

Unleashing Usability Superpowers to Make the World a Better Place

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ICT systems that suffer from minor, and sometimes major, usability problems are an all-too-common experience. This is hard to understand given that there is a readily available body of knowledge that provides solid, field-tested advice on how to design and develop usable and useful interactive digital systems in domains ranging from leisure to business to health. People usually cannot avoid using the bad interfaces they need to use to do the tasks at hand but perhaps we can encourage them to document and share what makes them bad interfaces? Over time this could change how usability is perceived across organisations and influence how new ICT systems are acquired. After all, bad usability can not only affect staff well-being and the bottom line but can also involve legal liabilities.

The year that just passed, 2019, is the year in which the 1982 science fiction movie *Blade Runner* is set. Flying cars, interstellar travel, and synthetic humans known as replicants all exist in the *Blade Runner* version of the future. Amazingly, in both the movie's reality and in our own reality we are still dealing with ICT systems that are not properly designed for the task at hand. There is rarely a day without encountering interfaces or, more broadly, ICT systems, that suffer from minor, and sometimes major, usability problems. Benjamin Franklin famously stated, "... in this world nothing can be said to be certain, except death and taxes". Bad interfaces surely need to be added to that list.

The other day I opened my e-banking with a local Swiss bank to verify that I had paid an urgent bill. Will be a quick one I thought. After all, checking transactions is core bank business plus I knew the exact transaction amount to look for. So I entered in the transaction search interface the amount that characterized the transaction that I was looking for (CHF 25.25) just to be instructed that I must also enter an upper limit for the search. Which makes the search about a range of transactions, not specific ones as needed. Just enter the same amount as upper limit you reckon? I tried that and was told off: "the upper limit must be higher than the lower limit".

When using the e-banking of another bank I need to be very careful when using the arrow keys to navigate the window exceeding electronic payment page because depending on where I clicked last, the arrow keys would scroll the page up/down or they quietly increase/decrease the amount to be transferred. On more than one occasion this lead to wrong amounts to be transferred. Luckily I double-checked the amount before hitting the Submit button.

Imagine this was not an e-banking interface where transactions can possibly be reverted if necessary but the interface of an x-ray machine or a medication dispenser!

It is hard to understand as to why we still encounter so many usability problems in professionally developed ICT systems. Design legend Don Norman recently bemoaned "*I wrote the book on user-friendly design. What I see today horrifies me*" (Norman 2019). While the focus of Norman's piece is on design issues that affect the elderly in particular he makes it very clear that "*every ailment that I described that impacts the elderly is also present in people of all ages*". Referencing Holmes (2018) he points out that "*all of us are disabled now and then*", whether by condition (e.g. when suffering a broken leg) or by circumstance (e.g. when carrying shopping bags).

Scholars and practitioners in the multi-disciplinary fields of Human Computer Interaction (HCI) and Interaction Design (ID) have assembled a readily available body of knowledge (e.g. the Interaction Design book by Preece et al 2019 that I use for teaching already is in its 5th edition) that provides solid, field-tested advice on how to design, develop, deploy, and evaluate usable and useful interactive digital systems in domains ranging from leisure to business to health, to name a few.

Perhaps it is time that we shift our quest to rid the world of bad interfaces from teaching how to design better systems to activating those that are suffering the most from bad interfaces: the people. In most situations people can't avoid using annoying interfaces they need to use to do their tasks at hand, regardless whether it is for leisure or for work. What if they would also

document and share what makes them bad interfaces? There is no magic involved in good usability. Nielsen's (1994) heuristics for good usability have (mostly) stood the test of time. Updated and expanded versions are readily available. Using the heuristics to describe the flaws one experiences is pretty straightforward. Usability heuristics can even be applied to everyday life as demonstrated by Lundgren (2002)'s tongue-in-cheek collection.

Constant dripping wears away the stone, they say. I might be dreaming but I would expect that in a business environment (or in any environment really, including academia) the constant dripping of documented usability concerns would eventually change how the importance of usability is perceived. Perhaps it even leads to a rethink of the ICT acquisition process. Managers involved with ICT acquisition may not be fully aware of the importance of proven usability and how bad usability can affect everything from staff wellbeing to the corporate bottom line to legal liabilities.

Rather than focusing on the usual design/build/evaluate iterative design process I have started to put more emphasis on developing the skills needed to analyse and document usability and usefulness of systems that are already in place. Not just apps and web sites but (almost) any kind of interactive digital system. Ubiquitous as they are these days we tend to forget that we deal with interactive digital systems whenever we deal with systems ranging from public transport ticket machines and parking meters to dishwashers and microwaves.

I keep reminding myself that if I manage to enthuse only every second student in the classes I teach I'll have multiplied my desire to rid the world of bad interfaces! Now that is a (somewhat sneaky) superpower!

References

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