



Session 6

Bringing Design to Life

1

developers & designers

2

Developers vs Designers



<http://flickr.com/photos/urbanwoodswalker/2490236070/>

DHTML developers

Javascript developers

PHP/JSP/ASP developers

Produce site code



<http://flickr.com/photos/1-e-s/3096005116/>

Visual designers

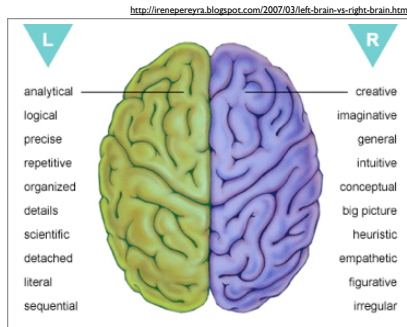
Information architects

Interaction designers

Produce designs & assets

3

Two Worlds?



Implementation focus

Inspiration focus

Constrained by browsers

Constrained by ideation

In reality, some developers have a very creative flair and some designers are very logical.

Nevertheless, the concerns of each role create a natural division between the two worlds.

4

UI Engineering/Web Development

Various names

Web dev, front end engineer, interface engineer, Web UI Engineer

At Netflix it required mastering a number of technologies

HTML, CSS, Javascript, Java, JSP, frameworks (like Struts, Tiles, jquery)

Love for good design essential

Some engineers started as designers

Desire to say "Yes" to a challenge

Problems should be challenges, not show-stoppers

Partner with design through prototypes

As rapid and as early as possible

Weekly roundtables to discuss details

Constant communication is critical - Shared Understanding model

5

What is good design?

Not just the form

Not just the function

But the artful blend of form and function

Must look good and also work well

Not just visual design

Not just information architecture

Not just interaction design

But the careful blending of the three disciplines

Must look good and also work well

Not just in photoshop, but a living experience for the user

Must look good and also work well

6

guiding principles for designers

what engineers wish you understood...

7

1. the site is dynamic

photoshop is static.
the site is not.

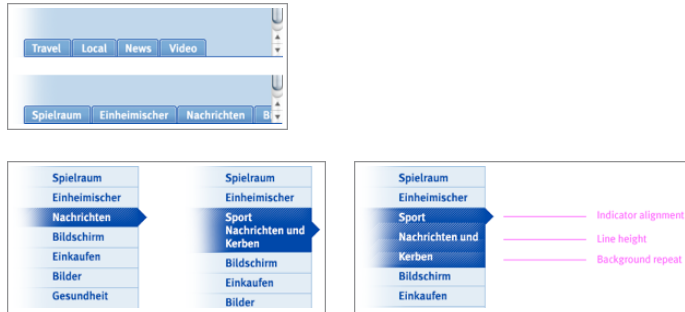
8

Dynamic Content

dynamic

"Content is a big part of your design. don't forget about it. integrate it. make it functional." (Nate Koechley)

"There's always less space in the design for text once you translate to German." (Nicholas Zakas)



Credit: Scaleable Design by Luke Wroblewski
<http://www.uxmatters.com/mt/archives/2007/10/scaleable-design.php>

9

Dynamic Content

dynamic

Even something as simple as a title.

Rarely do long titles show up in comps produced in photoshop.



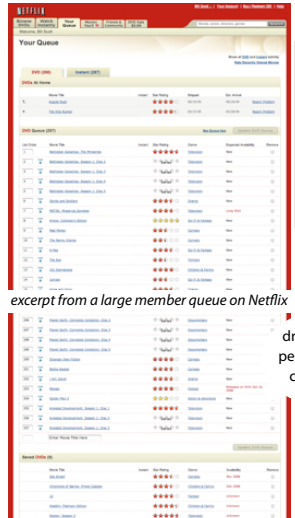
suggested movies from netflix.com home page

10

Dynamic Content

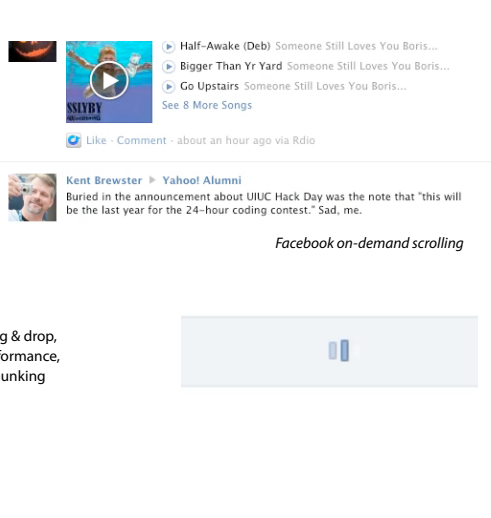
dynamic

Understand how to design for a large or difficult to acquire data set



excerpt from a large member queue on Netflix

drag & drop, performance, chunking



Facebook on-demand scrolling

11

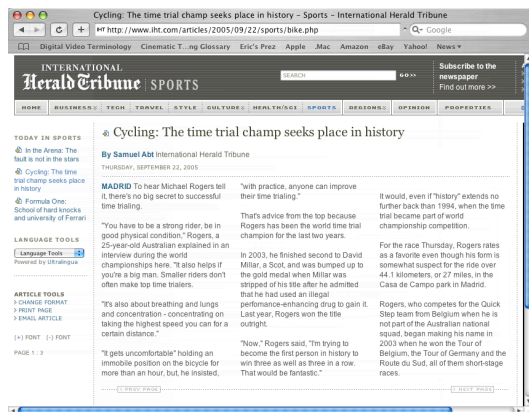
Dynamic Layout

dynamic

Think about the resize event

Design for different formats when necessary

What about the scrollbar?

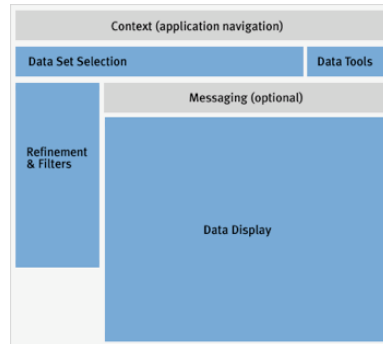


dynamic layout in International Herald Tribune

12

Dynamic Layout

Scaleable Design



Credit: Scaleable Design by Luke Wroblewski
<http://www.uxmatters.com/mt/archives/2007/10/scalable-design.php>

Designing Web Interfaces: 12 Screen Patterns
<http://tinyurl.com/8kr6yq>

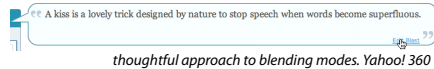


dynamic

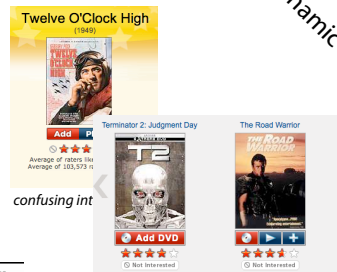
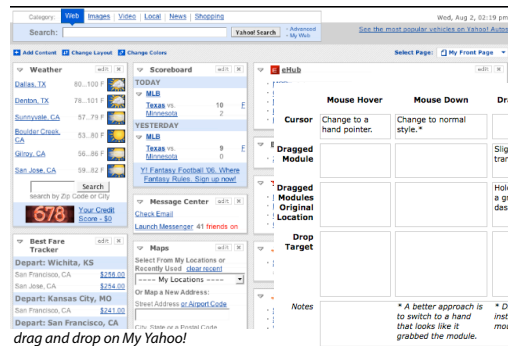
13

Dynamic Interaction

Design for interesting moments up front
 Prototype, prototype, prototype
 Avoids lots of expensive rework



thoughtful approach to blending modes. Yahoo! 360

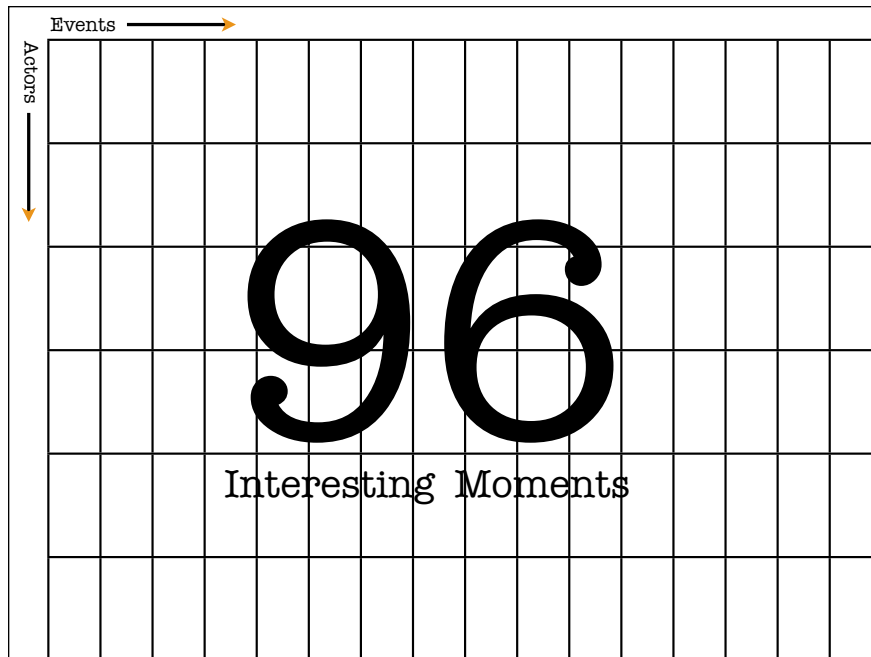


dynamic

interesting moments grid

	Mouse Hover	Mouse Down	Drag Initiated	Drag Hovers over Valid Target*	Drop Accepted
Cursor	Change to a hand pointer.	Change to normal style.*			
Dragged Module			Slightly transparent.		Dragged module removed.
Dragged Modules Original Location			Hole is shown as a gray, thick, dashed outline.		Hole is removed.
Drop Target				Hole (gray, thick, dashed outline) is moved to the new drop spot. Other modules shift to close prior hole.	Module is placed in the new location.
Notes	* A better approach is to switch to a hand that looks like it grabbed the module.		* Drag initiates instantly on mouse down.		* Triggers when the mid-point of the dragged object enters a valid drop target.

14

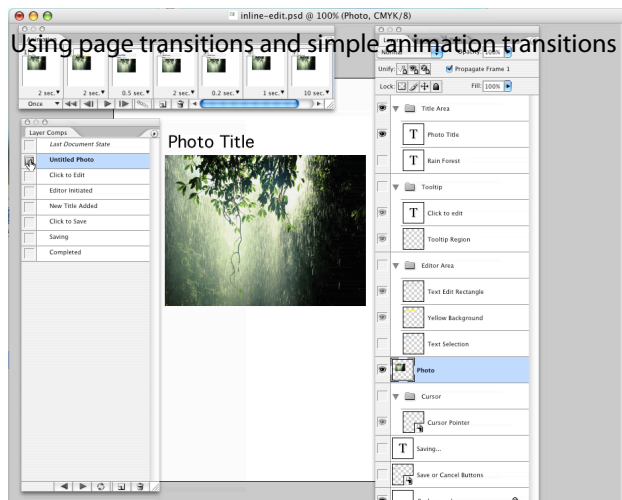


15

You need to prototype interactions *dynamic*

Photoshop example: Keyframing

Using page transitions and simple animation transitions

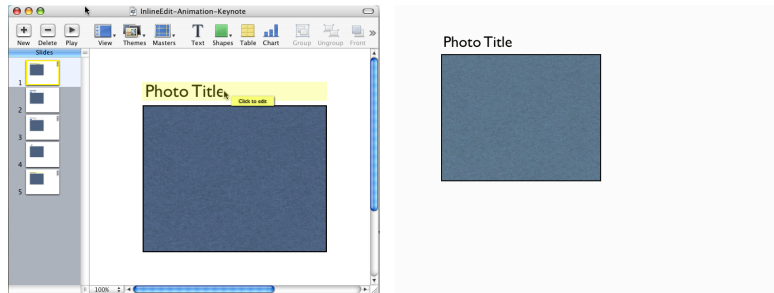


16

You need to prototype interactions dynamic

Keynote: Keyframes example

Using page transitions and simple animation transitions

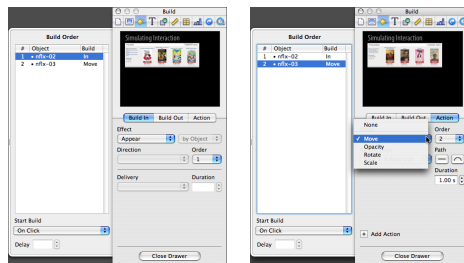


17

Keynote: Simulating Interaction dynamic

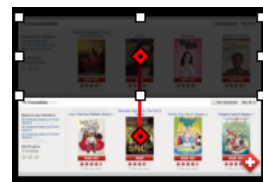


netflix. rate & replace. interactive mockup



step one. button appears

step one. second row moves down



the secret. hidden row behind solid mask

18

Other Tools

dynamic

Microsoft Expressions

Adobe Fireworks

Axure

HTML Prototyping

19

Take-Aways for dynamic design

dynamic

Not the same as printed page.

Photoshop = static

Use layers to simulate dynamic content

Learn how to **prototype**

Consider extremes and design for scalability.

Realize pixel-perfect layouts and font rendering will not look the same across all browsers/platforms

stop worrying about where the line break is in a particular paragraph of text.

Take the challenge: consider the dynamic nature of the site a worthy design challenge

20

2. technology is critical

web design without technology is just art.
you must understand the magic that gets it on the site.

21

You need to know

technology

What your technology can and can't do

At least at the high level. Think of it as your toolkit.

Is it native? Is it HTML5? Is it a combination?

The hardware endpoints

GPS, Gyroscope, bluetooth enabled (sense other devices), on-screen keyboard vs physical keyboard, screen display size, input methods: voice, gestures, mouse, camera, scanner, etc.

Not all designs cost the same

Everything has a cost. The cost may be in performance, development time, and/or maintenance time. We need to balance what you want against those costs each and every time. (zakas)

What your engineers can and can't do

Not all developers are created equally.

22

Challenge of html engineering

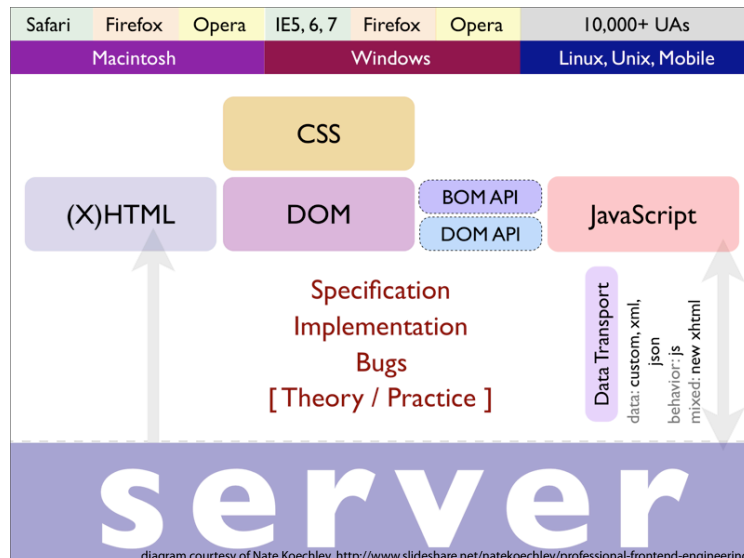
technology

14 IE 6 layout bugs
 9 ways to layout columns
 8 areas of focus
 3 rendering engines
 63 rounded corner techniques
 8 major browsers
 34 ways to improve performance
 5 ways to layout elements
 6+ ways to vertically align

23

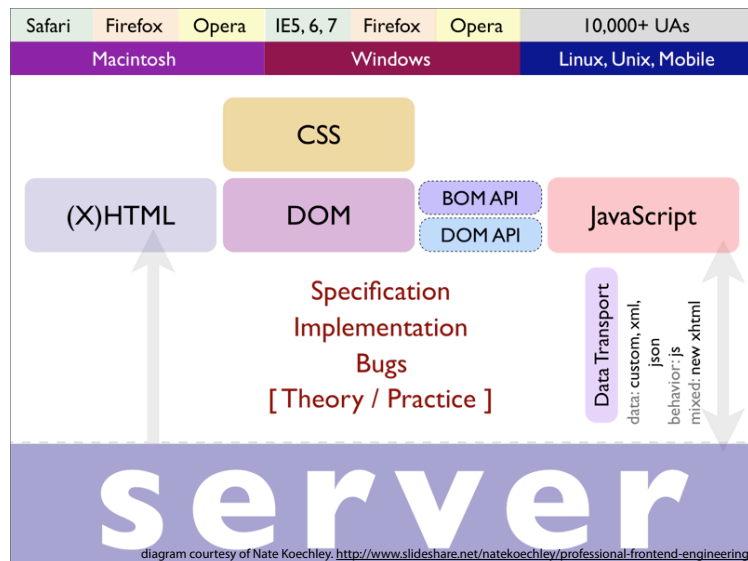
Challenge of html engineering

technology



24

Challenge of html engineering



25

Challenge of html engineering

high performance accessibility tools process
internationalization infrastructure

minimalist markup
semantic markup
ordered markup (accessibility)
unobtrusive javascript
minimal or no hacks

26

Know how stuff gets used

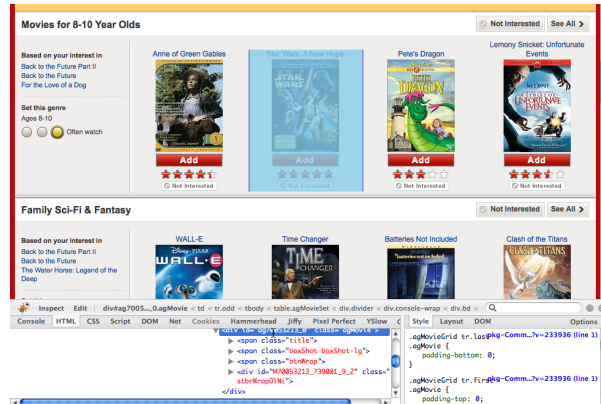
technology

Often design teams don't know how their stuff ends up on the site

Your HTML/CSS gets cut up into JSP/ASP/PHP?

Your photoshop comps get sliced/diced & html-ized?

One simple analysis tool is Firebug:



27

Know what is challenging

technology

Examples from HTML engineering

Vertical alignment

vertical-align does not work on block elements; however display:inline-block is best

Rounded corners + drop shadow

63 ways for rounded corners; 15 ways for drop shadow. Combined very tricky.

Pixel parity across all browsers

Stop worrying about pixel parity for IE6. Design for modern browsers and have graceful fallback for older browsers. See *Transcending CSS*, Molly H.

Equalizing height across columns

Faux approach works the best (background images fake out column height). But not known by all developers.

Pixel perfect widths

Due to IE6 bugs sometimes need a few extra pixels to avoid layout issues with floats (double margin bug); usually fixed with display:inline

28

Know what is challenging

technology

Specifying minimum or maximum width

Not understood by IE6

Taming IE6

At least 12 bugs concerning floats & layout. These can be sinkholes in time. Transcending CSS.

Hard to layout against the flow

In the current world, remember that this is a document model not a GUI layout engine

Height is harder to control

Content should normally drive the height

Not possible to render your Photoshop fonts

Use browser-available fonts; SIFR and other solutions are buggy; specify alternates.

For the skill level of your engineers

Most problems can be solved. Seasoned engineers will have a bag of tricks.

29

HTML 5



technology

Features

The Canvas tag for immediate mode 2D drawing

Timed media playback

Offline storage

Editing

Drag-and-drop

Messaging/networking

Back button and history management for Ajax/DHTML applications

New markup

Eliminated markup

Compatibility

See http://wiki.whatwg.org/wiki/Implementations_in_Web_browsers

When Can I Use...?

<http://a.deveria.com/caniuse/>

30

There are still times to say “No”

technology

Designer fonts (Gotham!)

But this might change with typekit/font-face!

Text in graphics

Specific heights

Hire developers that normally say “yes” and “get it”

31

3. components & grids are key

developers think in terms of reuse; designers often in terms of new work.
you must also design for reuse.

32

Design for reuse

The temptation for most designers is variety for variety sake

Often designers get bored with their design before it gets fully realized on the site

They bristle at the thought of “reusable design”

Components

33

Embrace Components

Design for each component & reuse throughout the site

Inventory site & create a vocabulary for the common components

Do a holistic design for the components as a suite

Easy to map to engineering

Components become tags, widgets, plugins, etc.

Results in cleaner CSS.

Instead of CSS appearing hodge-podge across the site, it gets reused for components

See *Object-Oriented CSS* presentation on Slideshare by Nicole Sullivan

Components

34

Netflix Site Elements/Components

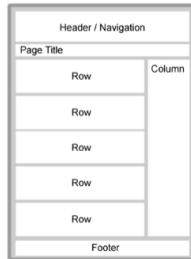
Components

Page Templates: Row



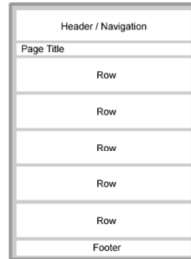
Examples

- DVD Homepage
- Watch Instantly Homepage
- DVD Sale Homepage
- Movies You & I Love Homepage



Examples

- Genre



Examples

- New Releases (DVD)
- Award Winners
- Critics Picks
- New Arrivals (TV)
- New Arrivals (DVD Sale)

Page Elements	
1. Header	13. List View Table
2. Footer	14. List Item
3. Page Title	15. Movie lockup
4. Page Column	16. BOS
5. Page Controls	17. Row Card
6. Postcard	18. Starbar
7. Recent Activity	19. Preview Page
8. Content Row	20. Enter text field
9. Slider Row	21. UMA (Unified messaging and
10. Postcard Row	
11. Search Results Row	22. Drop down
12. Gallery View Table	

35

Embrace Grids

Components

It's the right way to design anyway

See *The Principles of Beautiful Web Design* by Jason Beaird

Grids map to templates

There are at least 12 CSS frameworks each supporting the concept of templates/grids
<http://speckyboy.com/2008/03/28/top-12-css-frameworks-and-how-to-understand-them/>

Establish templates and standards that are engineering approved

Include engineering early & often to get these reusable assets "blessed". They can make it happen. (@ Netflix - Simplified Visual Framework)

Reference grids & components in your designs

Can be quickly referenced in order to facilitate faster design cycles.

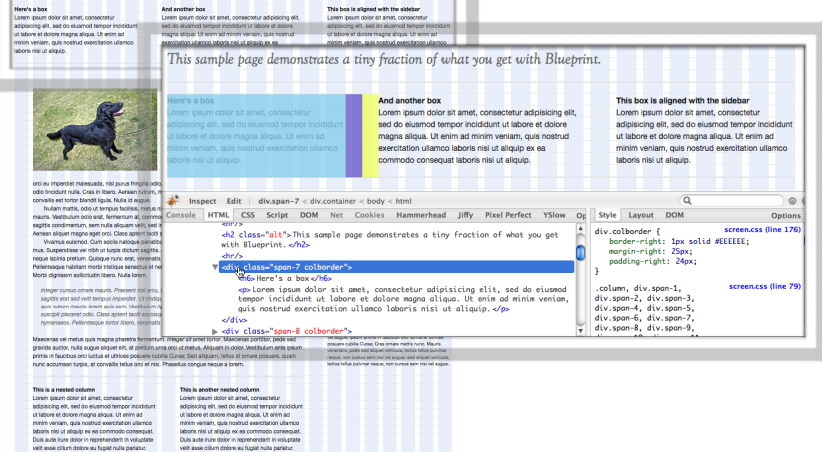
Easy to match photoshop, illustrator templates with a CSS grid system

36

Example: Blueprint CSS Framework

A simple sample page

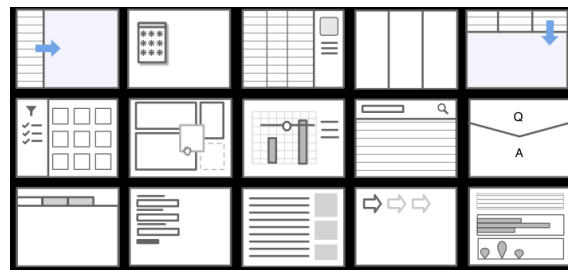
This sample page demonstrates a tiny fraction of what you get with Blueprint.



You may pick and choose amongst these and many more features, so be bold.

37

Embrace Patterns



38

4. shared understanding is essential

it's tempting to design and toss over the wall.
but the real magic happens during collaboration.

39

Quotes

partnership

"Our designers start to design things with development in mind, and our developers build code with design in mind. It's really beautiful."

"I've dealt with a couple of programmers in my career that were just 'no' guys - all day every day, no , no , no , - and it's a terrible experience. There is ALWAYS a way to make something work."

"From a designer's perspective: both sides should learn as much as they can about the other sides' disciplines. It can do nothing but good, fostering a greater understanding for what goes into the tasks each other have."

40

2 keys

Communicate & Iterate

41

Communicate

Vocabulary Mismatch

Example: lockups

Mismatch: components, templates

Mappings: grids -> templates, site elements -> tags

Common Project: Simplified Visual Framework (SVF)

42

Communicate

Pattern Library

Nice way to capture the templates, components, interactions that are common

Gets people speaking the same language

More useful in established organizations & where communication spans groups/borders

Design Pattern Library

Yahoo! Developer Network > Design Pattern Library

Users need to

- SEARCH**
 - Search Pagination
- NAVIGATION**
 - Breadcrumbs
 - Links
 - Navigation Filter
 - Links
 - Tab
 - Module Tabs
 - Navigation Tabs
- PRESENTATION**
 - Page Grids
 - Pagination
 - Item Pagination
 - Item Pagination
- SELECTION**
 - Auto Complete
 - Calendar Picker
 - Carousel
- USER INTERACTION**
 - Drag and Drop
 - Drag and Drop
 - Windows
 - Invitation
 - Cursor Invitation
 - Drop Invitation
 - Tool Tip Invitation
 - Hover Invitation
 - Transition
 - Arrows
 - Brightness
 - Collapse
 - Expand/Fold
 - Dim

Welcome

Welcome to the Yahoo! Design Pattern Library. We're thrilled to be sharing patterns and code with the web design and development community, we hope it's useful, and we look forward to your feedback.

In fact, we've just launched our new [Design Pattern Library](#) and are for discussing the pattern library and another for talking about the ins and out of getting design patterns and maintaining collections of patterns. (We'll still get our mailing lists. Our goal with these new forums is to bring the conversation closer to the library itself. Please join us!

Most recently, we've added a collection of [Navigation](#) patterns to our growing collection of local design patterns. Oh, and we're still pretty jazzed about our [carousel grid](#) patterns. The standards in it are mapped to the patterns in the library and the code modules in YUI.

What's a Pattern?

A pattern describes an optimal solution to a common problem within a specific context.

Recent Patterns see all...

Carousel Grid

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

Carousel Grid

User needs to browse among a set of like objects represented pictorially.

Competitive Advantage

Some participants in competitive markets need to identify distinguished.

The Competitive Advantage

The designer needs to match the navigation system.

Identifying Labels

Community members need to identify distinguished.

Leadership

In highly competitive environments, users may

Y! USER EXPERIENCE

Search

Narrowing History

view | edit | settings | outline | persistence

pattern: gordon, 4/15/2004, 1:00pm

Pattern Info

Importance of Adherence Level: [\(clickable\)](#)
Common convention.
Author: [gordon](#)
Start with this solution and take as necessary.
Most recently revised on 2/23/2004.

Related Standards

Patterns: [Faceted Navigation](#), [Faceted Browsing](#), [Faceted Searching](#), [Breadcrumbs](#), [Faceted Search Query Editor](#)

Problem Summary

Users need to have contextual feedback of their narrowing selections and be able to remove some or all of them.

Use When

Use Narrowing History when users have to navigate through link lists (faceted browse) to allow them to modify previous selections.

Solution

Refined Results for digital cameras

Canon EOS 300D
Canon EOS 300D
Canon EOS 300D
Canon EOS 300D

Refined Results for digital cameras

You refined by: Canon EOS 300D

Canon EOS 300D
Canon EOS 300D
Canon EOS 300D
Canon EOS 300D

Refined Results for digital cameras

You refined by: Canon EOS 300D

Canon EOS 300D
Canon EOS 300D
Canon EOS 300D
Canon EOS 300D

Undo

Next to each selection in the Narrowing History there is an "undo" link. The purpose of this link is to let users remove one of the narrowing criteria from the result set, while keeping the others. When clicked on, the page reloads removing that narrowing criteria from the result set.

Undo All Selections

When 2 or more selections have been made, an "Undo All Selections" link should appear at the bottom of the narrowing history module. When clicked on, the page reloads removing all narrowing options.

Alphabetical Facet Values

To represent the selection of an alphabetical facet value (i.e. brand, style, etc) use the value text. Example "Canon", "Low cut".

Numerical Facet Values

To represent the selection of a numerical facet value (i.e. megapixels, optical zoom, etc) the text should include the facet name. Facet Name + Selected Value. Example "Megapixels from 3 to 4", "Optical Zoom from 4x to 6x". Price is an exception, as it is

43

Communicate

Learn how to talk to engineers

engineers adverse to unnecessary change; designers must educate "why"

designers feel engineers push back to the point of a "broken design"

which leads to rework... just what they didn't want

Roundtables

Has worked well @ Netflix. Every Friday at 2pm.

Throw out ideas.

Discuss technical solutions to thorny problems.

Discuss vocabulary. Hear frustrations.

44

Communicate

Practice transparency

many designers won't share till it is "perfect"

engineers get surprised

partnership

45

Communicate

Practice transparency

many designers won't share till it is "perfect"

engineers get surprised

Get your design into the "wild"

Make it visible everywhere



partnership

46

Communicate

Practice transparency

many designers won't share till it is "perfect"

engineers get surprised

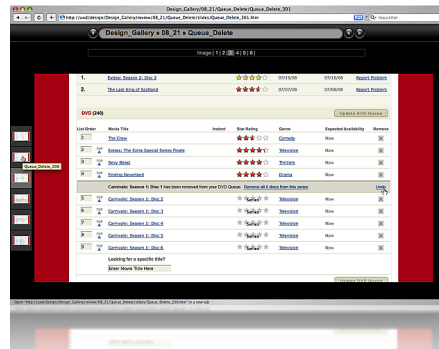
Get your design into the "wild"

Make it visible everywhere

Make it URL-accessible

Stop sharing files by email or embedding on the wiki. Use URLs. Front your file system with an http server.

Use a Design Gallery to make everything reviewed accessible before & after the meeting.



47

Iterate: Prototype

Prototype. You know to do this but rarely is the time taken.

This is where a good interface engineer, sufficiently motivated, passionate about interface can step up and be integral to the solution.

When engineering engages in a design like this... the results are beautiful. Everyone is happier (especially the users).

Build multiple prototypes

For interactive rich experiences it takes lots of variations (permutations).

View prototyping as a means to an end... not the final product.

48

Iterate: Prototype

dynamic

Keynote & Powerpoint can create quick interactive mockups

Keynote: Smart builds, build ins, build outs and actions can simulate a real interface

Use a prototyping tool

Balsamiq, Azure, iRise, Flash, Flex, Interactive PDFs, Fireworks + PDF, Visio, OmniGraffle



netflix. rate & replace

Prototyping is much more accessible now than in the past

Perhaps use jQuery for quick stuff?

Coupled with firebug is a nice way to sprinkle in behavior to existing site

49

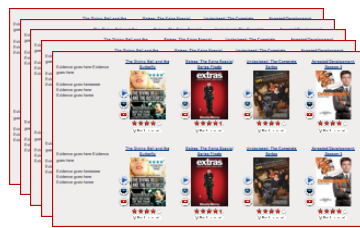


100+ variations prototyped over 1 week

Winnnowed down between PMs, Design & Eng.

Put before users the next week & again 2 weeks later

Partnership



50

1. the site is dynamic
2. technology is critical
3. components are key
4. shared understanding is essential

51

Q&A

<http://billwscott.com/share/presentations/2011/uie16/>

52