

Community&Technologies – Community Informatics Research and ethical arguments for a merge to be forged

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Community&Technologies (C&T) and Community Informatics (CI) are two quite well established research communities since the early 2000. I will call them “groups” to avoid confusion with “community” as the research field. Both groups have their own venues: on the one hand the biannual C&T international conference; on the other hand, the Journal of Community Informatics (JoCI) and an annual conference hosted in the Monash Center in Prato (Italy). They have partly overlapped roots, and differences of approach and focus which led to a “fork” which somehow recalls forks in open source communities. I feel myself member of both groups and in these notes I’ll try to explain why I believe that both groups have to gain from a more intense and intensive cooperation, and to identify some issues that, jointly, they should focus on.

From their very beginning informatics¹/digital technologies applies and shape organizations and society. The two groups study a specific kind of organizations called “communities”: introduced by the German sociologist Ferdinand Toennis at the end of the XIX century (Toennis, 1887), communities gained new attention in the early years of the internet as emerging forms of online aggregations (among the others, (Rheingolds 1993), (Schuler, 1994), (Preece, 2000)). Software technologies which enables virtual/digital/online/web communities are largely inspired and based in CSCW and groupware applications. Both groups – C&T and CI - focus on the interplay between communities and information and communication technologies (ICT). I see at least three main “tensions” pervading this field:

1. a first tension between the two “sides” (or nouns) of both groups: there are researchers and research groups focusing mainly on **communities** (how they are supported, shaped, enabled, empowered, destroyed? by ICT), while other researchers and research groups mainly develop **technologies** (that support, shape, enable, empower, destroy? communities). The actual and deep interplay between the two perspectives is less frequent than one would expect, and seldom occurs. Those who work with communities face with so great and urgent needs that are led to consider and use existing technologies and focus their attention on social issues and outcomes. Also developing software is a complex task, and those who are engaged in it are led to limit social issues to the appropriate design of user interfaces, user experience, interaction design and the like. The recent financial constraints - limiting resources available for research projects and social initiatives - worsen the situation.
2. a second tension between **research** and **action**. I would like to argue the need of a tight connection between them in this field by using the Figure (slightly changed) used in (Handler et al. 2008) to illustrate the challenges that the (social) web presents to software engineering and application development.
The picture says that applications:

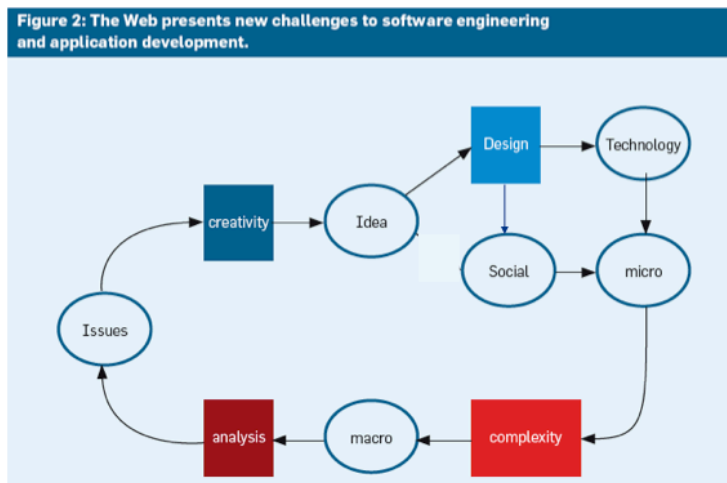
¹ I refer here to the characterization of informatics (vs computer science) proposed by Kristen Nygaard in his keynote speech at IFIP 1986 (Nygaard, 1986)

- come from a creativity event ("Idea");
- have to be designed considering both technological and social aspects;
- after being developed and tested in the "micro" (typically a lab), have to face with complexity, being exercised in "the macro", i.e., in initiatives with "real" users taking place in real-life setting (I took this expression from Kari Kuutti, Univ. of Oulu);
- the outcomes of these initiatives have to be carefully analyzed - also in terms of the desired vs achieved impact (Smith, Macintosh and Millard, 2011) – to iterate the process.²

Researchers in the area of social web which develops prototypes tested I labs loses relevance; activists who undertake field projects without a scientific solid background run a greater risk of failures.

3. a third tension *between **the two halves of the world***: the once-called developed countries which are passing a dramatic crisis, and the once-called developing countries which are now the only ones which in some way develop.

Roughly speaking (may be, too roughly), the C&T group privileged technology and research in the developed countries; the CI group privileged communities and action in developing countries. Encouraging a merge between these poles would allow tensions to stimulate reasoning through diversity.



The C&T research has its roots in (E)CSSW. In its turn, CSCW rose from the need of a new perspective for understanding computer, cognition and organizations (Winograd and Flores, 1987). The need of a new perspective, and the opportunities it opens, is well captured by Terry Winograd³ words in an unpublished note (1981)

² it may be worth recalling that the paper (Handler et al. 2008) mentions Doug Schuler's Public Sphere project (at that time at the URL trout.cpsr.org, now moved to www.publicsphereproject.org) as a way to "explore[s] how the Web can encourage more human engagement in the political sphere. Combining it with the emerging study of the Web and the coevolution of technology and social needs is an important focus of designing the future Web."

³ it may be worth recalling that Terry Winograd served as President and Director of CPSR (Computer Professional for Social Responsibility)

"In the decentralization of work and the distribution of expertise we see a movement toward reducing our dependence on centralized structures and expanding the importance of individual "nodes" in a network of individuals and small groups.

The use of computer communication in coordination makes it possible for a large heterogeneous organization to function effectively without a rigid structure of upward and downward communication.

This shift does more than reorganize the workplace. It puts forth a challenge to the very idea of hierarchical organization that pervades our society. It may open a new space of possibilities for the kinds of decentralized communal social structures that have been put forward as solutions to many of our global problems."

This tension towards innovation gradually fade away from CSCW and the field suffered because of the role, expectations and goals of the big software companies. In the same years, emerging grassroots initiatives such as virtual communities, free nets and community networks kept alive the original tension towards ICT empowered social innovation. Community Informatics and C&T come from these efforts, and the recent [Community Informatics Declaration](#) captures the idea that the Internet is a social environment, a community space for people to interact, to develop and exercise their civic intelligence and work together to address collective challenges. From this perspective, considering the above tensions provides motivations for a fruitful cooperation (toward a merge?) between the two groups.

Technology is not neutral. Activists engaged in field projects of social change should seriously consider if they can successfully rely on technologies conceived and designed for different purposes and for a different audience. "The revolution cannot be twitted" (Gladwell, 2010) nor based on Facebook (Ghannam, 2011). Actually, it was. As Manuel Castells wrote (Castells, 2012): "the precondition for the revolts was the existence of an internet culture, made up of bloggers, social networks and cyberactivism."

What cannot be rooted in Facebook, Twitter and the like is the construction of new organizations, of a new society, of effective forms of citizens' involvement in policy making. Coming back to the "research program" envisioned in the 1981 Winograd's note, software to enable large heterogeneous organizations to function effectively without a rigid hierarchical structure is needed. While communication and coordination aspects have been widely considered and implemented, there are open issues which deserve consideration to face with this need; they could drive theoretical, methodological and technological efforts by both C&T and CI groups. Topics that is urgent to investigate include:

- effective deliberation and decision-making in (large) distributed organizations (grassroots movements as well as small businesses around the world)
- knowledge gathering, composition and sharing (with argumentation features to support deliberation) in (large) distributed organizations
- models for evaluating participation in online communities including the social impact.

There are other several opportunities and challenges offered by technology: among the other, I want to mention one. After the open source software movement, in recent years, open hardware devices such as Arduino and new generation of sensors stimulated the rise of communities of young civic hackers to develop systems which

could, for instance, radically modify the way in which "smart cities" are considered: up to now, mostly a buzzword to fund energy companies. Cities are the first local communities, and they are smart if and only if they are able to face with local and global problems for, with and by their citizens.

In all these areas, there is a tight mutual dependency between research and action, for the reasons presented in point 2. above. However, the basic mechanism of the academia should be reconsidered in the digital era to open knowledge and encourage a multidisciplinary and multilingual approach, which now is strongly hampered by disciplinary walls. As research groups skilled in community-based interaction environments we should challenge ourselves to gradually develop a scientifically sound publishing system liberated from the chains of the publishers, where researchers meet activists interested to test their prototypes in real-life settings; activists may find developers for implementing or improving software according with people needs and researchers interested to study field cases from various disciplinary perspectives; all together provide feedbacks (peer reviews) contributing to a reputation system.⁴

The way in which the world will be reshaped by ICT is still open. In a private communication Doug Schuler recently wrote:

"I believe that there is sort of a race going on and each day the software giants are striving to make their system the only one - and capture as much of our information to use it to their ends. At the same time the elites of the world continue to make bad choices that are bad for people in the world and the planet itself. At the risk of sounding naive, I believe that the *civic intelligence* of the world's citizens needs to be improved (not "mined" and with their active help) or we are in great trouble."

An increasing number of young people - researchers, activists and hackivists - coming from different areas and countries are engaged in doing some great work in this direction. In some way, they are aware of the race, and they want to run for their future. I believe that C&T and CI - can provide them rich digital and physical venues to develop and share effective knowledge, to enforce these energies and may be provide the youth with some grain of wisdom. No other research community does exist which has such orientation, that I would call - again going back to the origin of participatory design - *system development for, with, by communities of active citizens*.

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⁴ I envisaged such a system in a conversation with Mike Gurstain, editor-in-chief of the Journal of Community Informatics

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