



Six Ergonomic Design Guidelines That Can Help Eliminate User Confusion



Today's multi-functional products can be complex. Often, users of these devices don't understand their capabilities and have little experience with how they work. Ideally, operational functions can be designed in a way that leads the user to easily perform the desired actions. That's what

we call good ergonomics. Unfortunately the phrase, "ergonomically designed" is more often a marketing tool than a design reality.

Many product designs are far from user friendly. Interfaces that are not well thought-out can be incomprehensible and possibly threatening to users. In some cases, poor designs may actively obstruct safe and efficient operation.

Much of the value of a product may come from the ability of the user to easily understand it. Even the best ergonomic interface may not make a highly technical device easily usable in a few hours, but a smart design can significantly shorten the time required for user mastery. Medical devices especially, may involve considerable explanation and repetitive use before the user can operate them accurately, with a degree of confidence.

An experienced designer knows that even minor changes in details such as button size, color, or placement can create major usage consequences. The good news is there are a number of basic ergonomic guidelines designers can follow which will eliminate confusion and reduce overall learning curve time and effort.

Grouping

The first level of simplification is to organize related controls and displays into recognizable groups. The user should not have to search too long for associated functions.

Priority Ranking

Critical interfaces, and those frequently used, should be prominently displayed. This can be achieved with visual and tactile differences through the use of color, size, shape, texture, placement, orientation, and lighting. Numerous rarely used controls can add clutter and intimidate users. If there are non-emergency functions, for instance, it may be preferable to place

them in a less prominent or hidden area, perhaps behind an access panel. Designers should remember that the frequency a particular function is used may vary depending on specific situations or the experience of different users.

Clarity

Controls should clearly identify user options and the intent of what they were originally designed for. Unclear labels, incomplete instructions, and unexplained steps will cost users uncounted hours of wasted effort and frustration.

Consistency

Maintain consistency by making sure similar or identical interfaces operate in a similar manner. Controls should also respond the same way every time. While multifunctional buttons may conserve space and reduce cost, they can also be a source of user aggravation and input errors.

Positive Feedback

If possible, the device should confirm that user input has been received and is appropriate. Such feedback should be immediate, to prevent the operator from repeating the function. This can be accomplished by providing tactile, visual, or audio responses. In addition, the designer can help prevent user confusion by offering different types of feedback for dissimilar functions.

Aesthetics

Everyone responds to a pleasing and welcoming appearance, so these considerations are important to consider for even the most mundane or practical products. Potential purchasers may even sacrifice a degree of functionality to obtain a product that satisfies their aesthetic needs.

Finally, it is wise to expose the target audience to developing designs with pre-production models, focus groups, and 3-D renderings, which can make the end user a key part of the process. Customer insights, fresh perspectives, and real world experience can play a major role in producing a successful and usable design.

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