

## 1. Most usability professionals know when something is usable, they just don't know how to systematically do it

### 1.1. Summary

The ISO9241 (part 11) definition gave us a definition and measurement framework for determining whether an application is usable, however, it does not tell us **how** to make something usable. The usability and user interface design profession suffers from a lack of a consistent operationalisation of usability. Guidelines are often ambiguous, being descriptive, not prescriptive. All of this means too much variability between designers, too much iteration to get it right the first time and no robust teaching framework.

### 1.2. 'So what makes something usable?'

Over the last 6 months we've been interviewing a couple of people per week, coming from diverse backgrounds such as psychology, graphic design, communications, IT, user centred design, organisational consulting, and ranging from no experience to 10 years. Sometimes they've brought along things to show us – generally what they expect to happen in an interview.

We've taken a different angle to our interviewing and evaluating whether a candidate is a good user interface designer, causing much surprise and, unfortunately, discomfort for candidates.

What are we doing?

After they tell us they want to make user friendly interfaces, we ask: 'So what really makes something usable?'

They all reply using words like something is usable when it's 'easy to use', 'simple', 'clear', 'logical', 'intuitive', 'understandable'. These words are self referential, circularly tautological, rhetoric!!!

Then we say to them 'you've just used a bunch of words that say the same thing. What really, really makes something usable?' After that, we get some more vagaries until they confess they can't really describe what it is. Some think that it's a creative process where we should increase the variability between designers to get more ideas and input and therefore have more impact. But this is not tenable because we don't often have the luxury of deploying several designers on the job and then spending time figuring out which one is right.

This experience is further epitomised when these 'creatives', who have brought samples of their work, and are asked: 'Why did you design it that way?'

We hear answers like 'that's how I answered this type of brief before' or 'that's what I thought was best for you' or 'I tested it on my colleagues (or friend) and that's what we came up with' or silence...'. For us, this does not give our clients the confidence they need to know that our work will deliver for their business or customers.

This begs the question: 'How can we carry on our work if we can't actually explain what we do at an operational level?'

### 1.3. The problem of operationalising usability

My own formal profession, psychology, has also experienced definitional problems. One of the most notorious was the narrow definition of intelligence as 'the thing which is measured by intelligence tests'. This is of no real use in either designing better tests, or developing a better understanding of the nature of intelligence.

Similarly, we have a problem of defining exactly what makes something usable, without saying 'usability is what people find usable'.

### 1.4. The problem with standards and guidelines

The job interview experience is an indicator of a greater challenge for the usability profession.

Doing a Google search returns a page consolidating various definitions of usability (<http://www.google.com/search?hl=en&lr=&client=firefox-a&oi=defmore&q=define:Usability>), they all say essentially the same thing and use rhetorical statements, all essentially just synonyms.

The ISO9241 (Part 11) standard defines usability as 'the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use', but it doesn't really say how you actually do that.

This definition gives a notion of measuring something to determine how usable it is, much like intelligence. But it is still predicated on the designer having to come up with a worthwhile design to test, in order to see if it is usable.

The well researched content on Usability.gov (<http://www.usability.gov/basics/index.html>) explains that usability engineering (in contrast to usability testing) is '...a practical and systematic way to deliver a product that works for users [involving] several methods, each applied at appropriate times, including gathering requirements, developing and testing prototypes, evaluating design alternatives, analyzing usability problems, proposing solutions, and testing a site (or other interface) with users.

Again, like the ISO standard, this describes *what* it is, now exactly *how* to do it,

## 1.5. Trial and error in user centred design

The sequence described above is to gather requirements and then develop and test prototypes. They go on to say '...the prototype can then be used to elicit user comments and observe the prototype's ability to lead the users through the tasks they need to perform'.

This basically says, 'We put something together and go round and round to see if it works. Sure, we can draw on our experience to get there more quickly, but what if we're starting our career? What if we haven't done one of those types of applications before? What if my experience is different to yours? What will we come up with? As a client or manager, how would I pick the right designer to work with?

Approaches like user centred design take the same approach of capturing requirements, doing a prototype and testing it out over and over again. But the big question is: 'What happens in the middle?'

## 1.6. Usability/UI design is not taught the right way.

The few definitions that I've examined above suggest that as a profession, we are taught to say what usability is, but not definitively how do you do it. It's a bit like the layperson art critic who says 'I don't know much about art, but I know what I like'. There are many usability hymn books and guidelines for all the major operating systems (Mac OS, OSX, Windows, Linux, etc.) that we recite, but often these books and guidelines are about pixel placement of widgets on the UI. None of them actually tell us what really makes something usable.

## 1.7. We must operationalise what we do

I feel very uncomfortable that there is no a clear operational definition. How can we expect to be taken seriously if it looks a lot like guess work and trial and error until we get it right?

Imagine if you told the building developer what your requirements were for your new home, and s/he said 'OK, that's great, I'll get start building tomorrow.' Or as a property developer the builder said "I don't really know what makes it stand up, but I know that what I'm doing is works' would you trust them to do your next 200 story skyscraper?

Or if a change management consultant said, 'I've got a few ideas on how we can re-engineer your business. Can I try a few things out at your different offices to see which one works the best?'

Or if the car engineer said 'I want to put the brake and accelerator in different locations because I think it's going to work better' would you buy their car?

Or if the programmer said, 'OK, I know what you want, I'll start cutting code right now'.

It's fair to say that in these circumstances, the first thing you'd say is 'No Way!' and promptly show them the door. However, these kinds of professions have various techniques that guide them though the process of understanding the problem space and arriving at a reasoned solution. That's not to say that everyone who uses these techniques would come up with exactly the same solution, but there is generally significantly less variability between people, compared to user interface designers. Let's face it, if building architects had no systematic process to take requirements to construction, then most buildings would fall over, with disastrous consequences.

## 1.8. What needs to happen to usability?

At the base educational level the profession of usability and user interface design needs to develop in the following areas:

- A clear operational definition of what usability really means. This is more than just the standard,
- An unambiguous set of usability measurement criteria,
- A self-realisation that user interface design is not 'creative' exercise where you can do whatever you like and then test it out,
- The development of a systematic process to move from requirements to design, in a way that reduces variance between people and increased confidence in their output,
- To reject the popular belief that you need many iterations to get the design right.

These are not easy tasks, but represent some of the challenges for the industry. We have to justify what we do, if we want our clients to take us seriously. This is the only way we can take pride of place alongside change management and other large scale intervention activities aimed at business improvement.

## 2. About the Author

Craig is the founder and Managing Director of The Performance Technologies Group (PTG Global), with over 15 years in user experience, user interface design and change management.

Craig runs the R&D function at PTG, having produced a number of world firsts including XPDesign – the first systematic methodology for user interface design and Certified Usable – the first guarantee for usability and user experience.

Craig has been the primary architect behind many of Australia's most popular websites including CBA, Virgin Blue and ASIC and works on cutting edge technologies such as touch, medical and special-purpose applications.

Craig holds a Masters qualification in organisational psychology, is a member of the APS and the APS College of Organisational Psychologists and is a Registered Psychologist in NSW. He is also an Associate of the University of NSW and Macquarie University.



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