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Iterative Design: Heuristic Evaluation of a Remote Controller

As a designer, an iterative design process is necessary to get the desired final product. The process of heuristic usability evaluation was completed on a remote controller for the first assignment. For the iterative design, I reapplied three usability heuristics from Neilson (2005) to redesign the remote controller from my first design to a new redesign. The finished product looks significantly different from the original product that was redesigned in September 2011 (see Figure 1).

Like the first redesign, I reapplied the usability heuristic of having a match between the system and the real world (Neilson, 2005). This time I removed the words from many buttons and used symbols to represent the real world systems that it is supposed to control. The most commonly used device buttons are on the top (DVD, Cable, TV), with the other systems directly below them (VCR, AUX). The mute button and volume up/down buttons were modified to images so it is clearly seen the purpose of the buttons. The favorite button is now a heart, which is a common used icon in technology today. The settings button is now a gear and the last button is a curved arrow pointing backwards, separate from the DVR controls to reduce confusion. I also added a button with a light bulb in the bottom right corner. This button will light up the keys on the remote for a minute when pressed for evening use so the user can easily see the keys and use the remote in the dark.

The second heuristic I chose for this redesign, once again, is the aesthetics and minimalist design (Neilson, 2005). I reduced the number of buttons from the first redesign to the current redesign by four buttons. I added in the day and page skipping into the arrow keys (shown on the keys) to combine button uses and reduce overall buttons. Also, the last button can also be used as

the button to go back when in a menu or DVR. So it will go back to the previous (or last) window (or channel) the user was in. The setup button was moved to the bottom of the remote to remove the emphasis on the button. The color of the setup button was also changed to make it blend in so the user does not confuse it with the power button if the remote was picked up backwards. Overall, the new design is more aesthetically pleasing for the user to interact with than the original or first redesign.

The final usability heuristic applied to the remote in the iterative design was recognition rather than recall (Neilsen, 2005). Through making the buttons with recognizable icons (e.g., the speaker with an x for mute, or + / - for increase / decrease volume) the user can understand quickly what the button is for. The buttons with text on them were made a little larger (e.g., menu, guide) so that it is easier for the user to read when glancing quickly at the remote. The buttons are visually separated by color through the shades of the buttons for quick recognition after repeated use.

Through an iterative design process, the final remote is a lot less intimidating than the original or first redesign remote controllers. Also, with the ability of this controller to have backlight, the user can use the remote easier in the dark. This may be a feature that many users value when watching television in a dark environment which was not available in the original or the first redesign. Though this remote has had a heuristic evaluation to lead to a redesign, the true usability of this remote controller will not be known until it is tested with real users. Design changes made with heuristic evaluation may find some design problems but usability testing will find different problems than I found through the evaluation.

References

Neilson, J. (2005). *Ten Usability Heuristics*. Retrieved from:

http://www.useit.com/papers/heuristic/heuristic_list.html



Figure 1. Original, First Redesign, & Iterative Redesign of the Remote Controller