

Industrial Design to Experience Design: Searching for New Common Ground

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Abstract

The rate of technological change is accelerating much more quickly than society is able to assimilate. In recent times we seem to have fallen prey to the notion of technology for technology sake... it's new, it's faster, it's smaller... it must be better. This is particularly true as we move into a new age of networked wireless computing. The world is changing. This new technological era offers an unprecedented opportunity to reconcile the relationship between people and technology – an opportunity to focus on human experience as a central issue in the design process. All of us in the design world recognize the problem – and we realize change is needed. This shift from industrial design to “experience design” is having a profound effect on the way we work. But to date we have had limited success in addressing these issues. So what needs to be done and how should we go about it?

The aim of this paper is three-fold - first, to establish the need to focus on human experience as a central issue in the design process: a new and common, interdisciplinary practice that we refer to as experience design; second, to acknowledge the diverse community of practice contributing to the evolution of experience design; and third to discuss the key issues and challenges facing the evolving practice of experience design. The authors of this paper represent a wide range of design disciplines including industrial design, interaction design, architecture, visual communications and visual art.

Keywords: Industrial design, experience design, interaction design, interdisciplinary collaboration, historical precedents

The Need for Experience Design

In the past few years it has become increasingly apparent that we are undergoing a major shift in consumer preference from product-based to experience-based solutions. Mass production has given way to mass customization. And with that change, the primary market considerations of utility and function have given way to a new set of qualitative attributes. The designer Richard Buchanan has argued for a paradigm shift in all design fields from the external to the internal. He identifies a historical trajectory of moving progressively through “four orders of design”, from symbolic through to things, actions and environment. (Buchanan, 2001).

In 1999 Pine and Gilmore acknowledged the implications of this shift in the business world with the publication of their notable text, The experience economy: work is theatre & every business a stage. From a business perspective, they observed the increasing rate at which products were reaching market saturation, a point at which products effectively become a commodity. Based on these observations, Pine and Gilmore suggest that in order to circumvent the typical product price war associated with commoditization, or put more simply, in order to add competitive value to product or service offerings, it will be critical for business to shift from a product and service based economy to an ‘experience economy’... where business caters to lifestyle experience.

Dealing with new technology is in itself another major factor. In recognizing the impact of the increasing role of computing in people’s lives, Terry Winograd was among the first to identify a design practice whose outcome and focus was a qualitative process rather than a “thing” or an object (Winograd, 1997). He labeled this new practice as “interaction design”. Winograd identified the need to focus on the perceptual and psychological aspects ‘of human experience by rooting interaction design equally in graphic design, psychology, communication, linguistics and computing science.

This, perhaps, was only the tip of the iceberg. Much has changed in the few years since Winograd identified the need for teams with diverse skill sets to focus on the individual user in efforts to provide better solutions to problems associated with desktop computing. Today's networked wireless technology represents a much more significant challenge and by its very nature will require multi-disciplinary solutions. We now have the capability to embed sensor technology in virtually all products that we produce. The implications are astonishing. These devices will be aware of their surroundings and capable of responding - and perhaps on a more ominous note, these devices will all be connected and capable of talking to one another or anyone else anywhere else in the world. The world as we know it will change. In response, design has a more critical role to play in a more complex scenario.

While the importance of human experience may seem self-evident in designing for networked mobility, it clearly has not been fully articulated on a theoretical or definitional level to the degree that Winograd and Buchanan suggest is required. This lack of clarity has also led to difficulties as we attempt to address the inherently interdisciplinary nature of experience design. Don Norman suggests one of the major stumbling blocks is that each discipline speaks a different language, comes from a different starting point and focuses on different things (Norman, 2000). As a result it is still an onerous challenge to bring practitioners together to work collaboratively as equal members of a team.

We believe Norman's observation may in fact be a crucial piece of the puzzle. If we are to find common ground for these emergent problems, we must first understand who the players are and what they can and will bring to the table. The following overview traces the key precedents in core design disciplines that contribute to the evolving community of practice for experience design.

Building a Community of Practice

A key genesis point in the evolution of "experience design" is the work in the 1930s of the industrial designer Henry Dreyfuss (Dreyfuss, 1967). Dreyfuss' work in ergonomics led to the publication of the "Measure of Man", an extensive database of

human measurement to facilitate the design of products tailored to a ‘standardized’ human body. In the late 1960’s ergonomics split into the related science and kinesiology based field of human factors, the political and social movements in Scandinavia that became known as participatory design (Levinger, 1998, Ehn, 1992), and the cognitive science and design methodology of user-centered design (Norman, 1988, Nielsen, 2000). The commonality of these movements was an increased concern on the user or human recipient of design.

In the early 1970s, the democratic social movements lead to concepts of increased participation of the user within the design process itself, resulting for example, in the pattern languages of the architect and urban planner Christopher Alexander (Alexander, 1977). Despite pattern language’s origins within the field of Architecture it has also come to form as a new design approach for object oriented design in Computing Science (Gamma et al, 1995). The increasingly critical role of the user in these design processes contributed significantly to the evolution of experience design. At the same time the phenomenon of space, time and environmental design – clearly the domain of architecture – also began to play an ever-increasing role in experience design.

In addition to the growing focus on the user experience, focus on the user’s context arose out of graphic design. Though we tend to think of graphic design as visual and static, theorists in ethnography such as Edward T. Hall, help us to understand the participatory role of people in communication environments and spaces. Hall said in “Beyond Culture” (1976), that, “few people realize that vision is not passive but active...it is in fact a transaction between a person and his environment in which both participate”. Graphical context creates cues for communication and action. Further, Hugh Dubberly (Dubberly, 2000), an expert in brand experience, has made clear the connection between communication design, information architecture, brand experience and design for web based audiences and experiences.

Enabling the audience experience was also a key goal of theorists and practitioners of the fields of performance and theater, namely the Russian, Vsevolod Meyerhold (Cooke, 1983), and later the work of theorist and theater director Jerzy Grotowski

(Grotowski, 1968). This tradition directly informed the concepts of interactive design from the early work of Norman Bel Geddes (Marchand, 1995) to today's interactive technology experiences and environments (Murray, 1997, Dodsworth, 1998).

In the field of computing science, particularly in the field of HCI (Human Computing Interaction), experience design is viewed as an extension of user-centered design methods (Shneiderman, 1982, IBM, 2002). This approach has a particular focus on the "User Experience" aspect of design, in particular, quantifying the interactive experience as a means to determining standards for interface and interaction design.

Searching for Common Ground

From our brief discussion of the origins of experience design, it is clear the boundaries between the design disciplines are blurring to respond to the new challenges. So where is the common ground? It is clear the problems are complex. It is clear the solutions will require the contribution and scrutiny from a diverse audience supported by a diverse range of experts. Unfortunately the term experience design has been defined and is being used in different ways across the design community. In order to work together we will require a common language – terminology we can all agree to.

Although the notion of *experience and design* existed previously (Shedroff, 1999, Rhea, 1992, Csikszentmihalyi, 1990), the first recorded use of the term, "experience design" appeared at the American Institute of Graphic Arts (AIGA) Advance for Design Summit in Santa Fe in 1999. The following definition emerged at the AIGA Design Summit at Telluride in 2000: "Experience design is...a community of practice not a single profession or discipline. Designing effective experiences requires many different types of professionals with a broad range of knowledge...." (AIGA, 2001).

While the AIGA definition explicitly defines the term experience design as a community of practice, industry players such as Philips have expanded this definition and are using it to define a specific approach to design: "Experience design is a design approach which focuses on the quality of the user experience during the whole

period of engagement with a product: from the first impression and the feeling of discovery, through aspects of usability, cultural relevance and durability, to the memory of the complete relationship.” (McWilliam, 2001)

In the academic community, semantic analysis has fueled an all-together different argument around the term experience design. In the paper *Virtuosos of the Experience Domain*, Liz Sanders argues that there is no such thing as experience design, and that because experience is so subjective a more appropriate term is “design for experience”. She goes on to suggest that to this end the focus should be towards designing experience scaffolds or infrastructures that people can use to create their own experiences.

Other language issues associated with the term Experience design are an outgrowth of similarities across different domain vocabularies. For instance in day-to-day design practice, terms like experience design and user experience design are often referenced as the same entity. This is problematic, for though Experience design as a concept is grounded in issues related to *User experience*, the term itself has a much broader scope than that associated with User Experience design, which tends to take it’s lineage from an HCI or usability-related background. .

In order to resolve these issues we need new models. Drawing from our trace of the historical origins of the community of practice, the key issues surrounding experience design clearly originate in different fields and it would seem reasonable and meaningful to build on this diverse range of expertise. The solution must ‘fit the user’ in industrial design. Architecture brings a focus on user participation along with the importance of space and time. Context is a major concern in communication design. Interactivity is the prime focus of performance and theatre. And the notion of usability falls primarily within the domain of computing and cognitive science.

It seems clear that the only solution to this language issue is to work towards building awareness and appreciation for the inherent complexities associated with the idea of building a community of practice and designing positive user experiences. As we move forward in building this awareness we can frame our thinking within the

following key issues:

1. In today's technology driven landscape, experiences happen across multiple media domains, and environments and challenges of this scope will require creative solutions derived by a diverse community of practice.
2. Members of this community must rightfully engage each other in a cross-disciplinary dialogue around the task of creating positive "user experiences".
3. In doing so each practitioner sits at the experience design table with a slightly different bias around what it means to consider user experience.
4. The considerations related to user experience in each discipline are unique and valuable in their own right. It is important to recognize this and embrace alternate perspectives.

It will take a holistic approach of a thoughtful community of practice to develop solutions that balance the technical, social and cultural challenges of our rapidly changing world... this is the new Common Ground we are all looking for.

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