



HFI User Experience Design Newsletter

“User Experience” meets “Beauty is Truth, Truth is Beauty”

Message from the CEO, Dr. Eric Schaffer

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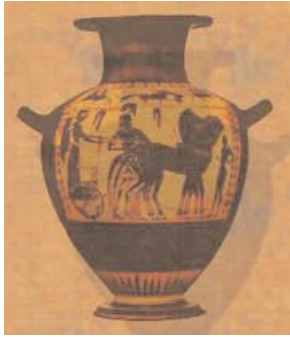
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“User Experience” meets “Beauty is Truth, Truth is Beauty”



What was on your Santa’s list for your usability career? A new book on CSS? Learning more about SEO? Or maybe some tips on convincing management that user experience input really does make a difference to your business?

Since we need a *raison d’être* before meriting other items on Santa’s list, let’s consider how to make user experience an “indispensable service.” Yup, this article is a pep talk from your coach.

After all, prophets really should be well-regarded even in their own home town. You’re the prophet. Your job is the home town. Shouldn’t your institution find value in your services?

Three psychology professors propose evidence and a theory that links how people define beauty and truth with their user experience. Will that sell in your home institution?

In short, the research trio, Rolf Reber, Norbert Schwarz, and Piotr Winkielman, suggest that intuitive judgments of both “truth” and “beauty” gain support when people can do something faster. This is because faster implies “simpler”. And “simpler” implies both truth and beauty.

Let’s see how we could lay out this argument to others who question our contributions.

“Simpler” means “Processing Fluency”

We’ll get into all the ways of making things simpler in a minute. But first, let’s hear what the authors say regarding how to tie it all together.

The main issue turns on what people define as “beauty” or “preference” or “liking”. How many times have you heard colleagues say “that’s a beautiful picture” or “that’s a beautiful solution” or “that’s a beautiful way of doing it”?

The word “beauty” seems to imply there is some characteristic *within* the object or web page design, or task design that makes it aesthetically pleasing. The authors call this the *objectivist view*. Much research has gone on in the past to

define elements of art, design, and scientific simplicity to define elements that contribute to “beauty”.

Meanwhile, as we all know, an extra-terrestrial alien may have different concepts of physical beauty than we earthlings. We can easily understand that Startrek’s Lieutenant Worf, a Klingon played by Michael Dorn, would have different criteria for a Miss Universe winner than would, say, James Shatner’s Captain Kirk.

This understanding suggests that “beauty is in the eye of the beholder”, as our authors say. This becomes the *subjectivist view* and probably remains a source of contention as your colleagues subjectively argue about which page design or graphic element really IS more beautiful (or useful).

But, as our authors point out, anyone who makes aesthetic judgments brings with them a processing background of habits, preferences, and conditioned responses that color their aesthetic judgments.

Therefore our authors adopt a third position, calling it the *interactionist view*. They suggest that beauty gets defined in how people “experience” the *objective* elements using their *subjective* cognitive and affective processes.

“Easy to use “ means “Processing Fluency”

Well, does this sound familiar? This interactionist view focuses on the experience of the viewer – and that’s our professional expertise: “user experience”.

Our authors show evidence that the user experience associated most with identifying both truth and beauty tends to be the “fluency” with which someone can process an object. Now you have some buzz words: “processing fluency”. Use these buzz words over and over until your audience can process them fluently. :)

Thus, “easier” becomes “better” or “I like it” or “more beautiful”. The authors present study results that support *processing fluency* as a reason for saying “judgments of preference, liking, and beauty are closely related.”

Thus, the *interaction approach* allows us to say that when a viewer experiences a web page that is easy to process or understand, they get a good feeling about their experience. This good feeling contributes to calling the web page a “beautiful design”. That’s “interaction” experience.

Fluency from objective features of your design

1. Gestalt. “Simplicity is king.”

The study of “Gestalt psychology” was an early version of research into processing fluency. We all know that to “get the Gestalt” of something means to grok the meaning quickly. Of course, I’m substituting one jargon for another.

But “getting the Gestalt” means comprehending the wholeness of something in a manner that makes it easier to understand. “Gestalt” has come to mean “simplicity”. In a sense simplicity arises from having less information to distract the viewer. “Less information” means processing it faster. “Faster” means greater fluency. In this manner, “fluency” results from creating a “wholeness” or “gestalt”.

The HFI Web and Applications Design course covers techniques for enhancing the Gestalt of your web page layout. Techniques like “Similarity”, “Proximity”, “Common Region” and “Connectedness” allow you to combine smaller elements together in a simple form that keeps your viewer comfortable. Contrast the two web pages following to see whether your ability to process each one gives a feeling of “beauty” or “liking”.

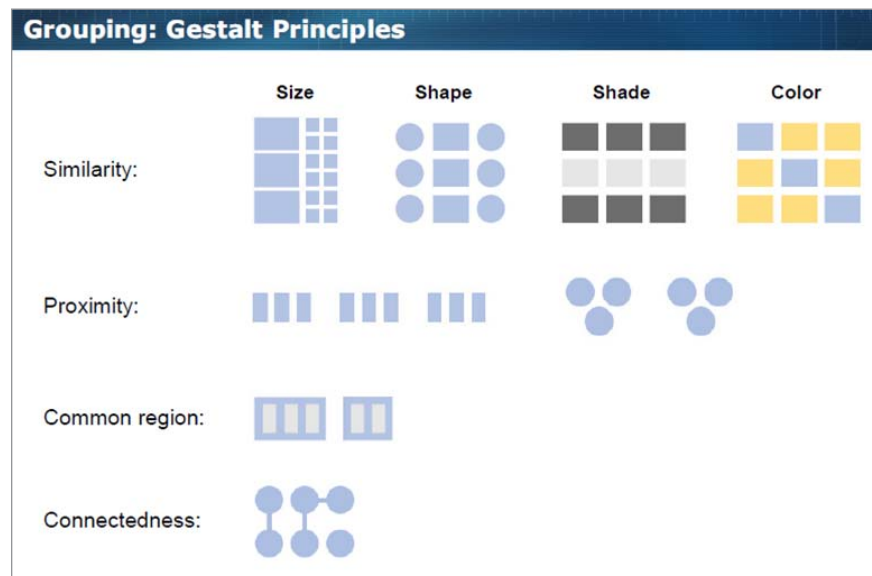


Figure 1. Gestalt patterns that simplify the visual appearance of clusters of elements.



Figure 2. Use of Similarity, Proximity and Common Region to create a satisfying Gestalt that speeds up visual processing fluency.



Figure 3. Example in which the absence of a clear Gestalt results in cluttered layout. The viewing work to ferret out the meaning of the details takes more time than otherwise expected. The reduction in processing fluency translates to the subjective experience of cluttered design or information overload.

2. Symmetry. “When left is also right.”

Research shows that people tend to have a faster reaction speed when processing visual stimuli that have particular forms of symmetry. For example, the letters “V” and “A” are symmetrical around a vertical axis. In contrast, the letters “E” and “D” are symmetrical around a horizontal axis. Reaction time studies show that participants detect vertical symmetry faster and more easily than horizontal symmetry. This suggests that your web pages and images would benefit from vertical symmetry more than horizontal symmetry.

Other research finds that symmetry adds to the perceived attractiveness of human faces. Given the duplication of left and right (or top and bottom), “symmetry” by definition has less information to process. These results with symmetry suggest that perceptual fluency operates to speed up processing, thus offering a more pleasant experience that the viewer will call “attractiveness” or “likable” or “beautiful”, as the case may be.

3. Contrast and clarity. “Faster is better.”

What speeds up recognition of a figure in a picture? While your personal experience already tells you, research also confirms that stronger foreground-background contrast results in higher appeal ratings. For example, participants were asked to view circles in a presentation that varied the contrast between the figure and the background. They gave judgments regarding how “pretty” the stimuli were or how “ugly” they were.

The notion of “processing fluency” suggests that presentations of short duration would manifest a greater range of aesthetic judgments across the varied contrasts because higher contrast would help facilitate processing during very short viewing times. Indeed, this was the case. The circles were presented for .3 seconds, one, three, and 10 seconds with varied contrasts. The authors report that “figure-ground contrast influenced aesthetic judgments only at short exposure durations, but not at the duration of 10 sec.”

How much time do people spend looking at your web page upon first visit? Recall our September, 2009 UI Design Newsletter “Harnessing Your Power of First Impression”. This newsletter shows the power of “priming” under short exposure conditions. (Priming turns out to be another tool for enhancing perceptual fluency.)

We can add to our knowledge of site visit times the results from a 2006 report by Weinreich, Obendorf, Herder and Mayer. They gathered page visit data from 25

European professional-types who used the web for an average of 105 days each during the study.

Among web pages visited for the first time by participants, the authors found that “more than 17% of all new pages were still visited for less than 4 seconds, nearly 50% were shown for less than 12 seconds and 11.6% were displayed for more than 2 minutes (median: 12.4s).”

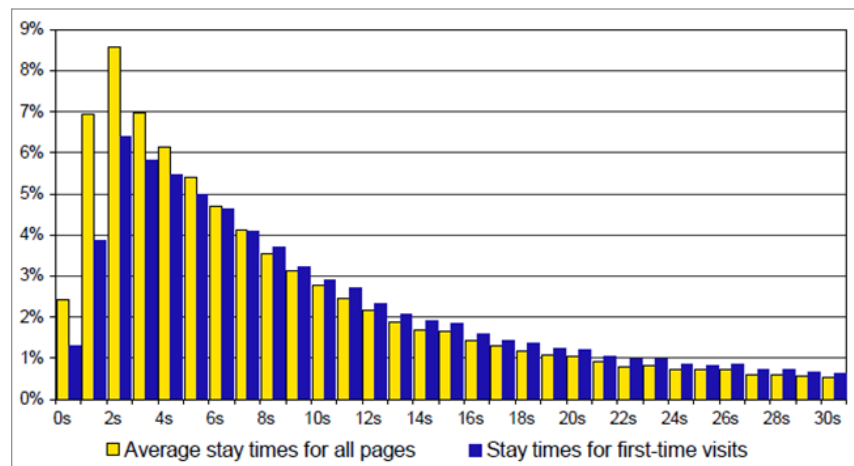


Figure 4. From Weinreich, et al. Results of page visit times for 25 European web users over mean period of 105 days web usage.

Thus, with about 17% of new page visits being 3 seconds or less you could infer that your important text and images should stand out from the background to help speed up processing fluency. Your site visitor will interpret this faster processing as the experience of beautiful design when compared to other pages with less figure-ground contrast.

Fluency from subjective features of your design

1. Repetition works. “Play it again, Sam.”

Much research over the last 40 years has investigated the claim that “mere exposure” over time will result in more favorable evaluations. This has been shown to hold for exposure to faces (consider “movie stars”), words (consider political sound bites), melodies (yes, think top-10 music) as well as other experimental oddities.

Robert Zajonc, whose research made this observation popular, suggested that the mere exposure effect helped reduce the “fear of the unknown”. The authors

of our current study suggest that this reduction of uncertainty enables more rapid processing and thus increases perceptual fluency leading towards the sense of beauty, liking, and preference.

For the user experience specialists like ourselves, we now can justify the value of layout standards. A page should look like other pages within a site with regard to the grid or columnar structure. The navigation should repeat a standard “look”.

Position, color, font, style, and length of important elements on pages within a site benefit from standardization because each page then “looks familiar” and adds to the effects of mere exposure. The site visitor’s comfort that “I’ve been here before” has empirical value because it speeds up processing fluency.

2. Expectations count. “I’m not surprised.”

Research into how a situation matches the user’s expectations shows that preferences increase when participants feel they are in familiar territory. For example, researchers would make up an artificial “grammar” of sets of letters and show them to research participants who became familiar with the patterns of letters.

Subsequently, participants were shown both grammatical and ungrammatical sets of letters and asked to indicate how well they liked each set they saw. Interestingly, even in this artificial situation, the degree of “liking” of the sets of letters or in another experiment, complex visual patterns, was related to the degree of similarity to the standard that participants had learned.

The researchers attributed the degree of “liking” to the degree of fluency in recalling the items on which they had been trained. When the new items failed to match their expectations, it was liked less. It was harder to recognize. It lacked fluency.

In our design work, we all know the value of “style”. It conveys the visual attributes we hope that establish the emotional values of “brand” for our service or product. If we sell trucks, we want a style that suggests power, ruggedness, versatility and survival. If we sell sedans, we want a style that suggests family, flexibility, comfort, and safety.

These elements of style must remain consistent within the pages that cover our topic. We need to match expectations for style and avoid “surprises”.

Conclusions: Your foundation for user experiences

We have seen that “beauty” (or “liking” or “preference”) results from the interaction of objective characteristics with subjective predilections. This interactive approach to aesthetic appreciation allows you to speak more intelligently about “user experience”.

That is, the “beauty” of your design work is not only a component of the design, but also a component of the background, experience, and prior visual exposure of your site visitor.

All these issues come within your domain as a user-experience specialist. These are all reasons that we can’t just “design” and put it out into the public. We need to hear from the subjective portion of the aesthetic event - the participant, the site visitor.

Therefore, we need procedures like interviews, contextual inquiry, and usability testing to bring into play this other half of the aesthetic experience

. Hopefully, you have evidence from this study that motivates you to convince your colleagues that design is more than just the visuals. Good design must include the user as well.

In our search for simplicity, we have found that the feeling of simplicity arises when we can process our visual or conceptual inputs more rapidly. That’s “processing fluency”.

Rapid or fluent processing then becomes the common denominator between truth and beauty in that statement by John Keats in his *Ode on a Grecian Urn*:

Beauty is truth, truth is beauty, that is all
Ye know on earth, and all ye need to know.

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Message from the CEO, Dr. Eric Schaffer



Our field is shifting. We can no longer just attend to task completion speed. We need to attend to the subjective experience that the design creates. What does this mean for us as practitioners? Do we need to become more sensitive and intuitive? I think we do.

To be successful we need to hone our intuition and empathy for users. But we are also called upon to grasp an even wider range of research-based principles. Our field is stretching to be more strategic, more innovative, more persuasive, more cross cultural, and we are now called upon to manage larger scale operations.

Let's step up to that together in 2010.



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