DESIGN PATTERNS

DEFINING AND SHARING WEB DESIGN LANGUAGES

LUKE WROBLEWSKI SOUTH BY SOUTHWEST, 2007





Luke Wroblewski





Yahoo! Inc.

Principal Designer, Social Media

LukeW Interface Designs

- Principal & Founder
- Product design & strategy services

Author

- Site-Seeing: A Visual Approach to Web Usability (Wiley & Sons)
- Functioning Form: Web applications, product strategy, & interface design articles

Previously

- eBay Inc., Lead Designer
- University of Illinois, Instructor
- NCSA, Senior Designer

http://www.lukew.com



WHY DESIGN PATTERNS?

SHARED LANGUAGE

PATTERN RECOGNITION



Design Patterns Conversation



http://www.lukew.com/ff/entry.asp?347



Bill ScottFormer 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

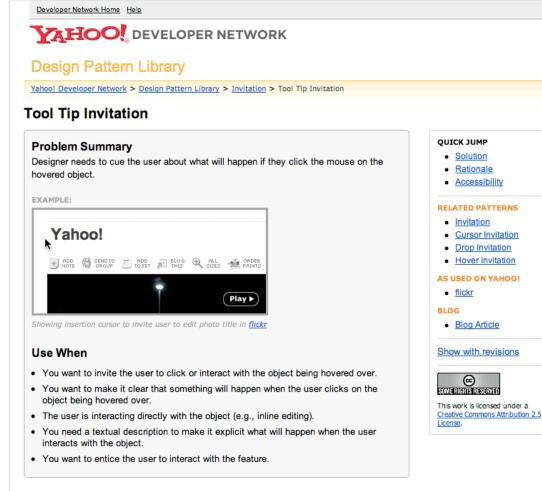


Luke Wroblewski Architect, eBay Pattern Engine



http://developer.yahoo.com/ypatterns/





Solution

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

http://designinginterfaces.com/



Designing Interfaces

Patterns for Effective Interaction Design

Overview
About the Book
Introduction

Organizing the Content

Extras On Demand Intriguing Branches

Clear Entry Points Global Navigation Color-Coded Sections

Organizing the Page Visual Framework

Commands and Actions

Action Panel Smart Menu Items Progress Indicator Multi-Level Undo Command History

Showing Complex Data Overview Plus Detail Row Striping Sortable Table

Getting Input From Users

Input Hints
Input Prompt
Dropdown Chooser
Illustrated Choices
Good Defaults

Builders and Editors

Smart Selection Composite Selection One-Off Mode Constrained Resize

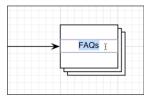
Making It Look Good

Deep Background Few Hues Many Values



Excerpts from the O'Reilly book, public discussion, and new patterns Buy the book

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 builder 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.

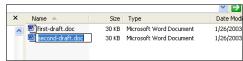
That said, an alternative to this pattern is to edit the text in a separate panel, such as a Property Sheet (see Chapter 4) or in a dialog box. You should do this only if Edit-in-Place is too technically difficult, or if the text in question is so long and complex that it deserves specialized editing 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 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 noneditable 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 even be necessary, though. Other cues may suffice: a text-entry cursor should appear (often blinking), and if a common user task is to replace the original string entirely, then the whole original string should be automatically selected when the editor appears.

Examples:



Windows Explorer is where many people see Edit-in-Place for the first time. Explorer isn't an editor, but it established a precedent for how one interacts with Edit-in-Place. Explorer differs from most editors because you invoke Edit-in-Place via a "slow" double-click (not always easy to do, and not recommended), whereas most editors use an ordinary single or double click. But the rest is the same. The previous text is automatically selected, a box is drawn around the text, and a blinking text-entry cursor appears.





http://www.welie.com/patterns/



back to index

Constraint Input



From www.easycar.com

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 per 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

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

Present the user with fields for each data element of the structure. Label each field with the name of the data unit if there can be doubt about the semantics of the field. The field does not allow incorrect data to be entered. Avoid fields where users can type free text. Additionally, explain the syntax with an example or a description of the format. Provide sound defaults for required fields, fields that are not required should be avoided or otherwise marked as optional. When optional fields are used, the consequences for the user must be explained.

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 or errors and increases satisfaction but the performance time may go down.

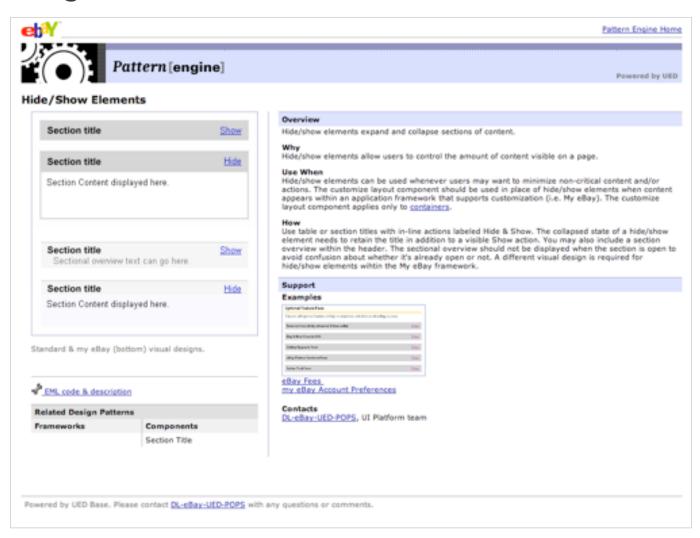
More Examples This snapshot is from the date selection at Expedia.com. Entering the date is spit up in three input areas. Each of the input fields allows only valid entries. Entering an invalid date becomes impossible.



eBay Pattern Engine







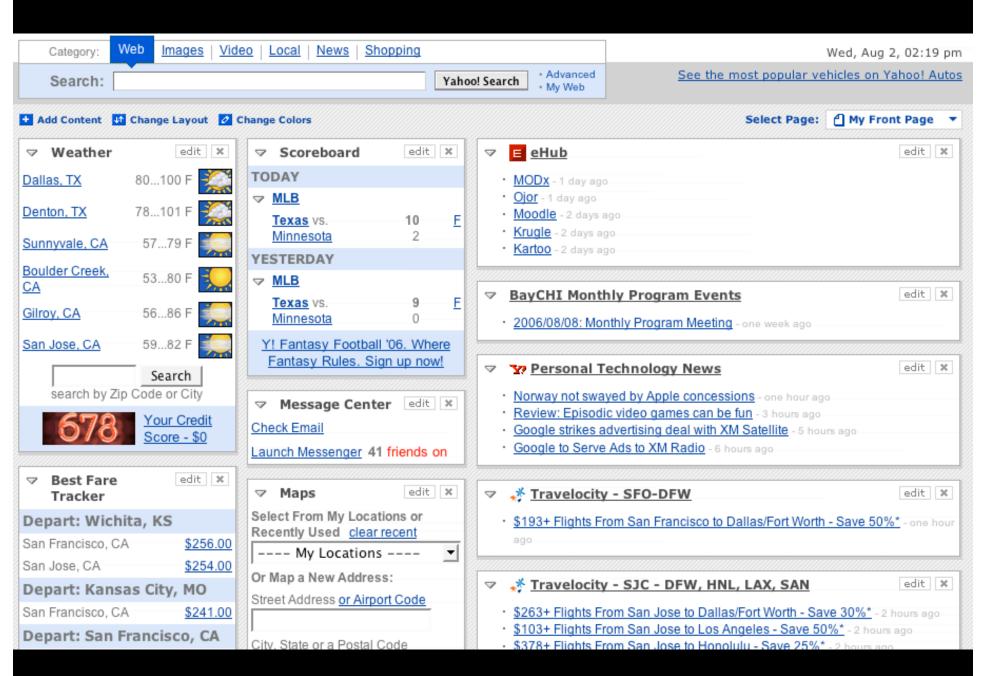


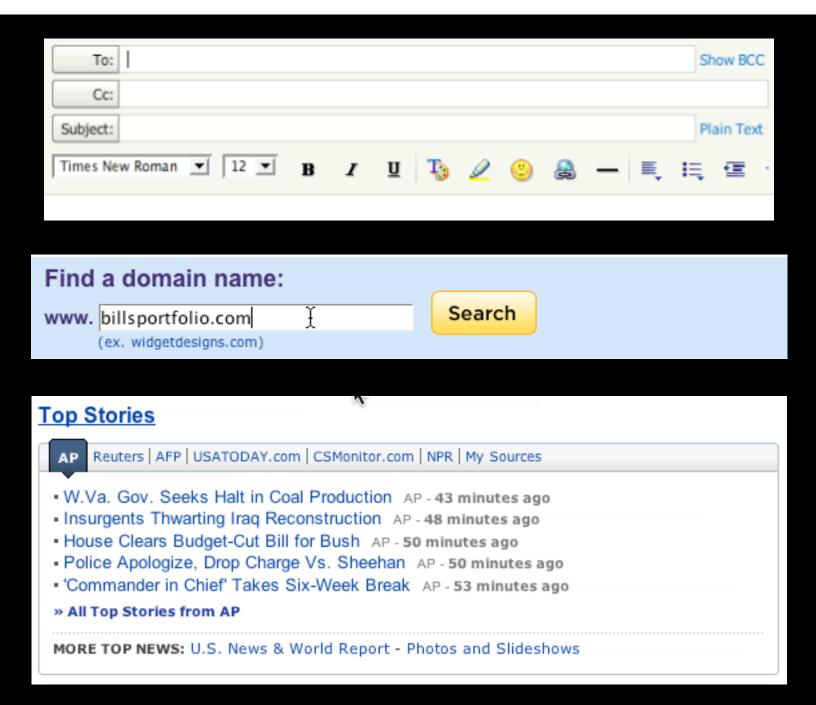
WHAT ARE DESIGN PATTERNS?

- 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



Drag and Drop. Drag and Drop Modules. In Page Editing. In Page Custom Editing. Direct State Editing. Grid Cell Editing. Inline Custom Editing. Inline Tag Editing. Popup Custom Editing. Slide-out Custom Editing. Inline Text Editing. Persistent Portals. Inline Reordering. Indication. Busy Indication. Cursor Busy. In Context Busy. In Context Progress. Inline Status. Auto Complete. Balloon Error Tip. Deferred Content Loading. Dynamic Goal. Narrowing Choices. Refining Search. Live Search. Dynamic Filter. Invitation. Cursor Invitation. Drop Invitation. Tool Tip Invitation. Hover Invitation. Detail Zoom. Opacity Focus. Configurable Module - Faceplate. Configurable Module - Flip It. Configurable Module - Inline Configure. Configurable Module - Slide Out Drawer. Slide Out. Flip. Opacity Fade. Endless Scrolling. Expandable Paging Boundary. Fresh Content. Hover Detail. In Place Drill Down. Inline Assistant. Inline Validation. Validate Then Suggest. On Demand Refresh. Periodic Refresh. Resizable Modules. Scrolling Modules. Auto Save. In Context Tools. Remembered Collection. Remembered Preferences. Auto Form Fill. Rating an Object. Transition. Brighten Transition. Cross Fade Transition. Dim Transition. Expand Transition. Fade In Transition. Fade Out Transition. Flip Transition. Move Transition. Self-Healing Transition. Collapse Transition. Slide Transition. Rich Internet Object. Available. Selected.





RECOMMEND THIS STORY Recommend It: Average (63 votes)

282 diggs

Fixing the Mighty Mouse

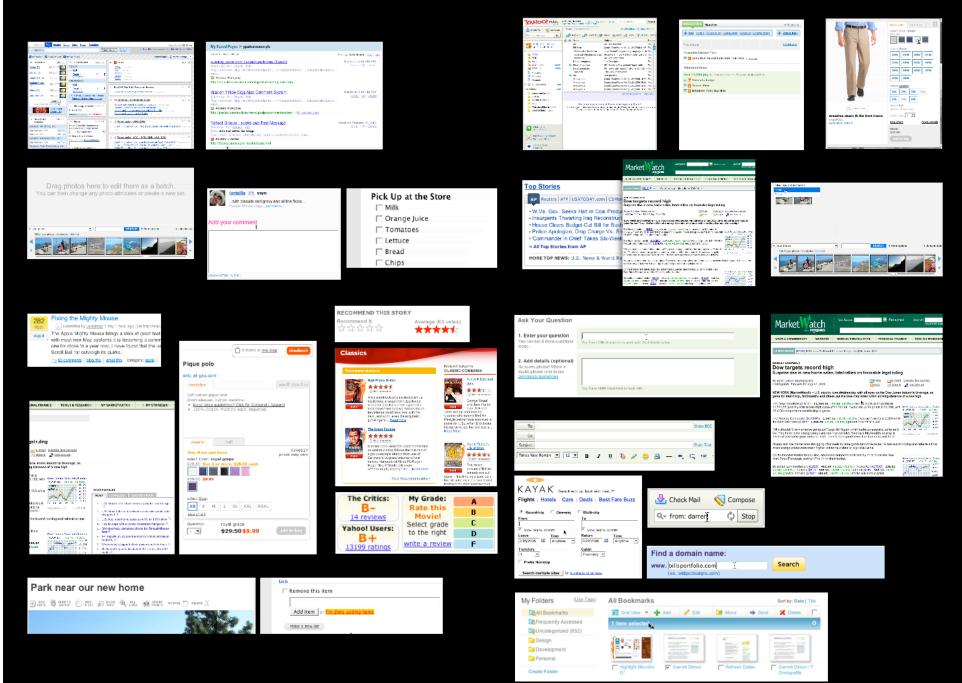
submitted by usedmac 1 day 1 hour ago (via http://mac

digg it

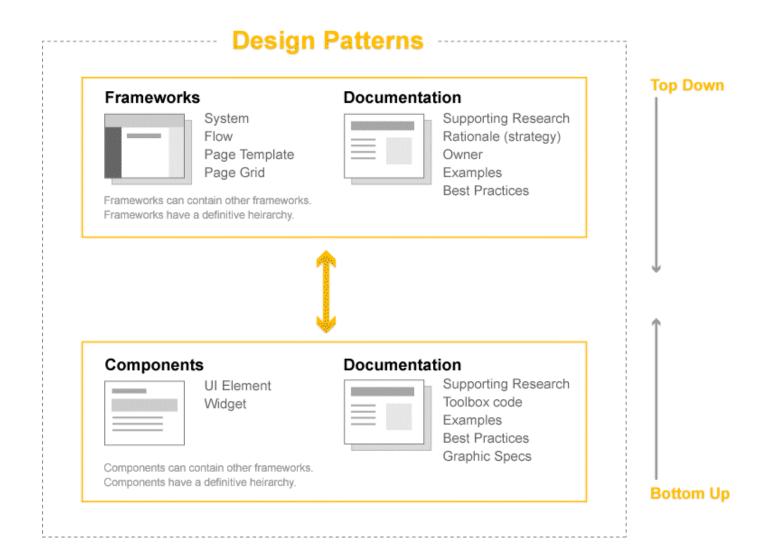
The Apple Mighty Mouse brings a slew of great feat with most new Mac systems it is becoming a comm one for close to a year now, I have found that the us Scroll Ball far outweigh its quirks.

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

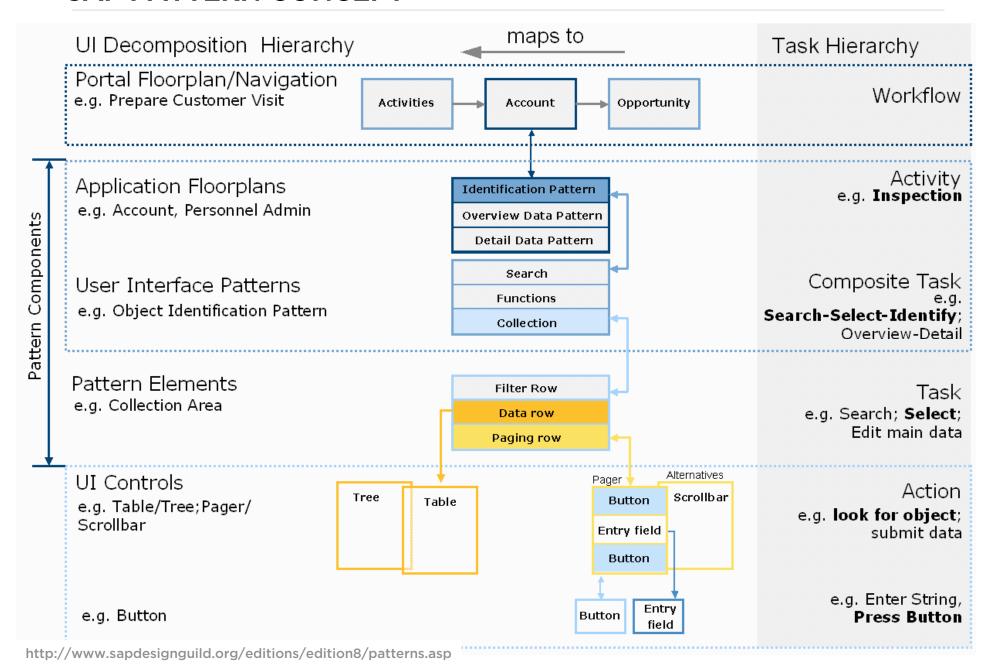
Pick Up at the Store	
☐ Milk	
☐ Orange Juice	
☐ Tomatoes	
Lettuce	
☐ Bread	
Chips	

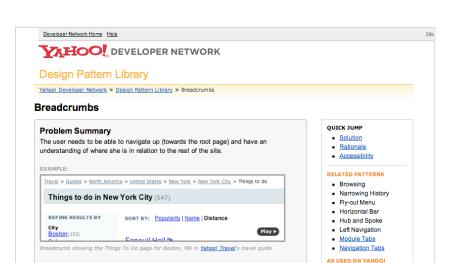


SCOPE OF DESIGN PATTERNS



SAP PATTERN CONCEPT





Yahoo! Travel

Blog Article

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Show with revisions

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Yahoo! Directories

Solution

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

. 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 maybe

. The page may be arrived at from an external source (e.g., a search results page) and

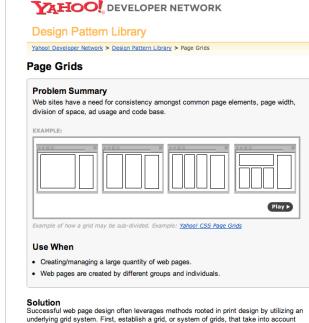
Labels

- . Where possible, labels should match the title of their corresponding page.
- Use the rules of title capitalization for labels in the breadcrumb.
- $\bullet~$ Separate each label with a greater-than sign (>).

the simplest way to provide navigation.

the user will need a sense of context.

- 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



Successful web page design often leverages methods rooted in print design by utilizing ar underlying grid system. First, establish a grid, or system of grids, that take into account advertising needs, dynamic elements, etc. Next, create templates and code to support designers and developers:

- For designers, create templates authored in commonly used applications such as Adobe Photoshop and Illustrator. These templates should include details like column and gutter widths.
- For developers, create a single CSS code template that accommodates page variations (such as number of columns.) Templates should also reflect details such as the gutter widths defined by designers.

Example: Yahoo! CSS Page Grids

Developer Network Home Help

QUICK JUMP Solution Rationale Accessibility AS USED ON YAHOO! Yahoo! Games Yahoo! Finance Y! UI CODE EXAMPLES CSS Grid Kit L-160 • L-180 L-300 • R-180 • R-250 R-300 Main block only Show with revisions

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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 DESIGN GUIDELINES Label four * One line help. See example January ▼ 2000 ▼ Label five * Label six * Example: 1,000 or 2.00 Continue> **Label Section** Fields & Buttons Briefly describe the functionality. Field labels should ideally be the similar length and one line. Contains HTML field(s) and HTML button(s) If a label cannot be limited to one line, it's OK to wrap the label title, as long as wrapping does not interfere with the label for the next field.

PATTERN LIBRARIES





Pattern[engine]

Welcome to UED's Design Patterns

Site-wide Frameworks

Site-wide frameworks establish global patterns within which specific product requirements can be addressed.

Creative

Colors Typography Photos. loons

Emails

Transaction Emails Promotional Emails

Information Architecture Site Overview

Navigation

Global Navigation (header) Area Navigation Local Navigation Supportive Navigation (footer) Actions (primary, secondary)

Page Types (CMLP)

Hub (content column) Suite (navigation column)

Suite 2 column (navigation & content columns)

Browser Support Pop-up Windows CSS Support

Site-wide Components

Site-wide components are used to consist across the site to establish a seamless e experience.

Actions

Buttons Links (active, visited) Related Links (see all) Learn More End of Flow Actions Committal Actions (bid, etc.) Title Actions (in page, section, etc. titles)

Content

Paragraphs Italies Bold/Emphasis Date/Time Format User 1Ds Trust Marketing Item Numbers

Customization

Personalized Content Hide/Show Elements Customize Display

Help

Contextual Help Help frame (Pilot) Help text **Tutorials** Screen Shets

Selling Stones

SYI 3.0 (Pilet)



Related Design Patterns Frameworks Components Content Style Suide Paragraphs

Bold is a method of distinguishing content. On the current Chine site, Bold is being used in the same way as U.S. Site. However, we noticed that bolding divises characters makes it hard to read due to the complicated strokes of the chinese characters.

Pattern Drains Home

Patient Engine Home

Why There are 2 lypes of Chinese characters: Eimplified Chinese (use on Chine site) and Traditional Chinese (use on Tainon site). Eimplified chinese has fee chinese (see a Traditional chinese. When inciding the characters, traditional chinese is exect funded to read due to the number of chinese social chinese (see a see a feed on the second chinese chinese chinese and due to the number of chinese social chinese (see a see a feed on the second chinese chinese chinese and due to the number of chinese social chinese (see a see a feed on the second chinese chinese

- Use When

 It is use fail on Chica size. However, we should consider increasing specing between each character when using bold. This should be handled in Chica should be character. If it is should be character in the character of the character when using bold, for example: (letter opening: lips)

 i has line height to add space vertically, for example: (line height: Zips)
- Use of online in addition in building the characters is another region to clearly the charactery of the content. However, we should INST regions the content field interested build interested build interested building colors. A before advantage will be a continuation of using color and build of the same time and apply them in a flexible measure.
 An example is its apply belt colors and build on a feel of valoryers in order to destinguish the framework.
- When browser renders 082312 coding pages (most china stee) versus UTF-6 (ettay ste), there's a stight difference on the character display if user has Singlish system. For China users who have Chinase system restated in the computer, this is not an issue.

Contacts CL-star-USD-POPE, UI Faiform team

Powered by USD floor. Please contact <u>St. edian USD FOPS</u> with any questions or comments.

TOO MUCH?





DOES IT WORK FOR CLIENTS?

FOCUS ON SOLUTIONS NOT RULES

ENCOURAGES GOOD BEHAVIOR

REUSABLE



SHARING BEST PRACTICES

User Experiences

Fun

Learning

Shopping

Community Building

Information Seeking

Advanced Search

Help Wizard

Search Area

Search Tips

Site Index

Topic Pages

Site Map

Search Results

Simple Search

FAQ

Web Design patterns

Site Types

- Artist Site
- Automotive Site
- Branded Promo Site
- Campaign Site
- Commerce Site
- Community Site
- Corporate Site
- Multinational Site
- Museum Site
- My Site
- News Site
- Portal
- Web-based Application

Navigation Searching

- Bread crumbs
- Directory
- **Doormat Navigation**
- Double tab
- Faceted Navigation
- Fly-out Menu
- Header-less Menu
- Icon Menu
- Image Browser
- Main Navigation
- Map Navigator
- Meta Navigation
- Minesweeping
- Overlay Menu Repeated Menu
- Retractable Menu
- Scrolling Menu
- Shortcut Box
- Split Navigation
- Teaser Menu
- Trail Menu

Managing Collections

- Collector
- In-place Replacement
- List builder
- List Sorter
- Overview by Detail
- Parts Selector
- Table Filter Table Sorter
- View

Customizable Window Constrained Input

Page Elements

- Country Selector
- Date Selector Details on Demand
- Footer Bar
- Forum
- Home Link
- Hotlist
- Language Selector
- Message Ratings
- News box News ticker
- Outgoing Links
- Send-a-Friend Link
- Thumbnail
- · To-the-top Link

USER NEEDS TO

■ NAVIGATE

Breadcrumbs

Faceted Navigation

Fly-out Menus

Horizontal Bar

Hub and Spoke

Left Navigation

Alphanumeric Filter Links

▼ Tabs

Module Tabs

Navigation Tabs

▼ EXPLORE DATA

Auto Complete

Calendar Picker

Pagination

Item Pagination

Search Pagination

▶ ORGANIZE DATA

GIVE FEEDBACK

Ratings & Reviews

Architecture Review

Rating an Object

Writing a Review

▶ PERFORM ACTION

- CUSTOMIZE

Drag and Drop

Drag and Drop Modules

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

Review Architecture

▶ GROUP RELATED ITEMS

▼ ORGANIZE SCREEN/PAGE

Page Grids

Interface Panes

Page Layout

Designing Interfaces

Patterns for Effective Interaction Design

Overview

About the Book Introduction About Patterns

Organizing the Content Two-Panel Selector One-Window Drilldown Extras On Demand **Intriguing Branches**

Getting Around

Clear Entry Points Global Navigation Color-Coded Sections **Animated Transition**

Organizing the Page

Visual Framework Center Stage Titled Sections Card Stack Closable Panels Movable Panels
Diagonal Balance
Responsive Disclosure Responsive Enabling Liquid Layout

Commands and Actions

Action Panel Smart Menu Items Progress Indicator Multi-Level Undo Command History

Showing Complex Data

Overview Plus Detail Row Striping Sortable Table Jump to Item Cascading Lists Tree-Table

Getting Input From Users

Forgiving Format Fill-in-the-Blanks Input Hints Input Prompt Dropdown Chooser Illustrated Choices Good Defaults

Builders and Editors

Edit-in-Place Smart Selection Composite Selection One-Off Mode Constrained Resize

Making It Look Good

Deep Background Few Hues Many Values



FINDING THE RIGHT PATTERN...

USER-CENTERED GOALS

DESIGN
CONSTRAINTS
RELATED PATTERNS

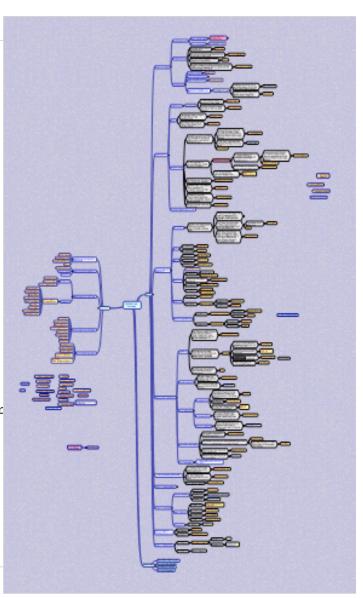


Interaction Patterns

- □ User
- needs to navigate
- needs to enter
- needs to explore data that is
- needs to manipulate an object
- needs to issue a command
- needs to customize
- needs to organize information structure
- needs to compare data
- □ Designer
 - needs to call out important informa
 - needs to improve readability
 - lacktriangledown needs to group related items
 - $\ensuremath{\blacksquare}$ needs to organize screen/page
 - has limited screen space

Interaction Patterns

- □ User
 - □ needs to navigate
 - - - □ Process Workflow (Step-by-Step)
 - □ use when the steps are on different pages/screens
 - \exists if a desktop application
 - \Mizard
 - \exists if a web site or web application
 - Process Bar
 - □ use when all of the steps are on a single page
 - $\ oxdot$ and the steps are disclosed piece by piece
 - Progressive Disclosure
 - □ and all steps are shown at once on the page
 - *List of Steps
 - riangleq use when you need to guide the user through a series ${f c}$
 - *Trouble Shooter
 - ★ that is automated
 - ★ through content
 - needs to enter
 - $oldsymbol{\pm}$ needs to explore data that is
 - needs guidance/feedback





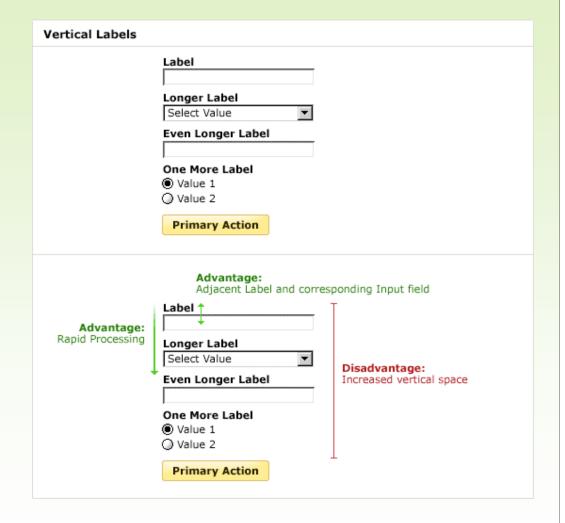
TOP, RIGHT or LEFT ALIGNED FORM LABELS?



Top Aligned Labels

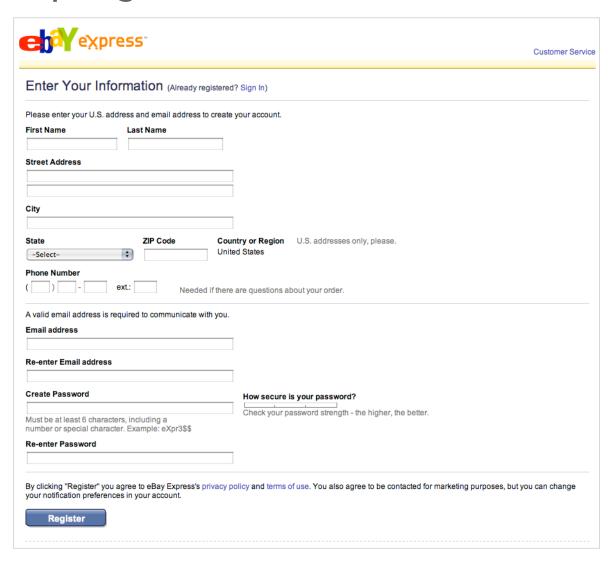


- When data being collected is familiar
- Minimize time to completion
- Require more vertical space
- Spacing or contrast is vital to enable efficient scanning
- Flexibility for localization and complex inputs





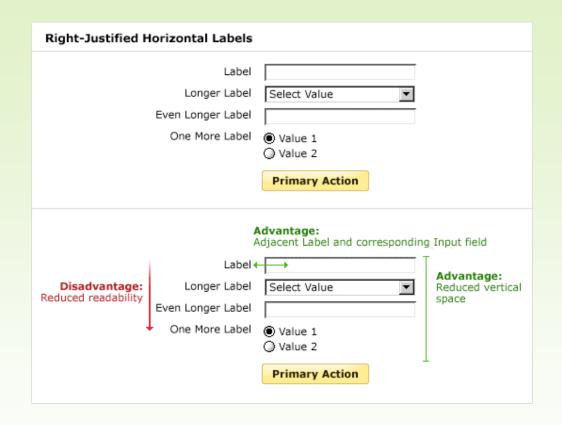
Top-aligned Labels



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





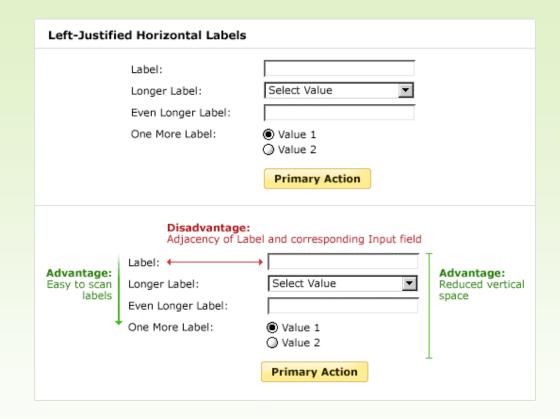
Right-aligned labels

	Luke
Last Name:	Wroblewski
Email:	
noose a user r	name and password so that this person can log in (they can change this later).
User Name:	
Password:	
fline.	onal, but some contact info will come in handy when you want to take your communication
fline. Title:	
fline.	ext:
fline. Title:	
Title: Office #:	
Title: Office #: Mobile #: Fax #:	
Title: Office #: Mobile #: Fax #: Home #:	ext:
Title: Office #: Mobile #: Fax #:	

Left Aligned Labels

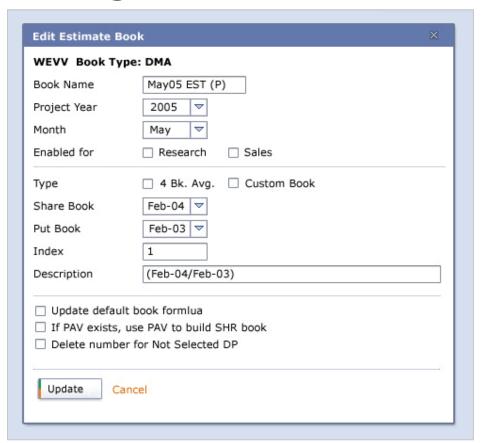


- When data required is unfamiliar
- Enables label scanning
- Less clear association between label and field
- Requires less vertical space
- Changing label length may impair layout





Left-aligned labels



Eye-tracking Data



July 2006 study by Matteo Penzo

Left-aligned labels

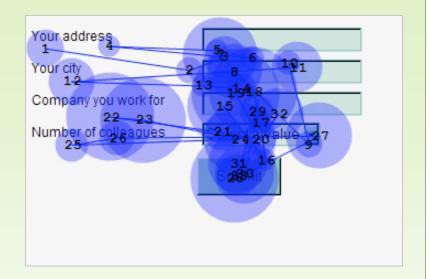
- Easily associated labels with the proper input fields
- Excessive distances between labels inputs forced users to take more time

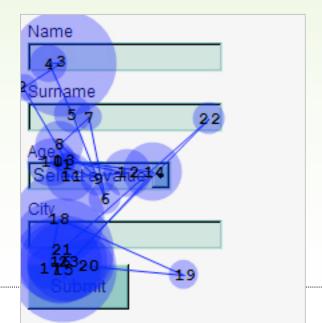
Right-aligned labels

- 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...

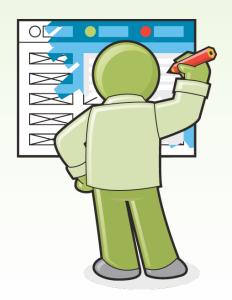
- Design Patterns as Web Services
- Design Patterns integrated into toolkits
- Design Pattern Library Integration



For more information...







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

