteers, in different sessions, viewed the videos, one at a time, filled in a brief survey and participated in a 15-minute open-ended discussion. Participants were told that we were exploring new approaches for organizing and displaying information related to homelessness and that we were interested in their feedback and ideas. After viewing a video, participants responded on a 5-point Likert scale to

the following three questions: How [useful | practical | helpful] would the display be? For each of these Likert items the terms *useful*, *practical*, and *helpful* were defined. In addition, they could also respond in writing to three open-ended questions: “What do you think of the display?” “What is the benefit of the display?” and “What is the weakness of this display?” After they completed this survey, a group discussion, guided by these three questions, was held. All participants viewed the videos in this order: InfoBike, Rolling Case, and Slat Wall. The evaluation session took about 80 minutes to complete with approximately 20 minutes spent on each video.

Table 4 shows the results from the survey questions for each of the prototypes. Two main findings emerge from these data. First, both homeless young people and the agency staff/volunteers reacted to the InfoBike prototype with diverse ratings on its usefulness, practicality, and helpfulness. For the Rolling Case and Slat Wall, however, a clear pattern emerged, with agency staff/volunteers responding with positive ratings and homeless young people reacting with generally negative ones.

We now turn to the qualitative data, both written responses and notes from the group discussion after each viewing of the videos. The verbal and written reactions to the InfoBike were fairly ambivalent. On the one hand, staff commented

TABLE 3. Summary of the three videos.

Rolling Case	Slat Wall	InfoBike
<i>Concept:</i> The Rolling Case is mobile and compact. It consolidates the information resources and their organization, including labels and headings, allowing for consistent reuse no matter who unpacks it.	<i>Concept:</i> The Slat Wall is a large-scale overview of the information resources, while allowing for proximate customizations related to the activities that are to take place.	<i>Concept:</i> The InfoBike is a large-sized tricycle, with umbrella, folding chairs, and wireless laptop computer. The Rolling Case is shown in the tricycle’s cargo basket.
<i>Design qualities:</i> Professionalism and efficiency.	<i>Design qualities:</i> Professionalism, organization, and stability.	<i>Design qualities:</i> Relative heft, vulnerability, and approachability.
<i>Key value:</i> <i>Respect</i> is conveyed through attention to detail and consistency of information organization and presentation.	<i>Key value:</i> <i>Autonomy</i> is conveyed by enabling self-service.	<i>Key value:</i> <i>Trust</i> is built with adults and service agencies by promoting mediation.
<i>Narrative:</i> The video shows a volunteer walking down the street while pulling the case and shows him setting up and organizing the information resources on a small, portable table ( <i>duration:</i> 1:41 min).	<i>Narrative:</i> The video shows the information resources organized on a display, with headings, and shows an agency volunteer guiding a homeless young person to a brochure ( <i>duration:</i> 1:12 min).	<i>Narrative:</i> The video shows a neighborhood resident and a homeless young person conversing with an agency volunteer, interacting with the laptop computer, and walking away with a brochure ( <i>duration:</i> 3:37 min).

*Note.* Each video seeks to project a different key concept through a narrative in which places are shown to be reconstituted by presenting information resources via different means: an InfoBike, a Rolling Case, a Slat Wall, and Infold.

TABLE 4. Summary of responses, showing percent of items selected.

	InfoBike									
	Staff/Volunteers (N = 6)					Homeless young people (N = 12)				
	1	2	3	4	5	1	2	3	4	5
Useful	–	–	0.17	0.67	0.17	–	0.17	0.58	0.25	–
Practical	–	0.50	–	0.50	–	0.25	0.08	0.25	0.17	0.25
Helpful	–	0.17	0.17	0.50	0.17	–	0.17	0.41	0.33	0.08
	Rolling Case									
	Staff/Volunteers (N = 6)					Homeless young people (N = 8)				
	1	2	3	4	5	1	2	3	4	5
Useful	–	–	–	0.50	0.50	0.63	0.38	–	–	–
Practical	–	–	–	0.17	0.83	0.63	0.38	–	–	–
Helpful	–	–	–	0.33	0.67	0.50	0.25	0.13	0.13	–
	Slat Wall									
	Staff/Volunteers (N = 4)					Homeless young people (N = 5)				
	1	2	3	4	5	1	2	3	4	5
Useful	–	–	–	–	1.0	0.20	0.20	0.40	0.20	–
Practical	–	–	–	0.50	0.50	0.20	0.20	0.20	–	0.40
Helpful	–	–	–	–	1.0	0.60	0.20	0.20	–	–

*Note.* The three Likert items are defined as follows: 1) *Useful:* How useful would the display be? [1 (*not useful*); 5 (*very useful*)] Useful means that people would like to use this display and that it would be easy to use; 2) *Practical:* How practical would this display be? [1 (*not practical*); 5 (*very practical*)] Practical means that this display would not cost much to make and that it would not require a lot of work to keep up; and 3) *Helpful:* How helpful would this display be? [1 (*not helpful*); 5 (*very helpful*)] Helpful means that this display would have information that you need and that it would be easy to find the information with help from someone else. (Each item consisted of the question, the anchored scale from 1–5, and the definition of the applicable concept, *useful*, *practical*, and *helpful*.)

that the InfoBike would not be easily identified as an information source, that homeless young people would be unlikely to approach it, and that it just wouldn’t be practical on the street. For example, if parked carelessly, it might block the sidewalk, attracting police attention. One homeless young person focused in on the monetary value of the bike, and particularly the laptop computer that was used in the video, saying “[the bicycle rider could be] robbed for his bike or his laptop by some . . . tweeker . . . arm him [the bicycle rider] with a Taser.” For several of the staff, the laptop became highly prominent; indeed, one staff person was surprised that the InfoBike would even have a laptop, which led to a discussion concerning the potential for abuse, the safety of rider, and especially the allowable uses to which the laptop could be put. It was noteworthy that agency staff viewed e-mail and Facebook communications to be quite different than “information” access, with the second kind of usage being judged more appropriate than the first. The laptop shifted the conversation from InfoBike as mobile-outreach-venue to InfoBike as Internet-access-point, we think in part because of its scarcity, perceived monetary value and delicacy (e.g., a participant asserted that it wouldn’t work in the rain). Further, it was proposed that if “munchies” and a cell phone were available at the InfoBike, it would be particularly susceptible to abuse. Backing off this vein of thinking, one homeless person said “you just can’t live your life thinking that people will steal your stuff” and countered with the idea that the InfoBike, if done right, could be respected by homeless young people. On the other hand, staff noted that it would be useful for outreach to young people who had not already accessed an agency, particularly if it was staffed with a peer, that is, a young person who had recently been involved in the service agency programs. One young person spoke of the importance of the bicycle rider being “cool” unlike the actor in the video who was deemed to be a yuppie. Staff also

noted that the InfoBike's mobility would be a benefit and that it would stand out and could become an "eye-catching social magnet." Staff raised questions about what information it would contain, suggesting that it might be useful for bringing different elements of the neighborhood together and for assisting tourists, and that it might stigmatize homeless young people if it only contained information relevant to them.

Agency staff were enthusiastic about the other two prototypes, commenting that a Rolling Case could be used to organize materials and easily transport them from site to site. Several participants discussed the efficiency benefits that would occur with such a scheme. A common organizational scheme, for example, could be used at different sites and it would help volunteers access the material quickly. On the other hand, it was pointed out that the system would have to be flexible to accommodate the different communication needs of the service agencies for engaging homeless young people. In addition, someone would have to be assigned to keep the materials organized and current. On the whole, the Rolling Case seemed to be viewed as a very good mechanism for organizing information resources and for ensuring more consistent presentations across the alliance. Comments similar to these were made about the Slat Wall display. Specifically, agency staff discussed the usefulness of the Slat Wall for displaying the materials and allowing homeless young people to access them on their own, without needing to rely upon the memories of agency staff or volunteers.

## Discussion

### *The Alliance's Values and Tenets*

Homeless young people, by definition, do not have stable places to live. As a way to help these people leave homelessness behind, the agencies within the neighborhood alliance seek to mitigate this situation by providing places for sleeping, eating, and respite for art and music, for socializing, and for doing nothing at all. These places, in turn, provide sites within which homeless young people can establish and develop supportive, guiding relationships with adults experienced in navigating a course out of homelessness. As we have seen, information resources are prevalent and obvious at these places. Yet, what are they for? Do they help staff and volunteers establish their identities and perform their roles? Do they help staff mediate interactions with young people? Are they for young people? Do they represent that terrain over which homeless young people must navigate? Do they affirm the status of other caring organizations, simply because brochures or fliers from these organizations are available? They are, quite possibly, a combination of all these things. Yet, as a whole, as Hersberger (2002) has described in detail, encounters with such information resources can be overwhelming for homeless people. Reacting to the video of the Slat Wall, for example, one staff participant said: "Information [the brochures and fliers] is overwhelming. There is so much of it you can't see it." In a similar vein, after watching the same video in a different session, a homeless young

person said: "Everyone wants to talk to me but I'm not here for their stuff" indicating that he wasn't comfortable talking with adults when all he really wanted was food or access to the Internet. Our initial reaction was similar: The hodgepodge of fliers, usually positioned at the entrances of the agencies, seemed to symbolize homelessness, the complexity of the support system, and the daunting difficulty of leaving the street.

As we investigated the alliance's information resources, we initially saw a very complex ad hoc system in need of fixing. In time, however, we came to question our initial reaction that it should be fixed by applying our know-how for document control, usability, and standardized organizing and formatting schemes. Even more fundamental was the question: What information do homeless young people truly require, in what format, and in what receiving context? Against these approaches for making operational improvements and against this fundamental question, we came to see a background of organizational tenets and values that gave a critical perspective for understanding the alliance, which we hasten to underline had already constructed practical, everyday solutions. We saw these tenets expressed, particularly, in the informants' conversations about their work with homeless young people and with respect to the alliance as a whole. For example, in our initial engagements stakeholders in the alliance were concerned that we be committed to the work and not treat our engagement as a "petting zoo," that is, as an opportunity to interact with an exotic group of people, a concern that has arisen from engagements with previous researchers. In a similar fashion, we were struck by the passion and commitment of the informants and their view that it was an honor to "walk alongside" homeless young people, knowing that in most cases the paths would be circuitous, full of impasses and frustrations.

The Value Sensitive Design approach (Friedman, 2004), on the one hand, prompted us to ask substantial questions about the values of the alliance, as opposed to simply asking questions about operational efficiency. On the other hand, it also positioned us to be ready for apprehending this background of values, tenets, and commitments and accepting its importance. As we reflected on this subtle background, we focused on appreciating its importance for shaping the information ecology of the alliance and its activities. We came to believe that it is essential to the alliance and, furthermore, that any interventions at the alliance ought to explicitly address this background. We were wary of the possibility that changes aimed at more efficient access (e.g., systematic organization of documents, improvements to the usability of maps and schedules, consistent style of visual design and rigorous document control, electronic storage and on-demand print access) would actually drive out essential roles and values of the documents (e.g., professional looking documents might inhibit volunteers from making revisions when necessary, consistent formats and organizational schemes across all service agencies might be incompatible with the feeling of "approachability" for homeless young people, and improved usability of maps and schedules might reduce the

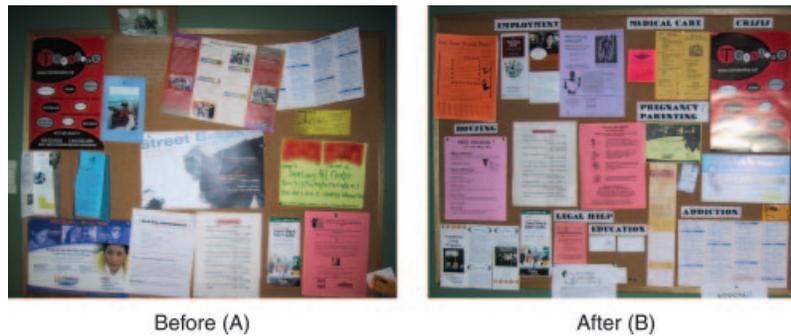


FIG. 3. (a) Bulletin board in a drop-in at the beginning of the study (October 2007). (b) Same bulletin board at the time of the card-sort exercises (April 2008). Notice the neater arrangement of fliers and the introduction of headings to segment the bulletin board.

opportunities for oral mediation between volunteers and homeless young people).

Two classes of tenets seemed most important to the alliance. The first and most prominent class supported the fundamental value of human welfare, with informants often talking about and demonstrating the ideals of “respect,” seeking to create and maintain “trusting” relationships. The second class of tenets was relevant to the fundamental value of sustainability of the alliance over the long term, with many of the systems in place having developed to be “resilient” to changes in the availability of funding, volunteers, and locations for services. Thus, while computer systems that allowed, for example, greater document control and on-demand printing might improve the operational efficiency, these systems might reduce the overall resiliency of the alliance and its ability to adapt over the long term because such systems require skilled users, hardware upgrades, maintenance, and electrical power. Moreover, they require volunteers and staff to have sufficient levels of expertise and to be willing to work with such systems.

#### *Interventions for Understanding and Envisioning*

When we first entered this culture and began to inquire into the information ecology of the nine service agencies we were uncertain how our perspectives on and know-how about information could be put to work. In time, we learned that staff and volunteers saw immediate value. For example, our initial interviews with staff and volunteers often seemed to trigger reflection. As can be seen in Figure 3, simply asking staff and volunteers about their information resources caused intentional changes to be made.

The two interventions, namely the card-sort exercise and the video scenarios, sought to enable stakeholders to envision improvements to the information ecology, while building upon the background values and tenets in operation at the alliance. The card-sort exercise clarified the different kinds of information resources in the alliance and led to a scheme for organizing the resources. The video scenarios, on the other hand, enabled stakeholders to envision how such an organizational scheme could be used to improve access to the information resources, building upon familiar elements of the alliance. These scenarios, furthermore, made explicit

how places for engaging homeless young people could be reconstituted in a consistent fashion.

The video scenarios draw upon a body of work in which future possibilities for engaging with technology are portrayed on screen. The Knowledge Navigator (Apple Computer, 1987), for example, a celebrated video produced by Apple Computer, shows a possible future in which “smart computational agents,” with virtuosic abilities, take relatively vague natural-language statements and produce complex visualizations. More recently, video scenarios have been used to envision the use of advanced technologies in physical environments, especially the home (Intille, n.d.).

In contrast to the futuristic use of scenarios, the video scenarios of this study focus on how changes to the physical space of familiar settings can cause new kinds of activities to be possible. The video scenarios enabled us to clearly demonstrate how a particular idea might be reified, without building real prototypes, which would be an expensive and disruptive process. The InfoBike, Slat Wall, and Rolling Case are not “real” artifacts! Indeed, the InfoBike, borrowed from an antique dealer, was fragile and not at all like the sturdy, purpose-built bicycle that we had in mind while the Slat Wall came from a neighborhood information center. Still, the video scenarios enabled us to illustrate how activities could be engaged with these artifacts, without making a commitment to a particular prototype. Like scenarios in general (Carroll, 1999; Carroll, 2000), these videos were both concrete and flexible, provoking reflection about what could be possible, especially concerning activities related to the maintenance of the artifacts (e.g., keeping the materials in the Rolling Case current). Discussion of the video scenarios raised questions such as, What is the InfoBike really for? What information would go into the Rolling Case? and What headings are most important for the Slat Wall? By taking on such questions, we were able to examine how best to deploy the information resources. The video scenarios worked well for envisioning future possibilities and for eliciting feedback and input from a diverse audience of stakeholders. Most of all, the participatory nature of these interventions provided a bridge so that we and our collaborators could develop some substantial degree of mutual understanding for each other’s perspectives and know-how.

## Conclusion

Respect for a homeless young person begets trust in a service provider, which begets the development of a contingent, caring relationship with an adult who can offer expert guidance and encouragement. The development of this relationship is hypothesized to be the key mechanism for guiding young people out of homelessness (Slesnick et al., 2008). As has been discussed, a place for engaging this progression is constructed, in part, out of the information resources that are presented. Yet, the presentation of these resources can be at odds with the values of human welfare, respect, trust, autonomy, and sustainability. In this study, we found that simply by asking questions about an agency's information resources, we prompted reflection amongst agency staff which, in turn, led to possible improvements in the organization and presentation of information. Building on this evidently latent desire to improve how information resources are used, the video scenarios of the prototypes seem to enable stakeholders to imagine what is possible while leaving the specific details open. They enabled us to prompt stakeholders to deliberately consider different ways in which place can be reconstituted with information. At present, we are currently working to implement versions of the Slat Wall and the Infold design and in the future we shall seek to use participatory research and design investigations to continue to examine how places for addressing homelessness can be reconstituted through information.

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