Points of View

Towards Desirable Futures: Community Informatics' Role in Averting the Planetary Ecocide

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Abstract

The 20th anniversary of The Journal of Community Informatics signifies a milestone in the evolution of community informatics (CI) as a field dedicated to empowering communities through the strategic use of information and communication technology (ICT). This article offers some personal reflections on the origins and evolution of CI, tracing its roots to seminal works by scholars such as Michael Gurstein. It also tells the story of how urban informatics was inspired by CI as a distinct field of scholarship to study the interplay between people, place, and technology in urban environments. Building on this foundation, the present challenges and opportunities facing CI are explored, including issues of digital inclusion, ethical implications of emerging technologies, and the transformative potential of ICTs for social change. Looking ahead, the article envisions desirable futures for CI grounded in a life-centred approach that acknowledges the interconnectedness of humans and non-humans within larger ecological systems. Embracing a more-than-human paradigm, CI is uniquely positioned to advocate for ecological justice, amplify the voices of marginalised human and non-human communities, and foster collaboration between humans and the environment to create and protect resilient and sustainable habitat for life on this planet. Through these efforts, CI can contribute to a more just, equitable, and sustainable future for all living beings, averting the planetary ecocide that threatens our shared existence.

Keywords: Community Informatics; Urban Informatics; Ecological Justice; Sustainability; Digital Inclusion; More-than-Human; Life-Centred Design

Origins and Evolution

I first met colleagues working in community informatics in 2004 at the Building and Bridging Community Networks conference chaired by Peter Day in Brighton, UK, and later that year at the First International Community Informatics Research Network (CIRN) conference chaired by Graeme Johanson and Larry Stillman in Prato, Italy. So 2024 presents indeed an opportune moment to celebrate the 20th anniversary of not just The Journal of Community Informatics but perhaps also the community of community informatics scholars and practitioners.

German tradition refers to the occasion of a marriage that has lasted for two decades as a "porcelain" wedding anniversary—symbolising beauty, longevity and collective wisdom, yet also a level of fragility and value that accrue over time. Similarly, the 20 year anniversary marks a significant milestone in the journey of community informatics—a field that has fundamentally transformed our understanding of technology's role in community development and community's access and effective use of technology (Gurstein, 2003). In my contribution to this 20th Anniversary Issue of The Journal of Community Informatics I hope to reflect on how my early

exposure to community informatics (CI) thoughts, theories and cases have influenced my own thinking and development as well as offer some thoughts on its current challenges and future implications particularly with regards to its potential role in averting the planetary ecocide (Foth et al., 2021; Light et al., 2017).

Community informatics' inception back in the early 2000s is no coincidence. It was—and to a degree continues to be—an era ripe with technological advancements yet accompanied by a growing recognition of the digital divide and its implications for community wellbeing. Scholars like the late Michael Gurstein were among the pioneers who recognised the potential of information and communication technology (ICT) not merely as tools for innovation but as agents of empowerment within communities. Gurstein's seminal work (e.g., Gurstein, 2000) laid the groundwork for a field grounded in the principles of participation, social equity, and human-centric technology design. I was inspired by the values and principles of CI scholarship, yet felt the need to give a name to the particular niche that our research group at QUT started to occupy from 2006 onwards. Our common denominators were people (social), place (urban) and technology (digital). We opted not to adopt any of the existing terms used in other fields such as urban technology, urban infrastructure, or urban computing, because we wanted to emphasise the human and social elements of our research. We settled on urban informatics leaning on Gurstein (2003) who described community informatics as being primarily concerned with improving the wellbeing of people and their communities through more effective use of ICT. Likewise, urban informatics—in our view—is concerned with the impact of technology, systems and infrastructure on people in urban environments (Foth, 2018; Foth et al., 2011).

While I believe our work helped to popularise the term 'urban informatics' throughout the Noughties, and the term has now been adopted by universities and industry worldwide, the invention of the term was not ours. I traced the earliest mention of the term to Hepworth (1987, p. 261), alas in passing and within the broader context of 'informatics planning.' While his article pre-dates the advent of ubiquitous computing, it does contain some visionary thoughts about major changes on the horizon brought about by ICT and the impact on cities. Later, in September 2003, Howard Rheingold, author of "Smart Mobs" (2002), wrote an article for the now discontinued online magazine TheFeature.com entitled "Cities, Swarms, Cell Phones: The Birth of Urban Informatics" in which he introduced his interviewee Anthony Townsend as an "urban informatician and wireless activist." I was honoured to recruit Townsend to write the foreword for my first edited book on urban informatics (Foth, 2009).

Starting in 2012 and fuelled by the increasing popularity of commercial opportunities under the label of smart city and big data (Townsend, 2013), subsequent definitions of urban informatics emphasised big data analytics for better planning outcomes in city contexts. This direction of urban informatics scholarship has been referred to as "data-driven, networked urbanism" (Kitchin, 2015) or urban science (Batty, 2013). As a result, a range of new research centres focussing on urban informatics have been established since our group started at QUT in 2006 (Foth & Rittenbruch, 2021).

During this nascent stage, CI began to permeate scholarly discourse, signalling a shift towards holistic approaches that transcended traditional, technology-centric paradigms. Colleagues such as John M. Carroll, Fiorella De Cindio, Douglas Schuler and the late Volkmar Pipek

emerged as key proponents of this interdisciplinary movement, advocating for a nuanced understanding of the interplay between people, place, and technology within urban environments. Their contributions set the stage for a field that sought to address the multifaceted challenges facing communities through the lens of ICT-mediated empowerment. CI's evolution mirrored broader shifts in academic discourse, embracing an inter- and even trans-disciplinary approach that drew insights from fields as diverse as information systems, community development studies, social work, rural sociology, public policy, and interaction design. This interdisciplinary ethos is a fundamental part of CI's commitment to holistic community development, recognising the interconnectedness of social, spatial, and technological factors in shaping community outcomes.

As CI continued to mature, it became increasingly evident that its relevance extended far beyond academia, permeating policy, practice, and grassroots activism alike. The concept of community-defined development goals emerged as a guiding principle, corroborating the importance of centring community voices, advocacy and values in the design and implementation of ICT interventions. Through initiatives ranging from digital inclusion programs to participatory action research projects, CI practitioners to this day continue to empower marginalised communities and bridge the digital divide.

Challenges and Opportunities

As we stand at the crossroads of past achievements and future possibilities, the present moment offers both challenges and opportunities for CI scholarship. In navigating the complex socio-technical landscape of today, CI faces a myriad of issues that demand thoughtful consideration and strategic action. Yet, amidst these challenges, there exist opportunities for innovation, collaboration, and positive change.

One of the foremost challenges confronting CI in the present day is digital inclusion and participation—a gap of access, ability, affordability that persists between those who have access to and can effectively utilise ICTs and those who do not (Dezuanni et al., 2018). Despite concerted efforts to foster digital inclusion, disparities in access to technology, digital literacy, and connectivity persist, exacerbating existing inequalities and marginalising underserved communities. Addressing digital exclusion requires not only expanding access to ICT infrastructure but also fostering new forms of digital literacy including data literacies and ensuring that all individuals have the skills and resources necessary to fully participate in the digital age.

Another challenge facing CI is the ethical implications of emerging technologies, particularly in the realm of data privacy, surveillance, artificial intelligence (AI) and algorithmic automation. As technology becomes increasingly intertwined with everyday life, questions of ethical governance, transparency, and accountability become ever more pressing. Issues such as data ownership, sovereignty, consent, and algorithmic fairness demand careful attention and robust regulatory frameworks to safeguard individual rights and liberties (Mann et al., 2022; van Maanen, 2022). Due to its interdisciplinary scope, CI is uniquely positioned to grapple with these

and even broader implications of technology on society, including its impact on democracy, social cohesion, and human rights.

In addition to these challenges, the present moment also affords CI with a host of opportunities for innovation and positive change. The proliferation of digital technologies has opened up new avenues for collaboration, grassroots activism, and genuine community participation beyond "engagement theatre" (Kamols et al., 2021; Teli et al., 2020). From generative AI to crowdsourced mapping initiatives and automated campaign platforms to drive community activism, ICTs offer powerful tools for amplifying community voices and catalysing social change.

Moreover, advances in data analytics, machine learning, and AI hold the potential to revolutionise how we understand and address complex social problems, from healthcare disparities to environmental sustainability. Yet, harnessing the full potential of these technologies requires a commitment to inclusive and equitable development. As CI continues to evolve, it must remain grounded in its founding principles of community empowerment, social justice, and human rights. This means advocating for the needs and aspirations of marginalised communities, amplifying their voices in the design and implementation of ICT interventions, and proposing policies that promote digital equity and inclusion.

Desirable Futures

As we navigate the complexities of the present moment, it is imperative to also look towards the future with a sense of purpose and possibility. The challenges we face today are significant, but they are also accompanied by unprecedented opportunities for improved advocacy, community-led governance, and positive change to imagine and bring about desirable futures. CI's aspirations for community empowerment, social justice, and human rights are inextricably linked with broader concerns surrounding ecological justice and environmental sustainability to avoid the planetary ecocide.

CI's axiological grounding in inclusivity and pluriversality posits us to embrace a more-than-human turn, for communities—both human and non-human—are not isolated entities but integral parts of the planet's larger ecological systems (Sheikh et al., 2023). As such, any meaningful approach to community informatics research, design and development must take into account the interconnectedness of humans and non-humans within these ecosystems. Moving beyond anthropocentric frameworks, it is timely for CI to embrace a more-than-human approach that acknowledges the agency and value of non-human entities in shaping community dynamics and outcomes. By moving from a human-centred to a life-centred paradigm (Borthwick et al., 2022), CI can foster symbiotic relationships between humans and the environment in order to create more resilient and sustainable communities that thrive in harmony with our natural surroundings and the planet.

This shift towards a life-centred or more-than-human approach to CI is not merely a matter of theoretical abstraction but a practical imperative for safeguarding the future of our planet. As we face the existential threat of a planetary ecocide, it is incumbent upon us to learn

from Indigenous and First Nations communities and reorient our priorities and practices towards the preservation and restoration of ecological balance (Graham et al., 2024; Latulippe & Klenk, 2020). In this context, CI has a crucial role to play in advocating for policies and practices that promote ecological justice and genuine sustainability—rather than mere greenwashing (de Freitas Netto et al., 2020; Foth et al., 2021). By amplifying the voices of marginalised communities—both human and non-human—and advocating for their rights to clean air, water, and land, CI can serve as a powerful catalyst for environmental stewardship, Earth jurisprudence, and economic reform (Heitlinger et al., 2024; Hosseini & Gills, 2024; Tomitsch & Baty, 2024).

Moreover, by fostering collaboration and co-creation between humans and non-humans, CI can unlock new pathways for innovation and resilience in the face of environmental challenges. From community-led conservation initiatives to participatory planning processes that prioritise ecological restoration, the possibilities for positive transformation are endless yet urgent. As we look to imagine desirable futures, it is imperative that CI continues to evolve and adapt to meet the pressing challenges of our time. By embracing a life-centred approach that transcends traditional human-centric perspectives, CI can help pave the way for a more just, equitable, and sustainable future for all beings on our planet.

Biography

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