The term Interaction Design (sometimes written as IxD, to distinguish it from ID – Industrial Design) has become increasingly popular among members of both the Human-Computer Interaction (HCI) research community and sections of the Industrial and Product Design communities in recent years. Where does the term come from, and what it mean? We could spend a lot of time attempting to elaborate a perfect definition, but this is a difficult and thankless task. Let us just note that it is generally agreed the term seemed to originate back in the mid-80’s from work being done at the design firm ID2 (now IDEO) by Bill Moggridge, interacting with the engineer/designer Bill Verplank, and it has since been popularized by people such as Gillian Crampton-Smith while working with the Computer-Related Design section of the Royal College of Art in London in the early 90’s. Perhaps one of the first books which attempted to outline the nature of new field was the collection of essays edited by Terry Winograd in 1996 entitled \textit{Bringing Design to Software}. As a placeholder, let us accept the following definition by Rob Reimann in an interesting discussion about the term on the interaction-designers discussion list: “the design of the behavior of artifacts and systems, and secondarily the form that serves and embodies that behavior.” (Nov. 20th post to \url{http://discuss.ixdg.org/}). So, IxD can be viewed as going beyond industrial design in examining human and machine behaviour, as well as function and form.

The emergence of a new label usually signifies some shift in attention within a community, as people determine that a new term may help to push for, and shape, a new set of concerns for the underlying disciplines. So, what is the re-direction that is being signified with the term Interaction Design? Before attempting an answer to this, we must first clarify our own position within this arena, as, depending on where one is situated, the answers given may be quite different. In our case, we would both situate ourselves within the broad field of HCI, with a strong emphasis on the human and social aspects of the field. From our viewpoint, we see IxD as denoting an approach to HCI (broadly conceived), that transcends the traditional and still mainstream cognitive engineering perspective evident in much HCI work by putting greater emphasis on aspects of design, rather than, say, evaluation. In particular, this view on

\footnote{The term has also been used within the commercial arena by the software consultant Alan Cooper, \textit{Cooper Interaction Design}, to distinguish between design work focused on screen design rather than an understanding of the purposes of the whole user activity. We will concentrate more on its design uses here.}
IxD opens up new areas for exploration within HCI, allowing for conceptual approaches such as phenomenology, where subjective understandings and appreciations of objects and services are open to investigation. The realm of personal meanings, interpretations, experiences, and aesthetic qualities now become legitimate topics for inquiry. This enlarges the more traditional approaches to HCI which focus on a more engineering approach to the design of effective interfaces between people and machines, in terms of functions and tasks.

Thus, from within the HCI field, we can see a “reaching out” of some elements of the HCI community to engage, in more substantive ways than heretofore, with many aspects of Design practice. We use Design with a capital ‘D’ here to signify the range of design disciplines such as product design, industrial design, graphic design, and also strategic design. While we are not attempting here to speak for members of this Design community, we can also perceive the shift in attention within these disciplines – away for instance, from a concern with objects, and towards a concern with services. They are also grappling with the import of digital media for their traditional design practices, realizing the need to focus more on an understanding of how people interact with and through media over time. Thus we see many Design schools extending the repertoire of their courses to include aspects of both new interactive media and human and social behaviour. Other professions, such as Architecture, which traditionally encompass issues of form, function and human behaviour, are also coming into contact with the Interaction Design discipline, again due to a number of convergences – the reduction in cost and size of computing elements, and the rise of ubiquitous computing, which allows for computational elements to be inserted into the built environment. The emergence of ubiquitous computing has also pushed many engineers and HCI specialists to pay more attention to the spaces and places within which we perform our (increasingly computationally-mediated) activities of working, living and playing.

So, at one level, we can state that the field of Interaction Design denotes an emerging interdisciplinary community at the intersection of the technical and social sciences and the design disciplines. This emerging community has been developing its own set of conferences and meetings, and is beginning to publish its own discussion groups, websites, and more formal publication channels such as Newsletters and Journals. At this level, we can view IxD as an emerging arena for discussion among these different traditions, with debates about the suitability of different concepts and methods for studying and developing new interactive forms.

For some people, the rise of this supposedly “new” field is perplexing on a number of grounds. They argue, for instance, that HCI is already a very multi-disciplinary activity, so why is there a need for a new label and new sub-grouping of the field? What, exactly is new here? Others feel that any new research area needs to be founded on a solid conceptual foundation, and feel uncomfortable that the term “interaction design” lacks any clear and agreed-upon meaning. While sympathizing with such concerns, we should also be aware that it is common at the beginning, and even well into the life of a research area, that there is a lack of consensus on the defining characteristics of the field – witness the lack of clarity that exists to this day in HCI as to the meaning of such foundational terms as “interface”, for example. Responding to the initial criticism above, one could argue that, while HCI is indeed multi-disciplinary, the major organs of the community are still dominated by a
cognitive and engineering mentality that is viewed as closed to many Design concerns.

Enough about definitions of the field, let us turn to the set of practices associated with it. While the term IxD includes the word Design, we must be sensitive to the range of meanings associated with this term - from the more traditional Design professions, through to the use of the term in the development of software to encompass the whole development process, from requirements through to testing and evaluation. We see IxD as allowing for a more fruitful interplay between the design professions and people engaged in building software prototypes and understanding human activities. We also see fruitful dialogue between the activities of Participatory Design and the more general Design profession. This can “open out” the design process, developing methods to engage people in the design process. We also need to address the fact that while there is still scope for the lone creative designer, most designs are the result of the work of design teams, and many good designs are fundamentally dependent on the ideas, and thoughts of those for whom design is being done. So, while we may not go so far as some of our Dutch colleagues who produced a book with the title *Everyone is a Designer* (Gerritzen, 2001) – there is a sense in which Design is definitely not something done only by officially labeled “Designers”.

At the same time, it is important to stress the fact that many researchers in the HCI field, with an interest in the IxD field, including ourselves, are not Designers – in the classical sense of the term. However, our work can be viewed as a part of the design process, and our methods can assist in the design process, and not only in the area of Participatory Design mentioned above. Indeed, one of the more interesting features of the IxD research and design activities are the range of methods and approaches with which to explore the design process. These design-oriented approaches are often more lightweight in terms of equipment and experimental rigour, yet they can open up very interesting features for our understanding of the design context. The work on Cultural Probes (Gaver, Dunne & Pacenti, 1999) would be an outstanding example, as well as many narrative approaches which are more subjective in their approach to the more commonly used methods in HCI.

Our view on Interaction Design at the University of Limerick IDC

Over the past several years in our research group, we have been attempting to create an “innovation space” – where creativity and artistic ideas can meld with conceptual analysis and the development and use of novel methods for understanding human activity in the world, mediated, at times, by artefacts - occasionally computational. In pursuing this agenda, we have found that the construct of IxD has been a useful positioning term, especially when it was adopted back in 1986 - to denote some merging of engineering design, HCI, and the art and industrial design fields. Of course, this does beg the question of whether many of us in the University of Limerick Interaction Design Centre (IDC) can be viewed as designers per se, which obviously we are not. Yet at the same time, many of the kinds of development work being done includes design aspects, and if one views design as not simply being the brilliance of an individual creative artist doodling, and coming up with radical, innovative concepts (an image that we think is actually not a very accurate depiction of how most design really occurs), then there is a sense in which many of the IDC personnel do indeed play a role in the design process, apart altogether from the research perspective which we adopt in our work. At the same time, we recognize that
we need a wider range of skills in the IDC, and so taking in art and design people from a taught post-graduate course that we teach on interactive media has helped us to add that component to the patchwork quilt of the IDC over the past number of years. We also are hopeful that the new Architecture faculty here at UL can be a useful link for us, in terms of the studio approach to working and designing, as well as engaging with us in conversations about the melding of physical and computational forms in the design of spaces for human and social activities.

In bringing together such a varied multi-disciplinary team, we face the challenge of creating a unique identity for the IDC, one that overcomes the individual differences of its members, such as speaking different academic or professional “languages”, embracing different ways of envisioning the role of designers and of end-users, being skilled in different conceptual and methodological tools.

Instead of imposing a pre-defined model of work for our team members, we encourage mutual learning, exchange and debate. This ongoing open dialogue among the members of our group has contributed to original thoughts and creative design ideas, as well as having fostered the development of the IDC’s main research topics, which have emerged from our practice during the past number of years. These include:

- **Human Activity** – as a fundamental aspect of human being in the world
- **Materiality of Objects** – the central role of material artefacts in human nature
- **Engagement** – the need to excite, motivate and enhance the user experience
- **Interaction** – human play with objects being seen as a narrative activity, not as simple action-reaction
- **Multimodality** – incorporating several sensory modalities
- **Sociality** – creating artefacts or assemblies of artefacts that allow for collaborative activity
- **Augmentation** – viewing the computer as a medium or tool for human actions, not as an intelligent butler or agent that attempts to model us

*(from Bannon, 2005; p. 41)*

Other IxD issues that researchers in the IDC are currently exploring include understanding the different aspects of human experience of artefacts, including emotional and aesthetic aspects; investigating how humans inhabit and live in the physical world and how they make places out of spaces for working, playing and living; and reflecting on the methodological appropriateness of more traditional HCI methodologies for studying the interaction between humans and a computationally-enhanced physical world.

We believe that the IDC can make a significant contribution to the IxD field not simply by making pronouncements, *ex cathedra*, about what the discipline is, or should be, but by working on a number of fronts simultaneously. So, some of our ideas can be collected and put forward as a kind of design *manifesto*, concerning our specific approach to the understanding of computational artefacts and their role in human activities. But we also develop design concepts, and work with other partners to produce interactive artefacts and events, and reflect on the way our work is used and experienced. These various forms of evaluation and reflection are fed back into our learning processes within the Centre, contributing to a spiralling cycle of knowledge accumulation and distribution within our multi-disciplinary community. This is how we in the IDC approach the field of Interaction Design, which we believe
offers some exciting new vistas for those concerned with the design of novel objects, spaces, and services for human and social activities.

References


