INVENTORY MANAGEMENT SYSTEM FOR RETAILERS

Domain: Cloud Application Development

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Create UI to Intract with an application

- **Clarity**

- The interface avoids ambiguity by making everything clear through language, flow, hierarchy and metaphors for visual elements. Clear interfaces don't need manuals. They also ensure users make less mistakes while using them
- Concision
- It's easy to make the interface clear by over-clarifying and labeling everything, but this leads to interface bloat, where there is just too much stuff on the screen at the same time. If too many things are on the screen, finding what you're looking for is difficult, and so the interface becomes tedious to use. The real challenge in making a great interface is to make it concise and clear at the same time.

- **Familiarity**
- **S**omething is familiar when you recall a previous encounter you've had with it. Even if someone uses an interface for the first time, certain elements can still be familiar. You can use real-life metaphors to communicate meaning; for example, folder-style tabs are often used for navigation on websites and in applications. People recognize them as navigation items because the metaphor of the folder is familiar to them.

- **Responsiveness**
- This means a couple of things. First, responsiveness means speed: a good interface should not feel sluggish. Secondly, the interface should provide good feedback to the user about what's happening and whether the user's input is being successfully processed.
- **Consistency**
- Keeping your interface consistent across your application is important because it allows users to recognize usage patterns. Once your users learn how certain parts of the interface work, they can apply this knowledge to new areas and features, provided that the user interface there is consistent with what they already know.

· **Aesthetics**

- While you don't need to make an interface attractive for it to do its job, making something look good will make the time your users spend using your application more enjoyable; and happier users can only be a good thing.

· **Efficiency**

- Time is money, and a great interface should make the user more productive through shortcuts and good design. After all, this is one of the core benefits of technology: it allows us to perform tasks with less time and effort by doing most of the work for us. · **Forgiveness**

Everyone makes mistakes, and how your application handles those mistakes will be a test of its overall quality. Is it easy to undo actions? Is it easy to recover deleted files? A good interface should not punish users for their mistakes but should instead provide the means to remedy them.

Designing a user interface that incorporates all of these characteristics is tricky because working on one characteristic often affects others. The more interface elements you add, the more stuff your users will have to process. Of course, the converse is also true: not providing enough help and support may make certain functions ambiguous. Creating something that is simple and elegant and at the same time clear and consistent is the difficult goal of a user interface designer.

VISUAL INTERFACE DESIGN TOOLBOX #

Visual interface design is the process of designing the physical representation of your interface as your users would see it on the screen of their electronic device. The objective of visual interface design is to communicate meaning, which is done by crafting appropriate visuals that best represent what the application does and how it can be operated. Creating the look and feel of a product is not the primary aim of visual interface design, merely a component. The primary aim is communication: communicating behavior to help your users understand how your application works.

A number of core elements make up visual interface design. Selecting appropriate types, calibrating each element and then combining them all in a meaningful way let us convey meaning for all the different functions and features of our user interface.

Here are the main building blocks of visual interface design:

Layout And Positioning #

Layout provides structure to all the visual elements in your interface. It also defines hierarchy and relationships through the spacing between elements. Bringing elements closer together indicates a relationship between them; for example, labels under icons. Positioning can improve flow, too. For example, positioning labels in

forms above text fields, rather than to the left, allows us to move our eyes down them easily, rather than have to keep looking left to check which label applies to which field

Shape And Size #

Shape can be used to differentiate elements; for example, by varying the silhouettes of icons to make them easier and quicker to recognize. Size can be used to indicate importance, bigger elements being more significant. Size can also make clickable controls more usable; Fitt's law tells us that the bigger a clickable area is, the quicker users can move their mouse cursor over it. Making the most frequently used controls bigger will make it easier for your users to click on them, and thus improve the efficiency of the interface.

Color #

Color is useful for several things. Color can attract attention, provided that it contrasts enough with the background (for example, a bright-yellow notice box on a white background). Color can express meaning. For example, red usually symbolizes danger or stopping (as at a traffic light) and so is best reserved for error messages; while green generally tends to mean success or an invitation to proceed and so should be used for content of this kind. Color can also highlight relationships, such as color coding things like buttons and toolbars to aid the user.

Keep in mind a couple of things when using color. First, different cultures will associate different things with colors, so make sure that any meaning you intend to communicate with your color selection works in your markets. Secondly, don't forget about color-blindness; take extra care when differentiating items through color, like bars on a chart. If a user is color-blind, they may not be able to distinguish between certain colors, most often red and green, so you may need to use other indicators, such as shape and texture, as well.

Contrast #

How light or dark something is in relation to the elements around it will have an effect on the usability of an interface. The key here is contrast. Black text on a white background has a higher contrast, and is easier to spot and read, than gray text on a white background. Tuning down the contrast of certain elements allows you to fade them into the background, letting the user differentiate between more important and less important elements.

Texture #

There is a concept in interactive design called affordance. Affordance is the quality that communicates to the user how something is meant to be used. Think of door handles. The best way to make a door that opens one way is to attach a handle on the pull side and leave a flat handle plate on the push side. People will know whether

to push or pull automatically because the interface communicates how it should be used; i.e. it affords less methods of interaction and so focuses the user on the correct one.

We can translate this idea into user interface design on the screen with texture. For example, some elements in a visual interface may be draggable, like the corner of a window that lets you resize it. To indicate that you can click and drag it, a set of ridges usually appears on it, illustrating a rougher texture. Rough textures are often used to add a stronger grip surface to real-life objects to help us pull them with our fingers, and that idea is translated onto the screen, where instead of fingers you would use a mouse cursor

PRACTICAL TECHNIQUES FOR CRAFTING EFFECTIVE USER INTERFACES #

We've talked about what user interfaces are, what characteristics all user interfaces should have and the core tools we can use to build them, so now let's look at some practical techniques you can use in your own Web applications and website

Use White Space To Build Relationships #
White space is the empty space between various content elements, such as headings, text and buttons. White space is a great tool for building relationship between different elements. By tightening the space between elements, you can form groupings of related items. Increasing the space between these groupings will further accentuate their connection by separating them from the rest of the content. Use white space to group related controls and to build a hierarchy of items on the page.

The Gmail toolbar features three groups of buttons separated by some white space. Each group features buttons that perform related actions

Rounded Corners Define Boundaries #
Rounded corners are often used to improve the look and feel of graphical elements. They look nice and add that extra bit of visual polish to your interface; but that's not all they can be used for. Rounded corners define boundaries of objects. When you see a rounded corner, you know it is the end of the container. If the corner is straight, it could be attached to another container, so the boundary is not as clear. Rounded corners, or any other visual corner treatment for that matter, can thus reinforce the boundaries of containers.

Notice how the rounded corners in Ballpark's clients list define the edges of each record. There are also corners in the middle of each record, but these are used as separators between related data rather than as edges of the overall container.

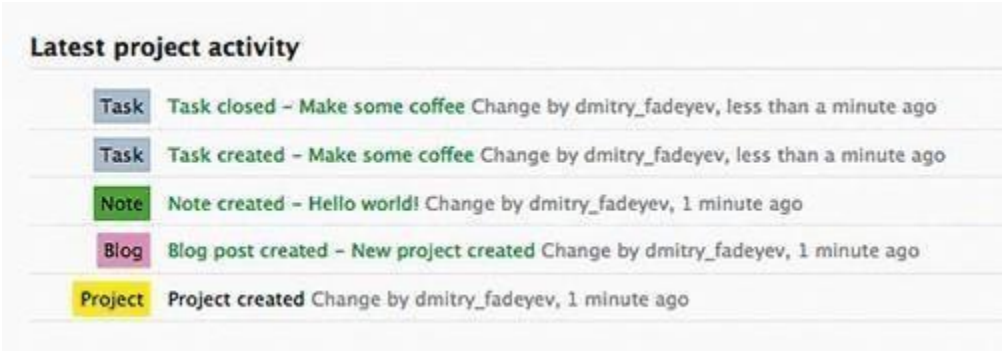
Convey Meaning With Color #

Color is a great tool for communicating meaning; for example, to define different elements. You could, if you so choose, use color coding to distinguish between different types of buttons in your application. Red could be used for destructive buttons like delete and remove, blue could be used for standard buttons and green could be used for save and update actions. Color coding can also be used to distinguish between various pieces of user-created data on overview screens to make them easy to scan

Direct Attention #

Use animation to draw attention. Sometimes, color and contrast alone aren't enough to attract a user's attention. If something crucial has happened, and you really must make sure the user has noticed it, use animation. The human eye is attuned to catching movement, especially on static backgrounds. If a user adds a to-do item to a list in a productivity application or adds a product to their shopping cart, use animation to highlight what has happened. For example, you could use a highlight effect when an item is created on the screen. This is especially useful for applications that use AJAX heavily; in these cases, the page won't refresh when a particular action has been taken, so it's up to the interface to tell the user that something has happenen

When you post a new message in Yammer, it combines slide-out and highlights animations.



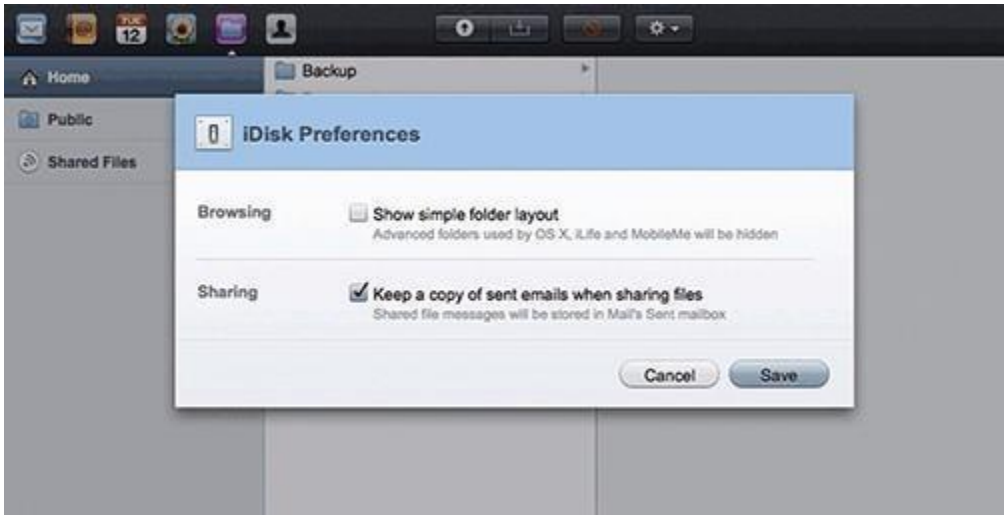
Shadows And Darkened Backgrounds For Focus #

Another great way to focus user attention on an area is to use shadows and darkened backgrounds. Shadows can be used around pop-up menus and modal windows and act as blankets that block out visual noise around the window. Shadows decrease the contrast of elements that lie under them, which in turn increases the contrast of the items they're used for. Modal windows can also have a darker (or lighter) semitransparent layer underneath, which also helps reduce the visual noise of the content it covers and so focuses the user's attention on the modal window itself.

Emphasize Core Actions #

Many applications have screens that feature primary and secondary actions. For example, if you're creating a project in a project management application, the main form will probably have fields for the name of the project, the deadline, the priority level and so on. At the bottom, you may see a "Create" button. Often, you'll also see a "Cancel" button or link next to it. The cancel action is less important because your users usually won't need it, so you can decrease its visual "weight". For example, you

could make “Create” a button and “Cancel” a simple hyperlink with no visual decoration. This shifts the focus to the main action and helps the user locate it more quickly when they finish filling out the form



MobileMe darkens the background around modal windows and applies drop-shadows to them. This shifts the user’s attention to the window by blocking out the noise below

More Efficiency With Block Links #

Use padded block links for easier cursor targeting. Web applications rely on HTML building blocks for their construction, which means they make heavy use of the anchor (better known as the “link”) element. The anchor element is “inline” by default, which basically means that its width and height cover only the text inside it. This in turn means that the clickable area of the link is only as big as the text itself, which may be too small in many cases for users to comfortably click on. We can apply padding to the anchor element to make it larger.

Notice how much more prominent the “Create Client” button is compared to “Cancel” on this Ballpark client creation form

MobileMe uses padded links in its sidebar navigation panel. The large clickable areas allow you to position the mouse cursor over them faster, thus improving usability.

For links in a list, like in a sidebar, turning the anchors into “blocks” may be an even better solution. You can specify an element’s type by using the CSS “display” property; so, specifying the anchor as a “block” will turn it into a block element, which means its height and width will no longer follow the size of the text inside it but will instead span the full width of its container by default. This is ideal for lists of links in a sidebar.