Community Informatics in Cities: New Catalysts for Urban Change

Editorial - JoCI Special Issue on Urban Planning and Community Informatics

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Over a year and a half ago, we proposed a *Journal of Community Informatics* (JoCI) special issue on *urban planning and community informatics* (CI). From the wide array of 32 original proposals that we received in response to our call, eight peer reviewed articles and five research notes were selected. This assemblage of papers-representing a trickling-up of urban digital experiments-originates from a breadth of locations from across the world. If we undertake another call in the future, we hope to deepen our coverage by encouraging contributions from informatics scholars in African cities and many others to participate.

Our initial call for papers in 2013-devised by a geographically and disciplinary diverse editorial advisory board-posed a range of questions and issues for the authors to reflect upon. Overall, we sought to elicit knowledge about the unique digital initiatives that are continuously emerging in urban and regional planning and urban governance practices. In particular, we were interested in information and communication technology (ICT) enabling civic engagement and local decision-support experiments, innovations and experiences, including the roles of various publics and planners in them. We were also curious about the provision and maintenance of ICT tools and infrastructures, and pressing issues about public interests, public goods and service provisions in fast-changing urban digital landscapes. Another area of concern in our original call related to how 'expert' urban planning technologies work with 'mundane' technologies, especially in community-based applications (see also Thrift, 2014). In addition, we were also eager to learn about the changing role of 'big data' and 'open source' software in civic decision making. However, even in the short period since our original call, the deployment of

ICTs in cities has continued to explode and increasingly CI-based self-organizing has been taking place in cities, as manifest in the ongoing diversity of local non-profit and civic-cyber innovations. Furthermore, the 'smart city' boom has also hit the urban stage all over the world with the seeming promise that digital technology and ICT infrastructures will solve current and future wicked problems-despite, however, possibly creating entirely novel wicked problems in the process (Staffans & Horelli, this issue; Sadoway & Shekar, this issue).

The collection of papers in this JoCI special issue provides us with specific insights into local experiments or adaptations. These are windows into how fast changing digital technologies are being shaped by (and in turn shaping) urban planning and community-based practices in disparate global locations. This editorial therefore seeks to identify some of the key associative patterns ('streams') of informatics themes that are identifiable in the studies, analyses, reports, and notes that were submitted. We will briefly discuss the similarities, differences and exchanges between the 13 papers assembled here; and we will attempt to identify what thematic streams of ICT-related praxis are emerging in local urban community informatics experiences internationally.

The blurring of real and virtual; local and global

The 13 papers in this JoCI special issue all represent a variety of perspectives, foci and scales of analysis, but they share an urban context that is characterized by the *global-local* and *real-virtual* dialectic-illustrated, for example, by Staffans and Horelli's article (this issue), *Expanded urban planning as a vehicle for understanding and shaping smart liveable cities.* Their work attempts to devise an integrated framework for understanding the 'smart cities' agenda from a new approach to urban planning enhanced by CI. The paper by Staffans and Horelli also builds on an interest of urban community informatics scholars in how ICTs are increasingly being implicated in the production of city-region space-including with the involvement of big ICT firms-thus interlinking the global to the local. In relation to the production of g/local spaces, Memoravic et al. (this issue), depict how mobile phones and computers have transformed cafés in Paris into new hybrid versions of so-called 'third places' or 'third spaces.' Discussions about how digital tools are shifting the perception and conception of urban places and spaces is notable in the paper of Rienwald et al. (this issue), whose research focuses on augmented reality (AR) applications in participatory urban transportation planning in Vienna. Their piece, *Augmented reality at the service of participatory urban planning and community informatics* , demonstrates how the blurring of the 'real' and the 'virtual' can help in developing an instrument of city planning that enables lay people to better understand future urban contexts (see also Gordon & Manosevitch, 2010); and at the same time prevents the potential for manipulation of expert-devised models by experts themselves.

Interdependencies between the local and the global scales are also demonstrated in, *Community-based pedestrian mapmaking*, a paper by Konstantinos Chorianopoulos (this issue). His work shows how community-based cartography and data collection for local walking paths might facilitate urban planning and design- rather than being solely dependent on geographic information systems (GIS) that typically employ road-oriented global maps. Chorianopoulos's study also demonstrates how GIS digital representations of space can lock-in pre-existing infrastructural dependencies, such as the bias of digital street maps towards car navigation, but also how this may be overcome in digital data collection approaches that emphasize pro-pedestrian urban planning and design.

Antoniadis and Apostol, in their paper, *The right(s) to the hybrid city and the role of DIY networking* (this issue), address longstanding urban power issues that pre-date contemporary ICTs. Linking to the larger debate on the right to the city (Brenner *et al* ., 2012), their work-which toggles between Bologna, Italy and Brooklyn, New York- examines how traditional notions of rights to the city and urban spaces are morphing in the digital and do-it-yourself (DIY) network society (see also Iveson, 2013). Drawing upon urban theory (including Henri Lefebvre's classic work from 1991) and contemporary digital practices, they engage in a type of thought experiment that inquires if and how citizen's can 'compete' with large ICT corporations in reclaiming their rights to the city.

As the discussion above illustrates, the ICT-linked changes in the co-production of city spaces and their g/local interdependencies are two of the key conceptual streams of narratives that emerged in this collection of papers. However, important differences between these publications can also be seen in their foci on how CI and urban planning interrelate. The next section elaborates on these distinctions.

From specific digital tools to embedded socio-technological systems

Technology is of course a common issue in all of the articles, but some authors focus on the uses of *specific digital tools* , such as in, *Exploring the use of PPGIS in self-organizing urban development*, by Schmidt-Thomé et al.,(this issue); whereas other authors see ICTs as potentially *part of a socio-technical system* that requires careful planning. The former is evident in the paper by Schmidt-Thomé et al., which chronicles the development of a 'softGIS' tool in a San Diego neighbourhood (Pacific Beach) as a means to connect local community organizations and experiential knowledge with the aim of devising participatory planning geographic information systems (PPGIS; see also Sieber, 2006; Sui *et al.* , 2013). The latter, ICT praxis interwoven within socio-technical systems, is evident in Benjamin Stokes et al´s article, *Neighborhood planning of technology: physical meets digital city from the bottom-up,* (this issue) which examines how the embedding of technology is a long-

term effort that requires different types of social scaffolding. His work poses the important question: can a community-embedded process be sustained beyond short-term hackathons and planning meetings? The importance of looking beyond specific digital tools to how ICTs are shaping and shaped by socio-technical systems is also notable in the paper, *ICT-Mediated Adaptive Capacity of Environmental Third Sector in Australia,* by Subas Dhakal. His work leads to the claim that CI is a necessary but not a sufficient condition for enhancing the mobilization of citizens and the betterment of the environment.

Are ICTs prompting novel forms of urban governance and citizenship?

Another thematic stream we identify in the papers relates to how ICT practices are reshaping both *urban governance* and *ideas about citizenship* and *civic life* . For example, Geisa Bugs points out in her research note, *Improving citizenship and the right to the city by using ICTs,* (this issue) how the increasing uses of social media enhances the ability to communicate and interact not just amongst peers, but also with local administrators and politicians. This use of ICTs, she argues, is slowly changing citizen's relationship with their governments and urban spaces in Brazil. The theme of citizens and government is also taken up in Katia Balassiano and Christopher Seeger's paper, *Empowering Newcomers with Low-Tech workshops and High-tech analyses* , (this issue). Their work examines how recent foreign immigrants to semi-rural American 'new gateway communities' in Iowa might benefit from new informal or semi-formal sites of co-governance. For example, in shopping malls immigrant women discuss local affairs and access information. This work suggests that a combination of 'low tech' face-to-face participatory planning workshops when augmented with a 'high tech' (GIS) spatial mapping and modelling approach shows potential to empower and integrate new residents into the community.

Some of the urban technological solutions that the papers identify not only blend the physical and the virtual, but they also identify novel redefinitions of what public space and public spheres mean. For instance, Corelia Baibarac suggests in her article, *The 'urban spacebook' experimental process: co-designing a platform for participation* , that new forms of participatory urban governance are being prompted by new digital ways of understanding city spaces. Her overview of digital experiments in Dublin, Ireland, suggests that ICTs can illicit new conversations and co-participation in urban planning and local governance. The research note by Sadoway and Shekhar (this issue) also examines how a non-profit organization has devised citizen-driven online crowdsourced and open data approaches to educate, enable, and activate residents of Chennai, India. Their work, *(Re)prioritizing citizens in 'smart cities' governance: examples of smart citizenship from India* , seeks to provide examples that contrast the valorisation of consumer or corporate driven approaches to 'smart cities' with the importance of 'smart citizenship' in local urban governance. Similarly, Staffans and

Horelli (this issue) also indicate that new forms of urban informatics linked to urban governance are increasingly relying upon deliberation and self-organization. Thus, local digital co-governance can be regarded as an endeavour that takes place in varied spaces and places-ranging from the formal (city councils); to the semi-formal (local forums); and informal (citizens); and varying in terms of activities, networks, partnerships, structures, or public spheres (see also McCall & Dunn, 2012). Their work suggests that it is the mixed digital / non-digital spheres-where different public, private and third sector parties can meet- which urban planners should direct their attention to.

Novel urban planning *praxis* emerging in smart cities?

As noted above, both Staffans and Horelli's and Sadoway and Shekhar's works inquire about how citizenship and urban governance are being reshaped in relation to the 'smart cities' agenda. But what about urban planning approaches and practices? At the same time as communities and planners employ and engage with ICTs and smart city concepts (see e.g. Townsend, 2013), the papers in this JoCI special issue also prompt us to ask whether *novel forms of urban planning* are emerging in the process? Noteworthy is how new urban imaginaries are being articulated and abetted through digital praxis. For example, Memarovic et al. (this issue) explore neighbourhoods in France, Brazil, and the U.S. to examine an updated concept of 'third places' in their article, *Rethinking Third Places: Contemporary Design With Technology* . They demonstrate, how third places or the informal and semi-formal urban living room uses, such as barber shops, bars and cafés, remain highly relevant for addressing the contemporary liveability of cities.

The emphasis on the continued importance of understanding and attending to the needs and aspirations of neighbourhoods in urban planning is also identifiable in Iaconesi and Persico's research note (this issue), *Urban Acupuncture in the Era of Ubiquitous Media* . Their work-focused on cases in Rome and Turin-devises a unique methodology for understanding the emergent urban 'infoscape' in relation to interactions between digital social networks, sensors, and cloud computing. Their exploratory investigations and article refers to, 'Urban acupuncture' as small-scale but socially catalytic interventions into the urban fabric with the potential for 'sustainable projects' which could "serve as needles that revitalize the whole by healing the parts." Deployment of urban acupuncture, they suggest, comprise a technique that devises mental maps of the city based on visual analyses-drawn from harvested big data on commercial digital social network services-and in turn, reveal an information rich relational ecosystem. The challenge for urban planners and others that remains is how to understand or create an ecosystem event with more meaningful impact rather than just examining digital traces of a momentary concert or a spectacle.

Other papers envision evolving forms of participatory planning which could be enabled by digital tools or platforms that encourage collaborative and co-production in urban planning (Baibarac, this issue). According to Staffans and Horelli's paper (this issue), *expanded urban planning* represents a vehicle to co-create smart and liveable cities. This involves the intertwining of planning, community development and co-governance, enhanced by community informatics. This approach is based upon multiple community participations, including in the design of digital tools. Expanding also suggests on-going challenges, such as: integrating the local with the global; reconciling institutional demands with everyday life; addressing long term and short term concerns and needs; dovetailing or sorting the virtual digital and the physical, while at the same time attempting to balance formal, semi-formal and informal activities and processes. Such ambitious conceptualizations of urban planning, as well as the trickling of tools, experiments and ideas are suggested in this special number. These issues will be further elaborated in the final section.

Do many trickles make a stream of urban community informatics themes?

We have identified some of the key thematic narratives that emerged from the publications that were collected for this JoCI special issue. Some of the conceptual streams that were touched-upon are: ICT-linked urban participation and engagement; how digital tools and techniques were (or could be) redefining and conceiving of urban spaces; and potentially new modes and models of urban governance and citizenship. Another theme is related to authors envisioning novel, though perhaps tentative, forms of urban planning-particularly in the era of 'smart cities.' While the papers and research notes are primarily focused on distinct digital tools (or methodologies), their g/local contexts all vary greatly, and the authors represent a diversity of research, observations, and experiences from activists, academics, or planners. Given that these papers did not involve the perspective of corporate men or women, nor politicians among them, this trickling of ideas represents one set of community informatics practices and visions. These community-interested or community-informed studies all serve to illustrate how community informatics in its different forms can mobilize urban citizens and residents to improve their environs and everyday life. Such approaches can provide guidance to future urban scholars and urbanists with an emphasis on the responsibility of citizens to take care of their 'urbs`, which is not just a local affair, but part of a planetary culture.

The emerging message in this assemblage of work is that community-shaped digital experiments or CI approaches can potentially be catalysts for change. Several of the works emphasize, however, that CI-related approaches need to be embedded in new forms of participatory urban planning and governance that take seriously the g/local context. Whether local, bottom-up community initiatives, aligned with a CI approach have transformative systemic power in the long run remains to be seen-however, we

argue that ongoing knowledge exchange and networking remain a crucial part of this long-term endeavour.

References

Antoniadis, P. & Apostol, I. (2014). The right(s) to the hybrid city and the role of DIY networking. *Journal of Community Informatics* 10(3).

Baibarac, C. (2014). The 'urban spacebook' experimental process: co-designing a platform for participation. *Journal of Community Informatics* 10(3).

Balassiano, K. & Seeger, C. (2014). Empowering newcomers with low-tech workshops and high-tech analyses. *Journal of Community Informatics* 10(3).

Brenner, N., Marcuse, P. & Mayer, M. (2012) (Eds.), *Cities for People, Not for Profit. Critical Urban Theory and the Right to the City* . New York: Routledge.

Bugs, G. (2014). Improving citizenship and the right to the city by using ICTs . *Journal of Community Informatics* 10(3).

Chorianopoulos, K. (2014). Community-based pedestrian mapmaking . *Journal of Community Informatics* 10(3).

Dhakal, S. P. (2014). ICT-mediated adaptive capacity of environmental third sector in Australia . *Journal of Community Informatics* 10(3).

Foth, M., Choi, J.H. & Satchell, C. (2011). Urban informatics. In Proceedings of the ACM 2011 conference on Computer supported cooperative work (CSCW '11). ACM, New York, NY, USA, 1-8. DOI=10.1145/1958824.1958826 http://doi.acm.org/10.1145/1958824.1958826

Gordon, E. & Manosevitch, E. (2010). Augmented deliberation: Merging physical and virtual interaction to engage communities in urban planning. *New Media & Society* , 13(1), 75-95.

Lefebvre, H. (1991). *The production of space* . Oxford UK: Blackwell.

Iaconesi, S. & Persico, O. (2014). Urban Acupuncture in the Era of Ubiquitous Media. *Journal of Community Informatics* 10(3).

Iveson, K. (2013). Cities within the City: Do-It-Yourself Urbanism and the Right to the City. *International Journal of Urban and Regional Research* , 37(3), 941-956.

McCall, M. & Dunn, C. (2012). Geo-information tools for participatory spatial planning: Fulfilling the criteria for 'good' governance? Geoforum, 43, 81-94.

Memoravic, N., Fels, S., Anacleto, J., Calderon, R., Gobbo, G., & Carroll, J.M. (2014). Rethinking third places: contemporary design with technology. *Journal of Community Informatics* 10(3).

Reinwald, F., Berger, M., Stoik, C., Platzer,M. & Damyanovic, D. (2014). Augmented reality at the service of participatory urban planning and community informatics. *Journal of Community Informatics* 10(3).

Sadoway, D. & Shekhar, S. (2014). (Re)prioritizing citizens in smart cities governance: examples of smart citizenship from urban India . *Journal of Community Informatics* 10(3).
Schmidt-Thomé, K. et al (2014). Exploring the use of PPGIS in self-organizing urban development. *Journal of Community Informatics* 10(3)
Sieber, R. (2006). Public Participation Geographic Information Systems: A Literature Review and Framework. *Annals of the Association of American Geographers* , 96(3), 491-457.
Staffans, A. & Horelli, L. (2014). Expanded urban planning as a vehicle for understanding and shaping smart liveable cities. *Journal of Community Informatics* 10(3).
Stokes, B., Bar, F., Baumann, K. & Caldwell, B. (2014). Neighborhood planning of technology: physical meets digital city from the bottom-up. *Journal of Community Informatics* 10(3).
Sui, D., Elwood, S. & Goodchild, M. (Eds.) (2013) *Crowdsourcing Geographic Knowledge. Volunteered Geographic Information (VGI) in Theory and Practice* . Dordrecht: Springer.
Thrift, N. (2014). Commentary: The Promise of Urban Informatics: Some Speculations. *Environment and Planning A* , 46, 1263-1266.
Townsend, A.M. (2013). *Smart Cities: Data, Civic Hackers, and the Quest for a New Utopia*. New York: W.W. Norton & Company, Inc.