

Conjuring up SOLUTIONS

Paul Davison explains why magicians could be the ultimate human factors experts

In 1958, Donald Broadbent offered his Filter Theory of Attention model. He proposed that the physical characteristics of sensory inputs are used to select what's processed and what's filtered out, reducing millions of inputs down to single digit amounts. Broadbent believed this filtering was undertaken at an early stage of processing to avoid our information processing abilities being overwhelmed.

These ideas were among some of the first explorations of the Information Processing Model (IPM), the laptop in our heads. In the 1990s, Mica Endsley took the IPM further by looking at three levels of situation awareness:

- Perception of elements in the current situation
- Comprehension of current situation
- Projection of future status.

In the past 20 years this model has been refined further through ideas around multi-tasking and priming through preliminary activities. Additionally, the challenges posed by time and resource constraints have led us to explore how humans juggle efficiency and thoroughness. All of which has resulted in situation awareness becoming a key aspect of the approaches and methods utilised in user-centred design.

With this in mind, I offer the magician as a metaphor for being the expert ergonomics and human factors practitioner. The magician is a master craftsperson for the designing and implementing of human-centred tricks. Such tricks are also conceived with a focus on ensuring delight and a wow factor in the user experience.

The ultimate goal in designing safe and high-performing systems is to ensure that no adverse events take place. Also, for every choice the human makes, only the correct thing to do ought to make sense. Magicians achieve this. They set up a system around them that perfectly accommodates the human.

The magician limits the participants' freedom of movement, without anyone ever feeling manipulated. They do this through the provision of an illusion of control for the participant, yet simultaneously maintaining mastery over all that takes place. The only thing that makes sense within the trick is the magic's requirements and what the magician has designed into the trick. Often coin toss and card tricks only ever permit a single outcome and this is nearly always a predetermined one, yet the participant feels that they're making the decisions. The magician



continually nudges a participant's behaviours through authentic and meaningful conversations.

Magicians are the masters of manipulating the IPM. They capture and then misdirect the attention mechanism. They select what we attend to, what we filter, where we focus and how intense that focus is. At the same time, they manage our perceptions and memories. They do this through the exquisite management of our emotions, expectations and experiences.

They control the information we gather and our understanding of it, resulting in an anticipation based on the trick, not reality. They understand human factors and how to create a perfect fit for humans within each trick. Their cover is entertainment, humour and character, through which the magician coaches the participants to do their bidding, leaving them with a feeling of mystery and amazement. How did you do that?! When you better understand the principles behind magic tricks it's like Neo in the *Matrix* and you become capable of seeing the noughts and ones of the background programme. Yet there ought to be joy in any human system interaction. The human ought to be effortlessly supported by the system to achieve a task while being unaware of the system and then being left with a wow factor. In doing so, higher levels of safety, performance and user experience are achieved.

Magicians are expert ergonomists and human factor specialists; they operate at a master's degree level in psychology and coaching for performance. We'd do well to understand and be able to apply both the magician's art and science when embarking on human-centred design in generating great user experiences. ■

About the author

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