Good and Bad Interface Designs – Interação Pessoa-Máquina

Good interface design: Toilets

“A fixed receptacle into which a person may urinate or defecate, typically consisting of a large bowl connected to a system for flushing away the waste into a sewer or septic tank.”- Oxford Language Dictionary, on the word “toilet”.

Toilets possess one of the simplest interfaces possible, consisting of one singular button or lever. Its usage is known to all and a necessity in everyday life, turning the possibly embarrassing task of human waste management into the press of said button or lever. Of course, the entire process is aided with the help of sewage and water systems, but the effective interface people face is only said toilet’s button.

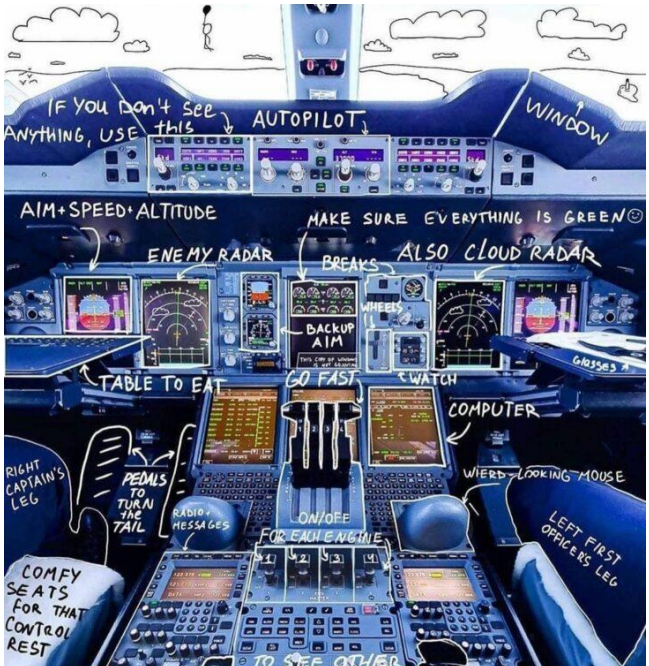
This presents an extremely good interface example since such unwanted tasks of sewage extraction and water refill are replaced with said button, simplifying the process to an extreme degree. It also helps that the user has no access to the internal contraptions of the toilet, or it’s connected systems, and is therefore much less likely to break the system.

(istockphoto.com)

Bad interface design: Airplane Cockpits

“a compartment for the pilot, and sometimes also the crew, in an aircraft ~~or spacecraft~~.”- Oxford Language Dictionary, on the word “cockpit”.

Aircraft seem like an extremely difficult vehicle to pilot, needing an entire degree to be able to do so. An extremely difficult task does not get easier when paired with an extremely complex looking interface.



Although aircraft interfaces have become more compact, the presence of buttons and screens littered everywhere with little to no explanation shows the number of things a pilot must consider. The job takes a turn for the worse when the pilot changes aircraft. Unless the aircraft is an equal model, the pilot must re-learn the position of every piece of the interface in front and above their heads. Even when they have been trained to do that, the lack of a clear interface only adds to their workload.

While we may not have the knowledge to outright claim such interfaces are poorly designed in a pilot's perspective, NASA published a paper where it explains this and more, such as common mistakes done when designing such interfaces.

feary_CockpitUIDesignErrors.pdf

" At the root of this approach is the minimization of memorized action sequences that must be trained and then recalled during line operations. This paper discusses five classes of user interface characteristics that lead to training and recall of memorized action sequences:

(1) Input devices require significant reformulation of the mission task into sub-tasks or alternative representations in order to use the automation

(2) Absence of labels, prompts, and/or organizational structure, require pilots to remember action sequences to access desired input devices (or information) in the hierarchy of cockpit displays

(3) Absence of prompts that define the format for data entry require pilots to memorize correct formats

(4) Absence of labels or prompts to identify how and where to insert the entry

(5) Representations and content of feedback displays require significant mental calculation or memorization to infer the intentions of the automation and to verify and monitor the long-term effects of the current commands. " Extracted from - Polson, Peter; Feary, Michael; NASA Ames Research Centre in collaboration with the University of Colorado; DESIGNING USER-INTERFACES FOR THE COCKPIT: FIVE COMMON DESIGN ERRORS AND HOW TO AVOID THEM, 2001.

And with this information we can claim cockpit interfaces are somewhat poorly designed in the perspective of not only us but pilots as well or, at least, those made prior or to the rules of 2001 and before.