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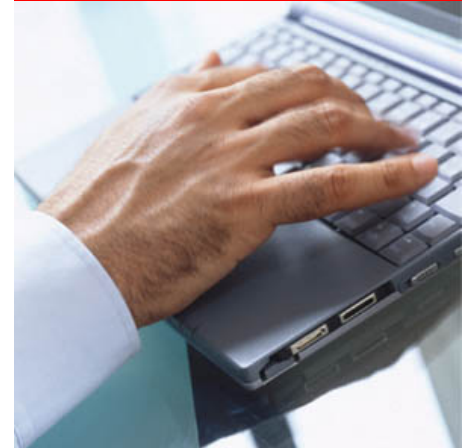
Designing a Specific Use Case Pattern Set for Enterprise Applications: Best Practices

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Applications User Experience



Program **Agenda**

- Definitions
- Background
- User Research
- Design
- Post- Design Support Strategy
- Summary
- Additional Information
- Q&A



Definitions



Definitions

- **Design Pattern:** “A description of best practices within a given design domain” (Tidwell, 2006)

example: Two- Panel Selector, Wizard (Tidwell,2006)

- **Design Pattern Set:** A grouping of design patterns as applied to a given design domain.

example: Organizing the Content (Tidwell,2006)

- **Specific Use Case Design Pattern Set:** A grouping of design patterns and/or design pattern sets as applied to a specific usage domain.

example: Enterprise Product Installation

Design Pattern Sets vs. Specific Use Case Design Patterns

Design Patterns Sets Examples

- Organizing the Content (Tidwell, 2006)
- Showing Complex Data (Tidwell, 2006)
- Getting Around (Tidwell, 2006)

*Specific Use Case Design Pattern Sets Examples

- Shopping (Welie, 2005)
- Enterprise Product Installation
- User Preferences
- Community Building (Welie, 2005)

* For example purposes only. See legal disclaimer at end of presentation.

Design Pattern Sets vs. Specific Use Case Design Patterns

Specific Use Case Design Pattern Set Example Shopping

www.welie.com

Home **Web Design patterns** GUI Design patterns Mob

Web Design patterns

Site Types	User Experiences
<ul style="list-style-type: none">· Artist Site· Automotive Site· Branded Promo Site· Campaign Site· Commerce Site· Community Site	<ul style="list-style-type: none">· Community Building· Fun· Information Seeking· Learning· Shopping

Design Pattern Set

Design Pattern

- **Browsing.** Most people like to browse through the store for seeing what they have and whether something attracts their attention. Browsing is made easier when products are categorized in ways that customers expect them to be. The categories allow them to browse in a specific manner that is a bit more directed than no structure at all. Use structured navigation such as a [Double Tab Navigation](#) with [Breadcrumbs](#) so that people are fully aware of where they are and where they can go to.
- **Comparing.** Often people do not know exactly which product they want. They may have several options that they want to compare using a [Product Comparison](#) or [Product Configurator](#).

Specific Use Case Design Pattern Set

Design Pattern Sets vs. Specific Use Case Design Patterns

Design Patterns Set Example
Organizing the Content: Wizard

Specific Use Case Design Pattern Set Example
Enterprise Product Installation Wizard

The image compares two wizard designs. The left design, titled 'Design Patterns Set Example Organizing the Content: Wizard', shows a multi-step wizard with four steps (Step 1 to Step 4) and a table section. The right design, titled 'Specific Use Case Design Pattern Set Example Enterprise Product Installation Wizard', shows a three-step wizard (Step 1 to Step 3) with a 'Contextual Info' section, labels, prompts, and a table section. A red 'no' symbol is placed over the table in the right design, with a callout box stating 'No Tables Allowed'. Other callouts include 'Sequential Wizard' pointing to the step indicators and 'Required Page Elements' pointing to the labels and prompts in the right design.

Sequential Wizard

Required Page Elements

No Tables Allowed

Released Product Using Design Pattern

ORACLE Advanced Collections Diagnostics Home Logout Preferences Help

Operations Transactions Collections Methods

Collections Questionnaire: Operations Cancel Step 1 of 3 Next Finish

General Collections Information

For which of the following does your organization collect?

- Delinquent Receivables
- Loans
- Lease Contracts

At what level does your organization do business with customers?

- Account
- Bill To
- Customer
- Delinquency

System Profile Options

As you answer the questionnaire, Oracle Advanced Collections sets system profile options at the site level as needed. Manually setting profile options at a lower level will supersede these settings and may affect functionality. [Learn more](#)

Operational Data Level

Set data level to the level you typically do business with your customers. This decision affects how Strategies or Dunning Plans and the Collector Work Queue are presented to the collector. Our recommendation is to run at the Customer level. [Learn more](#)

Display Preference

Do you want to review the display settings?

Correspondence

Do you send correspondence to your customer?

Cancel Step 1 of 3 **Next** **Finish**

Background

- Applications User Experience Group Support
 - Oracle Applications product families
 - Oracle Fusion: Next- generation enterprise applications
 - Design Patterns to promote consistent user experience
- **Opportunity:** For Oracle Fusion, extend the design pattern library for specific domains
 - *example: Design all installers across application suite to not only look consistent but to behave consistently*
- **Solution:** Develop and communicate a specific use case design pattern set for the domain
- Our final design pattern set: uptaken 2,200+ instances

User Research



User Research: Methods

- Ethnographic Studies
- General Patterns Research
- Stakeholder, Subject Matter Expert (SME) Interviews
- Existing Internal Product Audits
- Usability Studies

User Research: Ethnographic Studies

- Observational Field Studies Pre- Design
- No “Fly By Usability”



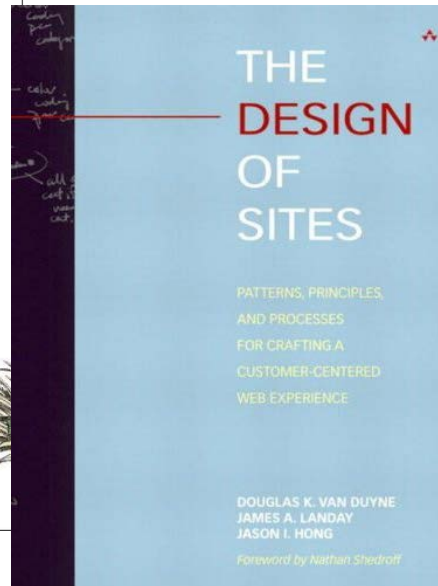
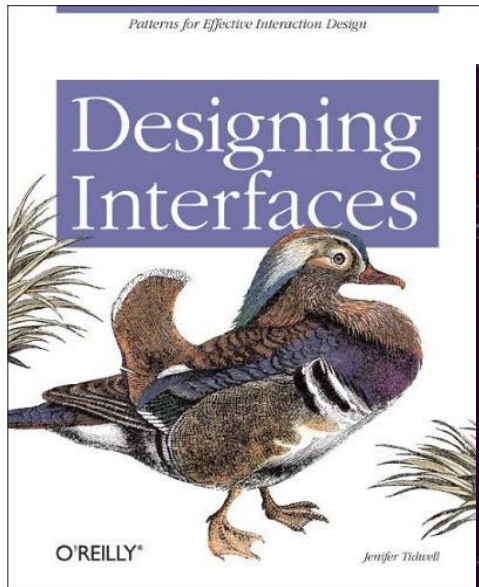
User Research: General Patterns Research

Reviewed internal existing patterns & resources to focus on new design issues

- Leveraged existing design patterns
 - Leveraged peers' experience
- Leveraged 'Writer's Corner' Knowledge Base

User Research: General Patterns

Reviewed external existing patterns & resources



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

Developer Network Home Help

YAHOO! DEVELOPER NETWORK

Design Pattern Library

Yahoo! Developer Network > Design Pattern Library

USER NEEDS TO

- ▼ NAVIGATE
 - Breadcrumbs
 - ▶ Faceted Navigation
 - Fly-out Menus
 - Horizontal Bar
 - Hub and Spoke
 - Left Navigation
- ▼ Links
 - Alphanumeric Filter Links
- ▼ Tabs
 - Module Tabs
 - Navigation Tabs
- ▼ EXPLORE DATA
 - Auto Complete
 - Calendar Picker
- ▼ PAGING
 - Pagination

Welcome

Welcome to the Yahoo! Design Pattern Library. We are celebrating our 10th anniversary by releasing two new patterns (with more in the works) to the [Yahoo! User Interface Library](#) code. We're thrilled to be part of the design and development community, hope it's useful, and [feedback](#).

What's a Pattern?

A pattern describes an optimal solution to a common problem.

Recent Patterns [see all...](#)

- [Alphanumeric Filter Links](#)
- [Animate Transition](#)

And more...

User Research: Stakeholder and SME Interviews, Product Audits

- In the enterprise landscape, majority of the SMEs are also product stakeholders and visa versa
- Conducted product and user research with SMEs: Vice Presidents, Development Leads, Product Managers
- Critical to involve SMEs to ensure proper uptake
- Internal product audits to Identify successful/ unsuccessful UI Paradigms
- Compliment ethnographic studies to identify user goals and common desired functionality

User Research: Usability Studies

- Reviewed existing usability reports
- Conducted new studies during design phase
- Critical for Specific Use Case Design Patterns
- Utilized an interactive storyboard/ prototype
- Tested with experienced users: internal and customers
- Validated new designs & interaction concepts
- Proved very valuable in making critical decisions about new concepts.
- Findings were integrated into final design



User Research: Wish List

User Research: Wish List

- Review of existing external research papers & case studies into the domain
- Conduct more iterative user requirements gathering activities
- Usability studies across all user types
- Usability studies conducted earlier in design phase

Design



Design: Methods

- **User Modeling**

- More difficult to narrow down for more generic patterns.

Example: Sortable Table (Pattern also mentioned by Tidwell)

- As with specific products, critical for a specific use case design pattern set.
- In the enterprise space, well- established user profiles are usually pre- defined and just need refinement, especially for mature products.

- **Iterative Design Process**

- Focus

- Identifying best solution workflow patterns
- Iterating on storyboard design feedback from stakeholders & peers.
- Effective documentation/communication of pattern set

Design: Pattern Feature Scoping

Pattern Features VS. Product Features

- For specific design pattern set, what features belong in a pattern set versus what features are left for product teams to implement individually?

Example: An approval mechanism for enterprise product installers that may vary per product or is only utilized by some products.

- Patterns should primarily focus on covering common functionality (majority use cases)
- In enterprise space, need to balance design resources; cannot provide full design support for every feature
- For features not used by a majority of products, found need to provide guidelines on how to expose some of those features

Design: Pattern Documentation

Uptaking VS. Referencing Existing Design Patterns, Pattern Sets

- For new design pattern set, should existing design patterns be referenced and unique details pointed out or is it better to create new versions based on existing designs?

Example: For an enterprise product installer design pattern set, need a unique installer wizard pattern?

- Tried both approaches but uptaking existing patterns better met our needs.
- There are pros/cons to both approaches...


Design: Pattern Documentation

Uptaking VS. Referencing Existing Design Patterns, Pattern Sets

 Key Decision Point

Uptaking Existing Design Patterns

Pros

- Most control over design
-  Concepts & visual examples can be specific to pattern -> reducing pattern learning curve for consumers
- Can include unique features for the domain

Cons

- Design process time increases as need to write own patterns.
- If leverage pattern changes, need to go in and see if specific use case pattern needs to uptake those changes.

Reference Existing Design Patterns

Pros

- Expedition of design process
- Less writing maintenance

Cons

- Less control over design
- As patterns get updated, some aspects may not be applicable to the specific use case.
- Concepts & visual examples too generic for pattern consumers -> significant learning curve

Design Pattern Sets vs. Specific Use Case Design Patterns

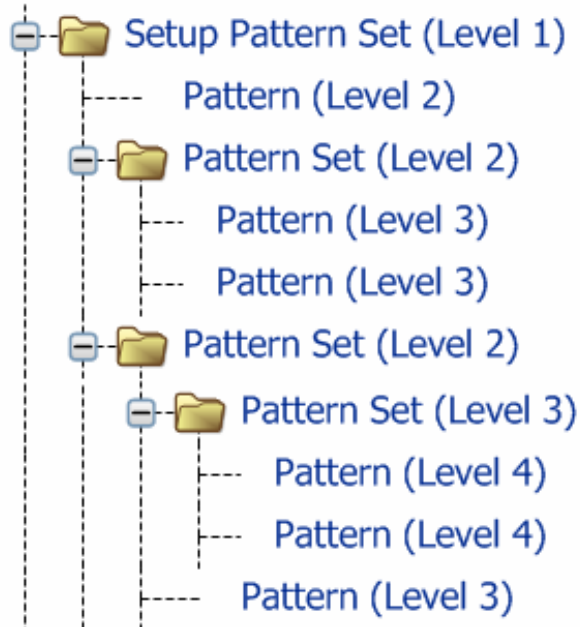
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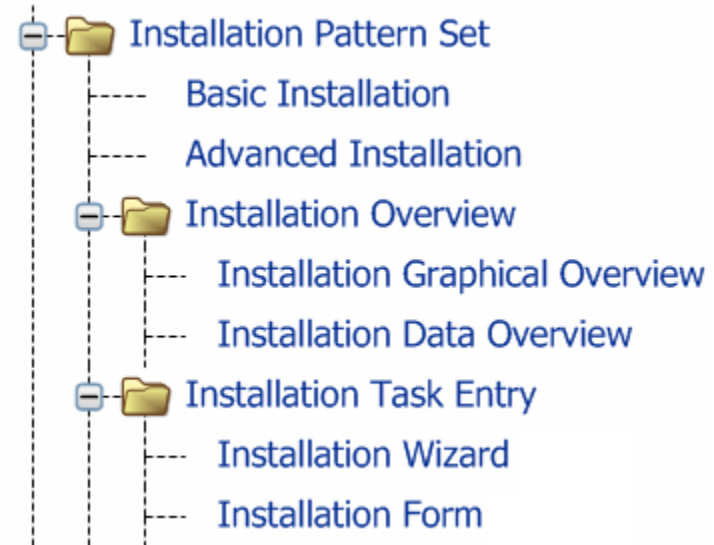


Design: Pattern Documentation

Information Architecture: Organizing Patterns



***General Example:**
Pattern Set Architecture



***Example:**
Enterprise Product Installation Pattern Set Architecture

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Design: Pattern Documentation

Define & Consistently Use a Common Terminology Set

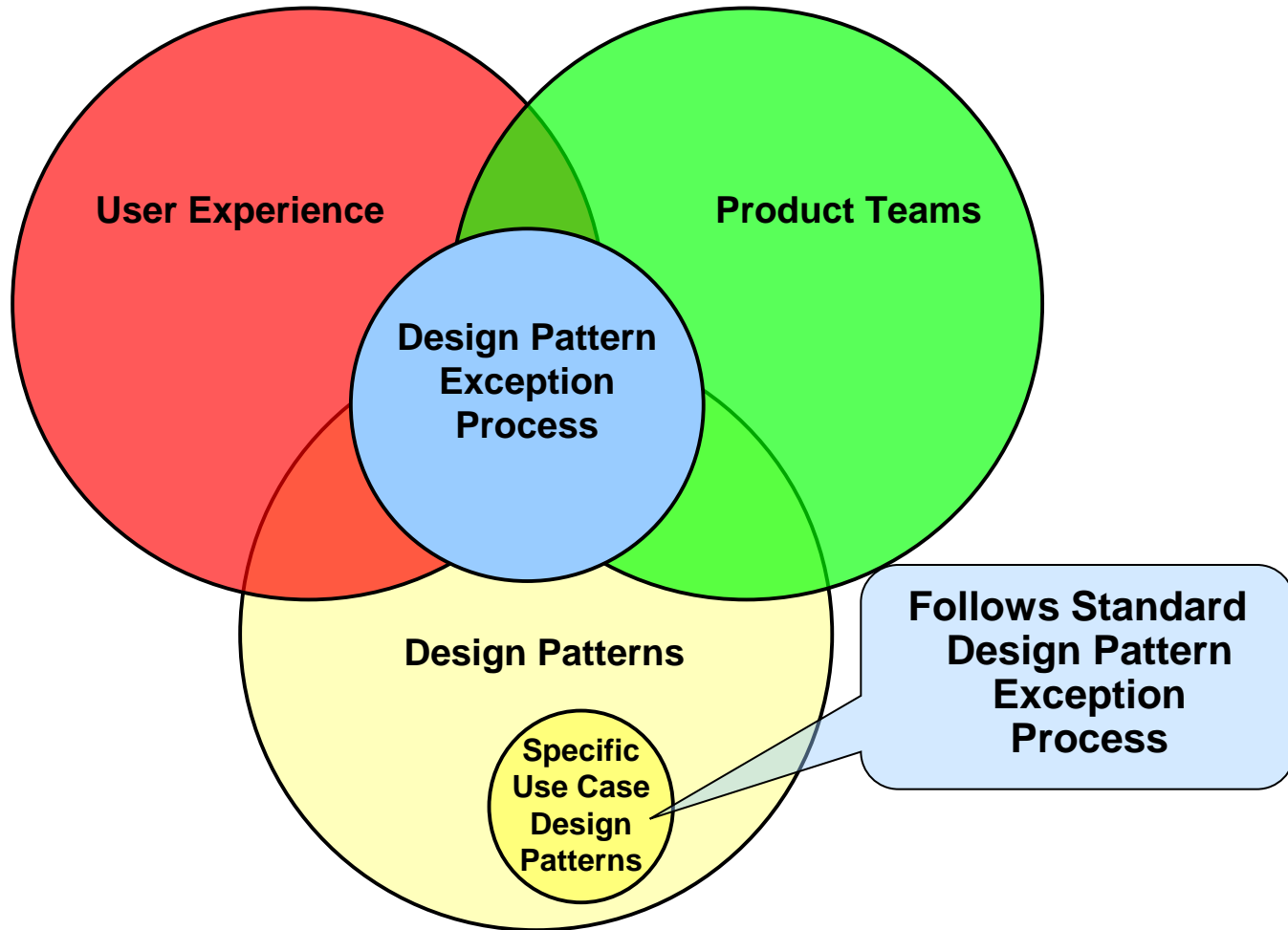
- In enterprise space, large and varied groups may have different vocabularies to communicate concepts
- Identified need during user requirements gathering phase when speaking with different product teams/ stakeholders
- Specific Use Case Patterns have specific verbiage and connotations associated with their domain
- Examples:
 - Login vs. Sign On vs. Connect to
 - Submit vs. Finish vs. Install
 - Remove vs. Purge vs. Delete
 - Save vs. Commit
- Proved useful for large organizational structure and audience

Post- Design Support Strategy



Post Design Support Strategy

Create a Design Pattern Exception Process



Post Design Support Strategy

Form a Centralized Working Team

- At enterprise level, large number of products to support
- Promote uniformity at the user experience (design patterns) and development levels.
- Development and user experience representatives from different application product families (HR, Manufacturing, etc...) to facilitate a top- down uptake.
- Representatives regularly updated on latest design & development changes.

Post Design Support Strategy

Other Support Strategies...

- Tutorials: training, recorded training demos, office hours, templates for rapid prototyping
- Communication/ Collaboration Tools: email distribution list, discussion board support group (bulletin board, wiki, etc..)
- FAQ list

Summary



Summary

- Specific use case design pattern set = domain abstraction
- Specific use case design patterns valuable for organizations of any size
- Documentation demands large time allocation
- Need to create balance for your organization's design pattern library as when best to reference existing patterns
- Critical to properly scope what are pattern vs. product features
- Efficient post- design strategy is just as key as an optimal design
- A design pattern is successful not only by documenting the best practices for its domain, but when it is actually implemented throughout an organization

References

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 - Our colleague Lynn Rampoldi-Hnilo, PhD wrote this article concerning the overall complexities in enterprise software design, including the importance of design patterns. This paper was the catalyst and inspiration for our decision to submit a proposal to UPA.
- Cooper, Alan and Riemann, Robert. About Face 2.0: The Essentials of Interaction Design. Indiana: Wiley, 2003
 - This outstanding work on user centered design (UCD) methodologies, strategies, and best practices continues to be a main tool for our design work. For this use case we used specific methodologies and strategies from the text.
- Beyer, Hugh and Holtzblatt, Karen. Contextual Design: Defining Customer-Centered Systems. United Kingdom: Academic Press; California: Morgan Kaufmann, 1998
 - As in the work listed above, this book has continued to be a constant fixture in our UCD work one we also drew methodologies and strategies from this text for this use case .
- Van Duyne, Douglas K., Landay ,James A. and Hong, Jason I. The Design of Sites. Massachusetts: Pearson Education, Addison Wesley,2003
 - As in the work listed above, this book too since its publication has served as a great reference point for designing for the web and we referred it to it as we refined our design pattern set to validate our flows.
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 - As a precursor to reading her Designing Interfaces work, we wanted to understand her motivations for the need for design patterns in general and compare them to our own organizational needs
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Questions & Answers



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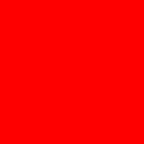
http://ui.oracle.com/upa/specific_design_patterns.ppt

User Experience at Oracle

<http://ui.oracle.com>

Fusion Applications

<http://www.oracle.com/applications/fusion.html>



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