

# "A Role With No Edges": The Work Practices of Information Architects

*Toni Robertson, Cindy Hewlett, Sam Harvey and Jenny Edwards*

Faculty of Information Technology, University of Technology, Sydney  
PO Box 123 Broadway NSW AUSTRALIA 2007  
<toni><chewlett><sam><jenny>@it.uts.edu.au

## Abstract

This is not really the abstract but is here as a space holder. (152 words) For those working in technology design environments, *information architect* is a recently defined job title used to describe the people who are responsible for designing 'how everything is organised' (Krug, 2000. p. 4) in a web application. While the recent growth in the use of *information architect* as a job description implies an established and shared understanding of the meaning of the term this meaning has nevertheless been remarkably contested. As one of the information architects interviewed for this research remarked: 'It's just a source of endless idle argument on the newsgroups when the profession could be getting on with better things'. So, our starting point here is that information architecture is at least part of the work that people who are called information architects do and information architecture is a process within the design of systems.

## 1 Introduction

*Information Architect: 1) the individual who organises the patterns inherent in data, making the complex clear; 2) a person who creates the structure or map of information which allows others to find their personal paths to knowledge; 3) the emerging 21st century professional occupation addressing the needs of the age focused upon clarity, human understanding and the science of the organisation of information.*

Richard Wurman (1996) *Information Architects*, Graphic Press Corp, Switzerland, p. 9.

*Information Architecture: structural design of the information space to facilitate intuitive access to content.*

Jesse James Garret (2000) *The Elements of User Experience* <http://www.jig.net/ia/>

For those working in technology design environments, *information architect* is a recently defined job title used to describe the people who are responsible for designing 'how everything is organised' (Krug, 2000. p. 4) in a web application. While the recent growth in the use of *information architect* as a job description implies an established and shared understanding of the meaning of the term this meaning has nevertheless been remarkably contested. As one of the information architects interviewed for this research remarked: 'It's just a source of endless idle argument on the newsgroups when the profession could be getting on with better things'. So, our concern in this paper is to consider the skills and backgrounds of people who are called information architects and to understand the various processes and practices involved in their

work. Of particular interest is how design processes defined as user-centred are being used by information architects in their work.

The research reported here is based on the twenty-six intensive, loosely-structured, workplace interviews with information architects. Most of these are currently working in Sydney and Melbourne, in Australia, but five are based in Europe one in Hong Kong and one from the US. This research is the initial, scoping stage of a larger project that includes long term field studies of a range of work practices surrounding the design and use of web-based applications. In the interviews we sought to identify the common issues affecting the work of information architects as well as those issues that were highly situated and domain specific in their affect on different individuals. We wanted to ensure that the issues we pursued in our ongoing research were grounded in actual technology design practice.

We contacted eight of the interview participants directly and the others replied to a single request for participation posted on the listserv hosted by the Computer-Human Interaction Special Interest Group (CHISIG) of the Ergonomic Society of Australia. This is the Australian professional organisation for academics, researchers and practitioners in HCI and related fields. We were particularly interested in interviewing information architects who had a familiarity with, and commitment to, user-centred design methods.

We asked each person interviewed to situate their answers in their most recently completed project. This provided us with twenty-six examples of genuine work practice to represent what information architects have been doing. The interviews were transcribed and then independently analysed by the authors to identify the issues and categorisations relevant to the aims of the research. In turn these issues and categorisations were compared, sorted, iteratively re-evaluated and then further defined against the transcripts, interview notes and other field data before being used to structure our analysis.

Because our space here is limited, we cannot give a full account of our findings. Instead, in the following section we use a broad brush to represent the skills and backgrounds information architects bring to their work. From there we summarise the range of projects information architects contribute to and discuss the different kinds of work that the information architects themselves defined as part of their practices. Finally we reflect, briefly, on the significant challenges and opportunities posed by our study to the evolution of HCI.

## **2 Who are these people?**

The ages of the participants ranged between approximately twenty-five to forty-five. Seven had worked as information architects or in closely related fields for more than five years, eight for three to five years and the remaining eleven for less than three years. Only one participant had no university qualification. Three had no undergraduate degree but had gained post-graduate qualifications. Of those with undergraduate degrees, eight had first degrees in the humanities, eight in architecture/design (including one each from industrial design, graphic design and ergonomics); two had first degrees in mathematics, two in new media (digital design etc) and one in economics. None had undergraduate degrees in information technology or information science. Fifteen had, or were completing, post graduate qualifications; five in information technology, three in new media and three had a specialist qualification in HCI. Two had postgraduate qualifications in education and two in the humanities. Interestingly, given its traditional contribution to information design as a discipline, none of our participants had studied information

science. Their professional backgrounds, prior to working as information architects, were even more diverse and included: academia and research (five), web development (three), two each from HCI, instructional design, visual design, theatre, publishing and marketing; and one each from school teaching, fine arts, communication, industrial design, consulting and public relations.

While it is common for those who work in information technology design environments to come from other areas, and while popular texts on information architecture emphasise its multi-disciplinarity ( see, for example, Rosenfeld and Morville, 1998, especially chapter two), we were both surprised and impressed by the diversity of qualifications and professional backgrounds among our participants. Some kind of design and/or research training and/or professional background was in fact common to most; it was just not the same kind of design training and background. The important point here is that the field is too recent for there to be a basic, shared body of professional knowledge and skills that can be assumed for people working as information architects.

In practice most used mailing lists and specialist websites to sustain their professional development in information architecture and related areas. Round half attended industry conferences or short courses, a third regularly bought popular industry publications through Amazon.Com and only five read academic research papers. Most were familiar with Garrett's Elements of User Experience (Garrett, 2000, 2002) and his definition of information architecture within the more general term of user experience (quoted at the beginning of this paper), but none of our information architect's' work practices were as specialised as this definition would imply.

### **3 What do they do?**

When asked to nominate their last project half the participants had worked on the development of a specific website (or part), six on intranets (or part), two on extranets, three on specialist web-based applications and two had worked on projects that were not web-related. Projects involved a range of industry sectors including six from both government and ICT sectors, five from Finance, two each from retail, public utilities and entertainment, and one each from building/construction, real estate and the media.

We can not do justice here to the very rich and complex descriptions in our data of the various kinds of work each of our participants did within the design and development processes in their different organisation. But we found that that all the kinds of work mentioned in the interviews fitted within the broad categories of Research, Designing, Evaluation and Coordinating Internal and external Stakeholders and Management. We emphasise that these categories were not imposed on the data but emerged from the iterative analysis of interview transcriptions and then validated against additional transcriptions. To give our readers some understanding of the extent of reduction in this categorisation, the work of Designing includes practices as varied as requirements development, preparing customer 'pitches', defining scenarios and personas, developing sitemaps and navigational models, producing wireframes, designing the interface and the interaction, and specifying content. The other categories of work, included in the table, are at a similar level of abstraction from the very varied kinds of actual processes represented in our data.

The top section of the table below maps the work practices of each participant (columns labelled **a** to **z**) to these categories of work (rows). The bottom row of the table records whether the individual information architect indicated a familiarity with user-centred design methods.

**Table 1:** Summary of the Work Done By Information Architects<sup>1</sup>

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z			
<b>Research</b>	X	U	U	X	X	X	X	X	U	X	U	U		-	U	X	X	U	U	X	-	U	U	-	U	U			
<b>Designing</b>	X	X	X	X	X	X	-	-	X	X	-	X		-	X	X	X	X	X	X	X	X	X	X	X	X	-		
<b>Evaluation</b>		X		-	U	U		-						-	U	X			X	-	X					-	U	U	U
<b>Coordinating stakeholders</b>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X	X	X	X	X	
<b>Management</b>		X				X		X				X	X	X	X								X		X		X		
<b>User-Centred Design?</b>	X	X			X	X		X	X	X	X	X		X	X			X	X			X	X		X	X			

The information architect represented in column **u** was a junior member of a very task-based organisation and is the only person whose work was so tightly defined. Information architects were as involved in various kinds of research about the developing product as they were in specific design processes. Our data support the importance of research-based design to the development of any software product including those built for the web.

Our participants were less likely to be involved in the evaluation of the product (only seven of the twenty-six). Our data provide two explanations. The first is that some organisations either had people dedicated to usability evaluation in the design team or routinely outsourced those parts of the process to a specialist provider. The second is that in eleven of the twenty six projects (forty-two percent) no evaluation was done at all. Just over half the products that were evaluated involved users in that process (round thirty percent of the total).

Six information architects were not directly involved in the specific design process at all. Four of these were responsible for the management aspects of their projects. Of these one (column **m**) had chosen the title of information architect for strategic reasons and was rarely involved in the actual design of specific products. The positions of the information architects represented in columns **g** and **k** were defined within their organisations to facilitate their liaison with information architects in the specialist providers where development of products had been outsourced.

Of the two information architects who were not involved in stakeholder coordination, one is the junior staff member referred to above and the other (column **p**) was building an already specified application to work on an existing web-site. Our findings demonstrate the centrality of the coordination of stakeholders to the work practices of information architects and confirm Robertson's (1996) and others earlier findings that the technology design process relies on the communication work done by designers to coordinate their work with the work of others. This coordination work is also where the politics of the design process is played out, and where usability gains are won and lost.

<sup>1</sup> A hyphen - indicates that the work for that row was done on the project but not by the information architect. An X indicates that the individual architect was involved in these work practices in their last practice and a U indicates that users were also involved (where -U appears it means that someone else did this work but users were involved).

A space in the first four rows means that the work was not done on the project at all, in the bottom two rows a space signifies a negative answer.

In the final row of the table, two thirds of the information architects noted an understanding of, and experience in, developing design concepts using direct user involvement. Yet only twelve of the twenty-six projects included user research of some kind and only eight involved users in the product evaluations. Some of the information architects explicitly noted that user involvement was the first item to be removed from the budget when things got tight. We suggest that this factor has resulted in the 'internalising' of the user-centred design process; that is, experienced information architects still work to incorporate some type of research and testing in the design process but regularly do not have access to the user. The resulting product is a design based on assumptions about the user and not true interaction with the user.

## 4 Some Reflections

In their findings from an extensive survey of user-centred design practices, Vredenburg, Mao, Smith and Carey (2002) wrote: 'Some common characteristics of an ideal user-centred design process were not found to be used in practice. namely focusing on the total user experience, end-to-end user involvement in the development process, and tracking customer satisfaction' (p. 478). We found similar issues in our study of the work of information architects. In fact nine of our participants (one-third) either did not appear to be familiar with user-centred design processes at all, or while they may have involved their users in the process somewhere, they were unable to tie their own practices into the wider, established design methods for user-involvement. An interesting consequence for these information architects was a relative lack of control over the design priorities in the products they were building.

A clear issue in all our interviews was the constant efforts of almost all of our participants to develop the most usable product that they could. Only those involved in managing the design process, and those protected by a manager, who defended the importance of usability and the involvement of users in that process, were able to routinely exploit user-centred design methods. Even so, those who were able to control their design processes rarely controlled how the project budgets were allocated. This meant an increasingly reliance on discount usability methods and the use of information architects as user-representatives in the design process.

For those of us working within HCI the implications are sobering. Over the last ten years companies with a core focus on the user as part of the development processes have evolved. These companies, and the practitioners within, are finding that user involvement is perceived as one of the most expensive items in the development process (see also Vredenburg et al., op cit). In the post-bubble design economy gains that have been made in the incorporation of user-centred methods in the design process are being reversed. At the same time something something. And another nice strong sentence to end

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