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It is the experience!

A computer functions in essentially two ways: as a *tool* and as a *medium*. Fogg (2003) believes that computers are also *social actors*, but I find that perspective difficult to defend at the academic and intuitive levels. It implies an independence of function and thought, which computers and computer programs do not possess. All computer functions and thoughts are products of human intention and design, those of the producer and those of the user. These two primary functions are exploited in four essential types of information-centered applications: productivity tools, content centres, games and communities. These types of applications rarely exist in isolation, but each possesses unique attributes and opportunities. Each of these can be of value to business enterprizes, academic institutions and private individuals.

When people use these information applications, they have an experience. The nature of the experience will have an impact on their cognitive and affective states, impressions of the application, thoughts about the people who created the application and the decision to use that application again. This is true whether the application exists on the Web, within a corporate intranet or extranet, or on a CD-ROM.

The user experience is the most important part of any information application design. I worked for nearly a year at an amusement park in California. We were taught during employee orientation that if people leave the park happy, they will keep it to themselves, but if they leave the park unhappy they will tell 10 of their friends. When I worked as a television photojournalist and feature story producer, I knew that one happy caller was one happy caller but the person who called with a complaint about what he or she saw on our programme represented at least 1000 people who felt the same way. Now imagine the impact of one bad experience in the information age. News of this disappointment will circle the globe at the push of a button, at the speed of light. The quality of the experience is what matters. Bad experiences are bad business and the unused application represents a loss of time and investment.

How do we ensure good experiences with our substantial investment in information technology (IT)? Firstly, we must understand the nature of our users. This seems pretty obvious and yet there is evidence that it is not taken seriously. Any attempt to insure a positive experience is pointless without an understanding of the people who will use an application. Secondly, producers must know why they are creating the application and why people will use it. This also seems pretty obvious, but it only takes a visit to a few Web sites to discover that people still are not sure about why they created the site and why people would want to visit the site. Thirdly, we must apply creative design principles, using a variety of media appropriate to the audience and function(s) of the application. I am a communication designer who believes there is usability in creativity. We cannot engineer a one-size-fits-all solution for the creation of value-generating information applications. I believe I am the designer type Tom Peters (1997) calls for in *Circle of innovation* and I am definitely the guy Jakob Nielsen (2000) derides in the *Practice of simplicity*.

The obvious core of creating usable information applications is identifying who the primary and secondary users will be. This will impact every aspect of design, including languages,

colour palettes, visual complexity, layout and icons, as well as the way a tool functions, the nature and presentation of content, the complexity and perspective of game play and the means of interaction in a community. I am firmly convinced that if we communicate effectively with a specific and appropriate audience, people outside the audience will become interested in the information application. A good conversation attracts eavesdroppers. A good conversation is one in which the actors know one another well and use the full range of communication tools at their disposal. An eavesdropper is anyone outside of the intended audience of the conversation. No one really wants to listen in on a conversation that addresses generalities and appeals to the lowest common denominator.

A basic understanding of the user relies first on demographics and the relatively fixed attributes of an individual that include gender, age, education, income, etc. More complex understandings of users come from knowing their psychographic attributes, which include the variables of lifestyle, opinions, values, attitudes and activities. Creating and maintaining an interesting experience demands that the information application connects with the user's needs and interests as well as background. Another important factor in user definition is the determination of the user's literacy. Literacy used to be a single linguistic concept, but now we also have visual, computer, Web, cultural and corporate literacy. Understanding these will enable the creation of engaging experiences for those users.

It is imperative to know the parameters of the computing technology available to the user. What is the clock speed of the machine? What is the speed of the network that is connected to the machine? What is the resolution of the monitor that will be used? The technology available to the user will impact the delivery and functioning of the application and will have a fundamental impact on the experience. I do not believe that we can or should generalize the definition of the user's technology. People in different populations have varying access to types of computing equipment. These differences exist at the level of infrastructure as well as the social and individual level. It may be necessary to design for the slowest connection and smallest monitor to reach your desired audience, but I believe you should design for the optimal technological setup and then reduce file and window sizes according to your target (s). This will make it possible to increase the media richness of your information application as user capabilities increase.

Another aspect of the user is the context in which they will use your information application. Will it be private or public? Will it be quiet or loud? Will it involve individual or social use? In Asia, Internet cafés are an important location for Internet browsing, messaging and gaming. Home-based computers are more important in north America. Game applications may create the assumption of social play, while many people play alone or in private while connected to a network. The same can be said of community applications where people gather in the virtual world but there may not be a social dimension to the physical location of use. The context of use will have a significant impact on the user's experience and it must be considered.

Finally, it is important to know the user's willingness to learn and his or her tolerance for fault and ambiguity. There are some information applications that provide a type of service or content of such value that the user is willing to wait for it to download or learn exactly how it works or struggle through the ambiguities of the interface. This type of tolerance is rare because applications of this value are few but, when they exist, the application producer must consider the richness of the experience for intended users and worry less about the general lack of tolerance for slow loading and difficult or ambiguous information applications. This tolerance will often be closely related to the function of the application for the user.

The function of an information application is important for experience design, regardless of the type of application. Tools have clear-cut functions, content serves a function, a game has

a function, if only to entertain, and communities can have many important social and psychological functions. Function is a double-edged sword in user-centered experience design. There is the function that application producers have in mind and the function that the users perceive. British Telecomm (BT) has an application that allows their field engineers to download their job files and obtain some limited information about the client, fault and location. The producers and BT managers see the application as a way to simplify centralized job sorting and assignment. The field engineers see it as a means of increased managerial control and overseeing. Within BT, another group of programmers is working on an application that will increase field engineer control and the perception of that application is already subject to the understanding of the older application. Similar and less onerous discrepancies in the functional value of an information application can be seen in Web sites, intranets and corporate portals.

Building on communication theory and more than 10 years of teaching and research related to information application design, I have created a taxonomy of function with seven categories. The seven functions of an information application are: a) giving or getting information; b) providing or making connection(s); c) getting attention; d) providing or accessing relevant tools; e) persuading; f) entertaining; and g) expressing. Most information applications serve more than one of these functions, yet one will certainly overshadow the other. The combination of functions will give the applications an identity within highly competitive information environments.

Clearly the function of the information application must be consistent with the function and goals of the organization or individual who created it. It must also fall in line with the needs and expectations of the targeted user. When an information application falls outside of the established orientation and identity of the producer's brand, it will create confusion. The inconsistency is likely to diminish brand value and reflects poorly on the other operations of the organization or individual. Users will search for information applications that are consistent with brand identity and applications should be designed with this in mind. Interface and media design must also follow the constraints and possibilities of the existing brand identity.

Interesting, compelling, powerful experiences are a direct result of a usable interface design. Krug (2000) informs us that usable interfaces do not make users think. This means that the cognitive load of the user is focused on the content or activity made available by the application. All thinking directed towards the interface is wasted time and energy. It not only distracts from the experience, but also diminishes the users perception of the brand associated with the application. This loss of brand value can happen to employees who use a corporate portal, customers who access a business extranet, players in a virtual game room or citizens in an online community. The nature of the experience with the information application will colour every other aspect of the interaction and the success of the user.

Eliminating the need to think does not mean eliminating graphics, images and motion. It means eliminating graphics, images and motion that take away from the function of the application and draw attention to themselves. Consider an example from architecture. The modernist architectural movement of the 20th century emphasized functionality in design and regarded all forms of external decoration as unnecessary. From an engineering perspective, this makes perfectly good sense and seems like a relevant approach for the design of information applications. Consider, however, the consequences of this perspective on the urban landscape as it is blighted with buildings that are highly functional and completely sterile. Touring a modernist building is a completely forgettable experience, it does not engage, it does inspire and it does not involve. As a matter of fact, it looks exactly like any other modernist building constructed to fulfil the same function. Therefore, the information application designed for function alone suffers the very real possibility of looking like every other application designed for the same purpose. The inability to

distinguish one design from another makes it impossible to remember which one worked well and which one did not work at all. There is a need for designs that distinguish an information application within our media-saturated environments. Decoration as well as form should follow function as it reinforces brand identity and meets user needs and expectations. This would be in the spirit of architect Louis Sullivan who was the first to say, 'form follows function'. Sullivan used decoration to reinforce and distinguish the function of the buildings he designed.

It is always possible to have too much of a good thing. Too much of a good thing in interface design attracts attention to itself. Attention to design elements represents a loss of cognitive focus. Design should be noticed after the information application fulfils its function, as an afterthought or a reflection on why the experience was interesting, enjoyable and successful.

Creating positive user experiences generates goodwill for the producer and provider of an information application. It adds value to a brand. Creating positive user experience requires a thorough knowledge of the user, the function of the application, how the application is used, and design elements that connect the application to the user and reinforce the application function. These design elements can also strengthen the association between the application and the organization or individual who made it available. The only way to know if an information application generates a positive user experience is to watch people use it and listen to the comments that are made about it. It should also be noted that it might be possible to test usability with anyone. This is what Krug (2000) indicates, but testing the effectiveness of communication must be done with members of the target audience.

References

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Russell B. Williams
Assistant Professor
Digital Graphic Communications
Department of Communication Studies
Hong Kong Baptist University
williams@hkbu.edu.hk

Comments on the above can be sent to:
Pieter van Brakel
Editor
pavb@rau.ac.za

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