

Designing for e-Social Action

An Application Taxonomy

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Abstract

In this paper, we present a taxonomy for understanding designs and designing of Information & Communication Technologies (ICT) in the field of 'Social Action'. We use the term 'Social Action' to refer to activities of individuals and organisations in civil society, which are oriented towards social (rather than primarily economic) goals. We then apply the term e-Social Action to refer to the application of ICT in these activities. This definition incorporates a wide range of initiatives, varying from: trade-unions logging safety inspections on ships, Age Concern York organising volunteers to place on-line supermarket orders on behalf of housebound elderly people; the International Red Cross using logistics software to deliver emergency aid; and Martus.org providing technology to enable victims of human-rights abuse to report their experience whilst protecting their anonymity and thus avoiding reprisals.

To study designing in this broad space, it is necessary to understand key dimensions of the settings where designing takes place. The aim of this paper is to examine how information and communication technologies in social action can be understood, classified and distinguished, to allow for more refined explorations of designing in this space.

Keywords

e-SocialAction, Taxonomy, design and society

"Design becomes once again a means of ordering the world rather than merely shaping commodities" Dilnot, 1982, p144.

In setting out the case for the design research as a distinctive and significant discipline, Dilnot presents designing as more than merely shaping products. Dilnot highlights how designing explores the interplay between the possible forms of objects, and the social and cultural settings into which those objects are to be placed. Thus, the practice of exploring in both the solution space, e.g. perhaps through a 'conversation with materials' (Schön, 1995, 1996; Dearden 2006), and in the problem space, perhaps by challenging and recasting the design brief or 'requirements', brings designing into sharp relief as an essential part of our humanity, reflecting our ongoing efforts to order our world.

In the Practical Design for Social Action (PraDSA) project, part of the Design for the 21st Century Programme, we are concerned with designing and appropriating Information and Communication Technologies (ICT) in Social Action settings. We use the term 'Social Action' to refer to activities of individuals and organisations within civil society (Deakin, 2001), that are oriented towards social (rather than primarily economic) goals (Dearden et al., 2005). We then apply the term e-SocialAction to refer to the application of ICT in these activities. This definition incorporates a wide range of initiatives, varying from: trade-unions organising safety inspections on ships, or a virtual picketline in Second Life; Age Concern York organising

the NetNeighbours scheme in which volunteers place on-line supermarket orders for housebound elderly people; the International Red Cross using logistics software to deliver emergency aid; or Martus.org providing technology to enable victims to report human rights abuses whilst protecting anonymity and avoiding reprisals.

Designing for e-SocialAction is a valuable situation for design research, where it is possible to observe Dilnot's archetype, in which objects are shaped with an explicit goal of changing the social and cultural settings in which they are to be used. Yet, whilst corresponding areas of ICT designing such as e-commerce, e-government, e-health, e-learning, have received considerable attention and have established research frameworks, agendas, communities and growing bodies of knowledge, the field of designing for e-SocialAction has received relatively little attention, although related fields such as Community Informatics have become established. Dearden & Walker (2005) provides some initial efforts to develop a research agenda in e-SocialAction, and contains, primarily, descriptions of individual case studies.

Researchers and designers entering this diverse space have few points of reference. They lack frameworks or maps to navigate and understand the phenomena that they are observing or enacting. At present, the most obvious distinctions are at the level of the domain of Social Action, i.e. designers working in international development may talk with others in their domain, whilst designers in the trade-union and labour movement conduct a separate discussion. However, there are many parallels between different domains which may be expected to provide related findings that are transferable (Dearden et al. 2005). On the other hand, the case studies in Dearden & Walker (2005) show the wide diversity of systems to be considered. There is an urgent need for some categorization to support comparison.

Practical Design for Social Action (PraDSA), is a 2 year collaborative effort involving researchers and practitioners in e-SocialAction. The taxonomy of applications that we develop below, has been developed and refined in discussions within the PraDSA project about how examples of e-SocialAction can be understood, classified and distinguished. Our aim is to support a more refined investigation of designing in this important space.

A frame of reference

The framework abstracts away from the properties of particular technical solutions such as blogs, wikis, content management systems, databases etc. The focus or object of designing in e-SocialAction is not, primarily, a new piece of software or hardware – though new software and hardware may be formed. Rather, as Dilnot (1982) proposes, the aim is the creation or transformation of a socio-technical situations. Success or failure is evaluated by the Social Action that is enabled, achieved or enhanced. For this reason, development of our framework begins with the organizational context of Social Action.

Organisations, boundaries and relationships

Social Action covers a wide and diverse range of issues, e.g. labour relations, environment, social development etc. It also takes place in organizations of very different styles and sizes, from large Non-Governmental Organisations (NGOs) with many professional staff, to small informal community groups. These groups also have different relations to their context, from underground revolutionary factions to local charities giving support to vulnerable people. Diani (see della Porta & Diani, 2006) offers one framework for examining social movements by reference to three major groupings which could be referred to as:

- Us – the people who are active participants or supporters of the movement;
- Them – groups or institutions that represent forces that the movement challenges;

and

Allies – groups, or individuals who can be recruited to support the movement’s aims.

In the wider context of Social Action, there are many voluntary organisations and charities who operate primarily to serve the interests of a particular groups. Although such bodies can easily identify Us (their members and supporters), Them (public and private bodies whose behaviour they want to modify) and their Allies, their primary focus is often on the needs of people who are disadvantaged by existing social relations. Thus, for some groups, it is possible to identify a further category:

Our Constituency - for Age Concern this would refer to older people, for Oxfam it would refer to people living in developing countries, for the Royal National Institute for the Blind it would refer to people with visual impairments.

Finally, recognising that many members of the public may be unaware of the struggles that motivate action, and therefore may not be classed as ‘Allies’, we can add a fifth grouping:

The General Public.

Other structural formulations of social movements are available but identify similar broad groupings e.g. McAdam, Tarrow & Tilly (2001).

Because ‘our’ relations with these different groups are different, the objectives ‘we’ set in interacting with them are different, and the ways that we apply ICT will be different.

In this initial analysis, we assume that the actors in designing are members of ‘us’, i.e. supporters of the Social Action being promoted. We hope, in future work, to examine possible differences between situations where designers act as paid contractors to Social Action groups, where the identification with the specific Social Action may be more contingent.

Technology as or for Action vs. Technology supported Action

Instances of Technology and Social action must always be understood as fundamentally socio-technical. Design considers not only the technology, but the people and practices that apply the technology to social action ends. In any given case, we can distinguish between the organisation (individual, group or collective) that originally ‘provides’ and ‘designs’ a technological system and the organisation (individual, group or collective) who operate the system. Some artefacts may be designed and provided by ‘Us’ for operation by ‘Us’, others may be designed and provided by ‘Us’, but operated by ‘Allies’ or by ‘Our Constituency’. Note that the ‘provider’ of the artefact, is not necessarily the same group as the software developers for the artefact. The ‘provider’ is the group, individual or organisation, that manages the creation, design and deployment of the artefact for Social Action. This may mean that a group designs some new technology themselves, or commissions someone to create technology, or buys and deploys some off-the-shelf technology in a specific way. The provider is thus ‘designing’ a new situation.

In some situations ‘Us’ provides technology for social action that is then operated by ‘Allies’ or ‘Our Constituency’, or even ‘The General Public’. For example, the website TheyWorkForYou.com makes available detailed information about the voting records of Members of Parliament. This alters the power relations between electors and their MP by making it easier to call MPs to account. For the designers of ‘TheyWorkForYou.com’, the provision of the technology IS their social action. The availability of the technology changes society. In a similar way the ‘Serious Games’ movement designs computer games through which they hope to communicate important ideas or messages to the players (see, e.g. Flanagan & Nissenbaum, 2007). Again, the provision of the technology is the designer’s

means of social action. In the framework below we use the term “Technology as Social Action” or “Technology for Social Action”, to connote this approach. In other situations, ‘We’ design and then operate technology ourselves to undertake Social Action. For example, we may create a content managed website and use this to publicise issues, or use a database to manage contact information to invite Allies to join a demonstration. In the framework, we use the term “Technology supported Social Action” for this situation.

From the designer’s perspective, this distinction plays out in the range of techniques and methods that may be used in designing. For Technology supported Social Action, the people who will operate the technology can be identified and engaged directly as co-designers. It may be compared to what **Grudin (1991)** describes as bespoke designing in house, or under contract. In contrast, in Technology as Social Action, the operators of the technology are external and usually unknown. Designers may have to work harder to explore what different potential operators might want from a system. This situation will be more akin to Grudin’s (ibid.) category of designing for a marketplace.

The Social Function of Systems

Any Social Action is oriented towards one or more of the different groups (Us, Them, Allies, Our Constituency and the General Public). Aims in relation to each group are typically as shown in Table 1:

Our Constituency	Ourselves & Allies	General Public	Them
Improving skills and confidence in power relations with ‘them’ Improving access to goods and services	Smoothing operations and management Supporting and funding action Continuous strategic learning to improve our performance	Raising awareness and educating around the issues we regard as important.	Challenging their power by holding ‘them’ to account, highlighting their actions and interests Organising and co-ordinating actions by ourselves & others to exert pressure on them.

Table 1: Objectives for different audiences

The strategic analysis of the voluntary sector published by the National Council for Voluntary Organisations (NCVO, 2007) is organised around chapters on the following major functions.

1. ‘Providing voice and building a better society’,
2. ‘Delivering services’
3. ‘Leading and managing voluntary and community organisations’, and
4. ‘Supporting and funding voluntary action’
5. ‘Strategic responses’

These five categories can be mapped to the first five concerns in table 1. This perhaps reflects a difference between the radicalism of the groups Deakin (2001) examines as social movements, and the more moderate ambitions of some voluntary organisations. However, many voluntary organisations are deeply aware of the political context of their work and actively seek social change. Thus, in ‘providing a voice’ and building confidence, these groups may challenge existing power relations and hold ‘Them’ to account (7), so items (1) and (7) are closely related. With this wider aim of promoting change by educating the public, and

putting pressure on ‘them’, it can be argued that little has changed since Montefiore’s tract of 1918 was published under the title: Educate, Agitate, Organise (Montefiore, 1918). Thus we identify the categories for the framework:

	Technology <i>as</i> Social Action	Technology <i>supported</i> Social Action
	We provide a technology, allies or constituents operate it.	We provide a technology, we operate it.
2	Technology as pathway (to services)	Technology supported pathway
3	Technology as operations	Technology supported operations
4	Technology as funding and resourcing	Technology supported funding and resourcing
5	Technology as organisational learning	Technology supported organisational learning
6	Technology as education	Technology supported education
1 & 7	Technology as agitation	Technology supported agitation
8	Technology as organisation	Technology supported organisation

Table 2: Categories of e-SocialAction

Understanding the categories

Technology as pathway

In this category, we design and provide a technology that is operated by our *allies* or our *constituency* to provide a pathway to some service or resource. The services may be digital or practical services. The provision of the technology IS the action. This category includes the creation of accessibility technologies such screen readers. A different example is the Loband project (www.loband.org) that provides a pathway for users in developing countries who have limited Internet bandwidth available. The loband server is a proxy which will download a page and then deliver only the text content of the page, stripping out images, animations or other ‘bandwidth hungry’ items.

Technology supported pathway

Here, we design and operate a technology to aid us in delivering a service or benefit to members of our constituency. The NetNeighbours scheme (Blythe & Monk, 2005) operated by Age Concern York involves volunteers placing on-line supermarket orders on behalf of housebound elderly people. On a different scale, the International Red Cross support a pathway by using Humanitarian Logistics Software to manage delivery of emergency aid (see http://www.beyondphilanthropy.org/reviews/lynn_fritz_the_compassion_of_logistics).

Technology as / for operations

Every organisation uses systems to manage their internal operations. In this category, we provide technology to deal with the day to day operations of social action groups, and allies operate the technology. Basic capabilities might be keeping accounts, managing minutes, handling payrolls, supporting email, running an intranet etc. Examples include: Designing

simple accounting packages addressing the needs of NGOs, for example making it easy to map spending back to the restrictive conditions (hypothecation) that are often attached to funding grants. iContact (www.icontact.com) provides technology for managing email newsletters, blogs, surveys etc. for use by community and non-profit organisations (as well as selling these services to businesses). This category allows for a commercial software vendor to undertake social action by providing discounts to social action groups.

Technology supported operations

A more typical situation is that social action groups acquire technology, and design their work processes, to manage their operations. Such a large proportion of the ICT that is used in social action settings fits into this category that it becomes difficult to choose any specific examples. However, some design innovations are interesting. For example, a network of organisations facilitated the North Yorkshire Forum for Voluntary Organisations has designed a shared database for event planning, room booking, contact management. The major innovation here is not in the form of these databases, indeed, they are extremely simple. Nor is it about developing a complex web front end to a large shared database. Instead, the technical system is provided using simple office productivity software such as Microsoft Access and making the data available to the member organisations over the web using a Windows Terminal Service. This design recognizes the small number of users, and the low probability of concurrent access, avoids many complexities for managing sessions, access and training with new interfaces, simply by using the file and session management on the terminal server.

Technology as / for funding and resourcing

In this category, we provide technology that helps allies to obtain funding and resources. In the UK various examples exist including: Funderfinder.org.uk, GrantFinder.org.uk, and Trustfunding.org.uk. But funding is not the only type of resource that social action requires. Other resources may include computing equipment, skills, volunteers or paid staff. Technologists can assist this process, for example by operating computer recycling projects (cf. www.access-space.org), or operating on-line volunteer or job search facilities.

Technology supported funding and resourcing

In this category, we operate technology to obtain our own resources. Here we may consider a group using a shared document editor (e.g. a wiki), and managing email lists whilst working on a funding bid. Similarly, a group operating donor management, or supporter management systems could be considered to be enacting 'technology supported resourcing'.

Technology as organisational learning

Here we provide a technology that allies operate in order to enhance their organisational learning. The Organizers Toolcrib (toolcrib.ning.org) is a good example. The Toolcrib provides an indexing framework for organisers tools, and encourages sharing and discussion of experiences. Another example is the PublicSphere Pattern Language Project (www.publicsphere.org; Schuler, 2002).

Technology supported organisational learning

We provide a technology and we operate it to enhance our own organisational learning. This may be within a closed organisation or may be between collaborating organisations. Examples include LabourStart (www.labourstart.org) a news network for the international Trade Union movement; and the Open Knowledge Network (www.openknowledge.net) which supports sharing of knowledge between NGOs in developing countries.

Technology as education

In this category, we create some technology with the goal of influencing / challenging / changing the ideas of a user of the technology. In this case, the designers are communicating directly to an external audience via some digital artifact, e.g. a media file, a hypertext, or a complex piece of software. A simple example was the We Shell not Exonerate message (http://www.lifeisajoke.com/pictures492_html.htm) which was circulated in the run up to the gulf war. Because this satirical image was both clever, and funny, many people then forwarded it in a form of 'viral marketing'. A more complex technology for such political education comes from the 'Serious Games' movement. Designers have used games as a way of addressing issues of women's rights and self image and of conflict (Flanagan & Nissenbaum, 2007). One example is a three player game using a chess set, but where one player organises both the black and white pawns to prevent war breaking out between the black & white major pieces. Other critical design approaches such as Critical Technical Practice (Agre, 1997) Design Noir (Dunne & Raby, 2001) may fall into this category.

Technology supported education

Here, we provide and operate a technology to distribute social comment and other educational material and raise the awareness of allies, our constituency, the public and/or them. This form of social action is distinguished from Technology as education, by the fact that the technology that is the focus here is tools to enable creation and distribution of texts or other digital artefacts. The most common example of this would be a content management system for a social action website.

Technology as agitation

Here we provide a technology that is operated by allies, our constituency or the public to improve their position in relationships of power. One example is the Martus project (www.martus.org). Martus provides secure software to support information management in human-rights organisations, and ensures out-of-country back-up of data to protect the organisations against data-loss or threats from repressive governments. Another example is TheyWorkForYou.com which alters the power relationship between UK members of parliament and electors, by making it easier for electors to monitor their actions. In these examples, the availability of the technology changes the power balance between *our constituency* and *them*. A somewhat different example is the Intelligent Giving (www.intelligentgiving.org) which promotes discussion of the work of charities so that donors can consider which charities they wish to support. A key design concern for many of these tools is providing effective visualisations of relevant data.

Technology supported agitation

Here, we provide a technology and operate it, so as to enable our allies or our constituency in power relations. The VerifiedVoting project (www.verifiedvoting.org). This project by provided and operated an system to register election incidents in US elections, such as problems with voting machines. This system enables the organization to challenge problems. Other examples may be organizations using ICT to support 'rapid response' media units to challenge claims by their opponents, or to draw attention to their opponents actions.

Technology as organisation

Here we provide a technology that is operated by others to organise their collective actions. Examples include JustGiving (www.justgiving.com) which is a social action operated by a private sector company. The technology provided allows a user who is participating in a sponsored fundraising activity to set up an on-line sponsorship page, to which they can invite

friends / contacts to support the work. JustGiving provide technology to handle on-line payment, and recover tax relief on the donations. Justgiving then take a payment out of the tax relief so that the amount raised for charity is greater than the amount given, but Justgiving also cover their costs and make some profit. PledgeBank (www.pledgebank.org) operate a website where members of the public can make a pledge to undertake some action (e.g. cycling to work rather than driving, or donating some amount to charity) but only if a specified number of other users match this pledge. This creates a mini-organisation of the people taking the pledge. CivicSpace (www.civicspace.org) is an open-source software tool that can be used for creating a website and for managing contacts and arranging events. Again, the action is making the technology available to allow others to organise.

Technology supported organisation

Here we provide and operate a technology to co-ordinate our actions to put pressure on 'them'. The International Transport Workers Federation uses a shared database to record when ships have been inspected in port. By sharing records between union officials in different countries, the union can ensure that their inspection regime does not duplicate efforts, and can monitor the performance of different shipping companies across the world.

The boundaries of the framework

In the next section, we examine each category, and provide examples of designing interventions in each area. However, before moving on, we must clarify two boundary categories that stand orthogonally to this framework. This is not to dismiss these phenomena. Instead it is to recognise the purpose of the classification and to understand its limits.

Supporting Digital Skills as Social Action

This is working with a community to enable them to manipulate digital cultural artefacts, developing their confidence and their ability to be heard. The technology here plays the role of a domain in which people can recognise and realise their creative potential. A good example of this is the Open Source Embroidery project at Access-Space <http://open-source-embroidery.org.uk/>. Similar objectives might be achieved by using other creative skills, not related to ICT, as the means for people develop their confidence and power.

Social Action on Technology Relations

Here the point is not the use of technology for Social Action, but on social action around issues relating to ICT. Examples include campaigns on digital privacy and digital rights, such as the Free our Data Campaign (www.freeourdata.org.uk) which argues that data collected by the UK government (such as mapping data collected by the Ordnance Survey) should be made freely available for public use (e.g. for mashups), rather than being sold to private enterprise. These examples combine Social Action and ICT concerns. However, these campaigns could use technology in any of the ways listed above, alternatively (although unlikely) it is theoretically possible, to conduct these campaigns without using or designing any ICT to support or enact them.

One very special case is the Free / Libre Open Source Software (FLOSS) movement. Designers are creating FLOSS solutions for all of the different categories above, both technology as and technology supported Social Action. For this reason, creating FLOSS software is not considered as a special category, rather it is treated as just one particular way of forming technology.

An alternative way of viewing FLOSS is as a collective social action to reconfigure legal relations around the production of ICT. From this perspective, new creative-commons

licenses such as the GNU Public License, are designed artefacts, or 'legal technologies'. The designers of these innovations release the objects to the world (technology as social action). This can disrupt the activities of 'them' (e.g. the producers of proprietary software), and offers a pathway for 'us', 'our constituency' and 'our allies' to greater access to better software at lower cost. Thus, the designers of the GNU Public License may be seen as creating a Technology as a pathway, and a Technology as organization.

Using the framework

The framework can be applied in a number of ways, in the hands of social innovators or the managers of existing social action groups (whether technical or non-technical), in the hands of designers, or and by design researchers.

Use by Social Activists

Perhaps the simplest usage by activists is to review existing usage of technology in a particular organisation. Because such a usage is so obvious, we shall not examine it in depth.

A second mode is to use the framework as a guide when searching for new tools. The current design of the Organizers ToolCrib could be extended so that tools are indexed by the social function(s) that they support. At the same time, case studies describing how combinations of tools are applied to address particular social functions could added and searched.

Use by Technology Designers

In what follows, we take one particular e-SocialAction project and illustrate how the designers can use the framework to perform an initial auditing 'gap analysis', and to support reflective designing.

The EPSRC-funded Fair Tracing project (www.fairtracing.org) aims to help bridge the digital divide between Global North consumers and Global South producers by using tracing technology to enhance trade and reveal the value chain. Figure 1 shows one interface design that has been considered in the Fair Tracing project.



Figure 1: An interface design for Fair Tracing

Fair Tracing has as its heart the representation of a socio-technical system, with its emphasis on the social, economic and environmental aspects of food production as a means of profitably connecting Fair Trade and other ethical producers in developing countries with

ethical consumers in the North. The political elements of the production system will be displayed as part of telling the story of the value chain. A significant challenge will be representing the power relations so that they can be understood - and challenged - by multiple communities. In addition, the system will be designed to allow individual products to be traced from production to consumption. Clearly this is intended as a tool for social change and a complicated one at that. What kind of tool is it intended to be and how can this framework support its design?

We have argued that this categorisation can support for two key designing processes. The first, auditing and gap analysis, established the innovative value of producing a tool at all. It was noted that end-to-end *pathways* existed for Fair and ethical international trade: there are tools for connecting producers directly to users (e.g. www.justchangeindia.com). What was not available was a way of authenticating the value chain and encouraging understanding of it. If we apply the framework here, we can see that this gap has a dual aspect: there is room for education and for agitating by making power relations apparent. While a tool that only shows power relations between producers and consumers would be naive and may conflict with the opportunity to promote ethical goods, one that explores the dynamics of the value chain can combine the role of informing the players with challenging redundant and exploitative practice. This requires the creation of an interactive representation that is both informative and sufficiently open to show the interpretive nature of the material. It is apparent that not only do the designers need to represent the system of production, but they have some responsibility for describing the provenance of the information being represented.

From the above discussion, it is evident that the categorisation could also operate as a reflective design aid. In working to use digital tracing technology to allocate each individual product a unique identity that can be tracked throughout the value chain, the designers are creating operations-technology. This requires maximum flexibility in how data may be entered and support for various data forms working on multiple platforms. Although the tool is not intended to offer internal tracking, it can extract some of the same information as would pass linearly through an internal tracking tool. Instead of a linear process, it pulls information about the journey of the product into an alternative system that is platform-agnostic. Thus it must consider findings from the operations-technology canon but must recognise its differences. This understanding is supported by recognising that the tool can also function in several other ways.

The Fair Tracing tool will allow small-scale producers to show their products to advantage and communicate directly with consumers to distinguish their offering. This is a learning function in that brings with it complicated information management aspects that need to allow recipients of the information to filter according to their interests at the time. So while the tool is representing a particular product at point of sale or at the supper table, it should also respond to customisation instructions from the end-user as to what they want to know given their ethical priorities and task.

Meanwhile, further functions can be supported such as allowing the addition of audio-visual and narrative material to present stories along the value chain, e.g. social welfare and community initiatives by chain actors. In encouraging the generation of expressive materials at each stage in the chain, the designers are creating organisation-technology - with the possibility of generating social capital as another outcome.

What hasn't been decided yet, but needs to emerge, is whether this research project should deliver technology *as* action or work eventually as technology *supporting* social action. Under either option, issues arise of how funding & resourcing will be handled, and whether the technology needs to include some accounting functions to measure usage by different actors,

or to draw in additional resources. What is the minimal support structure for such a system to operate? Peer to peer design underpins the technical architecture with the intention of minimising the load on any one player. However, there is a significant difference between releasing Fair Tracing into the wild so that any players - at any point in a value chain - can use it and then seek to build a chain round themselves, and, alternatively, keeping it more organised by insisting that chains commit together and sign up to be part of some FairTracing federation. Under this latter option, FairTracing implies Technology supported learning, organising, operating and agitating. Understanding both models helps to facilitate the design choices and the political discussions around them.

Use by Design Researchers

Pragmatically, the Practical Design for Social Action project has grown from a question initially formulated as: 'Can there be a Social Movement Informatics?' i.e. is there the potential for researchers and designers from different domains of e-SocialAction to meet and usefully exchange their experience, skills, and learning. Dearden & Walker (2005) show that the field of e-SocialAction is large enough, and sufficiently distinctive from other fields (e-government, e-commerce etc to warrant specialised study, asking whether there is sufficient common ground between different domains of Social Action to support fruitful exchanges. Using this taxonomy, it is easier to identify and bring together designers from different Social Action domains who might share common ground. Thus the taxonomy allows us to reinterpret and recast disciplinary boundaries in this space, moving from divisions between different political foci, to clustering around shared interests in social function.

The framework also lends itself to the formation and investigation of new, more refined research hypotheses. For example, it is reasonable to hypothesise particular associations between design skills and particular categories of e-SocialAction. In the area of technology as education we may expect skills in graphic and communication design to be extremely important, whereas these skills may have a lesser role in designing systems for technology supported operations. In the area of agitation, skills in data visualization may be particularly useful, whereas in devising technology as operation or for supported operations more traditional skills in designing and implementing information systems may be more relevant. These ideas must, at present, remain as hypotheses. The PraDSA project is currently undertaking a number of case-studies investigating design practices in a range of different organizations. These case studies offer us a first opportunity to test some of these hypotheses.

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References

- Agre, P, 1997. *Computation and Human Experience*. Cambridge UP, Cambridge.
- 15 Blythe M. Monk A. Net neighbours: adapting HCI methods to cross the digital divide. *Interacting with Computers* 2005; 17: 35-56.
- Dearden A. & Walker, S (Eds.) 2005. Special issue on Design for Civil Society, *Interacting with Computers* 17(1).

- Dearden, A, Walker, S & Watts, L, 2005. Choosing friends carefully: allies for critical computing. In, Bertelsen, O, Bouvin N, Krogh, P & Kyng, M (Eds.) *Critical Computing – Between Sense and Sensibility* ACM Press, New York, NY, pp. 133 – 136.
- Dearden, A. 2006. Designing as a conversation with digital materials. *Design Studies* 27(3) 399 - 421.
- della Porta, D. & Diani, M., 2006. *Social Movements: An Introduction*, Blackwell, Oxford
- Deakin, N., 2001. *In Search of Civil Society* Palgrave, Basingstoke
- Dilnot, C, 1982. Design as a socially significant activity: an introduction. *Design Studies* 3(3) 139 – 146.
- Dunne, A & Raby, F., 2001. *Design Noir: the Secret Life of Electronic Objects*. August/Birkhäuser, London.
- Flanagan, M. and Nissenbaum, H. 2007. A game design methodology to incorporate social activist themes. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. CHI '07. ACM Press, New York, NY, pp. 181-190.
- Grudin, J. 1991. Bridging the gaps between developers and users. *Computer* 24(4) 59 - 69.
- McAdam, D, Tarrow, S & Tilly, C, 2001. *The Dynamics of Contention*, Cambridge University Press, Cambridge.
- Montefiore, D., 1918. Educate, Agitate, Organise. *The Call* 26th December 1918. Available from www.marxists.org/archive/montefiore/1918/12/26.htm
- Schön, D., 1995. *The Reflective Practitioner How Professionals Think in Action*. Aldershot, UK: Arena.
- Schön D. & Bennet J., 1996. Reflective Conversation with Materials. In Winograd, T. (Ed.) *Bringing Design to Software*. Addison Wesley.
- Schuler, D., 2002. A Pattern Language for Living Communication. In Binder, T., Gregory, J. & Wagner, I. (Eds.) *Proceedings of the Participatory Design Conference 2002*. CPSR Press, Palo Alto, CA. pp. 51 – 62.

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