Open Source Design Pattern Library
Spreading Communities Thick: Open Source Communities of Practice

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Agenda

• The context: the Fluid Project
• Fluid components & UX Toolkit
• User interface design patterns
• Open Source Design Pattern Library
• Building the OSDPL in Drupal
• Pattern library issues
• Getting involved with Fluid
What is the Fluid Project?

• “an open, collaborative project to improve the user experience of community source software”

• Cross-project collaboration:
  – Kuali Student, Moodle, Open Collection, Sakai, uPortal

• Combine both design and technology to create a living library of sharable user interface components & design tools

• Addressing issues of usability, accessibility, internationalization, security, flexibility & customization

• Open and distributed community
What are we building?

- Rich, flexible, reusable user interface components
- Lightweight JavaScript development tools
- User Experience Toolkit
- Great Interaction Designs
What is a Fluid component?

- **Client-side:**
  - HTML
  - Style sheets
  - JavaScript for behavioural logic
  - Accessibility metadata

- **And on the server-side:**
  - Binding conventions: markup with known, formal IDs
  - Ability to respond to RESTful requests
  - Ability to deliver the appropriate markup or data
Component Composition

CSS

Style Sheets

Fluid Component

HTML Markup

Keyboard Mappings

Layout Handlers

XmlHttpRequest

Server Callbacks
The Reorderer

- A set of JavaScript objects
- Used to create rich, accessible user interfaces that allow users to directly move around and re-arrange content on the page

Features
- Supports mouse-based drag and drop as well as fully keyboard-accessible controls
- Designed to be flexible and will handle a variety of markup and layout type
- Clear extension points are provided to customize its behavior for new layouts, connection strategies, and markup binding strategies
The Lightbox

Gallery Collections

- wks (5)
- rich Village (6)
- vscrapers (9)
- urk City (4l) (27)
- Manhattan (11)

To add a collection, go to the "Add tool" and create a folder collection in your "Image Collections" folder.

Lower Manhattan Collection

Start Slide Show

Sort order: Instructor default, Alphabetical

- wall street.jpg
- lower manhattan street.jpg
- rebuilding.jpg
- approaching wall street.jpg
- lower manhattan.jpg
- nyc building.jpg
- near city hall.jpg
- wtc whats left.jpg
- battery park.jpg
- wtc subway.jpg
Layout Customizer

Hello Sample Student. Sign Out

Main Page

My Bookmarks

Campus News & Events (RSS)

Local News (RSS)

My Calendar
Breaking down barriers, addressing cross-cutting needs

CONTENT MANAGEMENT

- File Uploading
- Reworked, lightweight File Picking
- Tagging and Tag Clouds
- Smart folders, “playlists,” contextual filtering
- Favorites and Clipboard/File Basket
- Infrastructure: Accessible Thick Box, Tree, Sortable Tabs
- Drag and drop portlets
Some open questions...

- How can I incorporate Fluid components into my interface in a way that improves the user experience?
- How can I design usable and understandable user interfaces and interactions?
- How can I design user interfaces and interactions that reflect best practices?
- How can I create a user experience that will delight my users?
The Fluid Approach to UX in Community Source

- UX is a challenge for all open source projects and all institutions
- Cross-project collaboration:
  - Share scarce UX resources across projects
  - Solve common challenges
  - Recognize recurring user interface idioms and needs
- Fluid is looking at common problems:
  - How do non-technical people get involved in OSS?
  - How can we help designers and developers speak the same language?
  - How do you do user testing in a distributed environment?
UX Toolkit

• User Research Tools
  – Contextual Inquiry
  – Persona development

• UI Design Patterns
  – Open Source Design Pattern Library
  – Shared design advice and guidance on using components

• UX Walkthroughs
  – Tools for assessing your user experience

• User testing techniques and guidelines
  – How to test your designs and talk to users

• User profile library
  – Understanding higher education users and beyond

• All the stuff you need to design great interfaces!
User interface design patterns

Open Source Design Pattern Library

File Upload

 Posted April 28th, 2008 by Eli Cochran

in

Content Management

Rate this pattern

Average:

No votes yet

Tag this pattern

All tags:
content management file upload Flash progress

My tags:

Add

Example: funny, bungee jumping, "Company, Inc."

Popular pattern tags
content management drag and drop file upload Flash forms layout list progress reorder

more tags

Find a pattern

- UI Design Patterns
  - Content
  - Management
  - Forms
  - Information
  - Organization
  - Navigation
  - Profile
  - Management
  - Search

My options

- Contact OSDPL
- Create content
- Recent posts
- My account
- Administer
- Log out

Who's online

There are currently 2 users and 0 guests online.
What is a pattern?

- A pattern is a **proven solution** to a **common problem** in a **specified context**
- There may be many different (physical) representations of each pattern
- “Each pattern is a three-part rule, which expresses a relation between a certain context, a problem, and a solution” [Christopher Alexander 1979].
Software Engineering Patterns

- Organizational Patterns (Coplien, 1998, Cockburn, 1997)
- Business Reengineering Patterns (Beedle, 1997)

- Steps and Task Patterns (Ambler, 1998; Coplien, 1995)
- Process Improvement Patterns (Appleton, 1997)

- Pedagogical Patterns (Manns, 1996)
- Human-to-Human Communication Patterns (Cockburn, 1997)

- HCI Patterns (Tidwell, 1998)
- Software Design Patterns (Gamma, 1995)

Why use design patterns?

- Make it easy to choose the best component or design solution for the job
- Innovation is reserved for situations where it’s really necessary
- Patterns hold more complex design knowledge than guidelines because they describe context & rationale
UI Design Pattern Libraries - Tidwell

Introduction

This web site is moving! The patterns have been updated to match the book, and you can find them at the following URL:

http://www.time-tripper.com/uipatterns/

This site will stay up through part of 2006, but it will eventually be retired. Please change your links. Thanks!

“Designing Interfaces: Patterns for Effective Interaction Design” can now be ordered from Amazon. The book contains 90+ patterns (including updated versions of the ones you see here), over 300 full-color illustrations, and additional reference material and design advice.

There's nothing new here.

If you've done any Web or UI design, or even thought about it much, you should say, "Oh, right, I know what that is" to most of these patterns. But a few of them might be new to you, and some of the familiar ones may not be part of your usual design repertoire.

Each of these patterns (which are more general) and techniques (more specific) are intended to help you solve design problems. They're common problems, and there's no point in reinventing the wheel. Every time you need something in your sites—say, a sortable table—plenty of folks have already done it, and learned how to do it well. Some of that knowledge is written up here, in an easily-digestible format.

By the way, when I say "UI", I mean Web sites, desktop applications, and everything in between (Web forms, Flash apps, etc.). I believe that in the years ahead, Web applications will become more richly interactive than they are now, and the smartest Web designers will use the desktop world's hard-won knowledge of how to design good interactive software. Likewise, desktop applications will gradually look more like Web sites, with better graphic design and more Web-style navigation. I will make no assumptions about how or when they will converge—they may not, ultimately—but stylistically, there is some common ground already. Thus, you will see examples from both worlds here.

These patterns are intended to be read by people who have some knowledge of UI design concepts and terminology: dialogs, selection, combo boxes, navigation bars, whitespace, branding, and so on. It does not identify many widely-accepted techniques such as copy-and-paste, as you probably already know what they are. But, at the risk of belaboring the obvious, some common techniques are described here to encourage their use in other contexts—for instance, desktop apps could make better use of Toplevel Navigation—or to discuss them alongside alternative solutions.

(Many of these patterns were originally written by other people in the field. Where appropriate, authors are credited in the pattern descriptions.)

If you're running short on ideas, or hung up on a difficult design quandary, read over these and see if any of them are applicable. And don't take them as the gospel truth, either—what matters is whether your design works for your users.

If these are useful to you, please tell me. If not, or if you have anything to add, tell me that too.

Jennifer Tidwell
jtidwell@alum.mit.edu

http://www.time-tripper.com/uipatterns/
UI Design Pattern Libraries - van Welie

Pattern library
All patterns are listed here. It's quite a bunch of them, but I have tried to group them meaningfully.

User needs
Patterns that meet a direct need of the user.

Navigating around
- Accordion
- Headless Menu
- Breadumbs
- Directory Navigation
- Doorpost Navigation
- Double Tab Navigation
- Faceted Navigation
- Fly-out Menu
- Home Link
- Icon Menu
- Main Navigation
- Map Navigator
- Meta Navigation
- Minesweeping
- Panning Navigator
- Overlay Menu
- Repeated Menu
- Retractable Menu
- Scrolling Menu
- Shortcut Box
- Split Navigation
- Tease Menu
- To-the-top Link
- Trail Menu
- Navigation Tree

Basic interactions
- Action Button

Searching
- Advanced Search
- Autocomplete
- Frequently Asked Questions (FAQ)
- Help Wizard
- Search Box
- Search Area
- Search Results
- Search Tips
- Site Index
- Site Map
- Footer Sitemap
- Topic Pages

Dealing with data
- Carousel
- Table Filter
- Details On Demand
- Collector
- Place replacement
- List Builder
- List entry view
- Overview by Detail
- Parts Selector
- Tabs
- Table Sorter
- Thumbnail
- View

Shopping
- Booking
- Product Comparison
- Product Advisor
- Product Configurator
- Purchase Process
- Shopping Cart
- Store Locator
- Testimonials
- Virtual Product Display

Making choices
- Country Selector
- Date Selector
- Language Selector
- Poll
- Rating

Giving input
- Comment Box
- Constraint Input
- Form

Miscellaneous
- Footer Bar
- Hotlist
- News Box
- News Ticker
- Send-a-Friend Link

UI Design Pattern Libraries - Yahoo!

Welcome
Welcome to the Yahoo! Design Pattern Library. We've just reorganized the navigation scheme for our patterns (see the link tree on the left side of this page), and we welcome feedback and other comments. The most recent pattern released is Vote to Promote.

We're thrilled to be sharing patterns and code with the web design and development community, hope it's useful, and look forward to your feedback.

What's a Pattern?
A pattern describes an optimal solution to a common problem within a specific context.

Recent Patterns see all...

- Alphabetical Filter Links
  The user needs the ability to look up information alphabetically within a large data set.

- Animate Transition
  Designer needs to communicate that an object is changing its spatial relationship within the page.

- Calendar Picker
  User wants to find or submit a particular piece of information based on a date or between a date range.

- Collapse Transition
  The designer needs to communicate that an object is no longer of primary importance.

- Drop Invitation
  Designer needs to indicate valid candidate drop sites during a drag and drop operation.

- Expand Transition
  Designer needs to show the detail of an object in its context or reveal a previously collapsed object.

http://developer.yahoo.com/ypatterns/
Welcome to the Open Source Design Pattern Library!

The Library is a place for communities to create, collaborate on, and share their open source user interface design patterns. Our current members include the communities involved in the Kuali Student, Moodle, Open Collection, Sakai, & uPortal. If you are interested in sharing your design patterns, please Contact us.

A design pattern was described by architect Christopher Alexandar as a “proven solution to a common problem in a specified context.” Application designers and developers can use user interface design patterns to create usable, high-quality user interfaces that are most helpful and appropriate in a particular situations.

Much more information on design patterns can be found on the Design Patterns section of the Fluid Project wiki.

» Printer-friendly version
### Pattern example: Drag & Drop

<table>
<thead>
<tr>
<th>Interesting Moment</th>
<th>Example Visual Cue for Mouse</th>
<th>Example Visual Cue for Keyboard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page Loaded</td>
<td>Items shown as a list, grid, or other arrangement. Provide some sort of graphic drag affordances or textual description that tell the user dragging is possible.</td>
<td>Same as for mouse.</td>
</tr>
<tr>
<td>Mouse Hover</td>
<td>Container border is highlighted and cursor changes from arrow to &quot;hand.&quot;</td>
<td>N/A</td>
</tr>
<tr>
<td>Keyboard Select</td>
<td>N/A</td>
<td>User tabs to the draggable section, and the first item is selected. This is equivalent to the mouse &quot;hover&quot; action. Provide the user with a stronger visual cue than the one used for mouse &quot;hover&quot; to indicate that an item is actually selected (e.g., container border is highlighted and object is in a grey frame).</td>
</tr>
<tr>
<td>Mouse Down</td>
<td>Enter &quot;drag&quot; mode. A visual indicator that the user is in a new mode may also be given (e.g., changing item to half-tone).</td>
<td>N/A</td>
</tr>
<tr>
<td>Control-Key Down</td>
<td>N/A</td>
<td>While the user is holding down the &quot;Control&quot; (CTRL) key, they are in &quot;drag&quot; mode. Item changes to half-tone to give the user a visual indicator that they are in a new mode.</td>
</tr>
<tr>
<td>Mouse Up</td>
<td>The user is no longer in drag mode. If the user was in the process of dragging an item, this completes the drag action.</td>
<td>N/A</td>
</tr>
<tr>
<td>Control-Key Up</td>
<td>N/A</td>
<td>The user is no longer in drag mode. If the user was in the process of dragging an item, this completes the drag action.</td>
</tr>
</tbody>
</table>
Building the OSDPL in Drupal

• Open-source, complete content management system
• Provides flexibility in presentation and repurposing of content
• Hundreds of user-contributed modules
  – Tagging - tagadelic & community tags
  – Ratings - fivestar & voting api
  – Workflow & notifications - workflow & actions
  – Role-based permissions - Drupal core
  – User profiles - Drupal core
  – Versioning - Drupal core
  – Customizable views - cck & views
  – Auto-generated navigation - taxonomy menu
  – Re-sizing of images - image cache
  – WYSIWYG editor - tinymce

Tour of http://uidesignpatterns.org
General pattern library

Issues

• What is the right granularity for a pattern?
• How many organizations can/should we serve?
• What is the relationship between design patterns & a style guide?
• How can we organize the information in the pattern library so users can easily find relevant patterns?
  – Hierarchy, search, tags
• How do we interact with/borrow from other pattern libraries?
  – Use mark-up language to facilitate reuse (e.g. PLML)?
Building a pattern library community

• How are patterns contributed, edited, and moderated?
  – Do we need a ‘staging area’ before releasing in process patterns?
• Should patterns be general and apply to everyone, or customized for each community?
• How can we encourage contributions and at the same time ensure the quality of the patterns remains high?
• How can we ensure the library grows, evolves, & lives on?

• Join us for our kick-off meeting Wednesday, May 7th at 3pm PDT/6pm EDT on Fluid's Breeze teleconference server: http://breeze.yorku.ca/fluidwork
Possible future direction

• Limited moderation combined with mentoring of pattern authors
• User ratings drive pattern popularity
• Personal tags, allowing for customized organization
• Dynamic generation of relevant examples (e.g. uPortal) based on user profiles
Get involved with Fluid!

- Come to the JA-SIG uCamp on Wednesday!
- Use & share design patterns - [http://osdpl.fluidproject.org](http://osdpl.fluidproject.org)
  - First meeting of design patterns group: Wed, May 7th 3pm PDT
  - Read more about design patterns: [http://wiki.fluidproject.org/display/fluid/Design+Patterns](http://wiki.fluidproject.org/display/fluid/Design+Patterns)
- Check out the UX toolkit: [http://wiki.fluidproject.org/display/fluid/UX+Toolkit](http://wiki.fluidproject.org/display/fluid/UX+Toolkit)
- Use & extend Fluid components in your applications: [http://wiki.fluidproject.org/display/fluid/Components](http://wiki.fluidproject.org/display/fluid/Components)
- Join our mailing lists
  - fluid-work@ for community collaboration
  - fluid-talk@ for anything you’re interested in
- My contact info:
  - Allison Bloodworth, abloodworth@berkeley.edu