

Doing technology design and being an information architect

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Suddenly, a few years ago, the job title *information architect* seemed to just *appear* within ICT design environments and job advertisements. Around the same time *information architect* also just *appeared* as one of the jobs that HCI and usability professionals might do. For example, it is not listed in Preece et al., *Human-Computer Interaction* (1994) but it is in the later book, *Interaction Design: beyond human computer interaction* (2002), where information architects are defined as "people who come up with ideas of how to plan and structure interactive products, especially websites" (p. 11). The research discussed here was motivated by the sudden use of the term as if it named some established and well understood role related, in some way, to user-centred design approaches and methods. Who are these people called information architects? Where do they come from? What do they actually do? Where does the work they do fit within the wider technology design process? Are there some common practices among those who are called information architects? And if so what are they?

This paper reflects on the findings from a series of 26 workplace interviews with people who were called, or who called themselves, information architects. It was, of course, never expected that there could be any single definitive answer to any of those questions asked above. But it was intended that some understanding of the phenomenon of information architects could be gained through an understanding of their practices. This, in turn, could provide useful insights into current ICT design practices in a wider sense. As well, and most importantly for this workshop, such an understanding would be developed from a different perspective on ICT design practice than that usually defined by a focus on design processes or models. It might provide some clues about how other design approaches, including sociotechnical ones, might fare in use.

I begin with a brief summary of the various kinds of work that the participants in the study contributed to their last projects. This is included to ground the discussion of their reported experiences of specific design processes and their perceptions and representations of their own roles within them. A major conclusion is that any actual design process is always an achievement of those whose actions are required to produce the process in the first place, including producing the relations between some process model of technology design and/or some design methodology, and some specific instance of ICT design practice within some specific sociotechnical environment. If we hope to adopt truly sociotechnical approaches to understanding action within technology design and implementation processes then it will be information architects, and those working under related job titles, who will need to make such approaches active within actual design practices.

Being an information architect

While the great majority of those information architects interviewed were working in web design of one kind or another, in practice, the term did not define a uniform and discrete role in the design and development of technology in general. The work practices of the information architects in this study are far broader than those included in the popular technology design literature (e.g. Wurman, 2001, 1996; Garrett, 2000; Rosenfeld and Morville, 1998). Only half were responsible for the 'traditional' information architecture areas such as the production of navigation models and wireframe diagrams. None had worked only on these traditional activities and none spent most of their time on this work.

The work that occupied most of the time and efforts of the participants in the study was the communication work required to coordinate the various stakeholders in the design process (Robertson, 1996). This included working as the communication facilitator in a project, coordinating their work with the work of other members of the design team, negotiating access to users, liaising with content providers, liaising with external providers, preparing and delivering presentations and customer pitches as well as the range of activities usually covered by 'attending meetings'.

This coordination work was the activity regarded by the information architects themselves as most central to their work and most defining of their role within their organisations and within the technology design process as they experienced it. Participants described practices defined by their fluidity; practices aimed always towards filling the gaps between process models and specific actual processes, and establishing relations between, and holding together, whatever processes they found themselves part of and whatever products they were designing.

It [information architecture] kind of defines that stuff that happens in between all that other stuff. I try and make things simpler for people to use (interview a).

It seems to be like this missing role and until you have somebody that comes in and says, "I'm an IA. Give that to me" (interview b).

Basically you work in between the rocks and the hard places (interview q).

I'm sort the meat in the sandwich. I like talking to the tech guys and I like talking to the business guys and I like talking to the designers and I don't mind being the translator in between everybody, which is what I end up doing a lot of the time (interview c).

A lot of I.A. is just a struggle for clarity (interview e).

I see it as a lynch pin between a lot of the other disciplines (interview f).

This role had no edges (laughs) (interview g).

Most importantly, this coordination work is where the politics of the design process is played out and where any usability gains are won and lost.

The participants varied in their acceptance of the term information architect to describe the work they did. Some said that it aptly described and represented what they did; others accepted the role but felt that titles such as usability consultant, user experience designer or interaction designer would be more appropriate. Those with the least experience were less likely to be reflective about the appropriateness of their title. Their professional experience had not included the period before information architect was used as a job title and they appeared to take for granted that it named what they did. Each participant with more than three years experience in the field said they had been called a range of titles in their careers but had done similar work (most frequently described as interaction design) in each. The slipperiness of the definition of the term was used

strategically in some cases, without reflection but also without apparent harm in others, and always appeared to name some space, sub-process or role in the design process that needed a name.

Doing technology design

Perhaps the most sobering theme to emerge from the study was the sense of technology design as some kind of struggle, or at least a competition. Participants described the design process, and their own work with it, using the terms of warfare.

I'm sort of the first line of defence for production as an IA (interview l).

It's a constant battle for us to push IA and its acceptance to the business in general (interview e).

It's like running an egg and spoon race. Though you're also having to jump over 150 hurdles between you and the finish line while people are pulling at your legs or throwing oil at your partner (interview d).

Participants described a range of projects where the final design was not shaped by any particular design method but instead by competition, from different parts of the organisation designing the technology and/or the client organisation, for control of the process, for control of budgets, for control of content, for control of evaluation and accountability, and for control of how different parts of the organisation were represented within the product itself.

And I'll say "You told me the search is horrible and you can't find things. So yes I understand that you want to make yours look special, but you've also told me that you don't want anybody else's to look special" (interview w).

The information architects in the study used a range of strategies to negotiate their way through this battleground of technology design as part of their daily work practices.

For some their work included establishing the method for, and the justification of, their involvement in a given project. It was for many an ongoing process to establish a legitimate place within the particular software development cycle, or competition, within their workplace. One participant explained:

And so we try to reinject ourselves into the development process earlier. We're constantly fighting that battle and as we get restructured and the management changes, so you start from square one (interview r).

Those information architects who were not managing projects, or who had little communication with senior management had little control over the work in a project. This was particularly clear in larger organisations where management hierarchies were complex, subject to frequent restructure and with many stakeholders to manage. For example, one participant, working on a large organisational intranet, contended with over a hundred content managers, with no formal governance around the management of content to assist anyone in the process.

Some participants explained how the financial and political constraints of projects effected the work they did, its benefit to the clients and ultimately to the users. User involvement, if included in an organisation's design process at all, was the first item to be removed from the budget when things got tight. The resulting product designs were based on assumptions about the user, not on genuine user participation. This applied even to those working within specialist service providers

with established user-centred design processes who still faced unwillingness from clients to pay for user participation and/or to make potential users available to the design team. The information architect was expected to be able to represent the user in the design process. This meant an increasing reliance on discount usability methods (Preece et al., 2002; Nielson, 2000) and the use of information architects as user-representatives in the design process. At times this was reminiscent of more traditional software development methods and roles such as *system analyst* or *business analyst* where these people, acting as pseudo-users, have been relied on for the development of product requirements. Another common issue affecting access to users was the unwillingness of other parts or the design team to wait while user research and/or evaluation were done. The process was seen as somehow detrimental, at times a handicap, to the development of the product.

You know usability testing at the 11th hour and we're launching in two weeks because we told everyone we would. As if no one's going to point the finger at you as a roadblock. We've actually been dealing with the roadblock thing for a number of years. It's really because of a poor business process really (interview d).

Yet others had managed to find ways to make space for their users in even the most hostile environments: "We have a tendency to use guerrilla usability tactics" (interview s). These people were invariably in management roles but all had also learnt a lot about tactics. The most successful were experienced professionals who knew a great deal about HCI issues and usability principles. These information architects were more able to effectively argue for the value of user-centred processes within any kind of design process in any kind of organisation. At the same time they were sufficiently flexible in their own practices that they could select those user-centred processes and methods that were most likely to be successful in that environment and/or they were most likely to get away with. They were prepared to, and able to, undertake as many different methods as needed.

These organisational challenges are not unique to information architects but common to all those committed to those approaches broadly defined as user-centred design (Vredenburg et al., 2002; Preece et al., 2002, 1994). In this study, knowledge of HCI issues, participatory design approaches (e.g. Schuler and Namioka, 1993; Greenbaum and Kyng, 1991) and usability principles emerged as one of the key elements to enable some participants to take more control over the design process used in their organisations. "I think there might be some IAs that are less empowered, but I think that it lies more in your knowledge base" (interview b). Those information architects most capable of standing their ground in the organisation were those who read research papers, who had research skills, who read beyond the popular titles on usability and web design and who worked actively within relevant professional associations.

Interestingly, these information architects also played an active educative role, promoting the practice of information architecture within their work setting and to other industry practitioners. This took various forms; some tutored in HCI and related subjects; others spent time training work colleagues in analysis and design techniques they could use themselves; one even taught his colleagues and users how to use heuristics to evaluate the developing application (Preece et al., 2002; Nielsen, 2000). Sharing knowledge proved for some to be an effective way to promote a greater understanding and appreciation of the work that they did both with other members in their project team and those in the wider organisation.

Concluding comments

If technology is interpreted broadly enough then it is difficult to imagine any human action that is not sociotechnical action. The usefulness of the term then, is tied to the value of the perspective on human action that it prioritises. The work practices of information architects, along with the practices of all those others who work in technology design environments, are as much sociotechnical action as those of the people for whom specific technology is designed. The research discussed here demonstrated very clearly that technology design is never just a technical activity, and design processes and their related models are never so much implemented as produced anew each time a particular product is developed. That product reflects, and is shaped by the situated, contingent and constantly contested practices of those who participate in its design, development and implementation.

One implication for any new or rethought design approach, including one focused on understanding sociotechnical action, is that it will not add much to existing approaches unless it also addresses the design skills, tactics, and strategies that those working within ICT design environments need if they are to define and/or direct actual design practice within their organisations.

“... the best approach is not often implemented really” (interview r).

References

- Garrett, J. (2000) *The Elements of User Experience*. New Riders Publishing, USA (2002)
- Greenbaum, J. and Kyng, M. (eds) (1991) *Design at Work*, Erlbaum, USA
- Krug, S. (2000) *Don't Make Me Think! A Common Sense Approach to Web Usability*. USA: Macmillan.
- Nielsen, J. (2000) *Designing Web Usability: The Practice of Simplicity*, New Riders Publishing, USA
- Preece, J., Rogers, Y. and Sharpe, W. (2002) *Interaction Design: beyond human-computer interaction*. John Wiley, USA
- Preece, J., Rogers, Y., Sharpe, W., Benyon, D., Holland, S. and Carey, T (1994) *Human-Computer Interaction*. Addison-Wesley, UK
- Robertson, T. (1996) Embodied Actions in Time and Place: The Cooperative Design of a Multimedia, Educational Computer Game. *Computer Supported Cooperative Work*, Vol 5, No 4. Kluwer Academic Publishers, Dordrecht The Netherlands, pp. 341-367
- Rosenfeld, L. and Morville, P. (1998) *Information Architecture for the World Wide Web*. O'Reilly, USA
- Schuler, D. and Namioka, A. (eds) (1993) *Participatory design : principles and practices*, Erlbaum, USA
- Vredenburg, K., Mao, J., Smith, P. and Carey, T. (2002) A Survey of User-Centred Design Practice. In *CHI Letters*, Vol. 4, No. 1, 471-478. ACM, USA
- Wurman, R. (1996) *Information Architects*, Graphic Press Corp, Switzerland
- Wurman, R. (2001) *Information Anxiety 2*, QUE, USA