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JoAnn C. Burnett

Potomac State College of West Virginia University, jburnet1@mail.wvu.edu

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Web Design Factors That Influence User Behavior

By

JoAnn Catherine Burnett

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Influencing user behavior is of primary interest to marketers and advertisers, and visual information design holds the keys to do just that. How users respond to the information presented on their computer screens is driven in large part by design elements such as color, typography, layout, movement, imagery, directional cues and much more. My research highlights recent studies done on website design factors that influence user behavior.

Designing successful websites begins with knowledge of how users respond to digital communications. The first hurdle after gaining the attention of our audience is keeping it. “Users often leave web pages in 10-20 seconds, but pages with a clear value proposition can hold people’s attention for much longer” (Nielsen, 2011).

Web usability consultant Jakob Nielsen says, “The first 10 seconds of the page visit are critical for users' decision to stay or leave. The probability of leaving is very high during these first few seconds because users are extremely skeptical, having suffered countless poorly designed Web pages in the past. People know that most Web pages are useless, and they behave accordingly to avoid wasting more time than absolutely necessary on bad pages. If the Web page survives this first — extremely harsh — 10-second judgment, users will look around a bit. However, they're still highly likely to leave during the subsequent 20 seconds of their visit. Only after people have stayed on a page for about 30 seconds does the curve become relatively flat.

People continue to leave every second, but at a much slower rate than during the first 30 seconds. So, if you can convince users to stay on your page for half a minute, there's a fair chance that they'll stay much longer — often 2 minutes or more, which is an eternity on the Web. So, roughly speaking, there are two cases here: bad pages, which get the chop in a few seconds; and good pages, which might be allocated a few minutes. Note that "good" vs. "bad" is a decision that each individual user makes within those first few seconds of arriving. The design implications are clear -- to gain several minutes of user attention, you must clearly communicate your value proposition within 10 seconds" (Nielsen, 2011).

Nielsen succinctly points out the bane of every online marketer's existence here – keeping our hard-earned visitor traffic from leaving after barely a glance at what's on offer. Experts agree that users most often only "skim the pages looking for highlighted keywords, meaningful headlines, short paragraphs and scannable lists. They're in a hurry to find the information they're looking for" (Kollin, 2013).

What can we do to keep our user's attention? Web analysts recommend respecting user attention by minimizing cognitive load:

"User attention is a precious resource, and should be allocated accordingly. Many of our top usability guidelines—from chunking content to optimizing response times—are aimed at minimizing cognitive

load. In addition to these basics, there are 3 more tips for minimizing cognitive load:

1. Avoid visual clutter: redundant links, irrelevant images, and meaningless typography flourishes slow users down.
2. Build on existing mental models: People already have mental models about how websites work, based on their past experiences visiting other sites. When you use labels and layouts that they've encountered on other websites, you reduce the amount of learning they need to do on your site.
3. Offload tasks: Look for anything that requires users to read, remember or decide. Then look for alternatives. You won't be able to shift all tasks away from users, but every task you eliminate leaves more mental resources for the truly essential decisions" (Whitenton, 2013).

I find myself guilty of including "redundant links" in my website designs – an old Web 1.0 habit. It is nice to see the reasoning behind using layouts and labels that are commonplace, and I really like the concept of considering the elimination of user tasks.

Employing design styles that make text easily scannable will also assist users in finding relevant information, hopefully helping them decide to stay longer on the website. Examples are highlighting keywords, using meaningful sub-headings and bulleted lists, limiting paragraphs to one idea,

using the inverted pyramid (starting with the conclusion), and cutting the conventional word count down by half. (Nielsen, 1997)

Another great guideline I discovered was the more thoughtful use of photography. Jakob Nielsen in "Photos as Web Content" tells us that: "Our eyetracking studies have documented a dramatic gap in how users approach website images. Some types of pictures are completely ignored. This is typically the case for big feel-good images that are purely decorative. Other types of pictures are treated as important content and scrutinized. Photos of products and real people (as opposed to stock photos of models) often fall into this category" (Nielsen, 2010).

Going back to cognitive strain -- care should be taken in designing website navigation. According to Jennifer Cardello, "some navigation implementations risk pushing users into a state of cognitive strain which lessens the likelihood of them taking desirable actions. The following examples are from independent studies conducted in the past 5 years. To their credit, each of these sites have since removed the strain-inducing navigation attributes.

1. Thin, horizontal, roll-over activated menus: Testing users' fine motor control (and patience). Keurig's 2009 website is an example:

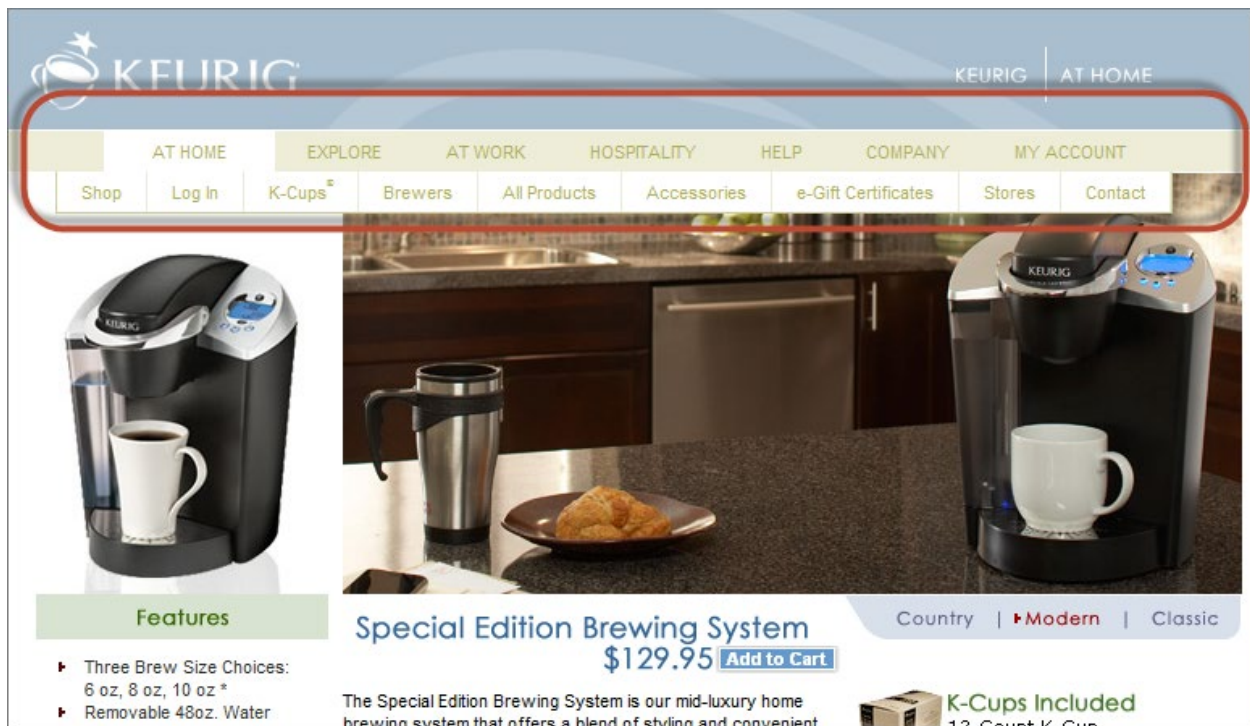


Image 2

2. Unfamiliar labels: Forcing translation of your creative nomenclature as shown below on Dale Carnegie's 2010 website.

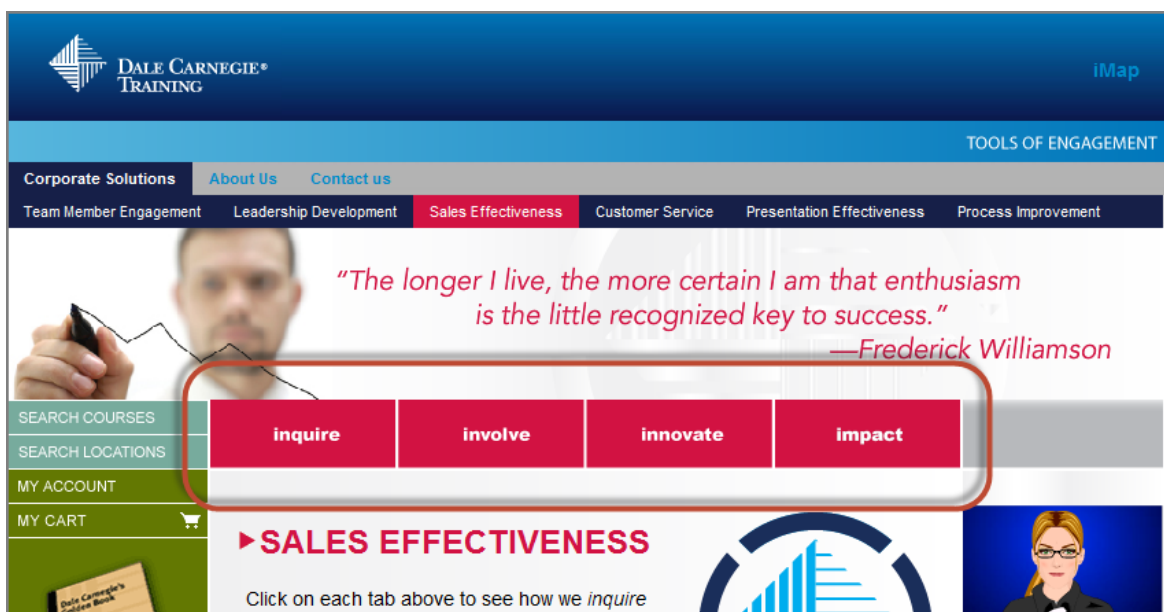


Image 3

3. Redundant links on routing pages: Increasing the perceived number of choices -- demonstrated below on Cornell University's 2010 website" (Cardello, 2013).

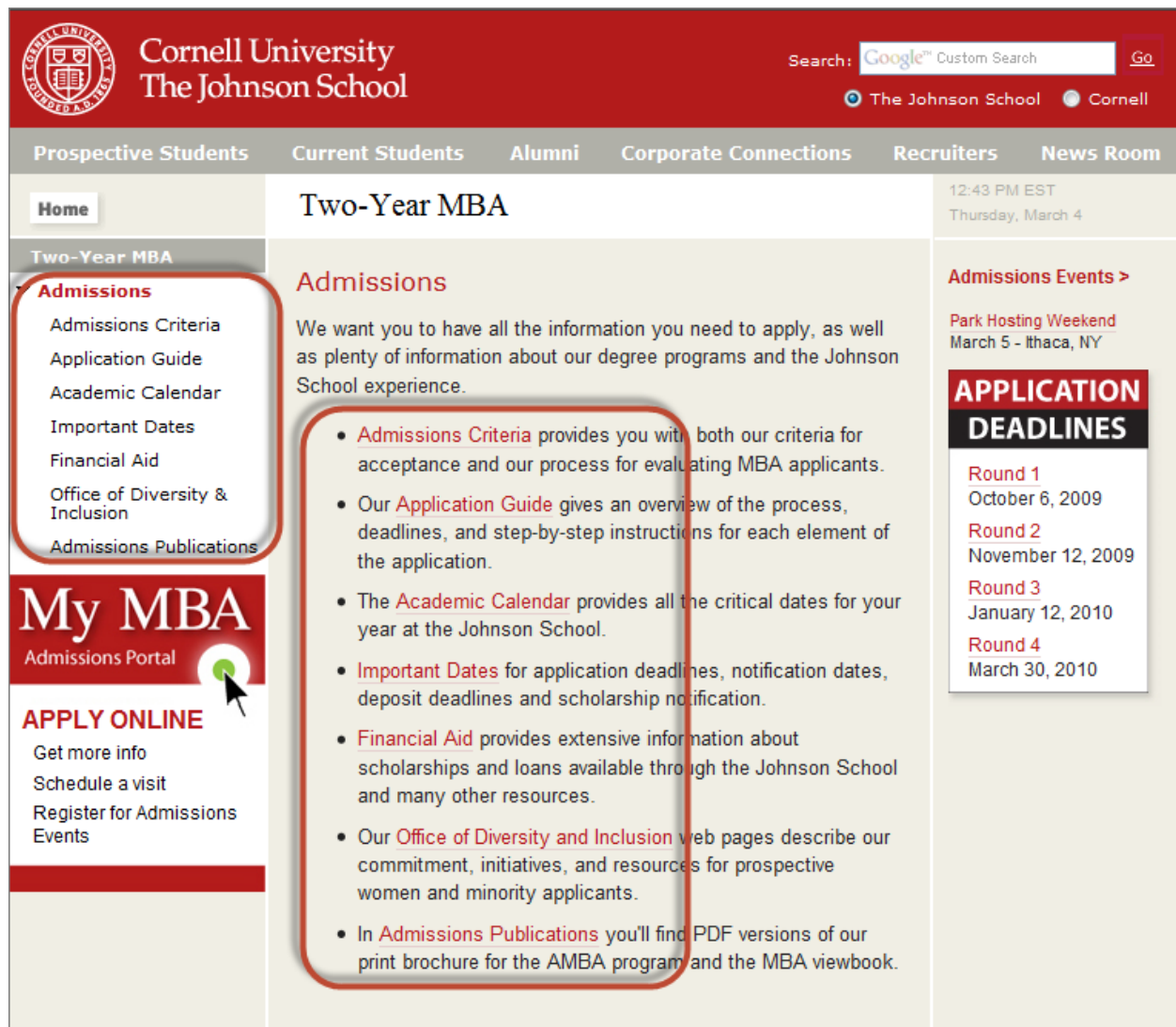


Image 4

"Recognizing and replacing design elements like these that require too much effort from your users can offer tremendous bottom-line value" (Cardello, 2013).

Here's a great example of why we should be mindful of using familiar features to minimize cognitive strain:

"Bucknell University caused a stir with its unconventional responsive redesign, but at a high cost to usability, as shown in tests with students and parents. Bucknell isn't alone in its desire to stand out and create a modern look and feel. Many websites in all kinds of industries do this, hoping to stick out among the crowd and impress their users. Unfortunately, the reality is that too often, resources are spent on making the site look great or creating an innovative widget, and usability is neglected until the very end of development." (Sherwin, 2014). The redesigned homepage is shown below.

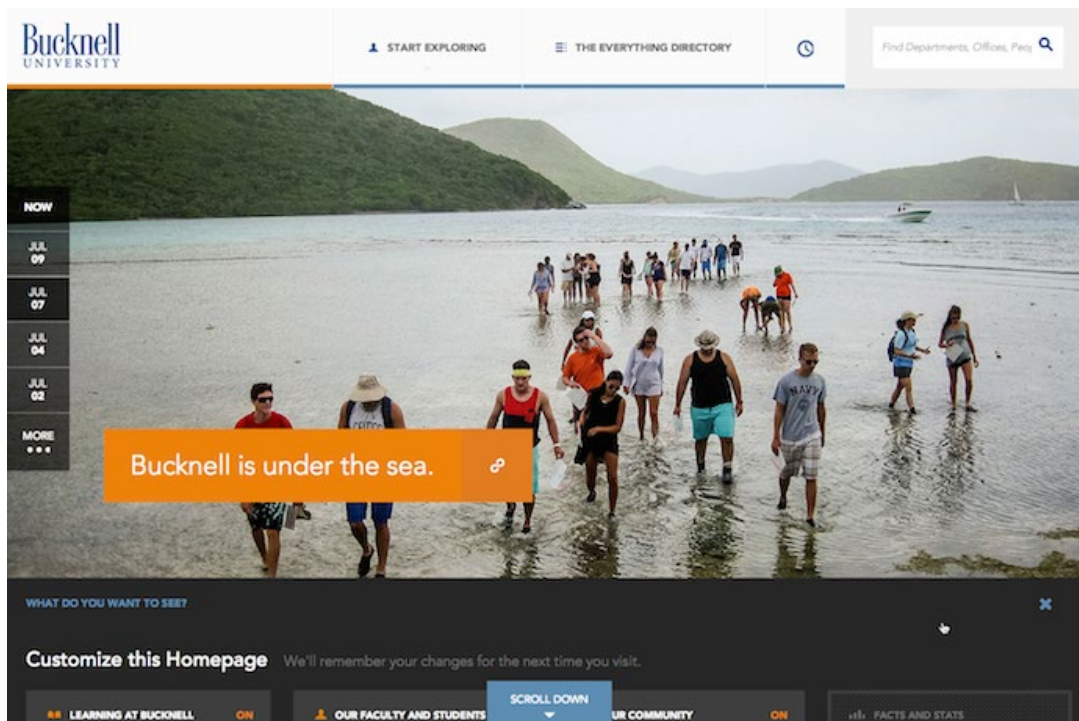


Image 5

"Some points to consider:

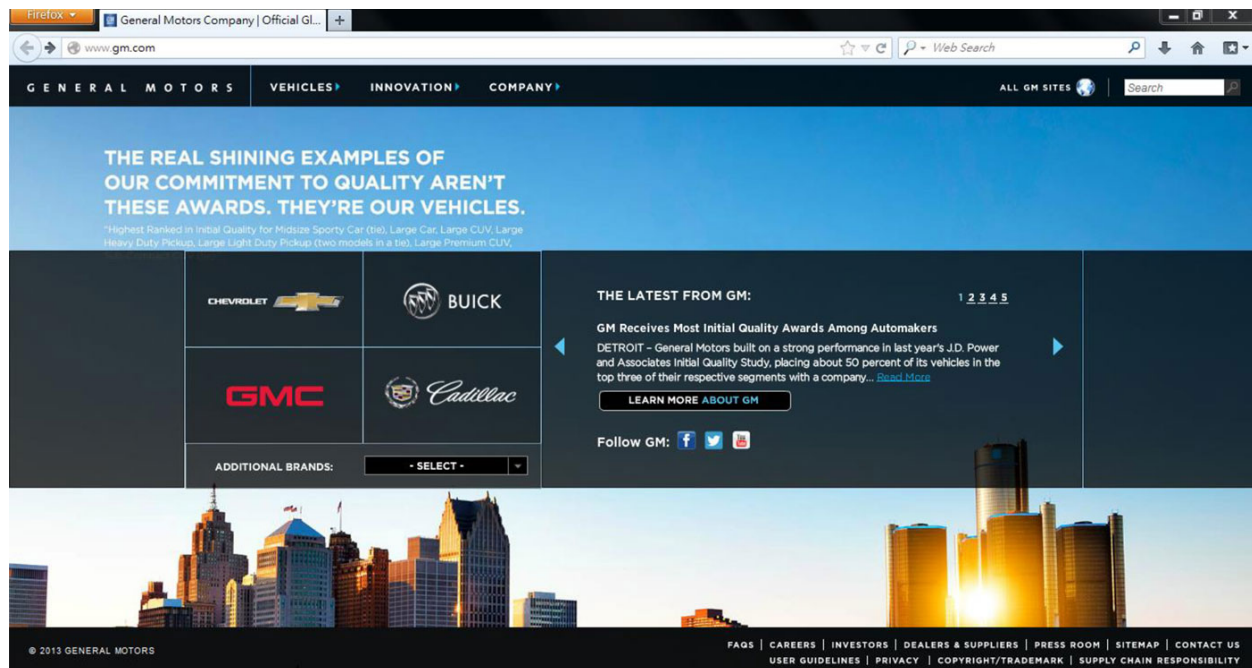
- In the top line, what does the round icon between *The Everything Directory* and the search box symbolize? What will you get if you click it?
- Also on that top line, what will you get when click *Start Exploring*?
- In the left margin, what will you get if you click on one of the dates?
- What information is on the other side of the link “Bucknell is under the sea” within the big photo? (Did you recognize this as a link and not just a caption?)” (Sherwin, 2014).

Let’s talk about all those available pixels. In “Homepage Real Estate Allocation”, Jakob Nielsen says that “websites spend too little homepage screen space on content of interest to users and fail to utilize modern monitor sizes” (Nielsen, 2013). An example of this is GM’s homepage in 2001 vs. 2013.



2001 GM Website

Image 6



2013 GM Website

Image 7

“The GM site was quite representative of those we studied in 2001 and 2013. That is, it was typical of corporate homepages in both years. Although the skyscrapers look nice, most people are probably at this site to see *cars*. At least GM did well by offering big, clear navigation to its main car brands” (Nielsen, 2013).

Finally, Nielsen’s advice for improving use of screen real estate is to “cut the fluff and spend the pixels on design elements of interest to users — mainly content, but also navigation (particularly on homepages that are very navigation-intensive), and invent page designs that can stretch across widescreen monitors and still adapt to smaller screens” (Nielsen, 2013).

Eye tracking is a great tool that provides more insight into consumer behavior. Online marketing guru Neil Patel in “8 Powerful Takeaways from Eye Tracking Studies” summarizes the findings for website design.

First up is to “put your most valuable content above the fold” but don’t try to cram in everything. “Make sure you are placing enticing information above your fold, but don’t try to make your sell” (Patel, 2014).

Second, Patel says “put calls to action at the bottom of the page. People do scroll down, and when they do, they go straight to the bottom of the page, where the scrolling stops. That’s where you want to hit them with your call to action” (Patel, 2014).

Third, “people read big, bold headlines. The bigger and more obtrusive your headlines are, the more people are likely to read them. Various studies, including the popular F-shaped pattern study, demonstrate that headline size is important” (Patel, 2014).

Next, “chunks of information are best. We can’t absorb massive blocks of text. People look at the headings with strong visual elements – central positioning, strong colors, and well-thought-out spatial organization” (Patel, 2014).

Patel also notes that “you need a lot of white space. Eye tracking studies confirm that negative space is valuable because it facilitates movement through the rest of the page. The human eye wants a place to

“rest,” as it were, from the various components of the page. The eye also needs to know where to go next. Negative space provides a way for this to happen” (Patel, 2014).

Patel’s 6th takeaway is that “the left side of the page is important”. Eye tracking studies indicate “that users spend most of their time with their eyes on the left half of the page” (Patel, 2014). He provides the following chart showing percent of viewing time in pixels from the left edge:

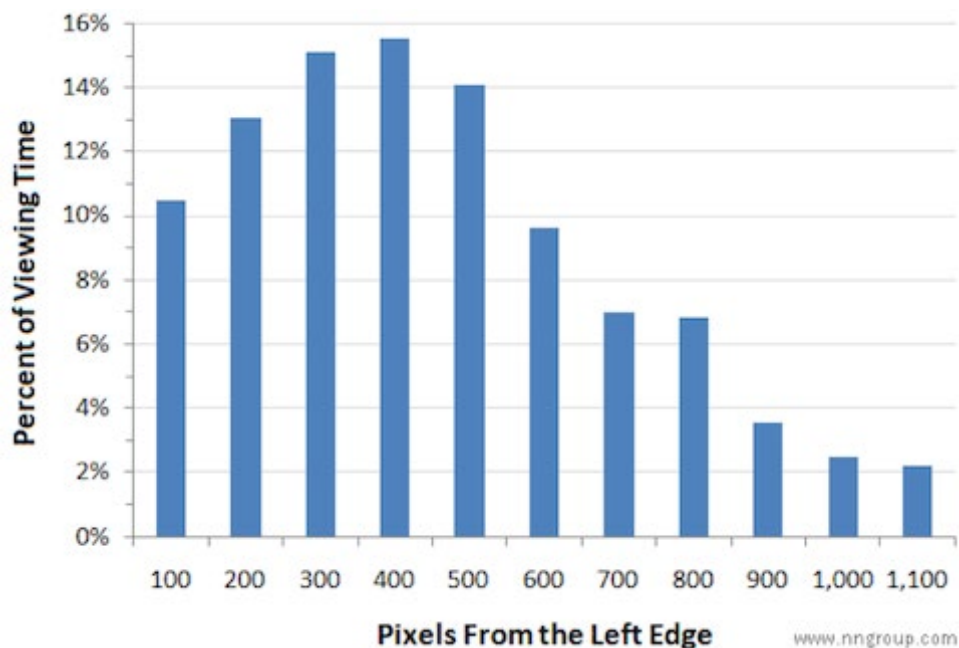


Image 8

I know I’ll be paying more attention to the left edge armed with this data.

Patel also wisely advises us to “get rid of banners”, which he claims are ignored. “Dubbed ‘banner blindness,’ this was one of the first and most talked about usability phenomena in the early days of eye tracking studies.

Jakob Nielsen started uncovering this data in 1997. Banner blindness is now accepted Internet wisdom and usability common sense” (Patel, 2014).

Lastly, Patel says that “pictures of people are good. A page that has pictures of a person’s face encourages interaction and viewing and decreases a bounce rate. Use them as design elements on your website, on the about page and in social media profiles” (Patel, 2014).

Patel ends his article with a succinct statement about eye tracking studies: “Where people look is incredibly important because it affects what they learn, what they do, and what they buy. A look precedes a click” (Patel, 2014).

That being said, other eye-tracking studies challenge some of these tried and true conventions.

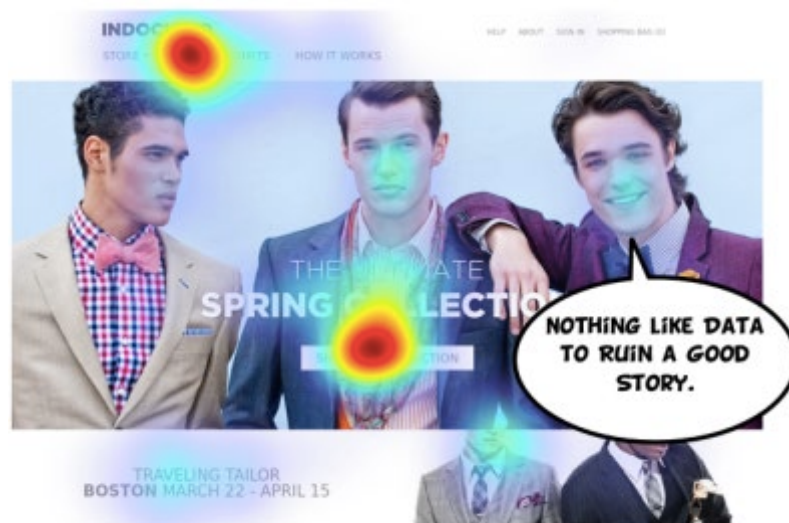


Image 9

EyeQuant's recent study found some surprises when it comes to web design beliefs. The first insight is that faces DO NOT always draw attention, flying in the 'face' of one of the most universal assumptions about human attention we have. "We're not saying faces don't attract attention at all and are never looked at. Our data just shows that faces aren't the powerful attention-grabbers one usually thinks they are" (Ferro, 2014).

Another popular concept dispelled by EyeQuant's study is that large text draws immediate attention. The studies show that in many cases big fonts seem to have a negative effect on attracting attention.



Image 10

"What's going on here? Our careful, explorative hypothesis is this: there may be an element of "banner blindness" involved. At the same, extremely large letters might be less readable for the human eye as well" (Ferro, 2014).

Some of these differences may very well lie in the context within which they are being done. If a user is asked to simply view a website, I believe the data is going to be different than when a user is asked to buy something specific at a website. Their intentions are completely different. The same goes for when a user is new to a website vs. a frequent visitor. What we look at is going to be vastly different based on what we're looking for and what our prior experience has been. So, how useful are these studies in reality? I think it is critical to understand the context they apply to.

One of the most effective ways to test user behavior is always going to be trial and error. Therefore, website redesign presents us with a valuable opportunity. "Before you redesign your site, make sure that you understand the strengths and weaknesses of your current design. Gain a deeper insight into why design elements work or fail in order to make informed decisions moving forward" (Loranger, 2014).

"Attention-getting transitions, animations and movement are becoming increasingly commonplace in modern web design. Movement in a person's peripheral vision triggers a stimulus-driven shift in visual attention. The instinctual attention shift to motion is a remnant of the days when we needed to quickly notice a snake in the grass and other forms of looming danger or potential prey. Motion within a person's current point of focus does not trigger the same visual response as when it occurs in the periphery. Because we already have the user's attention, we no longer need

to attract it and can focus on designing an animation that will increase the user's understanding" (Bedford, 2014).

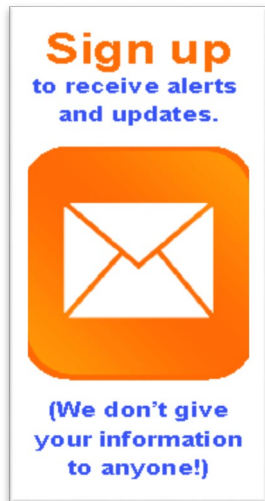


Image 11

I shy away from the use of animations myself for fear of annoying the user, however, I have seen them work. A recent example is an orange and blue flashing email graphic located in the upper right-hand side of a landing page. My client insisted I make it flash. Despite my distaste I have to admit that it has performed well.

Speaking of blue and orange, "color wields enormous sway over our attitudes and emotions. When our eyes take in a color, they communicate with a region of the brain known as the hypothalamus, which in turn sends a cascade of signals to the pituitary gland, on to the endocrine system, and then to the thyroid glands. The thyroid glands signal the release of hormones, which cause fluctuation in mood, emotion, and resulting behavior" (Smith, 2014).

"Research from QuickSprout indicates that 90% of all product assessments have to do with color. "Color," writes Neil Patel, is "85% of the reason you purchased a specific product." It's a no-brainer fact of any website that color affects conversions. Big time" (Smith, 2014).

Smith says, "use the right colors, and you win --

1. "Women don't like gray, orange, and brown. They like blue, purple, and green.
2. Men don't like purple, orange, and brown. Men like blue, green, and black.
3. Use blue in order to cultivate user's trust.
4. Yellow is for warnings.
5. Green is ideal for environmental and outdoor products.
6. Orange is a fun color that can create a sense of haste or impulse.
7. Black adds a sense of luxury and value.
8. Use bright primary colors for your call to action.
9. Don't neglect white." (Smith, 2014)

Visual components of design also include the use of symbols, varying font sizes and weights. "Graphic elements are tools designers use to purposefully attract the eye. They can provide direction and punctuation" (Baer & Vacarra, 2008).

"The Internet is all about content, and content means text and words. And that means typography. The smart web designer knows this and will, therefore, devote a lot of careful thought and deliberation to getting typography right" (Schenker, 2014). Here are some typography best practices based on a 2013 study:

- “Headlines use an approximately equal percentage of serif versus sans-serif fonts
- Body copy uses more serif fonts than sans-serif fonts
- Non-standard fonts dominate on websites
- Backgrounds still operate on the dark-on-light color scheme
- Font sizes for headlines and body copy keep increasing
- No more than 84 characters per line
- Just under half of all websites feature responsive typography”

(Schenker, 2014).

Research I came across on Visceral Design caught my interest and reminded me of this year’s Paleo Diet rage. “Because visceral reactions are rooted in our genetic makeup, the responses are fairly consistent across all cultures, genders and demographics. As a result, visceral design produces very predictable reactions. I recommend using design elements that could represent any of the old brain triggers. Specifically use elements that could represent survival, threat or reproductive opportunities (sex sells.) For example, you could use an aqua blue that is similar to fresh water, bright colors that are reminiscent of fruit or a clean open design similar to a safe environment” (Johnson, 2012). Yikes, now we’re designing websites for cave men as well as eating like them!

“Gestalt principles suggest that people will make assumptions about what they see and find meaning in visuals that might not be there.

Ultimately it’s critical to be intentional about what appears on the page and how it’s treated. When patterns are easily matched they feel familiar or “normal.” Unmatchable or difficult to match stimuli feels foreign and can even be unsettling” (Johnson, 2012).

“The basic “systems” of human interaction still exist in our DNA. These principles are hardwired into the human psyche, developed as a necessity to human survival. The six principles are:

- Reciprocation: We are compelled to return favors.
- Authority: We trust experts and those of high status or power.
- Commitment/Consistency: We act consistently with our values.
- Scarcity: The less available a resource, the more we want it.
- Liking: The more we like people, the more we say yes to them.
- Social Proof: We look to others to guide our behavior” (Johnson, 2012).

“Smart designers can use these concepts to influence users toward desired actions. Giving away free information or tools can be used to persuade users to volunteer their contact information via the reciprocity principle. Signs of authority or expertise can increase perceived trust. Low

inventory numbers might indicate scarcity and move someone to purchase sooner than they would otherwise. It doesn't take too much creativity to identify powerful ways to design using social influence" (Johnson, 2012).

In closing, website design has evolved at a relatively high rate of speed along with user behavior from its beginnings just 15 or so years ago. Research helps us continue to develop our knowledge and skills to enrich the experience and effectiveness of our design work. In my experience, some tasks become simpler while others become more complicated as we go along. It's been an interesting journey, and I look forward to the ever-present new challenges that are bound to arise in the future.

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