

Easy to use: Unraveling Everyone's Favorite Blanket Statement

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“Easy to use” is perhaps the *most* tossed-around – yet *least* understood – expression in the New Product Development (NPD) world. It is the Godzilla of product requirements, knocking down more subtle requirements as it roars its way up to the top of the list on product briefs: “*This Product Must be Easy To Use!*”

Easy to use has several other guises including “user friendly,” and “intuitive.” These are all blanket statements that don't provide any real guidance to product developers. This is because these terms crop up so frequently in NPD specs that the idea has become diluted and meaningless in terms of providing direction to developers. Sure, a device should be easy to use, but easy in what way, and for whom, and under what circumstances?

For example, products aimed at experts – say, depth-of-anesthesia monitors used during surgery – may not *have to be* easy to use for someone with no training, because everyone who uses it will get training first. A dangerous gizmo like a wood-chipper shouldn't be approachable, although its controls (especially the “off” button) should be clearly marked. An ATM must be straightforward for a user's first experience, but a complicated financial-analysis program needn't expose every arcane feature to the first-timer. It all depends on the product and the user.

What needs to happen at the outset of the NPD process is a careful examination of the consumer experience to discover their real needs. This is the perfect time to confirm which aspects of “easy to use” really matter to the future users of the product. It is also the time to discover what other attributes –often described by such words as “*rugged,*” “*friendly,*” “*approachable,*” “*versatile,*” or “*sturdy,*” – consumers are seeking. To determine these attributes, Design Continuum uses a range of qualitative research techniques including ethnographic research and the immersion of designers and engineers into product usage situations.

So what, then, is easy to use, and how can a product team talk about it in a way that advances the definition of the product? As a product designer, when faced with this monster of a requirement, I ask questions to discover the client's intent, and construct a framework for describing the goals in terms of their *Functional*, *Emotional*, and *Conceptual* parts. This framework helps the team to understand what “ease” really means for a particular product.

Functional Ease

The functional part of interacting with a device is the most obvious: it's what a person does with it. In other words, to perform an action with a device, I need to take, first, this step, then this one, and then this one. Users tell devices what to do by pushing buttons, turning steering wheels, etc. Devices talk back via lights, indicators, and displays. When we use the term “easy to use,” it is, frequently, the *functional level* that we are addressing – we *don't* want people getting confused

and pushing the wrong buttons. We *do* want to ensure that the device displays information that makes sense to the user.

Function affects ease of use in a number of different ways. For example, consider designing a blender. It's easy to design a blender when our concern is simply to make the blades start and stop easily. But we need to step back and consider the larger context of interacting with the blender: I'm trying to chop up this particular food, not just spin the blades. Perhaps I need to provide different speeds at which the blade spins.

Stepping back further, consider the still larger context. What I really want to do is prepare a specific dish. Maybe I need to provide built-in recipes or other ways to help the user get what he or she really wants. This is exactly the type of thinking that went into the Oster In2itive Blender from Sunbeam Products. Design Continuum worked with Sunbeam to create a user interface that has built-in recipes and a display that walks consumers through the process of creating a dish. Depending on how deep you dig, and how broadly you examine the tasks to be performed, *functional ease-of-use* can take many different forms.

[PHOTO: Oster In2itive blender from Sunbeam Products]

Emotional Ease

When we call a product “friendly” or “approachable,” we’re talking about a consumer’s emotional response to the object. What does it mean for a product and consumer to connect on an emotional level, and how do we expect that emotional response to evolve? These are the questions that help shape the emotional ease of use of a product.

Emotional responses can be related to aesthetics, i.e., look and feel. A device that looks furry or squishy is potentially friendlier than one that appears to be made of cold, hard metal. Maybe the button labeled “start” should be green, because we’ve learned at a gut level that green means go.

But there are deeper questions around emotional impact as well. Should a medical device look “medical?” Maybe, if it’s intended for use in a hospital. But probably not if it will be carried around by a patient with a chronic condition who may feel self-conscious about it. There’s no functional advantage to making a glucose meter look like a mobile phone, but if a little bit of disguise makes the diabetes patient happier to carry it around (which means he’ll be more likely to use it to control diabetes), then it has great value.

[PHOTO: The Accu-Chek Monitor from Roche Diagnostics]

Conceptual Ease

Finally, what does it mean to be intuitive? In popular use, it means, “*I just know how to use it – you know, like a spoon.*” But anyone who’s ever watched a one-year-old try to feed herself with a spoon knows that there’s really no such thing. In NPD, intuitive means, “*the mental model I have for how this thing operates lines up with how it actually operates.*” Or, in other words, “*this thing works like I think it works.*”

The mental model a user has for an object is a powerful thing. We all know that when you turn a steering wheel counter-clockwise, the vehicle turns left. Some boats, however, have their wheels rigged the opposite way – they use the model of the tiller, which, when pushed to the left, turns the boat to the right. Fortunately, cars have a standardized model.

Software, on the other hand, often does not. Some programs have strived hard to promote standard models. For example, most programs place “quit” commands under a “file” menu – but woe to the user who stumbles on a program that doesn’t. Even among applications provided by the same software vendor, some might work one way, while others may work differently. Press the “printer” icon at the top of a very popular word-processor, for instance, and then click the same icon on its very popular spreadsheet sibling, and you’ll see different behaviors. Although users may still be able to perform their tasks, they can be easily confused when a “standard” model is violated.

The conceptual piece of a product starts when the manufacturer asks, “*how do the end users think a product should be and what is their mental model of the product?*”? Should a medical device feel like a police officer (“take your medicine!”) or like a friend (“how’re you feeling?”)? Do consumers think about padlocks as hardware or as accessories? The answers influence not only the design of the product, but advertising and marketing as well.

Uncovering the Issues

By examining a product’s *Functional*, *Emotional*, and *Conceptual* aspects, designers get a better feel for what they are building, but also for the end-user himself. Very often, a client will come to Continuum describing a particular product to be designed, but through the process of deeply understanding the user’s needs, the team will discover a better solution to the consumer’s problem.

Continuum uses a combination of techniques to unravel the “Easy to Use” blanket statement, but relies most heavily on ethnographic research – that is, watching consumers use products in their actual context of use. Sometimes that means traveling to a consumer’s home to watch her inject herself with insulin, or to a National Park to watch park rangers interact with the public. While focus groups and similar techniques have their place, nothing gives a designer better information about what consumers actually *do* – as opposed to what they *say* they do – than watching them do it.

Another interesting method for getting at a more detailed understanding of a user’s true requirements, alluded to above, is *personification*. In this technique, a user may be given a range of types of people from which he selects the one that best matches his perceptions of the current version of a product, or the perfect version. Like the “Police Officer” vs. “Friend” example above, this method can get at a consumer’s basic understanding of what a product is for, and how he currently interacts (or would like to interact) with it. Beyond the functional or conceptual issues, this is a powerful technique for unearthing emotional relationships between user and product; in one study, a consumer personified a product as “someone I don’t like very much.” Certainly not the manufacturer’s intent!

Easy Does It

Clearly, a product that is *truly* easy to use transcends the clichés about being “user friendly” and “intuitive.” Thinking about your product’s *Functional, Emotional, and Conceptual* aspects will help sharpen your understanding of how the consumer will interact with the device, and make it easier to explain your vision to the rest of your team. Clearly defining attributes has an added benefit of helping to socialize product direction decisions within companies. This involves a concerted effort to *keep the consumer at the center of the NPD process*.

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