DESIGN PATTERNS
DEFINING AND SHARING WEB DESIGN LANGUAGES

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- eBay Inc., Lead Designer
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WHY DESIGN PATTERNs?

SHARED LANGUAGE PATTERN RECOGNITION
Design Patterns Conversation


Bill Scott
Former Curator, Yahoo!
Design Pattern Library

Jenifer Tidwell
Author, Designing Interfaces
Curator, UI Patterns and Techniques

Martijn van Welie
Curator, Patterns in Interaction Design

James Reffell
Former Curator, eBay Pattern Engine

Luke Wroblewski
Architect, eBay Pattern Engine
Tool Tip Invitation

Problem Summary
Designer needs to cue the user about what will happen if they click the mouse on the hovered object.

Use When
- You want to invite the user to click or interact with the object being hovered over.
- You want to make it clear that something will happen when the user clicks on the object being hovered over.
- The user is interacting directly with the object (e.g., inline editing).
- You need a textual description to make it explicit what will happen when the user interacts with the object.
- You want to entice the user to interact with the feature.

Solution
- Provide a tool tip when the mouse is over the target area that calls the user to action.
- Show the tool tip within a very short amount of time (<.25 second) or immediately when the mouse hovers over the interaction area.
- Keep the tool tip visible the whole time the user has the mouse over the interaction area.
- Remove the tool tip when the mouse leaves the interaction area.
- Provide a short phrase that calls the user to action.
Edit-in-Place

What: Use a small, dynamic text editor to let the user change text "in place"; position the editor directly over the original text, rather than using a separate panel or dialog box.

Use when: The editor UI contains text that the user may want to change sometimes. The names of objects, text elements in a graphic layout, labels, and even property values are good candidates.

Why: Making the user go somewhere else — a place far away spatially, or disconnected from the original text in another window — usually isn’t a good idea. The user may not find the editor, for one thing. It also takes time to switch one’s attention from one place to another, and the perceived complexity of the the interface is increased.

That said, an alternative to this pattern is to edit the text in a separate panel, such as a Property Sheet (see Chapter 4) or in a dialog box. You should do this only if Edit-in-Place is too technically difficult, or if the text in question is so long and complex that it deserves specialized editing and formatting tools — fonts, text sizes, the kinds of things you’d find on text editors’ toolbars.

How: When the user clicks or, more typically, double-clicks on the text to be edited, simply replace it with an editable text field containing the string. Anything the user types in is then entered into the text field. End the edit session when the user clicks somewhere else.

Make sure the text field appears in precisely the same apparent location as the original non-editable string. If it seems to jump when editing starts, it may irritate users. (This situation doesn’t seem like a big deal, but it can be.) Also, retain the same typeface as the original text, if you can. In short, make it as WYSIWYG as possible.

Usually a border appears around the text when the editor is invoked, indicating to the user that editing has begun. That may not ever be necessary, though. Other cues may suffice: a text-entry cursor should appear (often blinking); and a common user task is to replace the original string entirely, when the whole original string is automatically selected when the editor appears.

Examples:

```
Windows Explorer
```

Charlie and his grape

```
Charlie and his grape
```
Constraint Input

Problem
The user needs to supply the application with data but may be unfamiliar with which data is required or what syntax to use.

Use when
Any system where structured data must be entered. Data such as dates, room numbers, social security numbers or serial numbers are usually structured. The exact syntax used for such data may vary by country or product. When the data is entered using an unexpected syntax, the data cannot be used by the application. The user may be familiar with the data but may not know the exact required syntax. The user strives for entry speed but also wants it to be entered correctly. Cultural conventions determine what the user expects the syntax to be. For example, dd/mm/yy is usual in Europe while mm/dd/yy is used in the United States.

Solution
Only allow the user to enter data in the correct syntax.

Why
The main idea is avoid entering incorrect data by not making it possible to enter wrong data. By showing the required format the chances of errors are reduced because the user is given complete knowledge. However, because the user now has to give multiple data inputs instead of one, more time is needed to enter the data. The solution reduces the number of errors and increases satisfaction but the performance time may go down.

More Examples
This snapshot is from the date selection at Expedia.com. Entering the date is split up in three input areas. Each of the input fields allows only valid entries. Entering an invalid date becomes impossible.
**eBay Pattern Engine**

### Hide/Show Elements

<table>
<thead>
<tr>
<th>Section title</th>
<th>Show/Hide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section Content displayed here.</td>
<td>Show/Hide</td>
</tr>
<tr>
<td>Sectional overview text can go here</td>
<td>Show</td>
</tr>
</tbody>
</table>

**Overview**

Hide/show elements expand and collapse sections of content.

**Why**

Hide/show elements allow users to control the amount of content visible on a page.

**Use When**

Hide/show elements can be used whenever users may want to minimize non-critical content and/or actions. The custom layout component should be used in place of hide/show elements when content appears within an application framework that supports customization (i.e., My eBay). The custom layout component applies only to containers.

**How**

Use table or section titles with in-line actions labeled Hide & Show. The collapsed state of a hide/show element needs to retain the title in addition to a visible Show action. You may also include a section overview within the header. The sectional overview should not be displayed when the section is open to avoid confusion about whether it’s already open or not. A different visual design is required for hide/show elements within the My eBay framework.

### Related Design Patterns

<table>
<thead>
<tr>
<th>Frameworks</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section Title</td>
<td></td>
</tr>
</tbody>
</table>

**Support**

**Examples**

- [eBay Fees](#)
- [my eBay Account Preferences](#)

**Contacts**

[Dl-eBay-UEPDA](#), UI Platform team

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Powered by UED Base. Please contact [Dl-eBay-UEPDA](#) with any questions or comments.
WHAT ARE DESIGN PATTERNS?

- Repeatable design solutions to common problems
- Work “positively” for specific problems in specific contexts
- Capture best practices that solve real user needs
- Between principles & guidelines
- A design vocabulary
RECOMMEND THIS STORY
Recommend It: ★★★★☆ Average (63 votes)

Fixing the Mighty Mouse
submitted by usedmac 1 day 1 hour ago (via http://mac
The Apple Mighty Mouse brings a slew of great features with most new Mac systems it is becoming a common choice for close to a year now, I have found that the use of the Scroll Ball far outweigh its quirks.

60 comments | blog this | email this | category: apple

Pick Up at the Store
- Milk
- Orange Juice
- Tomatoes
- Lettuce
- Bread
- Chips

BILL SCOTT, DESIGNING FOR AJAX
SCOPE OF DESIGN PATTERNS

Design Patterns

Frameworks
- System
- Flow
- Page Template
- Page Grid

Frameworks can contain other frameworks. Frameworks have a definitive hierarchy.

Documentation
- Supporting Research
- Rationale (strategy)
- Owner
- Examples
- Best Practices

Components
- UI Element
- Widget

Components can contain other frameworks. Components have a definitive hierarchy.

Documentation
- Supporting Research
- Toolbox code
- Examples
- Best Practices
- Graphic Specs

Top Down

Bottom Up
Problem Summary
The user needs to be able to navigate up (towards the root page) and have an understanding of where she is in relation to the rest of the site.

Use When
- The page displayed is within a hierarchy of pages and is not the topmost page.
- The user cannot easily navigate through the hierarchy via other local navigation methods. For example, if the page is fairly deep in a hierarchy, the breadcrumb may be the simplest way to provide navigation.
- The page may be arrived at from an external source (e.g., a search results page) and the user will need a sense of context.

Solution
- Display a horizontal list of labels starting with the topmost page and continuing down the site's hierarchy to the current page.

Use Labels
- Where possible, labels should match the title of their corresponding page.
- Use the rules of title capitalization for labels in the breadcrumb.
- Separate each label with a greater-than sign ( > ).
- Include the title of the current page as the last label in the breadcrumb.
- Do not use the label "Home" for the topmost page. Instead use the specific name for the
WHAT’S IN A DESIGN PATTERN?

- Title
- Problem (situation)
- Use When (constraints)
- Solution
- Why (rationale)
- How (to apply)
- Examples
- Related Patterns
- Accessibility
- Code Samples

Gathered from a survey of popular Web design pattern resources: Van Duyne, Landay, Welie, Tidwell, Lasko
HOW ARE DESIGN PATTERNS USED?

STYLE GUIDE REPLACEMENTS

SHARING BEST PRACTICES
WEB STYLE GUIDES
PATTERN LIBRARIES
TOO MUCH?
<table>
<thead>
<tr>
<th>DOES IT WORK FOR CLIENTS?</th>
<th>FOCUS ON SOLUTIONS NOT RULES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ENCOURAGES GOOD BEHAVIOR</td>
</tr>
<tr>
<td></td>
<td>REUSABLE</td>
</tr>
</tbody>
</table>
SHARING BEST PRACTICES

Web Design patterns

Site Types
- Artist Site
- Understudy Site
- Branding Home Site
- Campaign Site
- Commercial Site
- Community Site
- Corporate Site
- Multinational Site
- Museum Site
- My Site
- News Site
- Portal
- Web-based Application

User Experience
- Community Building
- Full Site
- Information Seeking
- Learning
- Shopping

Navigation
- Bread crumbs
- Directory
- Document Navigation
- Double tab
- Faceted Navigation
- Fly-out Menu
- Header-less Menu
- Icon Menu
- Inline Browser
- Main Navigation
- Menu Navigator
- Meta Navigation
- Mini-Map
- Navigating
- Overlay Menu
- Repeated Menu
- Refreshable Menu
- Scrolling Menu
- Shortcut Box
- Side Navigation
- Teaser Menu
- Trail Menu

Searching
- Advanced Search
- FAQ
- Help Wizard
- Search Area
- Search Tips
- Search Results
- Simple Search
- Site Index
- Site Map
- Topics Pages

Managing Collections
- Collecter
- In-place Replacement
- List Selector
- List Slider
- Overview by Detail
- Item Selector
- Table Filter
- Table Sorter
- View

Page Elements
- Customizable Window
- Constrained Tool
- Country Selector
- Data Selector
- Details on Demand
- Footer Bar
- Forum
- Home Link
- Hybrid
- Language Selector
- Language Extension
- News Box
- Newsletter
- Sluggish Links
- Poll
- Send-a-Friend Link
- Subscription
- To-print top Link

USER NEEDS TO

NAVIGATE
- Breadcrumbs
- Faceted Navigation
- Fly-out Menus
- Horizontal Bar
- Hub and Spoke
- Loft Navigation
- Links
- Alphanumeric Filter Links
- Tabs
- Module Tabs
- Navigation Tabs

EXPLORE DATA
- Auto Complete
- Calendar Picker
- Pagination
- Item Pagination
- Search Pagination

ORGANIZE DATA
- Ratings & Reviews
- Architecture Review
- Rating an Object
- Writing a Review

PERFORM ACTION
- Drag and Drop
- Drag and Drop Module
- Drag and Drop Objects
- In Page Editing
- Sliders

APPLICATION NEEDS TO

CALL ATTENTION
- Help
- Invitation
- Cursor Invitation
- Drop Invitation
- Tool Tip Invitation
- Hover Invitation
- Jump to Details
- Progress Indication

Transition
- Animate
- Brighten
- Collapse
- Cross Fade
- Dim
- Expand
- Fade In
- Fade Out
- Self-Healing
- Slide
- Spotlight

IMPROVE READABILITY
- Ratings & Reviews
- Architecture Review
- Review Architecture

GROUP RELATED ITEMS
- ORGANIZE SCREEN/PAGE
- Page Grids
- Interface Panes
- Page Layout
FINDING THE RIGHT PATTERN...

USER-CENTERED GOALS
DESIGN CONSTRAINTS
RELATED PATTERNS
Interaction Patterns

- **User**
  - needs to navigate
  - through a process
    - that is step-by-step
      - Process Workflow
        - (Step-by-Step)
      - use when the steps are on different pages/screens
        - if a desktop application
          - Wizard
        - if a web site or web application
          - Process Bar
      - use when all of the steps are on a single page
      - and the steps are disclosed piece by piece
        - Progressive Disclosure
      - and all steps are shown at once on the page
      - *List of Steps
        - use when you need to guide the user through a series of steps
          - *Trouble Shooter
        - that is automated
      - through content
        - around a site
        - needs to enter
      - needs to explore data that is
        - needs guidance/feedback
TOP, RIGHT or LEFT ALIGNED FORM LABELS?
Top Aligned Labels

- When data being collected is familiar
- Minimize time to completion
- Require more vertical space
- Spacing or contrast is vital to enable efficient scanning
- Flexibility for localization and complex inputs
Top-aligned Labels

Enter Your Information (Already registered? Sign In)

Please enter your U.S. address and email address to create your account.

First Name

Last Name

Street Address

City

State ZIP Code Country or Region

U.S. addresses only, please.

Phone Number

( ) ext:

Needed if there are questions about your order.

A valid email address is required to communicate with you.

Email address

Re-enter Email address

Create Password

How secure is your password?

Must be at least 6 characters, including a number or special character. Example: eXp3$$

Re-enter Password

By clicking "Register" you agree to eBay Express's privacy policy and terms of use. You also agree to be contacted for marketing purposes, but you can change your notification preferences in your account.

Register
Right Aligned Labels

- Clear association between label and field
- Requires less vertical space
- More difficult to just scan labels due to left rag
- Fast completion times
Right-aligned labels

This person's name will appear with their messages, comments, and files and whenever they are responsible for a to-do or milestone.

First Name: Luke
Last Name: Wroblewski
Email: 

Choose a user name and password so that this person can log in (they can change this later).

User Name:
Password: 

The rest is optional, but some contact info will come in handy when you want to take your communication offline.

Title: 
Office #: ext: 
Mobile #: 
Fax #: 
Home #: 
IM Name: IM Service: AOL 

Save changes
Left Aligned Labels

• When data required is unfamiliar
• Enables label scanning
• Less clear association between label and field
• Requires less vertical space
• Changing label length may impair layout
Left-aligned labels

```
<table>
<thead>
<tr>
<th>Book Name</th>
<th>May05 EST (P)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Year</td>
<td>2005</td>
</tr>
<tr>
<td>Month</td>
<td>May</td>
</tr>
<tr>
<td>Enabled for</td>
<td>Research, Sales</td>
</tr>
</tbody>
</table>

Type
- 4 Bk. Avg.
- Custom Book

Share Book
- Feb-04

Put Book
- Feb-03

Index
- 1

Description
- (Feb-04/Feb-03)
```

- Update default book formula
- If PAV exists, use PAV to build SHR book
- Delete number for Not Selected DP

Update  Cancel

Ad Connections
Eye-tracking Data

- July 2006 study by Matteo Penzo
- **Left-aligned labels**
  - Easily associated labels with the proper input fields
  - Excessive distances between labels inputs forced users to take more time
- **Right-aligned labels**
  - Reduced overall number of fixations by nearly half
  - Form completion times were cut nearly in half
- **Top-aligned labels**
  - Permitted users to capture both labels & inputs with a single eye movement
  - Fastest completion times
BEST PRACTICE

- For reduced completion times & familiar data input: top aligned
- When vertical screen space is a constraint: right aligned
- For unfamiliar, or advanced data entry: left aligned
USER

• Provide Information: want to register, make a purchase, etc.
• Finish Quickly: no one likes filling in forms

DESIGNER

• Maximize completion rates
• Gather known data: name, address, credit card
• Use a minimum amount of vertical screen real estate

CONSIDER: RIGHT-ALIGNED LABELS
IN THE FUTURE...

- Design Patterns as Web Services
- Design Patterns integrated into toolkits
- Design Pattern Library Integration
For more information...

- Functioning Form
  - www.lukew.com/ff/
- Yahoo! Design Patterns
  - developer.yahoo.com/ypatterns
- Drop me a note
  - luke@lukew.com