

Case Study 1: Using Technology as Experience Framework

Download the case study titled, "Using the 'Technology as Experience' Framework," from http://www.id-book.com/casestudy_5-1.php.

The user experience framework can help designers constrain and scope the user experience of a given system. The user experience framework also informs about the relationship between a conceptual model and a user's understanding of it for past, current, and future systems. The case study actually consists of two studies. For this evaluation, consider the first one by Heather Collins on an online fundraising Website. She used primarily the sensory and compositional threads of the framework, leading to insights on how fundraising organizations can maximize their Websites to tell a compelling story to a potential donor that is balanced in content and emotion. Collins' design combines elements of storytelling, appropriate emotional triggers, and a welcoming atmosphere to encourage potential donors to act by making a donation, volunteering their time, telling their friends, or attending a related event. Through this process, the donor can create a meaningful connection to a cause or problem directly impacting their community. The personal connection makes the online donation experience pleasurable for the user.

Write a two to three (2-3) page paper in which you:

1. Explain how the Web user interfaces help donors to make decisions.
2. Relate the emotional thread demonstrated in the case study to the emotional design model as discussed in Chapter 5 of the textbook.
3. Explain how the compositional thread is used in the case study.
4. Use the user experience framework to create five (5) product evaluation criteria using sensory and compositional threads.

Your assignment must follow these formatting requirements:

- Be typed, double-spaced, using Times New Roman font (size 12), with one-inch margins on all sides; citations and references must follow APA or school-specific format. Check with your professor for any additional instructions.
- Include a cover page containing the title of the assignment, the student's name, the professor's name, the course title, and the date. The cover page and the reference page are not included in the required assignment page length.

The specific course learning outcomes associated with this assignment are:

- Explain the characteristics of human-centered design methods.
- Create a product evaluation through a formal framework.
- Use technology and information resources to research issues in human-computer interaction.
- Write clearly and concisely about human-computer interaction topics using proper writing mechanics and technical style conventions.

(i) Emotional Design Model

Ortony *et al*'s (2005) model of emotion and behavior is couched in terms of different levels of the brain. At the lowest level are parts of the brain that are pre-wired to automatically respond to events happening in the physical world. This is called the visceral level. At the next level are the brain processes that control our everyday behavior. This is called the behavioral level. At the highest level are brain processes that contemplate. This is called the reflective level (see Figure 5.17).

The visceral level responds rapidly, making judgments about what is good or bad, safe or dangerous, pleasurable or abhorrent. It also triggers the emotional responses to stimuli (e.g. fear, joy, anger, and sadness) that are expressed through a combination of physiological and behavioral responses. For example, on seeing a very large hairy spider running across the floor of the bathroom many people will experience fear causing them to scream and run away. The behavioral level is the site where most human activities occur; examples include well-learned routine operations such as talking, typing, and driving. The reflective level entails conscious thought where people generalize across events or step back from the routine and the immediate. An example is switching between thinking about the narrative structure and special effects used in a Harry Potter movie and becoming scared at the visceral level when watching the movie.

The model makes a number of claims about how we respond to stressful and pleasurable situations. A central claim is that our affective state, be it positive or negative, changes how we think. When we are frightened or angry, the emotional response is to focus on the problem at hand and try to overcome or resolve the perceived danger. Our bodies will respond by tensing our muscles and sweating. In contrast, when we are very happy, such as watching our

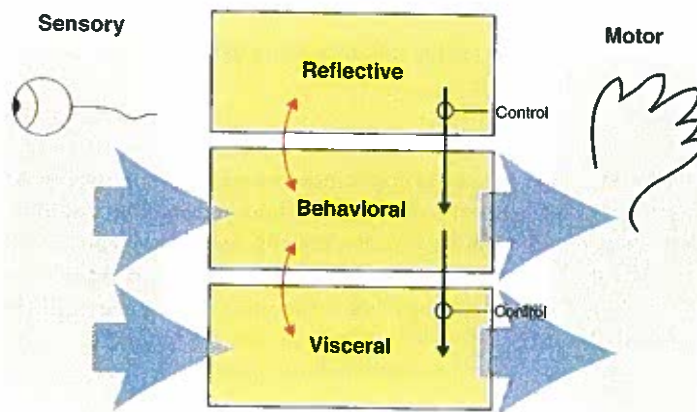


Figure 5.17 Ortony *et al*'s (2005) model of emotional design showing three levels: visceral, behavioral, and reflective. The arrows refer to how the different levels are affected by each other

team win the last game of the championship, the emotional response is to laugh, cheer, and jump about. The body relaxes. When in such a positive state of mind we are far less focused. Such a state is thought to enable us to be more creative.

The model explains how the human brain and the body switch gear to respond appropriately to different events. But how can it be used in interaction design? Can products be designed to make people happy and, if so, be more creative? Should this be a high-level goal? According to Norman (2004), when people are happy they are more likely to overlook and cope with minor problems they are experiencing with a device. In contrast, when someone is anxious or angry they are more likely to be less tolerant. So does this mean that designers should be creating products that adapt according to people's different emotional states? When people are feeling angry should an interface be more attentive and informative than when they are happy?

Such an adaptive approach is unrealistic, since people's emotions change all the time and it would be difficult to keep abreast of them, let alone know what kind of interface to present to complement them. Instead, Norman takes a more conventional approach of applying the model, suggesting that designers focus on the context and tasks a product is being used for. But Norman's explanation of how this could play out in practice also has its problems. On the one hand, he argues that if the product is intended to be used during leisure time and is meant to be fun and enjoyable to use then designers "can get away with more" and not be too worried about how the information appears at the interface. On the other hand, he says that for serious tasks, such as monitoring a process control plant or driving a car, designers need to pay special attention to all the information required to do the task at hand and that the interface should be visible with clear and unambiguous feedback. The bottom line is "things intended to be used under stressful situations require a lot more care, with much more attention to detail."

ACTIVITY 5.7

Do you agree with Norman's position about the different amounts of attention that need to be paid to serious versus pleasurable tasks?

Comment

While it is of utmost importance that the technologies used by operators in dangerous and highly stressful situations, such as on a battlefield or in a burning building, are effective, efficient, and informative, why would it not be the case, equally, for other situations? Would people not want to have clear and unambiguous feedback, too, for pleasurable tasks carried out in convivial environments, such as controlling a home entertainment system – especially if they had paid thousands of dollars for it? People can become very frustrated and angry with a TV system that does not give them clear information about when and on which channel a program is supposed to be. ■

A less controversial application of the model is to think about how to design products in terms of the three levels. Visceral design refers to making products look, feel, and sound good. The designer can use a number of aesthetic techniques such as clean lines, balance, color,

shape, and texture. The iPod, featured in Chapter 1, exemplifies this approach. Behavioral design is about use and equates with the traditional values of usability. Reflective design is about taking into account the meaning and personal value of a product in a particular culture. For example, the design of a Swatch watch focuses on reflective aspects, where the aesthetics and the use of cultural images and graphical elements are central. Brilliant colors, wild designs, and art are very much part of the Swatch trademark and are what draw people to buy and wear their watches.

CASE STUDY 5.1

Using the 'Technology as Experience' Framework

Introduction

To show how the Technology as Experience framework (introduced in Chapter 5) can be used to think about and inform design, two case studies are presented here. Both used it to guide their initial ideas for the design of two different websites: (i) an online fundraising site and (ii) a site that reviews men's clothing, intended to appeal to men who do not enjoy shopping. Both were written by students as part of a graduate course in Human-Computer Interaction and hence it should be noted are only hypothetical websites (see the end of the case study for the assignment¹).

The first was written by Heather Collins when she was a graduate student at Indiana University. She used primarily the sensory and compositional threads of the framework, leading to insights on how fundraising organizations can maximize their website to tell a compelling story to a potential donor that is balanced in content and emotion. Her design combines elements of storytelling, appropriate emotional triggers, and a welcoming atmosphere to encourage potential donors to act by making a donation, volunteering their time, telling their friends, or attending a related event. Through this process, the donor can create a meaningful connection to a cause or problem directly impacting their community. The personal connection makes the online donation experience pleasurable for the user.

The second was written by Aaron Loehrlein when he was also a graduate student at Indiana University. He used all the threads to think about designing a website for a pleasurable experience for clothes shopping among men who ordinarily hate clothes shopping. Because the website is intended as a consumer guide for men's clothes, and not a retail site, it encourages a more relaxed emotional interaction with its users. The website does not present clothes as part of a larger fashion trend, but describes how the clothes are likely to fit into the life of the wearer. The descriptions are meant to provide an entertaining, non-challenging experience by using simple, jargon-free language, familiar metaphors, and sarcastic humor that is never aimed at the wearer. He found the emotional and sensual threads to be particularly useful to design for this.

Applying the User Experience Framework to Online Fundraising

Heather Collins

Introduction

In an age where 67 percent of Americans use the Internet to find and purchase products—ranging from the latest bestseller on Amazon.com to a used sofa on Craig's List—information architects and designers have an opportunity to investigate why customers find particular shopping experiences appealing or pleasurable¹. While users may cite practical reasons such as the convenience of 24/7 shopping or the availability of millions of products, it is equally likely that less tangible elements—such as aesthetics, mood or a sense of personal connection—help seal the deal. For example, companies like Nike (<http://www.nike.com>) have begun to design cinematic, highly interactive retail sites that evoke emotion and invite customers to identify with their product “culture.” In short, these companies are designing *for* a user experience that goes beyond pragmatism (Wright and McCarthy, 2003).

While this approach to interaction design may seem attainable only to an organization with a cadre of Flash programmers and a healthy marketing budget, it need not be. Drawing on Wright and McCarthy's (2003) user experience framework, this paper will address how to design for a pleasurable user experience in the context of non-profit online fundraising. The next section provides a brief background on the online fundraising environment, followed by an explanation of the user experience framework elements particularly applicable to the online donation process. The following section offers a prototype of a new online donation experience, including design concepts and scenarios. The final section discusses the benefits and challenges of the proposed design, as well as potential design trade-offs and evaluation methods.

¹December, 2005 Internet demographics from Pew Internet and American Life Project:
http://www.pewinternet.org/trends/Internet_Activities_12.05.05.htm

A Brief Overview of Online Fundraising

In 2004, Americans donated between \$162 million and \$3 billion online to nonprofit organizations encompassing youth and family services, faith-based efforts and humanitarian and relief initiatives, just to name a few (Sausner, 2005)². According to the Pew Internet and American Life Project, the number of online donations in the U.S. has increased by 53 percent since January, 2005. The devastating effects of the 2004 Asian tsunami and recent U.S. hurricanes have prompted unprecedented levels of Internet donations to organizations like the Red Cross, The Salvation Army and CARE (Horrigan and Morris, 2005). In general, nonprofit organizations strive to make it easy for donors to give. These organizations have come to recognize the importance of integrating Web-based initiatives into their fundraising strategies because the Web enables them to reach thousands of potential donors at minimal cost.

Although there is little empirical evidence to explain why people give online versus offline, it is likely that convenience, impulse and loyalty all play a part. Interestingly, these are similar reasons people choose to shop online. In a recent study, Holt and Horn (2005) offered five factors that seem to motivate offline giving to nonprofits: (1) the organization's mission; (2) whether the organization adds value/has a sense of responsibility to the community; (3) financial stability and transparency of the organization; (4) the quality of volunteer leadership (e.g. board, committees); and (5) the quality of staff. The authors also stressed that organizations venturing into the online fundraising domain need to explicitly invite donors to give online, offer a simple, attractive and secure interface, and maintain open and clear communication channels (online or otherwise) with the donor to ensure that the relationship continues (Holt and Horn, 2005).

Why We Need a New Perspective

The goal of this project is to design a rewarding online giving experience from the perspective of the donor. In general, nonprofit organizations tend to be late technology adopters and many organizations have only established Web sites within the last few years. These sites typically function to provide donors, volunteers and grant-makers with information about an organization's mission, programs and leaders. For example, the Central Indiana Community Foundation (<http://www.cicf.org>) is a relatively static site, and a donor has to work very hard to find how he might be able to give online. Two levels beyond the home page, the donor finds a page entitled "Ways to Give," where he can download a donation form to mail into the organization, but not give online. This is not an uncommon scenario for many small to medium-sized nonprofit organizations.

At present, nonprofit Web sites with online giving capabilities tend to be purely functional—not unlike e-commerce sites of 10 years ago. A significant number of nonprofit organizations also use third-party vendors such as Network for Good (<http://www.networkforgood.org>) for

²I suspect the disparity in this figure is related to difficulties in accounting for donations related to recent natural disasters; for example, \$350 million was raised online for the 2004 tsunami alone.

online fundraising because they do not have the technical resources to manage online donations in-house. However, these services typically take the donor to a separate e-commerce interface with a different look and feel from the original organization's Web site. Thus, it is safe to say that few nonprofit organizations have been able to design for an online fundraising user experience due to practical constraints. By applying Wright and McCarthy's user experience framework to the context of online giving, it may be possible to better integrate the mission, vision and accomplishments of these important organizations with the online donation process. In addition, nonprofit organizations would have an opportunity to provide potential donors and friends with a balanced cerebral and emotional online experience that may entice them to donate more generously.

The User Experience Framework

On a theoretical level, Wright and McCarthy's (2003) user experience framework recognizes that all human experiences are holistic and relational, and are comprised of a balance of sensual, cerebral, and emotional "threads." The user experience framework is built on the goal of sense-making: that is, unifying the different threads of a situation, in this case, an online experience, to create meaning for the user. The full framework includes four threads (compositional, sensual, emotional and spatio-temporal) and six corresponding sense-making elements (anticipating, connecting, interpreting, reflecting, appropriating and recounting). For the purposes of this project, only the compositional, sensual and emotional threads will be considered.

Quite simply, Wright and McCarthy's (2003) *compositional thread* is the story. In the context of online giving, the donor might "interpret" or "reflect on" a story about the people and places the nonprofit organization is trying to help through special programs or services. Interestingly, this thread coincides with a common fundraising tactic of using direct mail to tell donors a story, with the hope that they will donate to the cause because they identify with or are moved by the story. The compositional thread might be considered the cerebral element of the user experience framework. In the online fundraising context, this thread may also include facts and figures related to how much the organization must spend to support a particular program, or what a \$25 donation can provide. The simple gesture of providing important information to the donor may help them decide how much to give. In fact, some nonprofit organizations, such as *Doctors Without Borders*, do a very good job of including this information on their Web sites:

• [Print a Field Partners Monthly Giving form](#)

	Your Daily Contribution:	What It Can Provide:
	\$7.50 monthly (25¢/day)	Two nourishing meals every day for a month to a child threatened by famine
	\$15 monthly (50¢/day)	A month of clean water for 40 refugees.
	\$30 monthly (\$1/day)	A surgical kit containing essential instruments to carry out emergency examinations and basic surgery in the field
	\$60 monthly (\$2/day)	A month of nursing care for refugees from war or natural disaster

Source: Doctors Without Borders—<http://www.doctorswithoutborders.org/donate/what.cfm>

On the other hand, the *sensual thread* is concerned with connecting the user with the experience—and keeping them there—by coordinating the look, feel and atmosphere of the site. The sensual thread operates at the sub-conscious level, and in the present case would help the donor determine if she feels a sense of belonging or alienation, comfort or discomfort, trust or suspicion. As previously mentioned,

many nonprofit organizations outsource the online donation portion of their site, resulting in the donor being brought to a site with a different interface to complete the transaction. While many organizations will not be able to control all the sensual elements of the online donation experience, they may be able to enhance the aesthetics of their Web site by using dynamic elements such as coordinated photos, short video and audio, and thorough basic design elements of layout, color and font.

Finally, the *emotional thread* is concerned with the user's reaction to the experience; in other words, how it makes them feel. For example, the donor may feel motivated to make a difference by attending a fundraising event; she may be angered at the level of poverty in her neighborhood; he may feel proud to be doing something proactive to help; or she may feel frustrated because the organization is trying to “sell” itself via a flashy interface. Within the online fundraising model it is also likely that the emotional thread and the compositional thread will overlap due to the inherently emotional nature of stories describing people in need of food, shelter or medical care. In other words, the *emotional thread* may have more than one meaning.

To summarize, the user experience framework offers nonprofit organizations the opportunity to present potential donors and supporters a more holistic online experience by balancing storytelling with emotional and sensory elements. While many aspects of Wright and McCarthy's (2003) framework have been useful in the context of online fundraising, it is worth noting the framework has some ambiguities. For example, it is unclear exactly where the six sense-making elements fit into the four threads and whether they are mutually exclusive. In addition, it seems that the threads overlap. For example, it may be difficult to explicitly distinguish between the *sensual thread* and

emotional thread, and in the present case, one may find common elements in both the *emotional thread* and the *compositional thread*.

Design Concepts and Scenarios

Wright and McCarthy's (2003) user experience framework provides structure to a set of design elements unique to the domain of online fundraising. Drawing on the insights of the above user experience framework analysis, recent research on donor perceptions of the nonprofit sector, and inspiration from other online environments, the following scenario and design concepts are proposed:

Scenario

According to a recent study by Public Agenda, a nonpartisan civic engagement organization, the typical American donor (who gives about \$300/year) tends to trust and admire small, local nonprofit organizations, decides to give to an organization based on a "gut-level interest" in the cause, and values a personal connection with the charity (Arumi, Wooden and Johnson, 2005). The authors also found that donors were turned off by flashy marketing campaigns because they felt as if the organization was trying to sell them something, and were wary of organizations that spent large sums on advertising when those funds could have been used to fulfill their mission (Arumi, Wooden and Johnson, 2005).

Based on these findings and the assumptions that (1) donors want to know where their money is being spent, and that even a small contribution can make a difference; and (2) donors want to have choices in the types of programs or projects they support, a new online fundraising paradigm is proposed. This Web site will enable multiple nonprofit organizations within a specific geographic region (e.g., city, county) to post detailed information about programs or projects that require assistance. The overarching goal is to enable individual or corporate donors to contribute to organizations in their neighborhood, or to organizations addressing specific issues like homelessness, domestic violence, historical preservation or at-risk youth. Figure 1 below depicts a prototype of this type of site, "Boston Gives."

When a donor visits Boston Gives, she may login to her profile, or search for a project based on geographic region (zip code) or by cause/issue. She may also browse through all currently active projects. On the project page (see Figure 2), the donor will learn the story behind the project, including the neighborhood and people it will serve. Once the donor decides to give, she will be brought to an e-commerce interface, but one which is fully integrated with the Boston Gives site. The page will show details about the specific project she is contributing to, the current financial status of the project, and links to news and updates related to project milestones.