

A Human Touch to a Human Interface

Doc: 111017

Introduction

There is more to a touch panel interface than just making it look good. Billy Crystal used to say, "It is better to look good than to feel good." However, in the case of the human interface, that could not be further from the truth. One of the biggest mistakes in touch panel design is spending more time making it look hi-tech rather than focusing on the usability. Although the technology behind the interface is important, making an effective human interface requires an understanding of the end user(s) as well as the organization itself.

Know Your Client

Develop an understanding of what the company does and what inspires them in order to implement their philosophies into the design. Companies take pride in what they do; your interface should reflect that pride. One of the best places to start is their website. Websites often contain the content and information needed to get started. Make note of the logo, the colors utilized and overall page layout and formats. Companies enjoy seeing the level of personalization in the interface that will compliment a look and feel they already approve. Company pride is just one part, understanding their industry is just as important. For example, use of red in financial industry based companies is not a good idea. In the financial world, red has a negative connotation. It should be limited to primary functions that require it such as a record button. Use this understanding to your advantage, by integrating aspects of the industry into the design as well.

Stand Out in a Crowd

Create your own company style. The ergonomics of the UI is critical in the development of a successful design, but it's also possible to integrate unique styles and solutions that really make the difference. For example, (when one walks into a conference room they may not know it was designed by your company, but the user experience can drive a conversation and get people to inquire as to 'who did it'). Credits never hurt when done discretely, and can provide return as well as new business from other people using your companies interface. Word of mouth is very powerful especially if they are satisfied with the results. The system interface produced is one of the best marketing tools to set your company apart from the competition.

The interface(s) for your customer(s) can have a consistency and reusability that fits your company. You'll want your interface to be a standard within your company. This will make your team more efficient and increase the re-usability and reliability of your systems. Since most projects are very similar in functionality, accumulating a database won't take too long and in time will allow others to recognize your company's style.

The Nuts and Bolts of a Successful Design

The selection of the placement, color and shape of buttons may sound simple, but effective design involves how the human brain works in some ways you may not have considered and may affect the overall usability of the system.

- a) Users like consistency. Common buttons like “exit, source selection and volume controls,” should remain in the same location.
- b) Do not use complex backgrounds. The look may be appealing but can distract from the foreground and buttons can quickly become diluted.
- c) Place buttons where they make sense. Most users are right handed (sorry lefties). The most commonly used button(s) such as volume control should be located on the right side of the panel. If using a video preview touch panel source selection, the controls should be at the bottom or on the sides in order for the image to not become impeded by the user’s hand (see figure 1).
- d) Create button types of different shapes. Users relate to colors and shapes and will associate them with functionality. If all the buttons are the same shape it will take a user longer to locate them. For example, source selection buttons could be a rectangular button while the volume control button is triangular.
- e) Be informed of color meanings and combination of colors. One in six men has some form of color blindness. That does not mean they can only see in black and white, but using green text on a blue button can make the text invisible to some users. Also, use a little fashion sense. Some colors just do not blend well together.
- f) Icons are a universal language. Choose icons that match in style but are clear in what they are portraying. Always try to use text with icons for those who may not be 100% clear with the intent. Icons are great as they not only add style to the panel but keep it universally friendly.
- g) Placement of the date and time at the top of the panel is integral. It can be an essential tool for the end user to know or assist when necessary during a presentation.
- h) Animation can be flattering if designed in moderation and used only when necessary. Too much animation can become distracting to a user during a presentation.
- i) Let a non-technical person try out the interface before showing it to a customer. This is a very effective means to get an honest review of your design. You’ll also get to quickly gauge how intuitive the layout is. If this person can operate it without having to ask too many questions, then you have done a great job! Don’t take one person’s word for it, cumulate a few male and female responses.

The Repeatability of Success!

1. Great program routines deliver great results. Many system functions have a definitive order of execution for proper operation. Start a library of routines specific to usability. These routines will also help to make future coding go faster and more consistent.
 - a) Source selection routine to go to the sub-pages.
 - b) System startup routines. Users like to know why they have to wait and if possible how long, or they may feel something is not working. If a projector takes 20 seconds to warm up and one minute to cool down then use the interface to inform the user. A nice bar graph or countdown timer is useful and these routines can also protect the system from getting out of sync as it waits for the projector to start up.
 - c) Preset channel routine for tuners (Cable, DirecTV, ATSC, QAM) is another commonly used feature. A Function like "Press-n-hold" to store channels is something most users are familiar with and allows the end user to adapt their system when the cable company changes the channel line-up.
 - d) Timer routines are an added value for the end user. During a presentation they will usually have an allotted time. The ability to count down and up and perhaps flash as it gets close to the set time can help a user keep proper time.
 - e) Every component of the interface can have a routine associated to help customize from project to project quickly and accurately. Even the little things such as volume ramping, transport feedback and selection, keypad entries, etc. make a difference
 - f) Optional password routines to start the system are complimentary. It is a nice way to keep unauthorized users from playing with the system.
2. Audio prompting should be utilized more often. Many products have MP3 audio output capabilities. Using audio to prompt at the right time can not only make a system high tech but provides a very useful service, such as,
 - a) "Incoming Audio Call, please go to the touch panel to answer."
 - b) "Incoming Video Call, please go to the touch panel to answer."
 - c) "Please return the touch panel to its base for recharging." This one is one of my favorites as it helps the next user from having issues with a dead or low battery.
 - d) Make audio clips available in male and female voices. Keep the voices non robotic and business professional. Take care not to produce voice tracks that are 'too sexy', unless your customers industry lends to it.
 - e) Limit the use of the clips to where it matters most. If prompting is used too much then it becomes annoying. Remember the audio command for cars, "The door is ajar, the door is ajar". How annoying was that?!

Approval is Important

Customer approval is very important at the beginning as well as the end of a project. Make the initial interface design before writing the code behind it to show the end user how it will look and flow. Supply an explanation of the buttons, operations, and the behind the scene functionality. Create a template of the documentation as it will become reusable from project to project with minor changes. Have the customer sign off on the document so there are no misunderstandings later on about the expectations of the overall control. This will save countless man hours of changes to code and layout.

Figure 1

