# Facilitating Social Networking in Inner-City Neighborhoods

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**The success of new social networking systems for residents of inner-city neighborhoods depends on the software's ability to animate and support meaningful interaction between proximate users, to network serendipitous social encounters, and to seamlessly integrate with the way interaction takes place in existing urban social networks.**

Engineers and designers have grappled with social computing and networking problems since the Internet's early days. In the context of e-business and e-commerce, they face a constant drive toward improving the support of human interaction in workplace-based environments.

The multidisciplinary field of computer-supported cooperative work (CSCW) produces innovative products and solutions that change the way we work. However, a business environment is driven by financial interests, project-based or milestone-based timelines, and paid staff. Hierarchies are often formal and structured, and interactions link companies regionally, nationally, and even globally.

In contrast, the environments that new social networking systems operate in differ inherently. Interaction and engagement, usually voluntary, are driven by social needs, personal interests, mutual support, and intrinsic motivation. Social networks exhibit swarming, transitory, and informal qualities. Further, in the case of social networks based on geographic proximity, as described here, online interaction between users takes place in a shared locale. Users live close enough so that they can see and meet each other in real life if they wish.

Commercially successful systems designed to facilitate and support social networking in inner-city neighborhoods represent an opportunity to bridge a gap in the market. Place-based social networking systems present three design challenges that require further attention:

- Existing CSCW solutions can at best be reappropriated for use in purely social environments because the original scope of application is limited to business contexts. This substantiates a need to design purpose-built solutions customized for specific use in a social as well as place-based milieu.
- The ubiquity of new media, network applications, and other information and communication technologies draws attention to the hybrid nature and quality of *community*, which is simultaneously both networked and individualistic. This has direct repercussions for choosing appropriate conceptual models of social interaction for the design and development of social networking systems.
- Social networking systems for geographically proximate users focus on local interaction, which presents interesting challenges and opportunities with regard to location awareness, privacy, security, surveillance, and social control.

These three issues are illustrated with some preliminary empirical data derived from a case study of three different inner-city residential apartment complexes in Australia. The results show that the features of conventional community networking software ignore certain characteristics and requirements of the social environment in which the software is used. I argue that the success of new social networking systems for inner-city neighborhoods depends to a great extent on the ability of the software to animate and support mean-

ingful interaction between proximate users, to network serendipitous social encounters that occur in residential neighborhoods, and to seamlessly integrate with the way interaction takes place in existing urban social networks.

## CASE STUDY DESIGN

The case study comprises three different inner-city residential apartment complexes in metropolitan Australia. To protect residents' privacy, I refer to the sites as Alpha, Melba, and Sigma. The mostly qualitative and ethnographic research methods employed include surveys, focus groups, participant observation, interviews, and participatory design.[1,2]

Research on Alpha commenced in late 2002. Opened in 2000, Alpha is an apartment complex for international students who are about 17 to 24 years of age and study at nearby tertiary institutions. The students come from a variety of national and cultural backgrounds, with the majority staying for only one or two semesters of study. About one-fifth of the tenants come to Australia to study in a full-degree program, which usually lasts three to four years. Alpha contains 94 one-, two-, and three-bedroom units with a total of approximately 160 tenants.

Melba and Sigma were added to the case study at the end of 2004 as representations of "nonstudent" types of accommodation and to enable a comparative analysis beyond the student cohort. Built in the mid-1990s, Melba houses mostly working singles and couples in their twenties and thirties. It contains 39 two- and three-bedroom units with approximately 90 residents, mostly tenants and some owner-occupants.

Completed in the early 1980s, Sigma, the largest site, consists of three high-rise buildings, a low-rise two-story building, and 48 townhouses. The site consists of 156 apartments where there are approximately 300 residents, with the majority being owner-occupants. Residents—mostly couples and families with adults in their forties and fifties—work in diverse occupations and include some retirees. Length of residence at both Melba and Sigma is usually much longer term than at Alpha. Unlike Alpha, where every tenant is an international student, Melba and Sigma residents share no preexisting underlying common link other than living in the same complex.

Each unit at all three sites includes one or more bathrooms and a kitchen, so there is no need for residents to leave their unit and use shared facilities—a common practice in shared accommodation and college-style dormitories that can initiate interaction with neighbors. The only shared public spaces are a pool area, a gym, and barbecue sites. However, typical usage of these spaces is mainly limited to individuals or small groups made up of residents and their external friends. Tenants at Alpha have broadband access to the Internet through a local area network with Ethernet sockets in every bedroom. Most residents at Melba and Sigma have dial-up or broadband Internet access at home.

The qualitative research approach, which involved an introductory survey in 2003, was made available online and in hard copy to all 160 residents at Alpha with a response rate of 20 percent. It identified common themes of concern within the community, which researchers followed up with semistructured interviews conducted with 15 residents. After the addition of Melba and Sigma, researchers distributed a revised survey questionnaire in 2005—available both online and in hard copy—to all three sites. This, along with an in-depth engagement via focus groups and interviews with research participants across the sites, helped researchers understand the motivation for place-based interaction. In total, respondents returned 131 surveys for analysis with the following response rates: Alpha, 16 percent; Melba, 33 percent; and Sigma, 15 percent. Researchers also held six focus groups and conducted seven follow-up interviews.

## RATIONALE OF PLACE-BASED SOCIAL NETWORKING

The most straightforward reasons for neighborhood interaction are place-based. That residents are colocated in a shared locale necessitates some form of governance that a corporate office or onsite management usually enacts. Thus, one purpose of communication and interaction is the exchange of information between residents and management about rental payments, utilities, repairs, noise, and other issues that directly relate to the shared space residents coinhabit.

### Collective issues

Sometimes, the shared space can give rise to issues that residents must deal with collectively. Examples include the suspension of free services residents have grown accustomed to,[3] or urban planning by local authorities that envision the development of new highway routes that would introduce noise, pollution, and congestion problems.[4]

At Alpha, for example, a group of female tenants was concerned about insufficient lighting at night in the complex's immediate surroundings. They forwarded this issue to the local council, which addressed the problem. Other issues might call for further public participation and deliberation and cannot be solved as easily. In such cases, they might require—and can lead to—forms of community activism that social networking systems designed for geographic proximity could facilitate and stage.

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## Local information

In the absence of such issues, however, these systems must continue to offer value to retain users and sustain interest. Residents can derive the value from a combination of interaction that is social and informal but still place-based or related to place. A Sigma resident who participated in the research describes how she imagines a social networking system to be of service to her:

> A couple of examples of queries which I might be inclined to use the [Web] page for: Does anyone know where introductory daytime Spanish lessons are held; similarly, daytime art classes. (Venues not too far away preferably.) Another would be whether there are any RELIABLE young (or older) women interested or prepared to babysit on the odd occasions when our grandchildren visit with their parents. [7 Feb. 2005]

These examples resemble traditional neighborhood notice boards still found in some grocery stores. Although most of them lost their impact with the introduction of online auction sites for buying and selling used items, there remains a niche for local services and transactions and for recommendations and advice from local people. Sites for dispersed online communities of interest are the wrong place for this kind of exchange because the information loses its value and relevance outside the local context.

Web sites such as local.google.com or upmystreet.com seek to address this issue by providing location-based directories, services, and discussion boards. However, users might not see such sites as reliable and trustworthy because they may still trust more in a shop recommendation or restaurant review made by someone who lives in their neighborhood and whom they know. In addition, a centralized approach to the provision and publication of local information might not be fine-grained enough to cater to the viral and capillary spread of word-of-mouth information. This informal interaction can only be supported by recognizing the peer-to-peer nature of local interaction, which is distinct from the conventional many-to-many, few-to-many, or one-to-many broadcast nature of other online interaction.

## Supporting sociability

Social networking systems based on geographic proximity become complex and challenging when they endeavor to animate and facilitate interaction that does not directly relate to the shared place that residents co-inhabit. An item of discussion or a topic of interest that directly relates to the shared place can initiate interaction. However, the bulk of ongoing social interaction is located *within* place but not necessarily *about* place. Social interaction between residents can take many forms in urban neighborhoods, from serendipitous and coincidental social encounters while walking the dog, mowing the lawn, or washing the car, to neighborhood barbecues and pool parties.

These weak-tie relationships and ephemeral interactions with people in their role as neighbor sometimes evolve into sustained friendships and social clusters. This usually occurs when people find that they share interests, hobbies, histories, jobs, and so on. Their neighbor role is then replaced as other respective roles come to the fore.

However, in urban neighborhoods, roles other than neighbor are not obvious, so socializing depends greatly on good fortune, fate, and serendipity. Social networking systems might prove to be a milestone in animating neighborhood interaction. A social networking system for a community of place need not be designed with a conceptual model of a "community of interest about place" in mind. Supporting sociability is an imperative component.

The case study delivers strong evidence for this notion. Residents surveyed at Alpha, Melba, and Sigma unanimously agreed that there are probably people in the neighborhood who share their interests, or are at least personally compatible, with whom they do not normally interact regularly. Nevertheless, residents report that, on average, they only know between nil and three residents whom they consider friends, between nil and five residents other than friends whom they know by name, and between four and 20 residents whom they only know from seeing around the complex. Similarly, on average, only between nil and three residents are listed in their mobile phone, e-mail address book, or instant messaging client. These results illustrate current expressions of urban alienation characterized by a lack of opportunities to support the meaningful engagement with "the unknown neighbor." At the same time they underpin the potential sociality that slumbers in urban neighborhoods in the form of "prospective friends that have not met yet."

To give an example, Keith Hampton's I-Neighbors project works on the problem of building social networks in residential neighborhoods. Now based at the Annenberg School for Communication, University of Pennsylvania, this initiative seeks to help neighbors meet and communicate, find neighbors with similar interests, share information on local companies and services, organize and advertise local events, and vocalize local concerns and ideas.

Unlike similar projects that use location-awareness through mobile phones, such as dodgeball.com, i-neighbors.org connects users of a single neighborhood—only US or Canadian so far—as defined by its ZIP or postal code. Whether the scope of neighborhood upon which this prototype is built will be appropriate remains to be

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seen. However, I-Neighbors is an innovative model and, perhaps, business case that combines features relating to the shared place, the neighborhood, with features that support sociability such as a "find neighbors like you" search.

Whether I-Neighbors can meet the challenges and realize the opportunities that social networking systems designed for geographic proximity bear remains to be seen, but certain questions merit further exploration. Will the features the system offers create intrinsic motivation in residents to use it regularly and thereby sustain a critical mass of users? Will users be able to translate virtual ties that might be initiated through the site to meaningful social ties in real life?

## CHALLENGES AND OPPORTUNITIES

Evaluating conventional design approaches and discussing urban sociological insights provides a rich, informed, and grounded foundation that will inspire innovative designs for social networking systems.

### Online versus neighborhood community

Systems that facilitate and support online communities of globally dispersed users are designed with a quite different conceptual model in mind than systems for neighborhood networks.

Online communities are groups of users who interact via the Web and who share a common purpose, goal, interest, or support need.[5,6] CSCW research and design efforts in this area focus mainly on communities of practice. What distinguishes these types of communities from a group of residents colocated in a neighborhood is the preexisting purpose—shared interest, profession, disease, and so on—that motivates users to interact with others who are similarly minded and that lets them gain value from their interactions. System designers can build upon this collective purpose and need not worry about the reasons *why* users would interact at all in the first place—the focus is on *how*.

The question of why, however, is central in the design of social networking systems for neighborhood communities. A study of the sociotechnical dimensions of the rollout and unsatisfactory uptake of a residential community intranet in a Melbourne suburb proposed five interconnected issues that influence the success of systems designed to facilitate social networking in residential neighborhoods,[7] including inappropriate technology.

Initial results from my case study support this argument. After consultations with residents, project participants at Alpha worked together to install and customize an integrated open source software package that supports and facilitates social networks (www.postnuke.com). In addi-

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tion to the main module that provides an online discussion board, this system offers other features and optional functions. Announcing the availability of the system resulted in about 60 percent of residents signing up for a user account. The first couple of postings related mostly to the system itself, suggesting areas of improvement, with some postings relating to the Alpha complex. However, the initially great interest quickly subsided, and the system evolved into an online community of interest to IT students. About 10 residents started to dominate the discussion board, which resulted in other tenants losing interest and either lurking or abandoning the system.[8,9]

The system failed to provide other tenants with enough value for them to continue using it: A critical mass beyond those studying IT could not be found. Although establishing subcommunities or clusters of interest within a community of place is desirable, these results support the argument that place-related discussions are usually not sufficient to sustain ongoing usage. Further, this system, originally designed purely for online community interaction, failed to generate any sort of social and place-based peer-to-peer interaction. In this sense, the system model favors a view of communities as collectives over communities as networks.

### Collectivism versus networked individualism

Residents at Alpha, Melba, and Sigma were asked how interested they would be in participating in a range of social activities with other residents, assuming they in fact met residents with whom they would like to socialize. The majority of student residents at Alpha indicated being interested or very interested in movie and TV nights, barbecues, board game nights, sports, and social outings such as going to the cinema or a pub or club. The majority of residents at Melba were more selective and expressed interest primarily in movie and TV nights, barbecues, and sport activities. The majority of Sigma residents—older and longer-term residents than those at Alpha and Melba—showed less interest in social activities and only expressed a strong interest in some sports activities.

Combined with this inquiry, the survey asked residents how interested they would be in discussing a range of topics with other residents if they had access to an online discussion forum. Most Alpha residents expressed strong interest in discussions about living at Alpha or in the surrounding suburbs, travel destinations and reports, recent and upcoming social events, and posting used items to buy and sell. Residents at Melba and Sigma showed more interest in discussions that focus on the shared location, such as living at Melba or Sigma and their surrounding suburbs, and issues relating to the onsite management and governance of the building.

These results can be interpreted in two ways. First, the medium- to long-term residents at Melba and Sigma have a greater stake and interest in the complex they live in and in issues relating to the common space they inhabit. The length of residency at Alpha is mostly short-term, so tenants who do not have ready access to their social network at home favor opportunities to connect and socialize with others while residing there. However, none of the sites show a clear intentional exclusion of the respective other dimension—place or interest—which underscores the need in social networking systems for residential neighborhoods to include features relating to shared place and interest.

Second, the responses that relate to interest-based or social activity show a spread of results. Someone interested in playing soccer might not be interested in barbecue nights; someone who wants to play board games might not be keen on attending a pool party. The quest to establish a critical mass of users can then become a Sisyphean task. Thus, social networking system designers must give residents the choice of both what to do and whom to socialize with. Most conventional community networking systems build on a one-dimensional concept of community as a homogeneous collective. This results in a lack of choice and peer-to-peer networking opportunities.

The Internet, mobile phones, and other forms of networked communication technologies contribute to the emergence of new social formations based more on person-to-person and role-to-role relationships than on door-to-door and place-to-place ones.[10] A discussion board that affords collective many-to-many broadcast-style interaction does not support true social networks that are personal, tacit, intricate, and peer-to-peer. Social networks possess tribal and swarming qualities which proved to be incompatible with the mostly hierarchical nature of tools that are designed to support dispersed online communities.[11] Barry Wellman describes the qualities of these new social formations as "networked individualism."[10,12] This term departs from simple binary oppositions and compartmentalized dichotomies such as *individual* versus *community*, *physical place* versus *cyberspace*, or *online* versus *offline* and creates instead a holistic theory that builds on the hybrid nature of the community and the individual.

This nature is evident in Ethan Watters' conceptualization of "urban tribes"—social clusters of urban dwellers in their mid-twenties to mid-thirties who represent a social network.[13] A swarming group of friends who live in the same city, they are connected through a mesh of strong and weak ties. The new element in his observations is the use and impact of information and communication technology that has not been observed in earlier studies. Networking behaviors characteristic of urban tribes have been identified in Alpha, Melba, and Sigma.

The face-to-face interaction between members of urban tribes is supplemented by the use of new media and information and communication technology applications. Watters' analysis of urban tribes provides further evidence for the shifting quality of community formations toward social networks in urban settings. Still, the question of how they found each other remains open and sets the scene for the design of new social networking systems that encourage and support peer-to-peer neighborhood interaction. This requires mechanisms for residents to find out who is living around them and how to connect with like-minded people and those they find interesting or deem personally compatible. Inspiration elicited from the features of successful online dating sites—member directories, search, matchmaking, one-on-one chats, instant messaging—might be reappropriated to help animate sociability in urban neighborhoods.

However, features to support local collectivism remain relevant because discussion boards, mailing lists, file-sharing areas, and so on provide crucial tools for facilitating pragmatic place-based interaction. This depends on the personal choice of residents to use such features and on acute circumstances that might call for collective action.[4] Two questions—which sought to gauge interest in a mailing list that lets residents send e-mails to all others in the complex and receive replies and a file-sharing area they could use to upload and download documents such as bylaws and photos of social events—produced a spread of results. Some residents found these tools valuable and useful, while others showed no interest in them.

In this respect, giving users a choice becomes key, and makes it essential that the system does not consist entirely of functions that depend on continual use by a critical mass of users. Features that can be a springboard to animate interaction, which then continues through external applications and devices such as instant messaging software and mobile phones, will prove less high maintenance than trying to draw all residents collectively to an online space that cannot fulfill the range of social needs and purposes residents hold.

## Social engineering versus human horticulture

Within a software context, social engineering[14] describes the range of procedures and actions that system engineers and developers employ when trying to construct and build the social and human components necessary to complete social computing software. However,

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natural social interaction cannot be tectonically constructed and engineered. Michael Arnold and colleagues[7] showed this by proposing that the direct and indirect resistance of users to the intranet system developer's perceived attempts to engineer a community contributed to the unsatisfactory uptake and declining user numbers in the neighborhood intranet they studied. Alison Gilchrist proclaimed that "community development involves human horticulture rather than social engineering."[15]

Thus, social computing constitutes a living project.[16] Design efforts must focus on creating adequate conditions for social interaction to occur. In this respect, social networking software resembles a garden that must offer good soil, water, nutrition, and sunlight for natural growth and propagation to emerge. System designers can help this effort by

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- providing clearly visible incentives through system guidance and feedback that fosters motivation for user participation;
- building bridges that overcome barriers and disincentives to participation through showcasing best practices and highlighting effective usage patterns;
- crafting an interface that allows broad access to all functions;
- offering residents the choice of whom they can interact with, at least partly enabled by peer-to-peer communication facilities;
- making the consequences of personal interactions transparent to honor issues of trust, privacy, and social control; and
- giving the options of both public and private communications, but clearly distinguishing between them.

Other factors that influence a place-based social networking system's success depend on circumstances that a system designer cannot easily influence. These include user demographics, social lifestyle preferences, existing social networks created and maintained elsewhere, and issues of access and computer literacy. These factors make it worthwhile to consider an integrated community informatics approach that combines system engineering with community development methods.[1,17-20]

In the *human horticulture* of social networking software, privacy plays a significant role.[21] Although an online directory of residents might prove crucial in finding out who lives in the complex and what people do, this information must be secure and available to registered residents only. Asked if they would be comfortable sharing personal information online with residents in the same complex, survey participants at Alpha, Melba, and Sigma said they are comfortable or very comfortable disclosing their full name, e-mail address, unit number, mobile phone number, instant messaging ID if applicable, and occupation. These promising results indicate that although residents do not yet know many of their neighbors personally, they already grant them a certain level of trust.

The breadth of methods and systems to support and facilitate social networking in inner-city apartment complexes and neighborhoods offers a plethora of yet to be answered research questions and design challenges. The opportunities that new collaborative, swarming, sentient, wireless, and location-aware technologies offer let us imagine a number of innovative solutions. This, combined with the current trend toward urban renewal, the present growth market in residential apartment buildings, and the ongoing hype surrounding master-planned communities—even as developers and urban planners struggle with their ongoing perplexity at meeting such demands[16]—creates a rich and dynamic marketplace for social networking systems based on geographic proximity.

Social networking products that integrate residential building-management functions with community networking represent a gap in the market. So far, this research has produced findings and insights that uncover a great potential to develop a range of interactive, cross-platform, and location- and context-aware applications—and possibly small wearable devices that support the movements, communication, and coordination needs of city residents and their social networks.[4,22,23]

One example, the design and development of a new kind of cross-platform instant-messaging tool, lets users easily maintain social ties with their local friends and peers—anywhere, anytime. It will combine the functionality of a ubiquitous instant messaging with location-aware services and groupware functionality.

This and other product developments are offsprings of our applied research into social networking systems in communities of place. They will only be successful if the design is grounded in theory and informed by empirical research. Making these results available to the wider software design and engineering communities will, I hope, stimulate further discussion, debate, research, and development. ∎

## References

1. M. Foth, "Animating Personalized Networking in a Student Apartment Complex through Participatory Design," A. Bond et al., eds., *Proc. Participatory Design Conf.*, Computer Professionals for Social Responsibility (CPSR), vol. 2, 2004, pp. 175-178.

2. M. Foth, "Network Action Research," *Action Research*, vol. 4, no. 2, 2006, pp. 205-226.

3. K.N. Hampton, "Grieving for a Lost Network: Collective Action in a Wired Suburb," *The Information Society*, vol. 19, no. 5, 2003, pp. 1-13.

4. M. Foth and M. Brereton, "Enabling Local Interaction and Personalized Networking in Residential Communities through Action Research and Participatory Design," *Proc. OZCHI 2004: Supporting Community Interaction*; http://eprints.qut.edu.au/archive/00001907.

5. R. Plant, "Online Communities," *Technology in Society*, vol. 26, no. 1, 2004, pp. 51-65.

6. J. Preece, *Online Communities: Designing Usability, Supporting Sociability*, John Wiley & Sons, 2000.

7. M. Arnold, M.R. Gibbs, and P. Wright, "Intranets and Local Community: 'Yes, an Intranet Is All Very Well, But Do We Still Get Free Beer and a Barbeque?'" *Proc. First Int'l Conf. Communities and Technologies*, Kluwer, 2003, pp. 185-204.

8. J. Preece, B. Nonnecke, and D.C. Andrews, "The Top Five Reasons for Lurking: Improving Community Experiences for Everyone," *Computers in Human Behavior*, vol. 20, no. 2, 2004, pp. 201-223.

9. N. Selwyn, "Apart from Technology: Understanding People's Non-Use of Information and Communication Technologies in Everyday Life," *Technology in Society*, vol. 25, no. 1, 2003, pp. 99-116.

10. B. Wellman, "Physical Place and Cyberplace: The Rise of Personalized Networking," *Int'l J. Urban and Regional Research*, vol. 25, no. 2, 2001, pp. 227-252.

11. C. Satchell, "The Swarm: Facilitating Fluidity and Control in Young People's Use of Mobile Phones," *Proc. OZCHI 2003: New Directions in Interaction, Information Environments, Media and Technology*, Information Environments Program, Univ. of Queensland, 2003.

12. B. Wellman, "Little Boxes, Globalization, and Networked Individualism," *Proc. Digital Cities II: Second Kyoto Workshop on Digital Cities*, LNCS 2362, Springer, 2002, pp. 10-25.

13. E. Watters, *Urban Tribes: Are Friends the New Family?* Bloomsbury, 2003.

14. A.S. Duff, "Social Engineering in the Information Age," *The Information Society*, vol. 21, no. 1, 2005, pp. 67-71.

15. A. Gilchrist, "The Well-Connected Community: Networking to the 'Edge of Chaos,'" *Community Development J.*, vol. 35, no. 3, 2000, pp. 264-275.

16. B. Gleeson, "Deprogramming Planning: Collaboration and Inclusion in New Urban Development," *Urban Policy and Research*, vol. 22, no. 3, 2004, pp. 315-322.

17. M.B. Gaved and P. Mulholland, "Grassroots-Initiated Networked Communities: A Study of Hybrid Physical/Virtual Communities," *Proc. 38th Hawaii Int'l Conf. System Sciences* (HICSS 05), IEEE CS Press, 2005.

18. L. Keeble and B.D. Loader, *Community Informatics: Shaping Computer-Mediated Social Networks*, Routledge, 2002.

19. J.P. Kretzmann and J.L. McKnight, "Building Communities from the Inside Out: A Path Toward Finding and Mobilizing a Community's Assets," Institute for Policy Research, 1993.

20. R.D. Pinkett, "Community Technology and Community Building: Early Results from the Creating Community Connections Project," *The Information Society*, vol. 19, no. 5, 2003, pp. 365-379.

21. G. Gumpert and S. Drucker, "Privacy, Predictability or Serendipity and Digital Cities," *Proc. Digital Cities II: Second Kyoto Workshop on Digital Cities*, LNCS 2362, Springer, 2002, pp. 26-40.

22. M. Foth, "Analyzing the Factors Influencing the Successful Design and Uptake of Interactive Systems to Support Social Networks in Urban Neighborhoods," *Int'l J. Technology and Human Interaction*, vol. 2, no. 2, 2006, pp. 65-79.

23. S.A. Viller et al., "Designing Shared Community Information Spaces," workshop paper, "Exploring the Role of Information, Information Tools, and Information Environments in Collaboration," *ACM Conf. Computer-Supported Cooperative Work* (CSCW 04), ACM Press, 2004.

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