HFE Guidance on

Instructional Material Visuals

Veterans Health Administration

Office of Health Informatics

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# HFE Guidance – Instructional Material

### Background

The BAC team received a request to provide guidance on a suite of “tools” to use for instructional material. Russ Beebe (VUMC) provided initial feedback and recommendations. The BAC team reviewed the initial feedback and solicited additional input from our human factors and user experience team members. This document compiles the feedback from Russ and the BAC team.

### HFE Formal Recommendations

## "[Guidance on Medical Device Patient Labeling; Final Guidance for Industry and FDA Reviewers](https://www.fda.gov/media/71030/download)" can be helpful when developing instructional materials. The purpose of this guidance document is to help make medical device patient labeling understandable to and usable by patients (or family members or others caring for patients). This guidance includes both risk/benefit information, and instructions for use. See Appendix D - Appearance of Graphics for principles that should be applied to the graphics of medical device patient labeling.

### Use of Color

* Pick a color for markup lines and text that does not match any of the other screenshots in the presentation/document; a color that is easily noticeable and accessible on light or dark backgrounds.
* We suggest staying away from using "brand colors" for markup lines and text.
* We suggest using magenta as the color of the markup lines and text (RGB 255,0,255; web #ff00ff), since it rarely appears as an element of a screen, it is bright and visible, it is appx. 50% on the value scale so it is discernible against light or dark areas and is interpreted as a fairly distinct blue by people with the major colorblindness afflictions.

### Use of Shapes

* While it's apparently easy and customary to draw ovals around areas of focus, we find rounded-cornered (of significantly observable radii) rectangles are usually better to enclose zones of text or portions of graphic content, while distinguishing themselves stylewise as being separate from the screen's actual content (unless the content consists mainly of rounded-cornered rectangles).
* Using rectangles around the area of focus is recommended over ovals, because most of a screenshot's elements appear on an invisible grid composed of rectangles, and ovals do not match up well with rectangles.
* Whether you decide to round the corners of the rectangle or not, is an aesthetic preference.

### Reference Indicators

* We recommend you use high contrast numbers or letters as labels, against the reference indicator backgrounds (for example, alphanumeric labels in white on the magenta background).
* When adding alpha or numeric reference indicators onto a screenshot, we recommend that you keep them the same color.
* The shape should be just large enough to accommodate a legible font size and be sure that it will fit two letters or numbers in case you have more than nine callouts on any screenshot in the presentation. Typically, those numbers or letters match up with numbered or lettered notes in the right and/or left margins outside of the screenshot.
* Alternatively, you can have the notes on the right and/or left-hand side of the page and have lines (preferably horizontal or primarily horizontal lines) going from the note to the relevant location on the screenshot. Instead of having an arrowhead on the end of such lines, use a "dot" at the end of the line to further clarify which portion of the screenshot the note is describing while avoiding any over-interpretation of the meaning of an arrowhead (Figure 1: Reference Indicators).



Figure 1: Reference Indicators

### Use of Cropping

* We recommend that you crop out unnecessary portions of the image. Cropping the image shows the relevant portion on a larger scale and helps the reader focus.
* The downside of cropping the image is that you lose the context of the other areas of the screen. When cropping an image, be sure to have both the cropped version and the Fullscreen version available.

### Use of Video

* Instructional videos are helpful as supplementary information, though not all users will watch them. Videos should be easily discoverable, consistent in style across the site, and include thumbnails that accurately represent the type of content they provide.
* For guidance around the use of using videos as instructional content please refer to the following article: <https://www.nngroup.com/articles/instructional-video-guidelines/>.

### Instructional Overlays and Coach Marks for Mobile Apps

* For guidelines around instructional overlays and coach marks for Mobile Apps please refer to the following article: <https://www.nngroup.com/articles/mobile-instructional-overlay/>.
* It is recommended to present hints to the user one-by-one, at the right moment, to make it easier for users to understand and learn instructions.
* Minimizing the amount of instructions focuses the users’ attention on a single, primary action.

### Use of Animation in Mobile Applications

* There are several types of animations that can be used in mobile design. Feedback animation can be used to indicate to the user that a process has been completed. This type of animation allows the app to communicate its status to the user. Progress animations can be used to communicate to the user how far along in a workflow they are. This animation can also mitigate any negative experience the user has while waiting. Loading animations communicate to the user that a loading process is active. Transition animations let the user know they are transitioning from one page to another.
* Animations can prevent users from becoming disoriented while navigating an application. Accordions, anchor links, and menu overlays can be confusing if the change were to appear instantly over the screen. Adding in the animation can aid the user in understanding the relationship between the menu overlay and the page that is beneath it.
* For additional guidance about how to use animations in mobile applications please refer to the following articles:
  + <https://uxplanet.org/ux-design-how-to-use-animations-in-mobile-applications-a8257ebffe90>
  + <https://www.nngroup.com/articles/animation-purpose-ux/>

### Use of Wizards

* The book *Designing Interfaces* describes a wizard as “leading the user through the interface step by step to do tasks in prescribed order.” Wizards can be used as an instructional tool to walk the user through a process. The book suggests using a wizard if you are designing a UI for a task that is long or complicated, and that will usually be novel for users—not something that users will do often.
* By splitting up a complex task into a sequence of chunks, you can effectively simplify the instructional material.
* For additional guidance and best practices around wizard design, please refer to the following articles:
  + <https://www.nngroup.com/articles/wizards/>
  + <https://uxplanet.org/wizard-design-pattern-8c86e14f2a38>
  + <http://designinginterfaces.com/patterns/wizard/>