Working Towards Continuity in a Highly Volatile Community Network

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Abstract

Sustainability has been identified as a key, yet controversial issue in community informatics and community networking research. This paper describes an action research study which utilises the PAD methodology of participatory design and sociocultural animation to investigate an urban apartment complex comprising approximately 160 residents in Brisbane, Australia. The site is characterised by a high turnover of residents and thus offers various opportunities to study different facets of sustainability in the context of systems design for residential community networks. The paper explores three aspects of sustainability: community capacity building, neighbourhood identity and the continuity of the online community network itself; and how these aspects apply to this case study both online and offline. Preliminary results indicate that (a) working towards increasing conventional forms of social capital may lead to high barriers of entry and is thus counterproductive to ensuring sustainability in highly volatile and diverse communities; and (b) there is a need to move beyond technology for collective activity and work towards peer-to-peer networking tools which allow for a fluid, diverse and individualised swarm of residents.

Introduction

The term ‘sustainability’ has been widely used in the context of economic and community development to an extent that it recently obtained the properties of a buzz word in public policy debate and the media. The roots of the term can be traced back to the universal notion that any resources needed to initiate and continue a process should

eventually be replaced or replenished by that same process. This idea seems straightforward when thinking of simple examples such as energy consumption. Fossil fuels used to power cars and aeroplanes were created millions of years ago and the speed with which we currently use such energy sources has no relation to the time it took for these sources to build up. Sustainable energy sources such as solar, wind and water are renewable and created by ongoing natural processes.

The principle of sustainable development has also been introduced to categorise more abstract situations such as projects to reduce poverty in developing countries or initiatives to revitalise urban neighbourhoods. It is obvious that in these examples the term 'sustainable' is complex and not easily identifiable. An interpretation depends on the definition of three contextual factors, that is, the range of resources, the kind of activities, and the time dimension involved in the process of development. Various studies point out that sustainability remains a key, yet controversial issue to be investigated both in the realm of community informatics research (Gurstein, 2001) as well as community networking research (Arnold, Gibbs, & Wright, 2003; Day, 2003).

This paper contributes to this discussion. It seeks to move beyond a narrow view that considers only the accountability and financial aspects of sustainability. The paper describes the case study of an urban residential site and the process of designing an online community network. The residential site is characterised by a high turnover of residents and thus offers various opportunities to study different facets of sustainability in the context of a residential community network. Based on literature review and findings from the case study, the paper explores three aspects of sustainability: community capacity building, neighbourhood identity and the continuity of the online community network itself.

Southbank Campus Apartments

The case study is a residential building complex called "Southbank Campus Apartments" (cf. www.campusapartments.com/southbank) which has been running since late 2002. It forms part of a larger doctoral research project. The study's main objectives are to investigate

- the continued purpose and relevance of neighbourhoods;

- how a residential site – which is only characterised by a common suburb, street or, in this case, building – can become a neighbourhood and evoke a sense of belonging, and how technology can support this process;
- how instances of personalised networking (Wellman, 2001, 2002; Wellman et al., 2003) conducted within a defined geographical area can contribute to the creation of neighbourhood identity; and
- whether this will in fact assist attempts to revive forms of civic engagement and social capital in society (Foth, 2003).

The specific objectives of the case study are to analyse and understand

- how information and communication technology, especially internet based tools and applications, can be used to facilitate the creation of social ties between residents;
- how the process of installing and customising existing, mostly open source tools, can facilitate community building and contribute to the establishment of a community network; and in a later stage
- how to design and develop purpose-built solutions and processes, both online and offline, that take the specific requirements of a place-based community, as opposed to a virtual community, into account.

The study employs a participatory action research approach (Dick, 2002; Hearn & Foth, forthcoming; Reason, 1998; Reason & Bradbury, 2001) to encourage residents to engage and participate in the research and to allow findings to be fed back into the ongoing lifecycle of the project. The methodology of the study is informed by PAD (Participation, Animation, Design) which starts out with an initial phase of ethnographic immersion with the residential community. The model then integrates systems design with community development: Participatory design principles (Botero Cabrera, Oilinki, Kommonen, & Salgado, 2002; Büscher et al., 2002; Harrison & Zappen, 2003; Harrison, Zappen, & Prell, 2002; Lahiri-Dutt, 2004) are utilised to *create* the network, to provide *access* to information and to ensure *usability* within the context of human-computer interaction. Simultaneously, sociocultural animation (Ander-Egg, 1997; Augustin & Gillet, 2000; Foth, 2005, forthcoming; Gillet, 1995; Grosjean & Ingberg, 1974; Kurki, 2000) is employed to *populate* the network, make *effective use* of information (Gurstein, 2003) and to improve *sociability* within the context of social ties

and human networks (Preece, 2000). For a more detailed description of PAD, see Foth (2004).

"Southbank Campus Apartments" comprises of 94 one, two and three bedroom units with a total of approximately 160 residents in South Brisbane, Australia. Every apartment is fully furnished and includes one or more bathrooms and a kitchenette. The only shared public spaces at Southbank Campus Apartments are the reception area, the common room, the gym, the outdoor swimming pool and two barbecue sites. However, typical usage of these spaces is mainly limited to individuals or small groups of residents and their friends.

Residents have access to a broadband internet connection through a local area network with Ethernet sockets in every bedroom. They use the internet to conduct study and research for assignments and exams, for entertainment and leisure, as well as to communicate with friends at home and at school via email, chat and instant messenger.

The residents in the building are mostly international students between 17 to 24 years of age who study at nearby tertiary institutions. They come from a variety of national and cultural backgrounds including Asia (mostly Singapore, Japan, China, Taiwan, Korea, India, Saudi Arabia, Oman), North America, and Europe (mostly Scandinavia, Germany, UK). Southbank Campus Apartments was opened in November 2000 and since then has seen a continuously high demand in furnished high-quality student accommodation. This means that the building is usually fully occupied throughout the year and booked out well in advance. The majority of residents only stay for one or two semesters of study which is usually supplemented by a period of travelling Australia either during the study breaks or after they finish their study program before they return to their home country. Only about a fifth of residents come to Australia to study a full degree program which usually lasts three to four years. The high turnover rate of residents impacts upon various sustainability aspects of the residential community network which are now explored in turn.

Community Capacity Building

In most cases, projects, activities and artifacts that foster sustainable community development in both urban and rural settings are aimed at community capacity building (cf. McIver, 2003; Simpson, Wood, & Daws, 2003). Community capacity refers to the quantity, quality, awareness and use of resources, knowledge and skills available to members of a community. Community capacity comprises of both tangible and intangible assets such as associations, businesses and institutions (e.g., kindergartens and schools) as well as the diversity of formal and informal skills, explicit and tacit knowledge and memories of community members.

The methodology that Pinkett employs in his case study of a low income community involves phases of asset mapping and mobilisation (Pinkett, 2002, 2003). This process raises awareness for the range of assets and services currently available to community members and initiates the generation of new assets and services which can be developed by the community itself. The outcomes of these processes are published on the online community system, thus adding additional value to the system.

These and other methodologies (e.g., Francisco et al., 2001; Wilcox, Greenop, & Mackie, 2002) to build community capacity provide a solid foundation to grow sustainable residential communities. However, they require an existing level of self-efficacy of residents and community efficacy (Carroll & Reese, 2003) and follow a collectivist approach which is more and more challenged in times of networked individualism (Wellman, 2001, 2002; Wellman et al., 2003).

Putnam (2000) draws upon statistical evidence to point out that today's generation of society does not care as much about traditional community assets and forms of civic engagement, such as bowling leagues and other volunteer and political organisations, as previous generations did, and he argues that this leads to a steady decline in social capital. His interpretation of this trend is controversial and met with criticism (e.g., Fischer, 2001; Florida, 2003; Watters, 2003), because it ignores other, more contemporary forms of social capital that are based on the strength of weak ties and the impact of conducting social networking.

The residents of Southbank Campus Apartments illustrate this argument. During their stay in Australia, most of them care less about formal organisations such as student unions and international student associations and prefer to engage in personalised networking through email, instant messaging, mobile phone, SMS and face-to-face meetings to maintain social ties with various clusters of their choice, that is, study groups, flatmates, travel companions, sport teams, friends and family. Watters rightly observes that "social capital comes from much more fluid and informal (yet potentially quite close and intricate) connections between people. [...], social capital could as easily accrue among a tight group of friends yet still have an effect on the community at large." (Watters, 2003: 116). These findings impact upon community development strategies and design decisions for online community networks in that projects for community capacity building and sustainable development need to broaden the scope of asset mapping and mobilisation to include informal social clusters and opportunities and tools for individual residents to easily join social networks of their choice.

The fact that residents are in most cases members of multiple groups and clusters gives rise to an intricate network of "urban tribes" (Watters, 2003). In this case, the place of activity of these tribes ranges from an individual's bedroom, shared apartment, an individual floor of the building to the entire apartment complex and adjacent public spaces, surrounding suburb and beyond. Hence, the community capacity building efforts that foster urban tribes ought to be essentially place-based and thus also contribute to establishing a sense of neighbourhood identity.

Neighbourhood Identity

Since the advent of modern means of transportation and global communication, neighbourhood ties, who (apart from family and kinship ties) used to provide the closest and most convenient way to socialise, have lost in importance. Castells (2001) terms the product of maintaining individual place-independent social ties with selected friends through the Internet, mobile phones and other media "portfolios of sociability", and Wellman (2001) coins this trend "networked individualism". Yet, they both acknowledge that we remain what Baker and Ward describe as "physically instantiated and geographically centred individuals and citizens" (2002: 221).

The role that neighbourhoods play in this new era has changed. Previously, neighbourhoods were marked by central public places that provided traditional meeting places such as the market place or town square. These locations were used to meet with friends and peers. Mobile communications technology such as the mobile phone and SMS, and ubiquitous communications technology which can be accessed anywhere, such as WLANs, are now enabling their users to negotiate meeting places and venues on-the-fly anywhere and anytime. This introduces challenges to conventional understandings of 'place' and 'public places' in the information age and opens up research opportunities for the built environment and urban studies (cf. Castells, 2004; Oldenburg, 2001; Walmsley, 2000).

Neighbourhood identity and a sense of belonging is derived less and less from the bricks and mortar of the built environment itself and more and more from a combination of the *usage* of the built environment – especially the "third place" such as cafés, bars, parks, etc. – and the changing *meaning* residents associate with these places. It could be any decent café that a group of friends decide to meet at. The meaning refers to the decision to use this particular café as today's meeting place – and tomorrow, it could be the café across the street. Yet, the core interaction in this example remains place-based, either in the neighbourhood, suburb or city. Information and communication technology plays a role in preparing the meeting, and possibly during or after the meeting to prepare the next gathering.

Neighbourhood identity and a sense of belonging to a residential community, that is, for residents to consider themselves 'to be from this place or suburb', cannot be built. Gilchrist explains that "community development involves human horticulture rather than social engineering" (Gilchrist, 2000: 269). Like gardeners, designers of community networks can work to ensure the right prerequisites are being provided online, yet neighbourhood identity needs time and grows slowly. New residents need to feel 'at home' and an online community network might contribute to the emergence of this feeling by affording personalised networking and by offering a choice of residents to socialise with on the basis of self-selected criteria such as age, interest, family status, profession, nationality, etc.

This particular process that involves the formation of interest and support-based groups and clusters within a neighbourhood requires further exploration. First, due to the characteristics of the surrounding area which includes mostly industrial, cultural and touristic facilities and not other student-style accommodation, Southbank Campus Apartments is a neighbourhood within a neighbourhood (the suburb 'South Brisbane') without many external connections to meaningful places close-by. The tertiary institutions attended by the residents are a twenty minute walk away from Southbank Campus Apartments. This leads to an 'island' state which would make socialising with residents within the building quite convenient.

However, and this leads to the second point of exploration, both the architecture of Southbank Campus Apartments and the residents' length of stay are problematic. Every apartment is fully furnished and includes one or more bathrooms and a kitchenette, so there is no immediate need for students to leave their unit and use shared facilities which is a common factor contributing to the emergence of neighbourhood identity in shared accommodation and college-style dormitories. Apart from the swimming pool, gym and BBQ areas, the building's local area network is the only public space that all residents have access to at all times and which would provide a convenient means to socialise with other residents and with groups and cliques of friends in the building.

Residents only stay for a limited period of time, usually one or two semesters, before they return to their home country, hence the turnover is high and the exchange of incoming and outgoing residents happens abruptly about twice a year. This as well as the fact that residents come from an international range of cultural and social backgrounds has a significant impact on factors contributing to neighbourhood identity and thus on the sustainability of the online community network.

The PAD methodology (Foth, 2004) that is being applied at Southbank Campus Apartments to design and develop the online community network (or 'intranet') includes a phase of sociocultural animation (Foth, 2005, forthcoming) which in this case seeks to engage those residents who do their entire degree in Australia and thus stay the longest to become the 'keeper of the vision'. They are the key residents who are encouraged to introduce newcomers to the community culture at Southbank Campus Apartments, thus contributing to sustaining neighbourhood identity.

Observations made at Southbank Campus Apartments indicate that upon arrival, residents socialise with others from the same country and cultural background first and most easily. The online community network is a tool that allows groups that initially formed on the basis of common nationality or cultural background to link with or even transform into cross-cultural clusters that are based on shared interest and support needs such as study, sports, travel, grocery shopping, transport and any kind of socialising. This process requires residents to accept the diversity of residents at Southbank Campus Apartments and groups to be open, welcoming and fashioned with very low barriers to entry. Both Florida (2003) (referring to a city or region) and Watters (2003) (referring to networks of friends he calls 'urban tribes') claim that conventional acts that try to increase social capital as defined by Putnam (2000) may work against this process: "The high social capital communities showed a strong preference for 'social isolation' and 'security and stability' and grew the least – their defining attribute being a 'close the gates' mentality. The low social capital communities had the highest rates of diversity and population growth." (Florida, 2003: 15).

Working towards increasing conventional forms of social capital may lead to high barriers of entry and is thus counterproductive to ensuring sustainability in a highly volatile and highly diverse residential community such as Southbank Campus Apartments. In such a fluid community, neighbourhood identity and a sense of belonging can only emerge in an open environment of tolerance and acceptance that supports the swarming behaviour of residents (cf. Satchell, 2003). It is essential that the online community network reflects these premises.

Continuity of the Online Community Network

Butler points out that communities will only be sustainable if they provide benefits that outweigh the cost of membership (Butler, 2001). In this regard, it is essential to keep in mind that the properties of online community networks are designed to support sociability (Preece, 2000) and are not intended to be an additional burden on residents which they would regard as 'additional work'. In fact, ongoing use and thus sustainability can only be achieved if it is possible to elicit an intrinsic motivation from

residents so they harness and effectively use the benefits that an online community network is able to provide them with.

This objective frequently turns out to be easier said than done, and a proven concept to reach and maintain a critical mass of users remains a key issue in community informatics and community networking research (Fulk, Flanagin, Kalman, Monge, & Ryan, 1996; Markus, 1990; Patterson & Kavanaugh, 2001). Findings from studies into mailing lists and other dispersed online communities make the matter even more complex since there is evidence not only for a minimum number of users but also for an upper limit. If numbers of users exceed the sustainable level, lurking and social loafing occurs (Preece, Nonnecke, & Andrews, 2004; Schoberth, Preece, & Heinzl, 2003) and although numbers might increase, levels of activity relative to numbers of users decrease. This impacts upon the quality of interaction and the success with which residents gain benefits from their participation in an online community network.

Many studies (e.g., Andrews, 2002; Andrews, Preece, & Turoff, 2001; Aschmoneit & Heitmann, 2003) that report on the issue of critical mass face the problem of trying to mobilise the entire community at once in a what Arnold and his colleagues (2003) call ‘collective’ approach. It is questionable whether this approach is most suitable for residential communities. A conventional, that is, collective approach towards community building uses tools which are commonplace in dispersed online communities, such as discussion boards, mailing lists and newsletters. However, in this place-based case study, these tools can only be sustainable if the entire population at Southbank Campus Apartments actively participates and uses them. The critical mass that they require is very large compared to the absolut number of residents. These tools enable many-to-many broadcasts and public announcements which are suited to dispersed online communities but which turn out to be difficult to handle for the purpose of animating residents and neighbourhoods.

Southbank Campus Apartments’ physical spaces can be divided into bedroom (one resident), shared flat (two or three residents), public spaces such as common room and swimming pool (usually about five to eight residents at a time), an individual floor (about 25 residents) and the entire building (about 160 residents). What the collective approach is missing is a functional correspondence with this kind of granularity of

interaction which happens in physical spaces, for example between flatmates within a shared apartment or between friends across floors. This would require the online community network to become a 'network' (instead of a 'collective') and afford what Wellman (2001; 2002) terms personalised networking. In other words, "a well-connected community is achieved when people feel part of a web of diverse and inter-locking relationships. These networks sustain and shape an integrated and dynamic social and organizational environment representing life at the edge of chaos." (Gilchrist, 2000: 264). Tools need to be implemented that support this kind of 'chaos'.

Online resident directories are one way to identify birds of a feather, that is, to find like-minded people of choice with common interests or support needs. The unique advantage that an online community network in a residential environment possesses compared to its dispersed virtual counterpart is proximity. Such tools that make residents aware of their neighbours close-by, together with peer-to-peer communication facilities such as instant messengers, which allow residents to voluntarily initiate private and personalised contact and build social ties with other residents of their choice, would lead to a true network approach of community building that combines online with offline interaction as stipulated by Baker and Ward: "When the thrill of finding individuals with similar, albeit relatively unimportant interests begins to wear off, we will realize that these communication flows, based primarily on the traffic of cold electrons offers thin communion without additional geographic or physical linkages." (Baker & Ward, 2002: 221).

A collective design approach requires 160 residents at Southbank Campus Apartments to be actively engaged in online discussions or mailing lists on an ongoing basis in order to reach a critical mass of users and to be sustainable, whereas a network design approach requires those 160 residents only to be connected to the system. For an individually initiated private chat, only two residents are required to be active at a time.

Conclusion

Research and practice of designing and developing online community networks for residential communities has benefited from the experience and knowledge gained in dispersed online community settings. However, certain assumptions, conventions and

tools from that virtual context have been taken into a place-based context without further analysis and modification and they turn out to be problematic in achieving the goal of sustainability. This paper has highlighted three aspects of sustainability in a residential community network, that is, community capacity building, the formation of neighbourhood identity, and working towards continued use of an online community network. Both the traditional notion of social capital and the conventional 'collective' approach towards community design have been identified has key obstacles in this case study of a student apartment complex.

As outlined in the beginning of the paper, the time dimension is a crucial parameter in any discussion involving sustainability and will judge upon the validity of the propositions made above. The argument that three years is too short of a time frame to support any findings on sustainability needs to be addressed. There is a challenge for both researchers as well as policy makers to come to terms about what time frame is long-term and appropriate in order to make substantiated claims about the sustainability of research studies and development projects. As well, there is an opportunity to develop trajectories that make the concept of sustainability available in a grounded theoretical framework to both researchers and practitioners in both community informatics and community networking research.

References

Ander-Egg, E. (1997). *Metodología y práctica de la animación socio-cultural*. Madrid, Spain: Editorial Humanitas.

Andrews, D. C. (2002). Audience-Specific Online Community Design. *Communications of the ACM, 45*(4), 64-68.

Andrews, D. C., Preece, J., & Turoff, M. (2001, Jan 3-6). *A Conceptual Framework for Demographic Groups Resistant to Online Community Interaction.* Paper presented at the 34th Hawaii International Conference on System Sciences (HICSS), Island of Maui, Hawaii.

Arnold, M., Gibbs, M. R., & Wright, P. (2003, Sep 19-21). *Intranets and Local Community: 'Yes, an intranet is all very well, but do we still get free beer and a barbeque?'* Paper presented at the Communities and Technologies (C&T 2003) Conference, Amsterdam.

Aschmoneit, P., & Heitmann, M. (2003, Jan 6-9). *Consumers cognition towards communities: Customer-centred community design using the means-end chain perspective.* Paper presented at the 36th Hawaii International Conference on System Sciences (HICSS), Big Island, Hawaii.

Augustin, J.-P., & Gillet, J.-C. (2000). *Animation professionnelle: histoire, acteurs, enjeux*. Paris, France: L'Harmattan.

Baker, P. M. A., & Ward, A. C. (2002). Bridging Temporal and Spatial 'Gaps': The role of information and communication technologies in defining communities. *Information, Communication & Society, 5*(2), 207-224.

Botero Cabrera, A., Oilinki, I., Kommonen, K.-H., & Salgado, M. (2002, Jun 23-25). *Digital tools for community building: Towards community-driven design.* Paper presented at the Participatory Design Conference, Malmö, Sweden.

Büscher, M., Shapiro, D., Hartswood, M., Procter, R., Slack, R., Voß, A., et al. (2002, Jun 23-25). *Promises, Premises and Risks: Sharing Responsibilities, Working Up Trust and Sustaining Commitment in Participatory Design Projects.* Paper presented at the Participatory Design Conference, Malmö, Sweden.

Butler, B. S. (2001). Membership Size, Communication Activity, and Sustainability. *Information System Research, 12*(4), 346-362.

Carroll, J. M., & Reese, D. D. (2003, Jan 6-9). *Community Collective Efficacy: Structure and Consequences of Perceived Capacities in the Blacksburg Electronic Village.* Paper presented at the 36th Hawaii International Conference on System Sciences (HICSS), Big Island, Hawaii.

Castells, M. (2001). Virtual Communities or Network Society? In *The Internet Galaxy: Reflections on the Internet, Business, and Society* (pp. 116-136). Oxford: Oxford University Press.

Castells, M. (2004). Space of Flows, Space of Places: Materials for a Theory of Urbanism in the Information Age. In S. Graham (Ed.), *The Cybercities Reader* (pp. 82-93). London: Routledge.

Day, P. (2003, Sep 15-16). *CNA – Community Network Analysis and ICT: Bridging and Building Community Ties.* Paper presented at the Colloquium 'Many Voices, Many Places: Electronically Enabling Communities for an Information Society', Prato, Italy.

Dick, B. (2002, Jun 15). *Action Research and Evaluation online (areol)*. Retrieved Apr 17, 2003, from http://www.scu.edu.au/schools/gcm/ar/areol/areolhome.html

Fischer, C. (2001, Aug). *Bowling Alone: What's the Score?* Paper presented at the "Author Meets Critic: Putnam, Bowling Alone" session of the meetings of the American Sociological Association, Anaheim, CA.

Florida, R. L. (2003). Cities and the Creative Class. *City and Community, 2*(1), 3-19.

Foth, M. (2003). Connectivity Does Not Ensure Community: On Social Capital, Networks and Communities of Place. In S. Marshall & W. Taylor (Eds.), *Proceedings of the 5th International Information Technology in Regional Areas (ITiRA) Conference 2003* (pp. 31-39). Rockhampton, QLD: Central Queensland University Press.

Foth, M. (2004, Mar 31 - Apr 2). *Encouraging residents to take social ownership of an online community network through PAD: Participation, Animation, Design.* Paper presented at the Community Network Analysis (CNA) conference, Brighton, UK.

Foth, M. (2005, forthcoming). Sociocultural Animation: It takes a village to raise a child. In S. Marshall, W. Taylor & X. Yu (Eds.), *Encyclopedia of Developing Regional Communities with Information and Communication Technology*. Hershey, PA: Idea Group Reference.

Francisco, V. T., Fawcett, S. B., Schultz, J. A., Berkowitz, B., Wolff, T. J., & Nagy, G. (2001). Using Internet-Based Resources to Build Community Capacity: The

Community Tool Box [http://ctb.ukans.edu/]. *American Journal of Community Psychology, 29*(2), 293-300.

Fulk, J., Flanagin, A. J., Kalman, M. E., Monge, P. R., & Ryan, T. (1996). Connective and Communal Public Goods in Interactive Communication Systems. *Communication Theory, 6*(1), 60-87.

Gilchrist, A. (2000). The well-connected community: networking to the 'edge of chaos'. *Community Development Journal, 35*(3), 264-275.

Gillet, J.-C. (1995). *Animation et animateurs: Le sens de l'action*. Paris, France: L'Harmattan.

Grosjean, E., & Ingberg, H. (1974). Animation: Implications of a Policy of Socio-Cultural Community Development. *Information Bulletin of the Council of Europe, 74*(33), 1-39.

Gurstein, M. (2001). Community informatics, community networks and strategies for flexible networking. In L. Keeble & B. D. Loader (Eds.), *Community Informatics: Shaping Computer-Mediated Social Relations* (pp. 263-283). New York: Routledge.

Gurstein, M. (2003, Sep 15-16). *Effective Use: A Community Informatics Strategy Beyond the Digital Divide.* Paper presented at the Many Voices, Many Places – Electronically Enabling Communities for An Information Society Colloquium, Prato, Italy.

Harrison, T. M., & Zappen, J. P. (2003). Methodological and Theoretical Frameworks for the Design of Community Information Systems. *Journal of Computer-Mediated Communication, 8*(3).

Harrison, T. M., Zappen, J. P., & Prell, C. (2002). Transforming New Communication Technologies into Community Media. In N. W. Jankowski & O. Prehn (Eds.), *Community Media in the Information Age: Perspectives and Prospects* (pp. 249-269). Cresskill, NJ: Hampton Press.

Hearn, G., & Foth, M. (forthcoming). Action Research in the Design of New Media and ICT Systems. In K. Kwansah-Aidoo (Ed.), *Current Issues in Communications and Media Research*. New York: Nova Science.

Kurki, L. (2000). Sociocultural Animation in Learning. *LLinE – Lifelong Learning in Europe, 5*(3), 162-167.

Lahiri-Dutt, K. (2004). 'I plan, you participate': A southern view of community participation in urban Australia. *Community Development Journal, 39*(1), 13-27.

Markus, M. L. (1990). Toward a "Critical Mass" Theory of Interactive Media. In J. Fulk & C. W. Steinfield (Eds.), *Organizations and Communication Technology* (pp. 194-218). Newbury Park, CA: Sage Publications.

McIver, W. (2003). A Community Informatics for the Information Society. In B. Girard & S. Ó. Siochrú (Eds.), *Communicating in the Information Society*. Geneva: United Nations Research Institute for Social Development (UNRISD).

Oldenburg, R. (2001). *Celebrating the third place: inspiring stories about the "great good places" at the heart of our communities*. New York: Marlowe & Co.

Patterson, S. J., & Kavanaugh, A. L. (2001). Building a sustainable community network: An application of critical mass theory. *The Electronic Journal of Communication, 11*(2).

Pinkett, R. D. (2002). The Camfield Estates - MIT Creating Community Connections Project: Strategies for Active Participation in a Low- to Moderate-Income Community. In M. Tanabe, P. van den Besselaar & T. Ishida (Eds.), *Digital Cities II: Second Kyoto Workshop on Digital Cities* (Vol. LNCS 2362, pp. 110-124). Heidelberg, Germany: Springer.

Pinkett, R. D. (2003). Community Technology and Community Building: Early Results from the Creating Community Connections Project. *The Information Society, 19*(5), 365-379.

Preece, J. (2000). *Online communities: designing usability, supporting sociability*. Chichester: John Wiley.

Preece, J., Nonnecke, B., & Andrews, D. C. (2004). The top five reasons for lurking: improving community experiences for everyone. *Computers in Human Behavior, 20*(2), 201-223.

Putnam, R. D. (2000). *Bowling Alone: the Collapse and Revival of American Community*. New York: Simon & Schuster.

Reason, P. (1998). Political, Epistemological, Ecological and Spiritual Dimensions of Participation. *Studies in Cultures, Organizations and Societies, 4*(2), 147-167.

Reason, P., & Bradbury, H. (2001). *Handbook of action research: participative inquiry and practice*. London: Sage.

Satchell, C. (2003). The Swarm: Facilitating Fluidity and Control in Young People's Use of Mobile Phones. In S. A. Viller & P. Wyeth (Eds.), *Proceedings of OzCHI2003: New directions in interaction, information environments, media and technology. 26-28 November 2003, Brisbane, Australia*. Brisbane, QLD: Information Environments Program, University of Queensland.

Schoberth, T., Preece, J., & Heinzl, A. (2003, Jan 6-9). *Online Communities: A Longitudinal Analysis of Communication Activities.* Paper presented at the 36th Hawaii International Conference on System Sciences (HICSS), Big Island, Hawaii.

Simpson, L., Wood, L., & Daws, L. (2003). Community Capacity Building: Starting with People not Projects. *Community Development Journal, 38*(4), 277-286.

Walmsley, D. J. (2000). Community, Place and Cyberspace. *Australian Geographer, 31*(1), 5-19.

Watters, E. (2003). How Tribes Connect A City. In *Urban Tribes: Are Friends the New Family?* (pp. 95-118). London: Bloomsbury.

Wellman, B. (2001). Physical Place and Cyberplace: The Rise of Personalized Networking. *International Journal of Urban and Regional Research, 25*(2), 227-252.

Wellman, B. (2002). Little Boxes, Glocalization, and Networked Individualism. In M. Tanabe, P. van den Besselaar & T. Ishida (Eds.), *Digital Cities II: Second Kyoto Workshop on Digital Cities* (Vol. LNCS 2362, pp. 10-25). Heidelberg, Germany: Springer.

Wellman, B., Quan-Haase, A., Boase, J., Chen, W., Hampton, K. N., Díaz de Isla Gómez, I., et al. (2003). The Social Affordances of the Internet for Networked Individualism. *Journal of Computer-Mediated Communication, 8*(3).

Wilcox, D., Greenop, D., & Mackie, D. (2002). *Making the Net work for residents and their landlords: A guide to using information and communication technologies in housing associations*. York, UK: Joseph Rowntree Foundation.