# Designing for Ajax

Principles and Patterns for Designing Rich Internet Applications



## Designing for Ajax

- RichnessWhat is richness?
- Patterns
   Intro to patterns & the Yahoo! Pattern Library
- Ajax Patterns
   DNA of Ajax Patterns
- Principles
   Nine principles for designing with Ajax

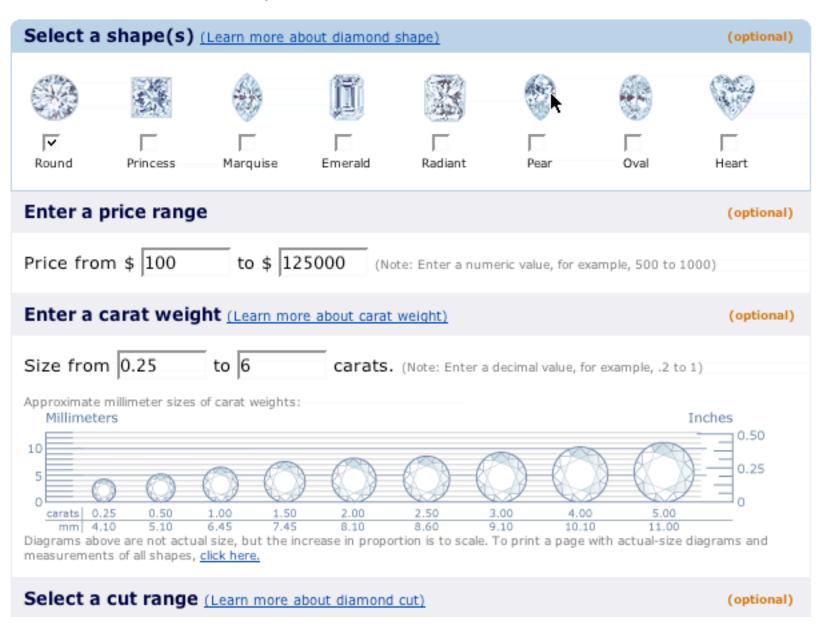


# Richness



#### Amazon.com Diamond Search

Click here to return to our dynamic diamond search.

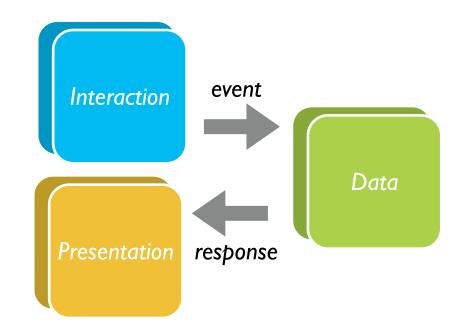


## Defining Richness: Web in 3D

Interaction Dimension

Data Dimension

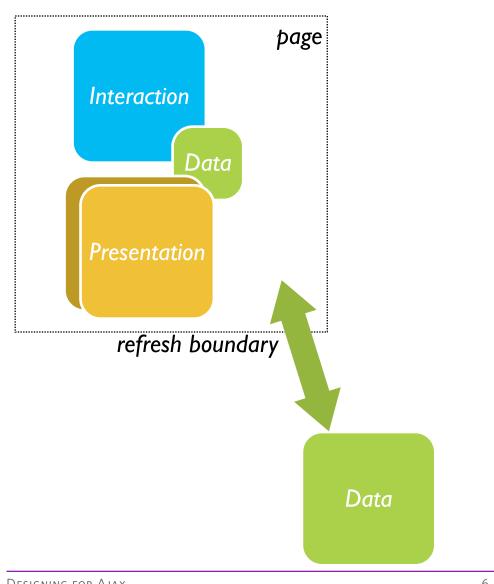
Presentation Dimension





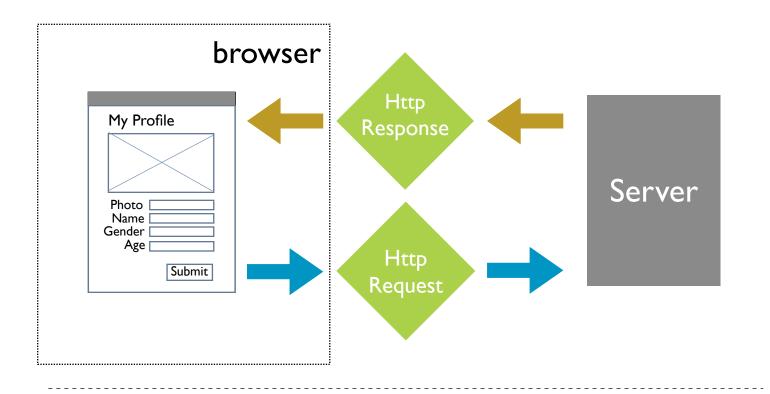
## Classic Web

- Interaction course-grained
- Data loaded with the page or obtained via refresh
- Presentation: page-based updates





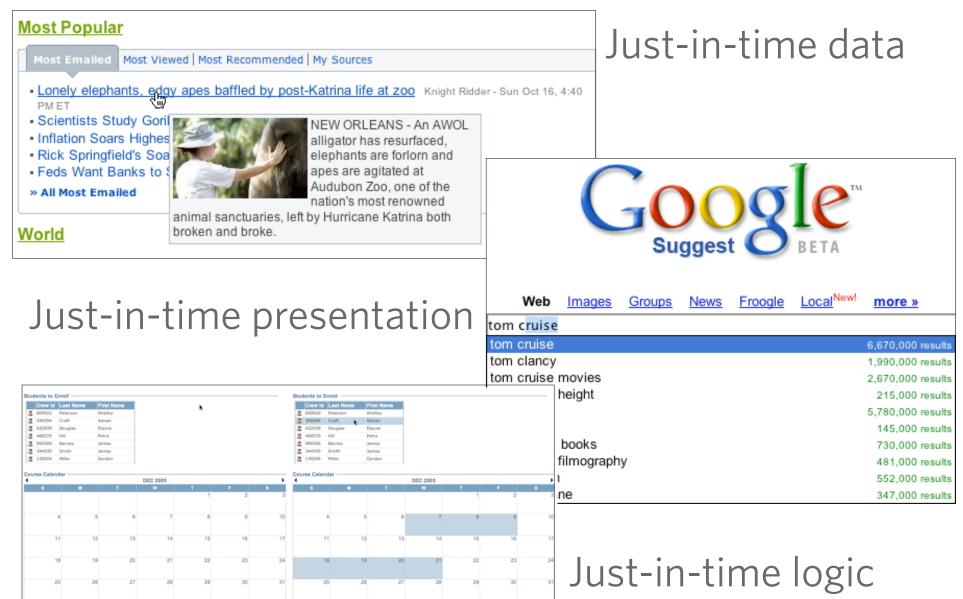
## Classic Web Illustrated







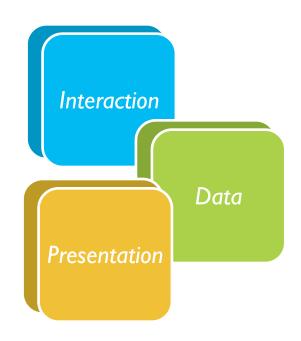
## Ajax = Just-in-Time. Immediacy.





## Ajax Model - New & Improved!

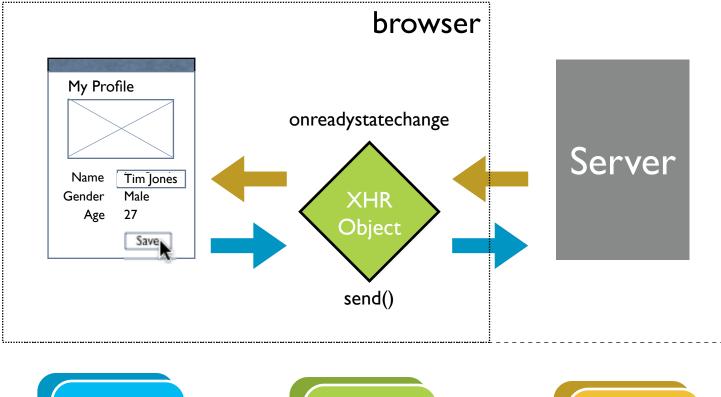
- Now with Deeper Interaction!
- Now with Just-in-Time Data & Just-in-Time Logic!
  - ★ XMLHttpRequest (XHR) is the secret sauce!
- Now with Richer Interface!



All dimensions are closer



## Ajax Illustrated







## AJAX vs Ajax

- AJAX = Asynchronous JavaScript and XML
  - Strict definition is using XMLHttpRequest (XHR) to retrieve XML within a web page
- Ajax = The set of technologies that allow web applications to provide rich interaction, just-in-time information and dynamic interfaces without required page refresh
- The Secret Sauce XHR
  - Ajax = XHR + DHTML (HTML, CSS, JavaScript) + Rich design



## Other Remote Scripting Techniques

- Hidden IFrame
- <img> src
- <script> src hack
- CSS href hack
- JS to faceless Java applets
- JS to faceless Flash
- NO CONTENT Response
- Cookies

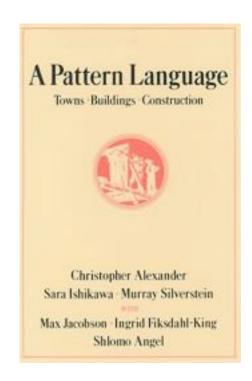


# Patterns



## **Origin of Patterns**

- A Pattern Language, Alexander, 1977
   Dissatisfied with sterile, impersonal
   design
- Defined it as Solution to a problem in context
- Captured
   Situation, competing constraints,
   canonical solution
- Examples
   Couples Realm, House for a Couple, Sitting Circle, Marriage Bed





## **Spread of Patterns**

- Applied to software design, Gang of four, 1995
- 1996, Alexander chides user experience community
- User experience patterns
  - 1997, Tidwell's Common Ground
  - Welie's pattern site
  - Design of Sites book
  - 2005, Tidwell, Designing Interfaces

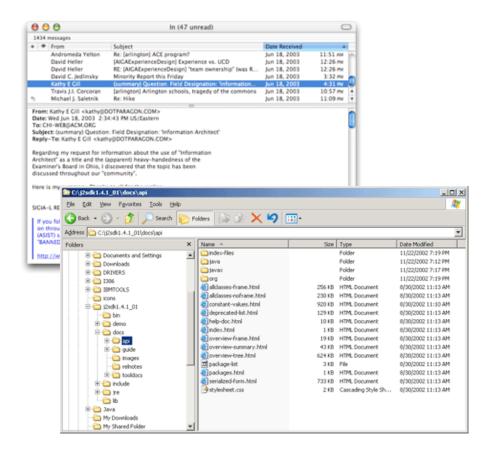




- Jenifer Tidwell (also a book) http://designinginterfaces.com/
- Martijn van Welie http://www.welie.com/patterns/
- Sari A. Laakso
   http://www.cs.helsinki.fi/u/salaakso/patterns/
- Michael Mahemoff http://www.ajaxpatterns.org/
- Web Patterns
   http://webpatterns.org/



## **Overview + Detail**



- Problem
   Large amounts of data. User need to see details in context of overview data
- Solution
  - Overview Panel (top or left)
  - Detail Pane (bottom or right)

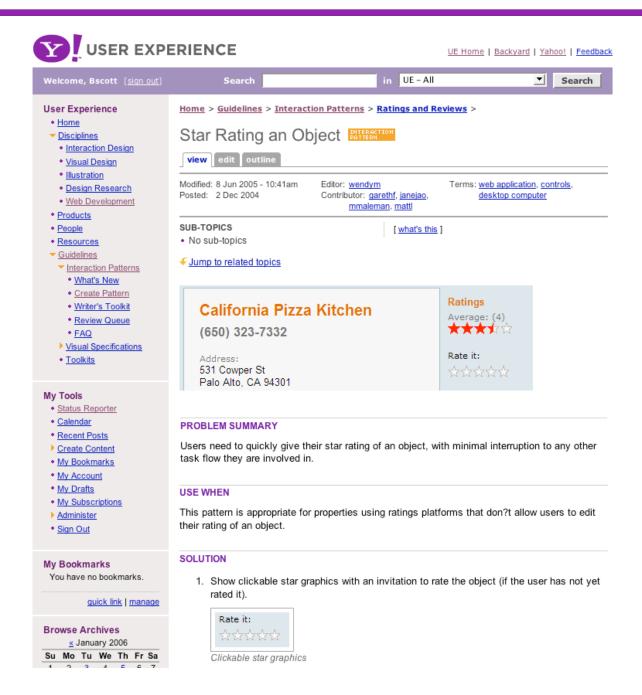
Source: Jenifer Tidwell



- Created. 2004.
   Erin Malone, Matt Leacock, Chanel Wheeler and a number of other contributors & reviewers
- Evangelized. Throughout UED. Early 2005.
- Presented. March 2005.
   Montreal IA Summit
- Article. April 2005. boxesandarrows.com
- Rich Ajax patterns added. Latter half 2005.
- Went public 2/13/06



### Yahoo! Pattern Library - Example



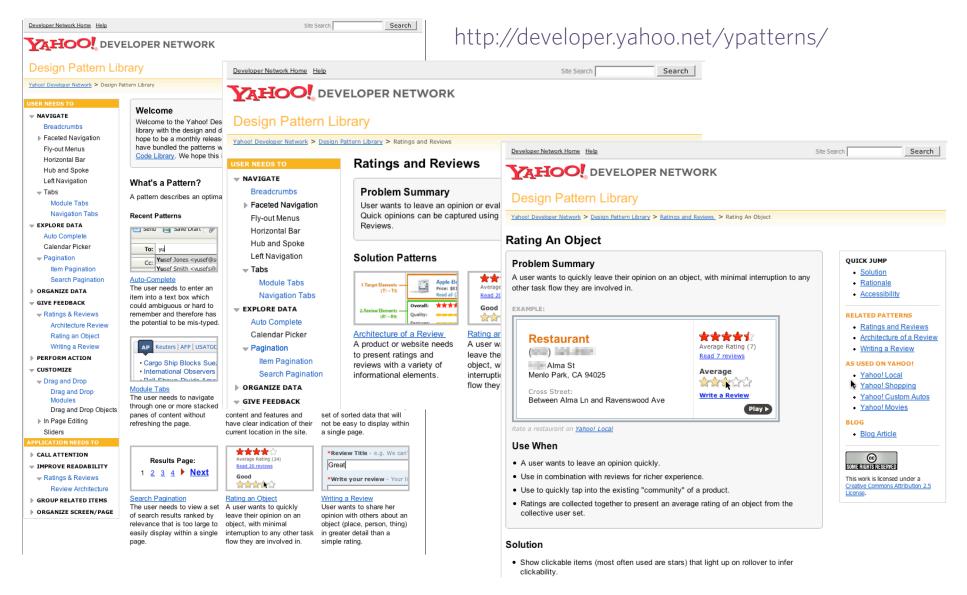


### Yahoo! Pattern Library Information Architecture

- Authoring Information: authored by, authored on, publishing status, comment control
- Title
- Contributors
- Sensitizing Example
- Problem Summary
- Use When
- Solution
- Rationale
- Special Cases
- Open Questions
- Related Patterns & Visual Specs
- Supporting Research
- Classification: parent, categories (element type, task, application type, device)
- Publishing status (publish/ready for review)
- Weight
- Subscription
- Rating



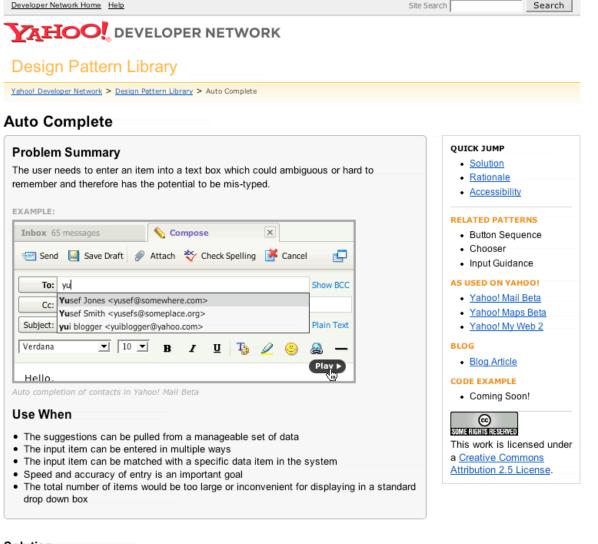
## Yahoo! Pattern Library Release





#### Yahoo! Pattern Library Example

- Title
- Problem Summary
- Sensitizing Example
- Use When
- Solution
- Rationale
- Accessibility
- Related Patterns
- As Used on Yahoo!
- Blog Link
- Code Examples



Site Search

#### Solution

Layout

· Use a standard text box for input.

Developer Network Home Help

Label the text box to match the user's expection of what field will be searched against.



#### http://yuiblog.com



#### Yahoo! Design Pattern Library Released

February 13, 2006 on 7:54 am by Bill Scott | In Design |

I'm excited to announce that today we are releasing the Yahoo! Design Pattern Library to the public under a friendly Creative Commons License. The goal in releasing this library is for us to share the common patterns that we see emerging at Yahoo! It is hoped that by opening up our design patterns we can share our current thinking as well as solicit your valuable feedback.

We believe design patterns are powerful. First, they offer a solution in context of a problem. Second, they provide a name for the solution. Taken together as a set, pattern libraries form a solution language that can enhance our ability to communicate design ideas. Lastly, they provide us a context in which to discuss a number of associated issues: the thinking behind a solution; issues around accessibility, and de-gradeablity; other related patterns; examples of usage; and code samples to name a few.

In case patterns are a new concept to you, here's a little history to get you up to speed.

Background on Patterns

#### SYNDICATE

#### All Entries:





#### RECENT POSTS

Developing a JavaScript Library for Yahoo!

Welcome to the Yahoo! User Interface Blog

The Yahoo! User Interface Library

Yahoo! Design Pattern Library Released

Search Pagination Design Pattern

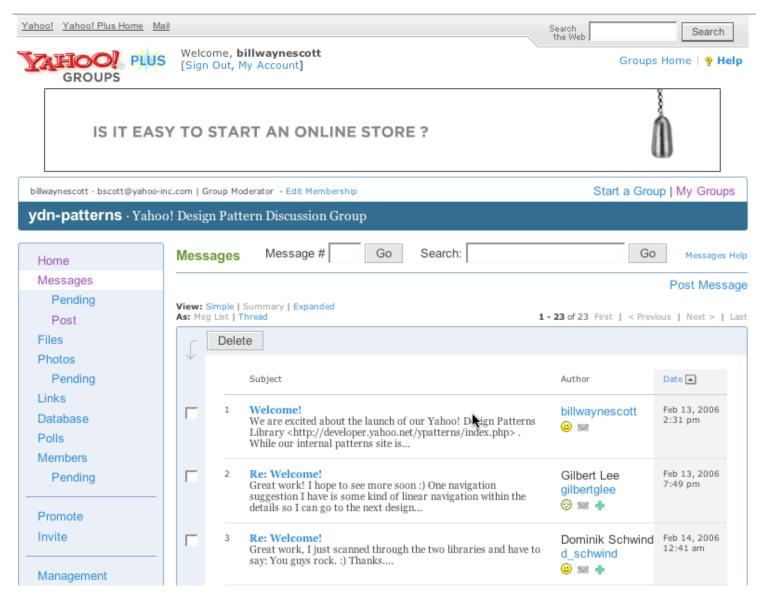
Item Pagination Design Pattern

Rating an Object Pattern



#### Yahoo! Patterns Discussion Group

http://groups.yahoo.com/group/ydn-patterns/





- Goodwill. Sharing back with community.
- Feedback. Lots of smart eyes enrich our library.
- Dialog. Priortizes and raises issues.
- Reuse. Raises awareness and reuse inside Yahoo!
- Standards. Help promote standards.
- Mindset. We believe in open source.
- Coordination. In sync with code library release.



Breadcrumbs. Module Tabs.
Navigation Tabs. Auto Complete.
Pagination. Item Pagination.
Search Pagination. Ratings and
Reviews. Architecture of a Review.
Rating an Object. Writing a
Review. Drag and Drop. Drag and
Drop Modules.



**Faceted Navigation. Browsing. Narrowing History.** Fly-out Menus. Horizontal Bar. Hub and Spoke. Left **Navigation. Tabs. Calendar Picker. Filtering. List. Sorting. Thumbnail. Button Sequence. Choosers. Input Guidance. Add Contacts. Email a Friend. Email Preview. Drag and Drop Objects. In Page Editing.** Direct State Edit. Inline Custom Edit. Inline Text Edit. **Overlay Panel Edit. Sliders. Dynamic Tooltip. Guidance. Inline Messaging. Invitation. Cursor Invitation. Drop Invitation. Tool Tip Invitation. Hover Invitation. Transitions. Brighten. Dim. Cross Fade.** Expand. Collapse. Fade In. Fade Out. Move. Self-**Healing. Slide. Zoom. Draggable Panels. Modal** Panels. One-Click Panels. Overlay Panels. Grid.



# Ajax Patterns



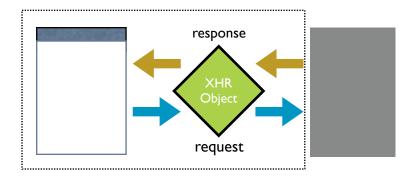
**Drag and Drop. Drag and Drop Modules. In Page Editing.** In Page Custom Editing. Direct State Editing. Grid Cell Editing. Inline Custom Editing. Inline Tag Editing. Popup **Custom Editing. Slide-out Custom Editing. Inline Text Editing. Persistent Portals. Inline Reordering. Indication. Busy Indication. 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. Identifiable Object.** 



## But What Can XHR Do?

- Make a request
- Return a response

And do it asynchronously





## Anatomy of a Pattern

- Ajax design patterns contain three steps
  - Trigger (event or timer)
  - Operation (Ajax, remote scripting)
  - Update (presentation)

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# **Trigger**

- Every pattern starts with
  - a user event
  - a timer event

mouseout hover keypress keydown mousedown drop filter choices mouseup drag click mousedown select focus blur resize move timeout









## **Operation**

Ajax patterns open the door to immediacy

- Lookup I can get information when I need it
- Persist I can save in real-time
- Validate I can prevent errors early
- Invoke I can make things happen now
- Message I can communicate instantly









## Operation. Lookup

## I can get information when I need it

Auto Complete. Deferred Content Loading. Dynamic Goal. Narrowing Choices. Refining Search. Live Search. Dynamic Filter. Detail Zoom. Endless Scrolling. Expandable Paging Boundary. Fresh Content. Hover Detail. In Place Drill Down. On Demand Refresh. Periodic Refresh. Resizable Modules. Scrolling Modules. Auto Form Fill.

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### **Lookup** live search





type, Google will offer suggestions. Use the arrow keys to navigate the results. L

Feedback - Discuss - Terms of Use - FAQ

©2006 Google



#### Instant Search BETA

Search the Web

#### Instant Search gives you answers as you type -- no more waiting!

Why feel lucky when you can be right? With Instant Search, results instantly appear for <a href="Yahoo! Shortcuts">Yahoo! Shortcuts</a> and common searches. Give it a spin! Type in these examples below, or try your own searches:

- · boston weather
- wikipedia
- nfl

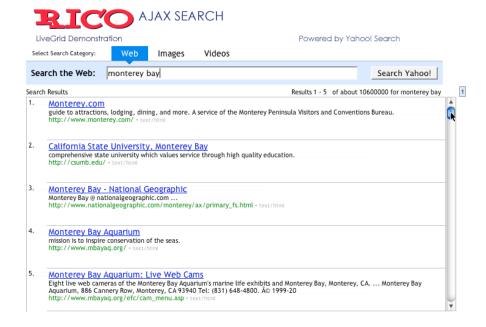
- · 22 5th ave new york ny
- · san francisco coffee shops
- dmv

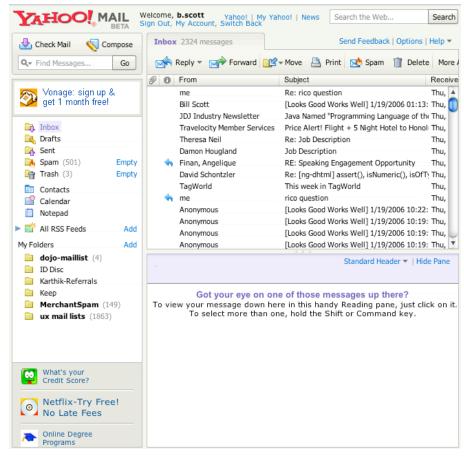






### Rico LiveGrid





## Yahoo! Mail Beta (Oddpost)



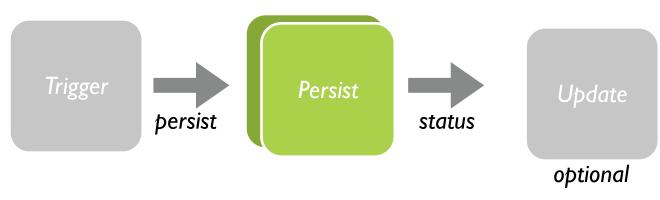


### **Operation.** Persist

### I can save in real-time

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. Inline Reordering. Auto Save. Remembered Collection. Remembered Preferences. Rating an Object.

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### Persist inline edit

### **Rocky Waters**

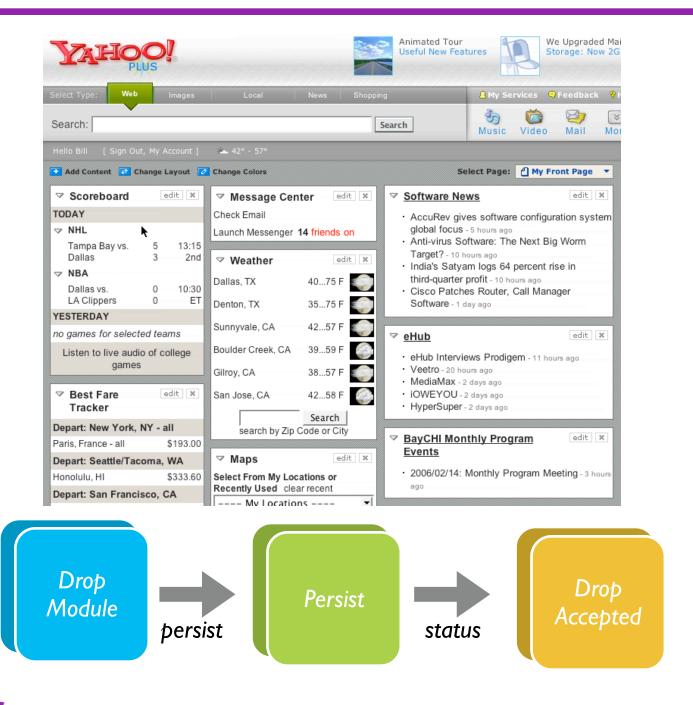








### **Persist** persistent portals





### Operation. Validate

I can prevent errors early

Balloon Error Tip. Inline Validation. Validate Then Suggest. Per Field Validate. Keystroke Validate. Inline Form Validate. Invalid But Suggest.

\_\_\_\_\_





### Operation. Invoke

### I can make things happen now

### Fire and Forget. Lightweight Action.

Trigger Invoke Status Update



### Operation. Message

### I can communicate instantly

### Two-Way Chat. Real-Time Auction. Collaborative White Board.

Message
Event
Trigger

Message
Sent

Message
Sent

Message
Received

Message
Received

Message
Received

Message
Received

Message
In



### **Update**

Finally, patterns reflect a visual change

Indication. Busy Indication. Cursor Busy. In Context Busy. In Context Progress. Inline Status. 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. Identifiable Object. Slide-out. Popup Balloon.





### Pattern-O-Matic





**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. Identifiable Object.** 



# Principles



### Nine Principles for Rich Design

- 1. Keep it direct
- 2. Provide live feedback
- 3. Offer an invitation
- 4. Use dynamic space
- 5. Cross borders reluctantly
- 6. Leave a light footprint
- 7. Show transitions
- 8. Think in objects
- 9. Tell a story



## 1

### Keep it direct

Prefer interaction inside the page
Use direct editing on content
Keep your tools nearby
Create smart tools that infer context
Use drag and drop where appropriate



### submit hyperlink

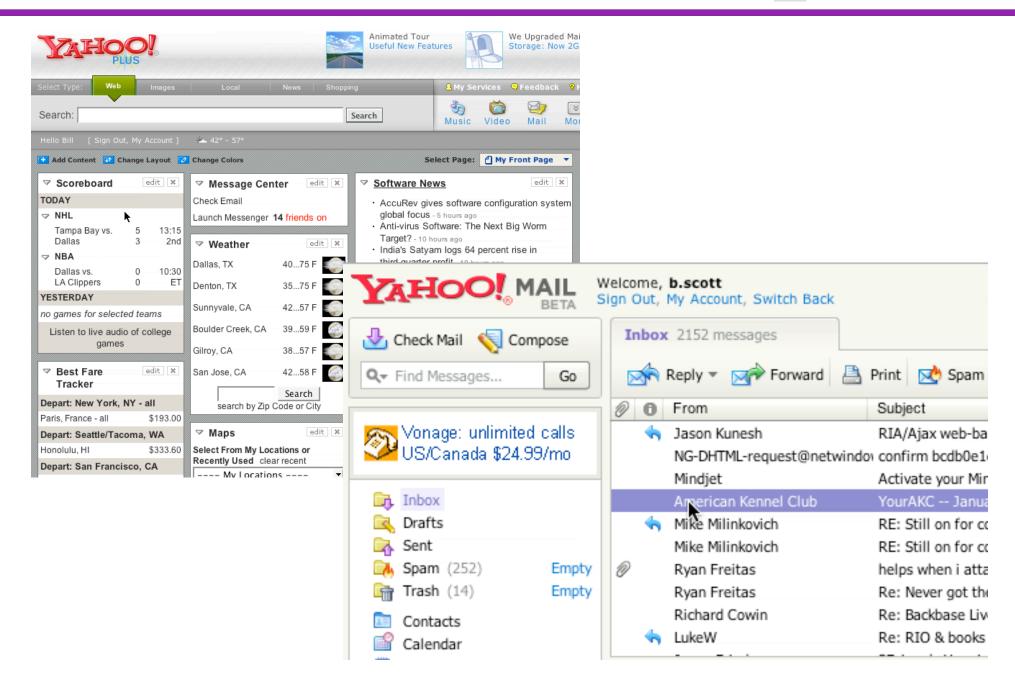


mouseout hover keypress keydown mousedown drop filter choices mouseup drag click select focus blur resize move timeout



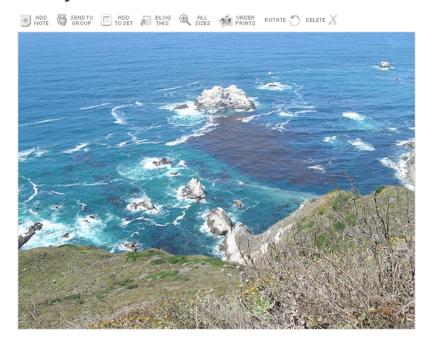
Drag and Drop. Drag and Drop Modules. In Page Editing. In Page **Custom Editing. Direct State Editing. Grid Cell Editing. Inline Custom Editing. Inline Tag Editing. Popup Custom Editing. Slide-out Custom Editing. Inline Text Editing. Inline** Reordering.



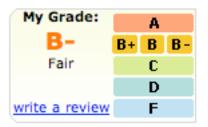




### **Rocky Waters**







0	1	2
0,0	0, 1	tatatata
1,0	1, 1	<b>****</b>
2,0	2, 1	<b>***</b>

Thanks team! Way to show up a week late.

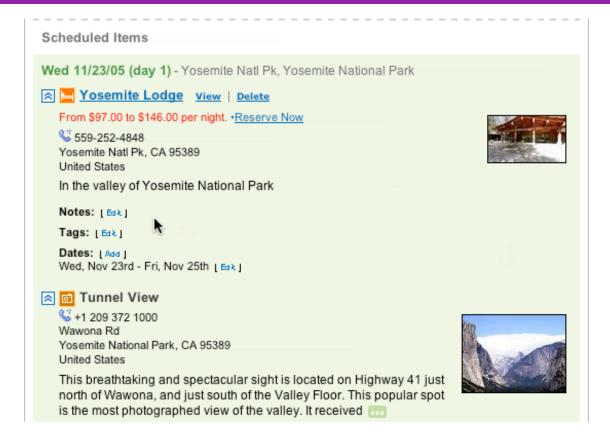
Edit Smack





Teams: The Blouses





6 9	From	Subject
1	Yahoo! Toolbar	Welcome t
	Weekend Extra	5 Tips for



- Inline Text Editing
  - Do we need save/cancel? Is so, when?
  - Try to not disturb the page when switching modes
- Discoverability
  - Not expected model of most content
  - Any visual treatment clutters the screen
  - On page tips?
- Once someone learns it, is it so useful it outweighs initial discoverability issues?
- Combine with invitations, spotlights, inline idicators



## 2

### Provide live feedback

Design for immediacy

Design for relevancy

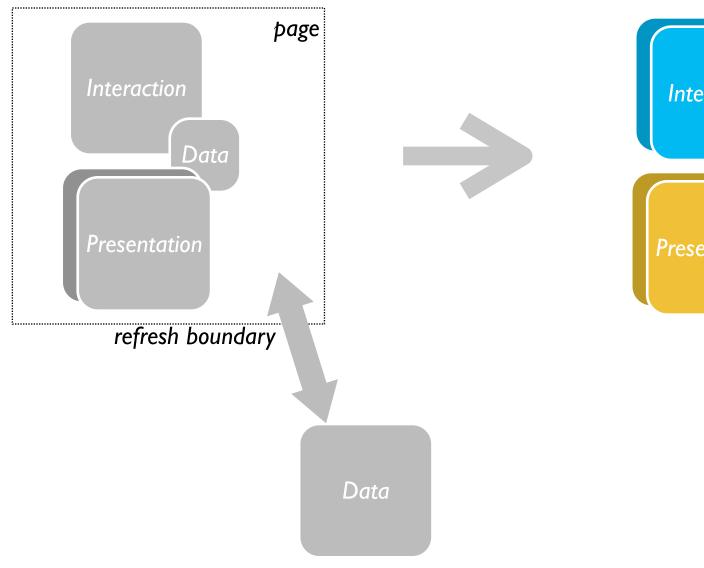
Use live previews (look before you leap)

Play the confidence game

Create nimble clients

Watch out, feedback can be distracting



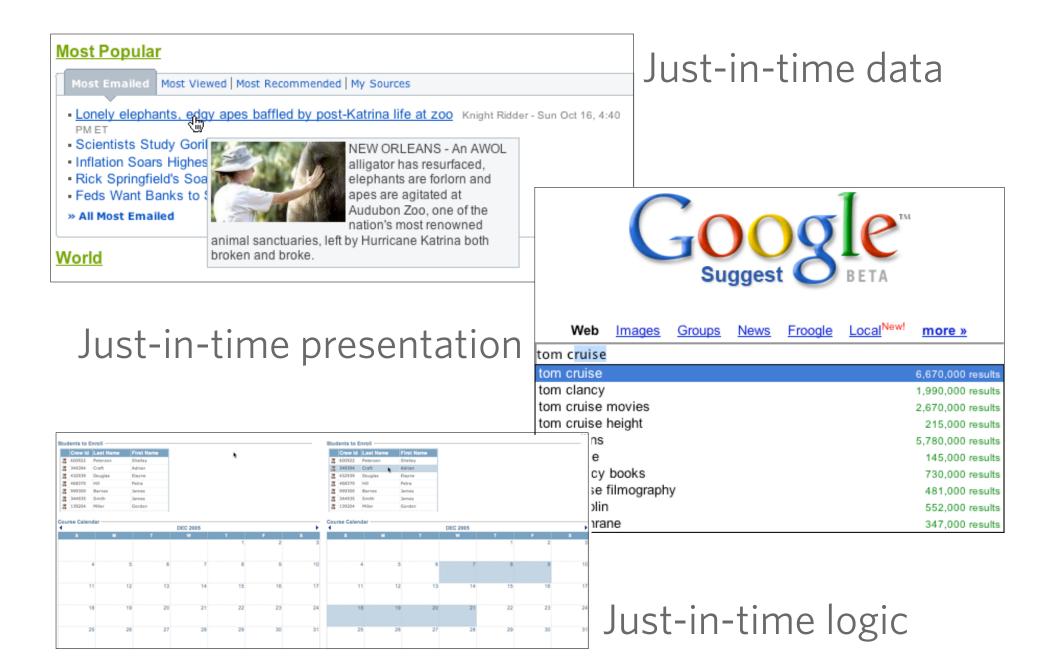






Indication. Busy Indication. **Cursor Busy. In Context Busy. In Context Progress.** Inline Status. Auto Complete. Balloon Error Tip. **Deferred Content Loading. Dynamic Goal. Narrowing Choices. Refining Search.** Live Search.









### Instant Search BETA

Search the Web

### Instant Search gives you answers as you type -- no more waiting!

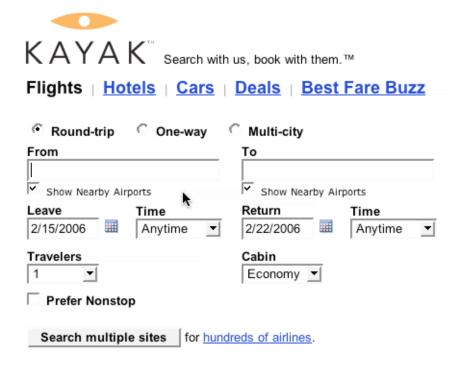
Why feel lucky when you can be right? With Instant Search, results instantly appear for <a href="Yahoo! Shortcuts">Yahoo! Shortcuts</a> and common searches. Give it a spin! Type in these examples below, or try your own searches:

- · boston weather
- wikipedia
- nfl

- 22 5th ave new york ny
- san francisco coffee shops
- dmv

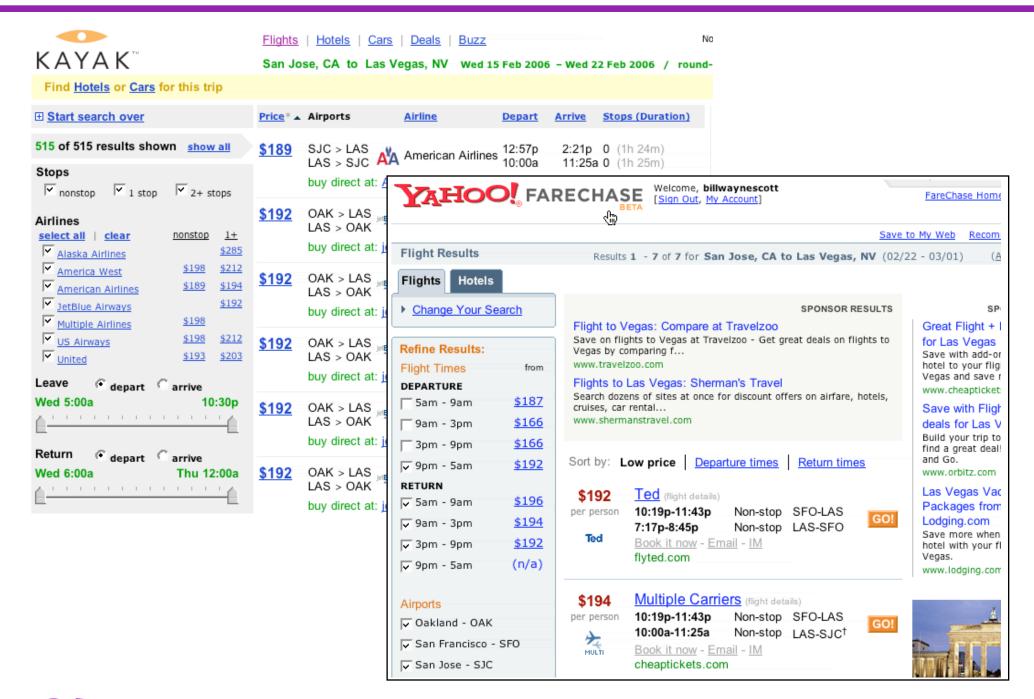




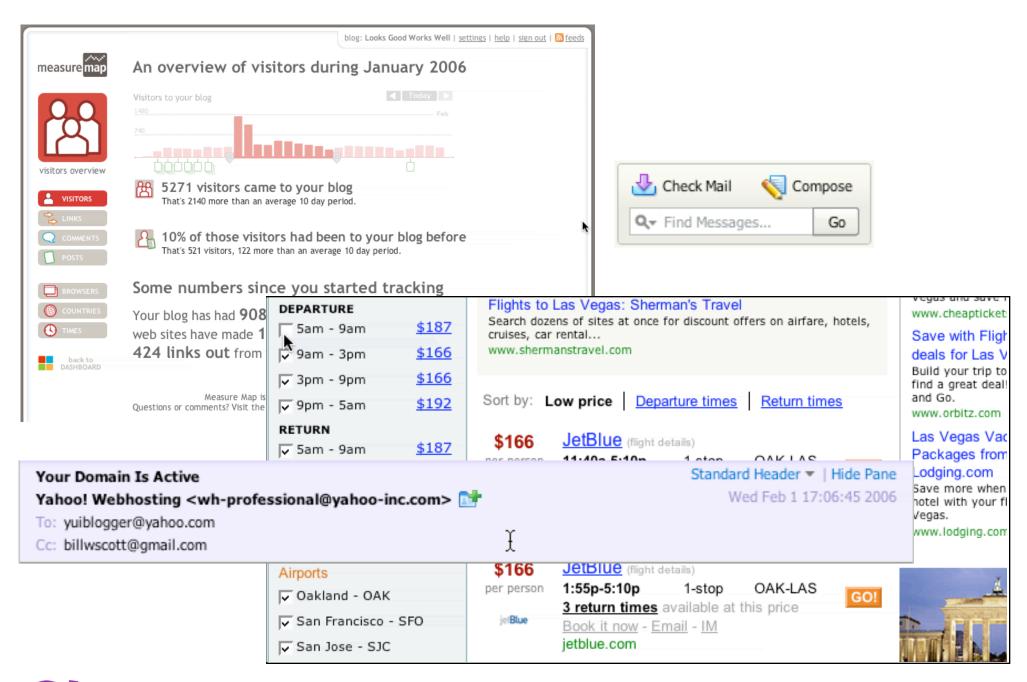




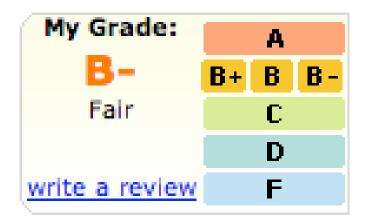










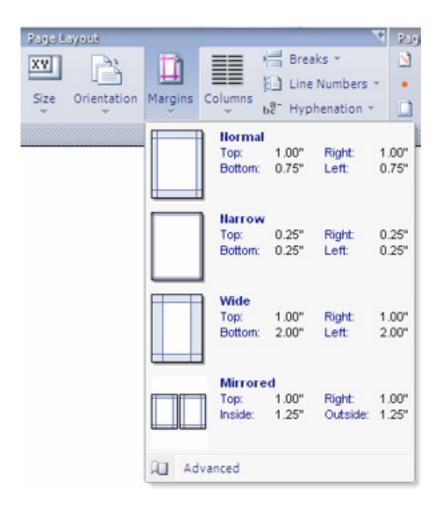




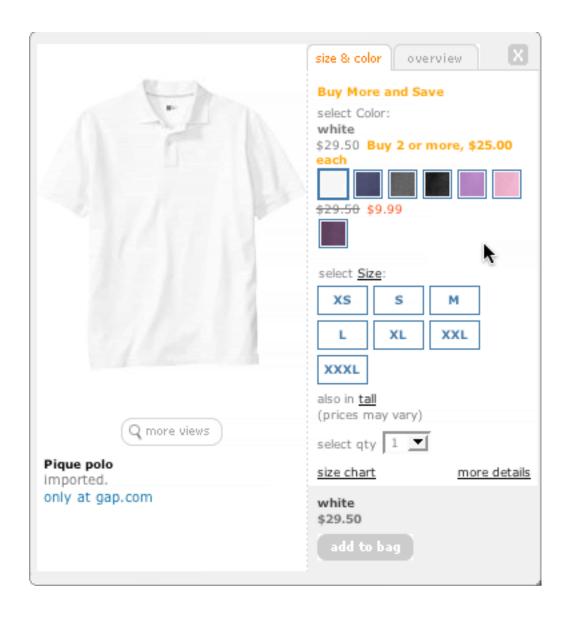




- Microsoft Vista/Office 12
  - Hover over gallery item
  - Shows live preview without committing
  - Only on click is the preview accepted
    - At which point the menu goes away and selection is retained
    - Otherwise mouse out returns to normal view









- Distracting or narrowing? When live search works
- Search is hard to narrow without distracting Its only distracting when I don't like the results
  - Google suggests information I don't want distracting
  - Yahoo! Instant search narrows too quickly
  - Auto complete is a bounded problem easy to narrow
  - Odyssey of Y! Mail Beta Search
- Obvious conclusion
  - The results are direct results-- not indirect results
  - The results are actually narrowing and not diverging
  - The results are narrowing and yet not distracting



- In context feedback should
  - Not disturb the unrelated elements on the page
  - Be close in proximity
  - Either animated or clearly visible
  - Be transient
  - Not jerky (distracting)



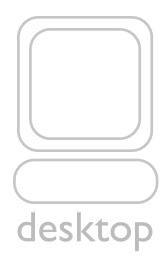
## 3

### Offer an invitation

Rediscover hover

Use invitations to aid in discoverability
Use lightweight events as the welcome mat
Don't confuse invitation with action - keep it safe
Invite, don't proselytize





hover blur focus Click key
shiftclick doubleclick
drag dragdrop dragflipdrop
shiftdoubleclick tripleclick shifttripleclick

hover blur focus Click key shiftclick doubleclick drag dragdrop dragflipdrop shiftdoubleclick tripleclick shifttripleclick



hover blur focus Click

key shiftclick doubleclick dragdragdrop

hover blur focus click key shiftclick doubleclick drag dragdrop



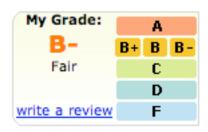
## Invitation. Cursor Invitation. Drop Invitation. Tool Tip Invitation. Hover Invitation.







List	5
	Remove this item
	Add item or I'm done adding items
	Make a new list
	i i





### classic



\$9.99-\$29.50 Buy More and Save



double mini striped pique polo \$29.50 Buy 2 or more, \$25.00 each See All



allover striped pique polo \$29.50 Buy 2 or more, \$25.00 each See All



rugby stripe pique polo \$29.50 Buy 2 or more, \$25.00 each See All

<b>6</b> 0	From	Subject
	reter boersing	ווט טון .טא
7	Yahoo! Toolbar	Welcome t
	Weekend Extra	5 Tips for



Γο see a prodι	ct preview	in action	, hover over	the link below.
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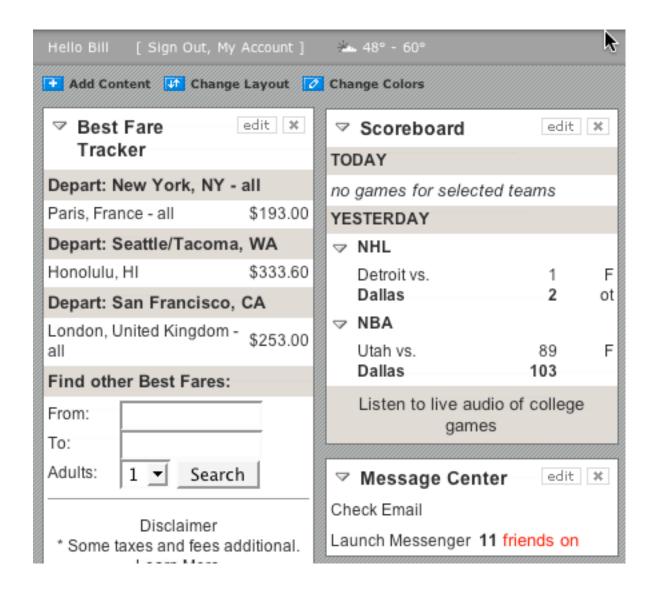


Forty Associates recently added product previews to their Web site as part of a small beta program. During the beta, visitors to Associate sites who viewed a product preview clicked through to Amazon.com over 4% of the time; those clicks resulted in a purchase nearly 6% of the time.

Now we're opening the beta up to all Associates to further improve product previews. The first 500 Associates who refer a sale through a product preview-enhanced link will receive a \$5 Amazon gift certificate. Click here to join your fellow Associates in beta testing product previews.

Don't worry if you don't already have Basic Display Product Links on your Web site. You can create them as part of the sign-up process. <u>Click here</u> for answers to questions you might have about the beta program.







### Students to Enroll -

	Crew Id	Last Name	First Name
3	349394	Craft	Adrian
3	432939	Douglas	Elayne
3	468370	Hill	Petra

DEC 2005								
M	Т	W	Т	F	S			
			1	2	3			
		7			46			
	0		0	9	10			
000322/ Peterson	_							
		139204/Miller						
12	13	14	15	16	17			
19	20	21	22	23	24			
	0.7	00	20	20				
20	21	20	29	30	31			
	5 600922/Peterson 12	5 6 600922/Peterson 12 13	M T W  5 6 7 600922/Peterson 999300/Barnes 344935/Smith 139204/Miller  12 13 14	M T W T  1  5 6 7 8 600922/Peterson 999300/Barnes 344935/Smith 139204/Miller  12 13 1 14 15	M     T     W     T     F       1     2       5     6     7     8     9       600922/Peterson     999300/Barnes     344935/Smith     139204/Miller     15     16       12     13     14     15     16       19     20     21     22     23			



### Discovering Idioms

- Idioms must be discovered and learned
  - User is not even aware of inline editing on a web page
  - Challenge is how to get them to discover and learn the idiom
- Discovering Features
  - Features employing a learned idiom must be first discovered
  - Challenge is how to indicate an idiom is employed with the least amount of visual clues



- Help tip announcing the feature that employs the idiom
  - But users don't often read text
- One-Second Spotlight on tip to catch user's attention
  - Once they have successfully used feature, remove help text
- Help switch
  - Depress to see help bubbles, tips around the page
  - Combine with tip to spotlight the feature
- Tour
- Hover techniques



# Use dynamic space

Planning the backstage

Use overlays and expands correctly

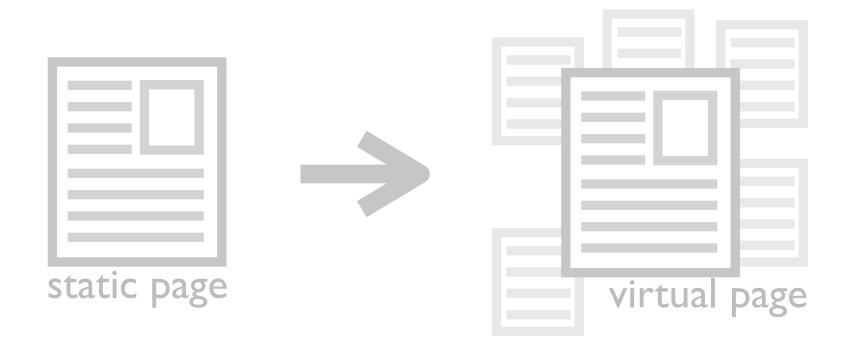
Use time to your advantage

Use slide, zoom, flip, lens, overlay to extend space

Use transitions to introduce new characters

Use zoom to focus on detail



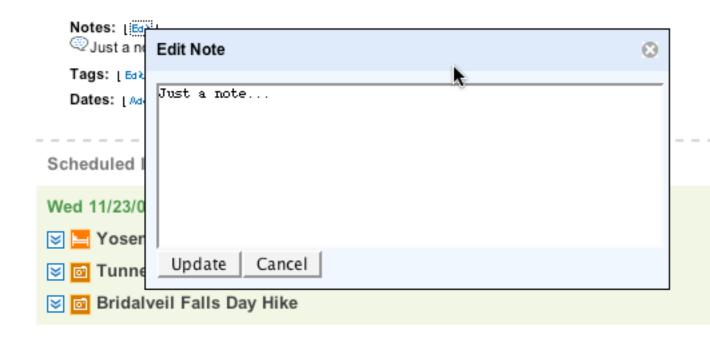




Detail Zoom. Opacity Focus.
Configurable ModuleFaceplate. Configurable
Module-Flip It. Configurable
Module-Inline Configure.
Configurable Module-Slide
Out Drawer. Slide Out. Flip.
Opacity Fade.



- Overlays float above the document layer
- Does not disturb the page
- Use overlays for
  - Information that is not part of collection
  - Something temporarily has priority, focus
  - To replace page transition
  - For transient input
  - For contextual information

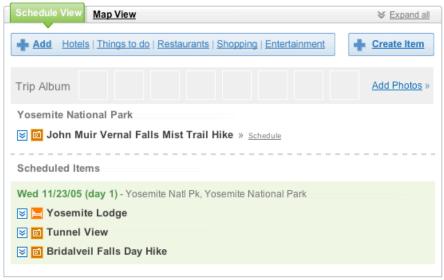




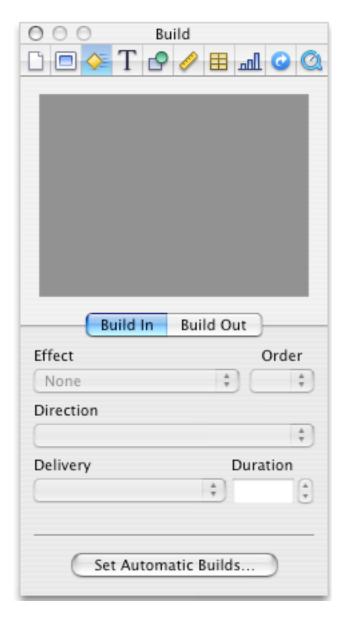
- In context panels expand/collapse in place
  - When one of many can be manipulated
  - To manage large collections
  - To manage navigation container
  - To manage content container



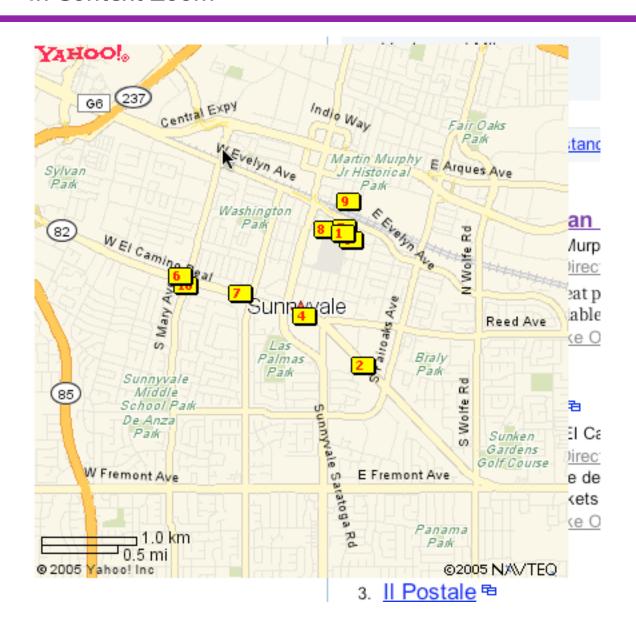














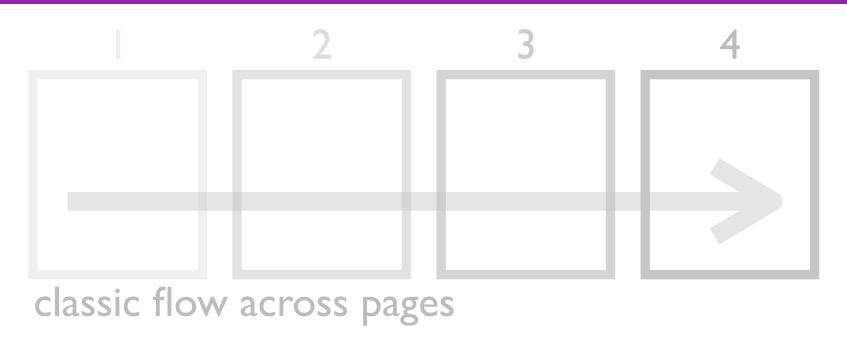
- Diminish disruption to the flow
- Use transitions to communicate origin, destination
- Use transitions to communicate symmetry of action
- Discoverability. Users may not discover your hidden areas. Use invitations to expose where hidden areas are



## Cross borders reluctantly

Page boundaries cause mental interruptions
When paging make it lightweight as possible
Use lightweight in-context popups to stay in page





2 3 4

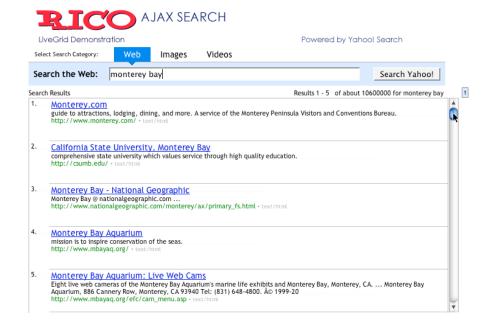
rich flow within page

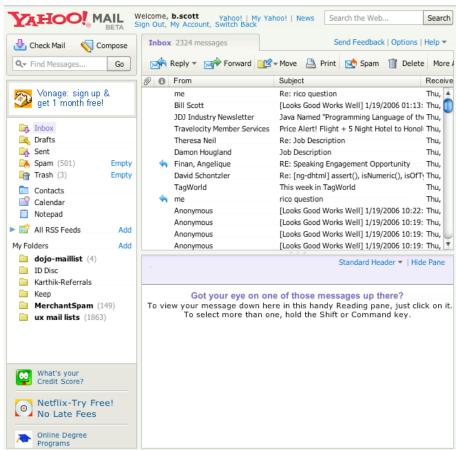


**Endless Scrolling. Expandable Paging Boundary. Fresh Content. Hover Detail. In Place Drill Down. Inline Assistant.** Inline Validation. Validate Then Suggest. On Demand Refresh. Resizable **Modules. Scrolling** Modules.



### Rico LiveGrid





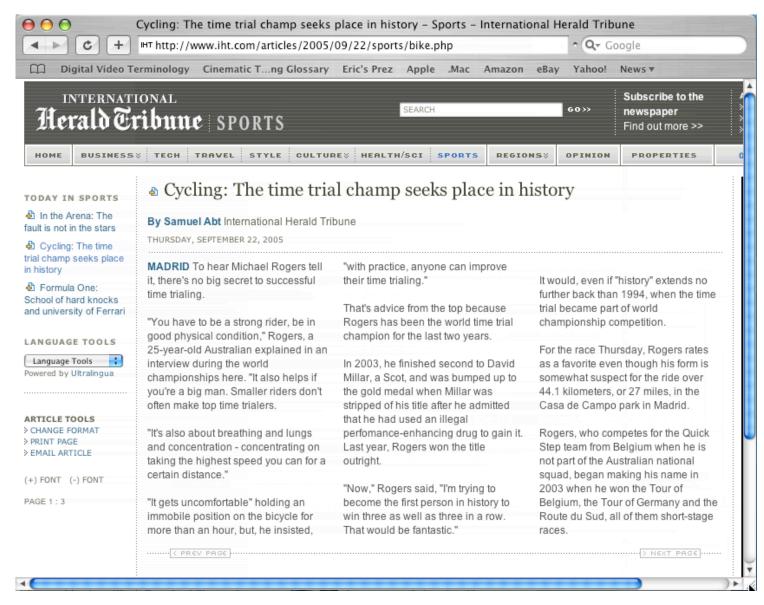
Yahoo! Mail Beta (Oddpost)



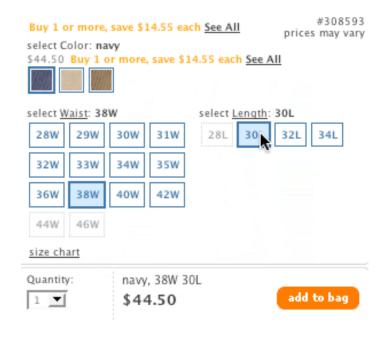
- Scrolling search
  - Normally only the first few results matters
- Scrolling collections
  - Very useful, sorting & scrolling used to explore the results
  - Not sure what is useful
  - Each item is unique in specific attributes
  - Example: games, merchandise, mail messages, photos
- Is the data naturally chunked?
- Can you solve the dual scroll bar problem?
- Will sorting, filtering, exploring be important?



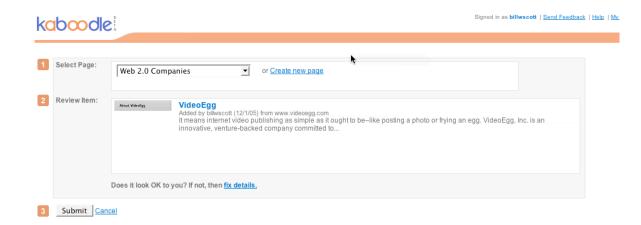
## At the very least make your paging fast

















### Required information for Google account

Your current email address: someone@somewhere.com

e.g. myname@example.com. This will be your username and sign-in.

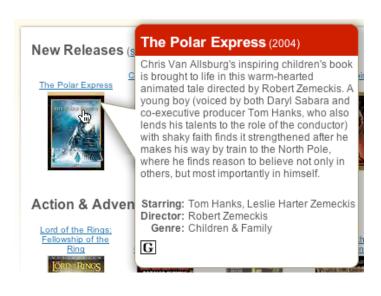
Choose a password:

Minimum of 6 characters in length.

Password strength: Too short

Y.

- The state of the s
- For introduction of features
- For giving instruction
- For revealing information
- For interrogative feedback
- For obtaining input
- For important interruptions
- For indication of status or progress
- For offering an invitation



- Make activation & deactivation feel lightweight
- Avoid using secondary browser windows
- Use visual styles that suggest lightness
- Think of popups as auxiliary areas of the screen



- Invitation
- Activation
- Expand
- Collapse
- Move
- Resize
- Close

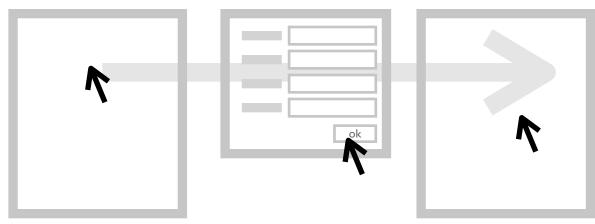


## Leave a light footprint

Use hover, blur, focus, click as footprints
Keep actions immediate and light
Watch your click weight
Design for engaging moments
Use invitations

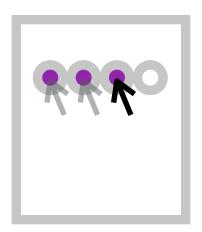






heavy click-weight





light-weight actions



Auto Save. In Context
Tools. In Page Action.
Remembered Collection.
Remembered
Preferences. Auto Form
Fill. Live Ratings.



### 1 2 3 4 >> See All

### straight fit



loose staight fit (sandblasted vintage) \$49.50



straight fit corduroy pants \$44.50 Buy 1 or more, save \$14.55 each See All



straight fit (blasted black) \$49.50

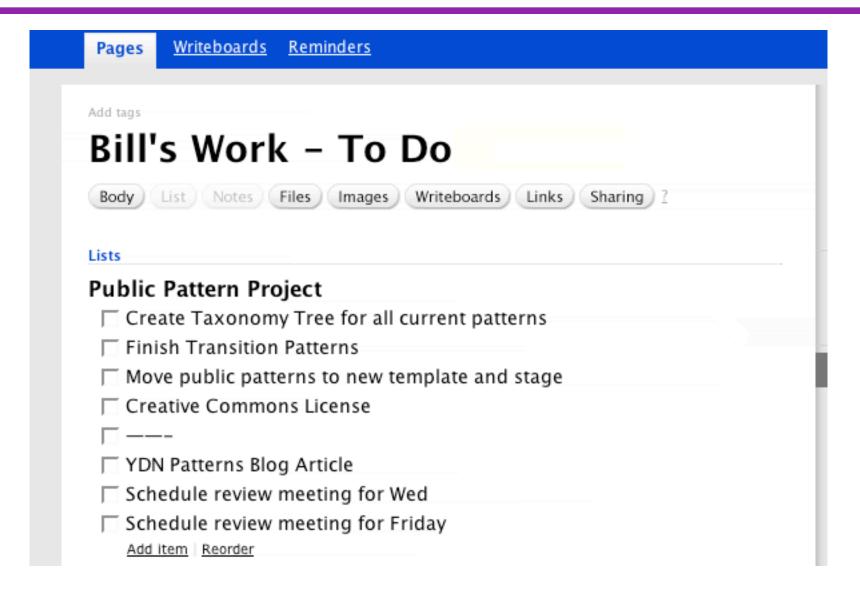


straight fit (dark authentic) \$44.50



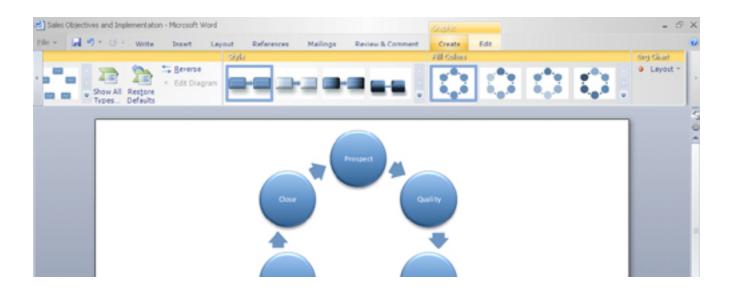








### Microsoft Vista, Office 12 Contextual Command Tabs





#### RECOMMEND THIS STORY

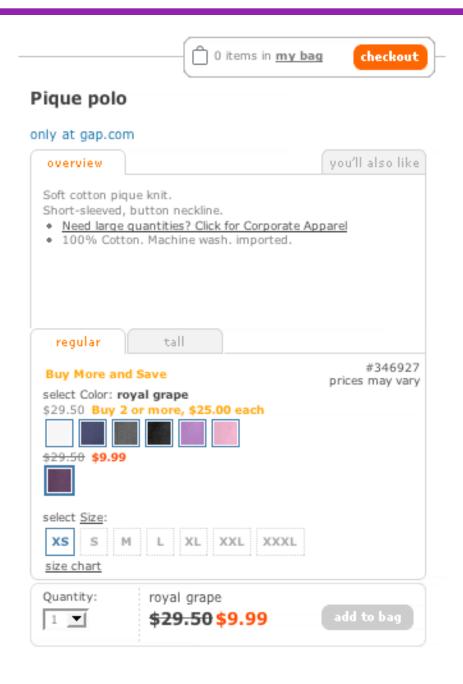










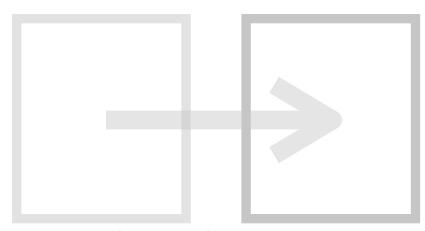




## **Show transitions**

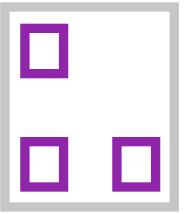
Keep transitions to a minimum; communication is the key Engage the user during longer transitions Communicate status & progress for waiting transitions Communicate change for state transitions Show relationships for relational transitions





page-based transitions





multiple transitions, single page



Transition. Brighten Transition.
Cross Fade Transition. Dim
Transition. Expand Transition.
Fade In Transition. Fade Out
Transition. Flip Transition.
Move Transition. Self-Healing
Transition. Shrink Transition.
Slide Transition.



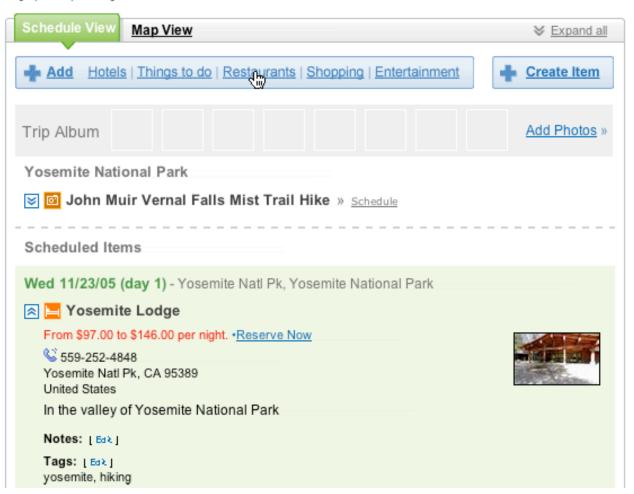


#### Yosemite Thanksgiving [Edit]

A trip to YOSEMITE NATIONAL PARK Fun in Yosemite with Daniel & Kids

This trip is public ◆Sharing settings ◆Email this trip

[ Update photos ]







#### bags



Premium canvas duffle bag \$49.50



urban nylon sling \$34.50

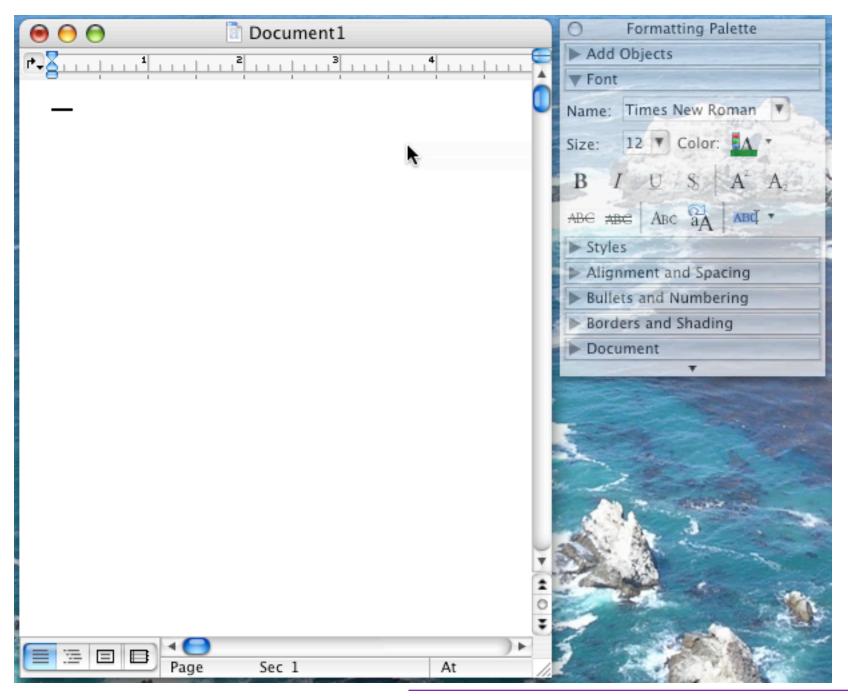


urban nylon backpack \$29.50

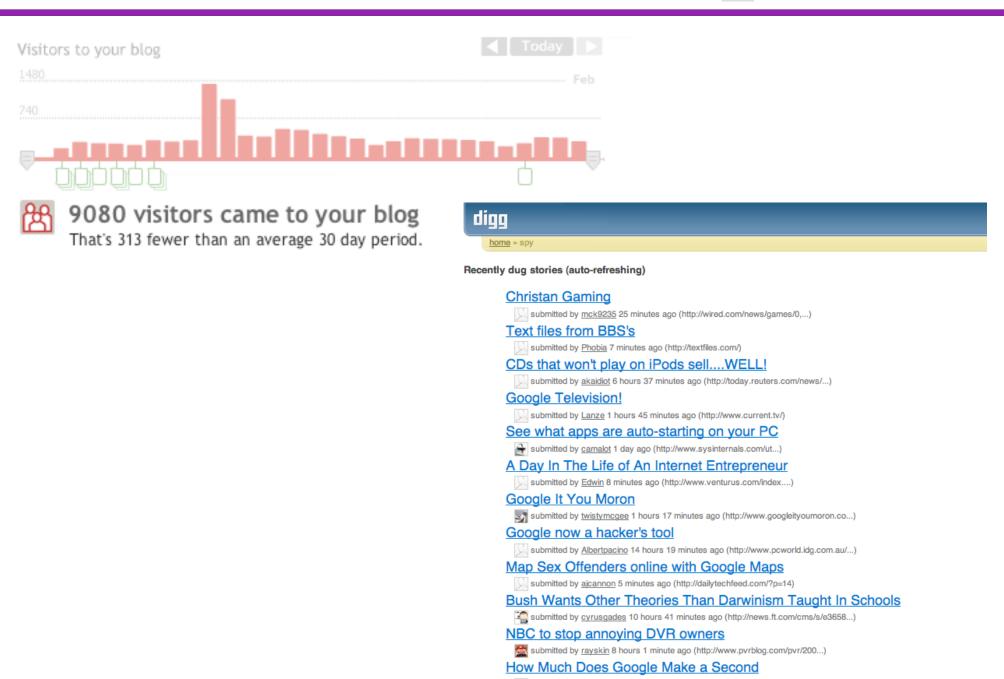


nylon commuter bag \$68.00











	Lists
	☐ Remove this item
	☐ And this one too
⊞ <u>Ed</u>	adding a new item
	Add item or I'm done adding items



#### Fantasy Games Archive Privacy Settings



You have not played any Fantasy Games

Search:	Yahoo! Sports	▼ for	
Search.	Tarioo: Sports		

Copyright © 2006 Yahoo! Inc. All rights reserved. Privacy Policy - Terms of Service - Copyright/IP Po

#### · Starter Web Page

Publish basic information on a placeholder web page — until you're ready to upgrade to a full web site.

View a sample.

#### Domain Locking

Safeguard your domain from hijacking and unauthorized transfers with domain locking. Yahoo! Domains secures your domain for you — and only you.

#### Domain Forwarding

Point your new domain name to a web site you already have with domain forwarding. This is a useful feature if you own multiple domain names.

#### Complete Domain (DNS) Control

Advanced users: You can easily edit your name servers and MX, A, and CNAME records for complete control over your domain.

#### Email Forwarding

Unlimited forwarding of messages sent to your new domain name into your free Yahoo! email account.



Leam more...





- Brighten. Raise importance
- Cross Fade. One leaves, another enters
- Dim. Lower importance
- Expand. Open in context of others
- Fade In. Good for adds
- Fade Out. Good for deletes
- Flip. Edit configuration
- Move. Change relationship, tweening
- Self-Healing. After delete or "yank"
- Shrink. Close in context of others
- Slide. Similar to expand but child window



- Cut transitions in half?
- Try to communicate without transitions, then turn up the contrast knob -- adding them in incrementally
- Use when
  - Multiple items change
  - In context deletes, adds, moves
  - Items hide/show
- Don't overuse



# 8

## Think in objects

Think rich internet objects instead of documents

Objects have identity (recognizable)

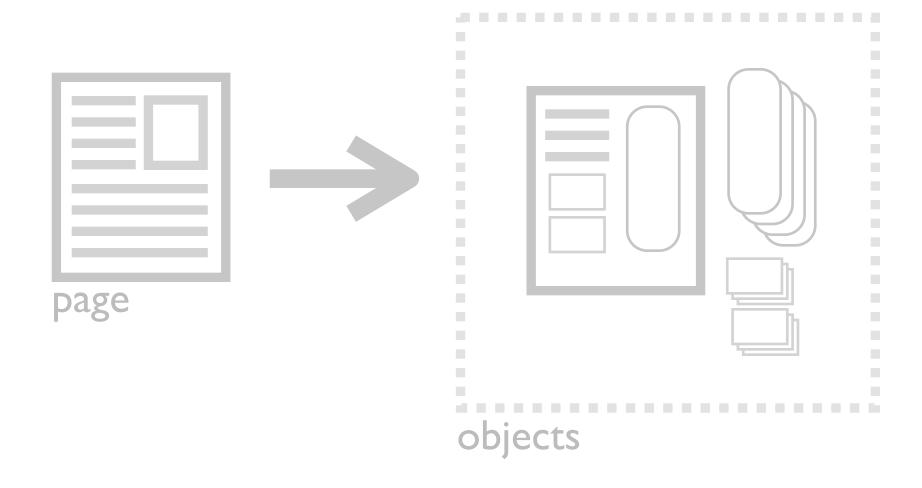
Objects have a life (permanence)

Objects are owned (personal)

Objects are shareable (community)

Objects have personality (engagement)





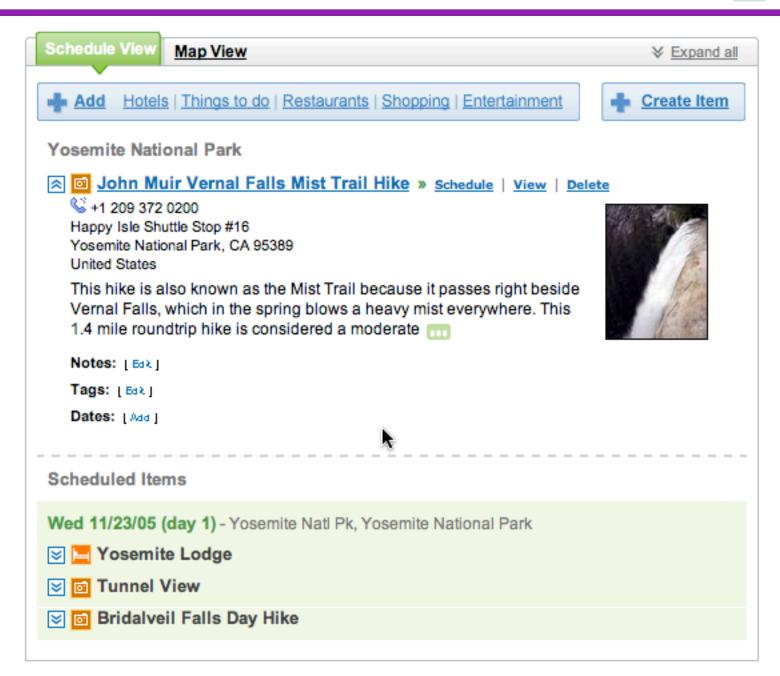


## Rich Internet Object. Available. Selected. Identifiable Object.



	Page-Based Web	Rich Internet App		
Richer Model	Document	Rich Internet Object		
Longer Lifecycle	Transient	Permanent		
Community/ Sharing	Bookmark	Content, properties, and behaviors		







- How to distinguish from content?
- How to share, mail, print, etc. (in context tools?)
- How to create collections and share
  - Photos, albums
  - Trips, sets



# 9 Tell a story

As a designer you are the story teller, so tell the story Design for interesting moments

Cast your events and actors carefully

Use storyboarding

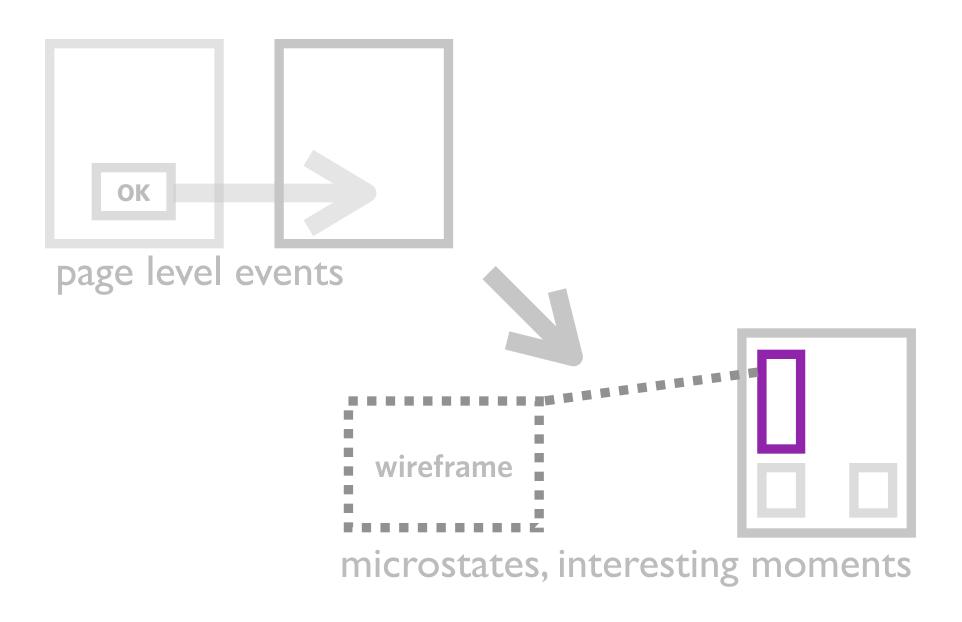




Wireframing Ajax is a [expletive]... We have to determine all of the things a user might do, and wireframe the blessed moments of each possibility."

- Jeffrey Zeldman, Web 3.0







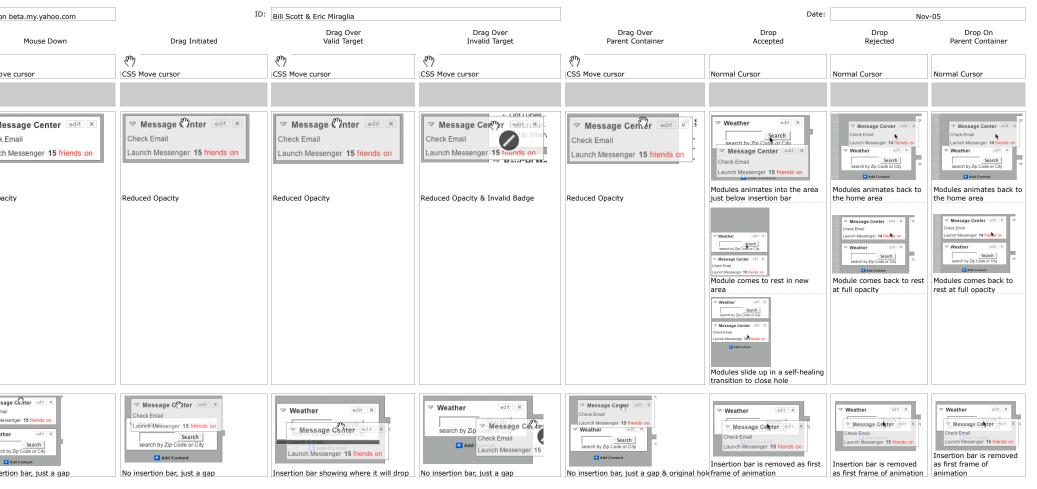
# Time

Detail

Context



#### Drag and Drop Modules - Interesting Moments Grid





## Drag & Drop Interesting moments

- Page load
- Mouse hover over drag-able object
- Mouse down on drag-able object
- Drag initiated (mouse down, mouse moves >= 3 pixels)
- Drag over valid target area
- Drag over invalid target area
- Drag over original location
- Drop accepted
- Drop rejected
- Drop on original location



## Drag & Drop actors

- Page
- Cursor
- Tool Tip
- Drag object
- Drag ghost
- Original location
- Drop target

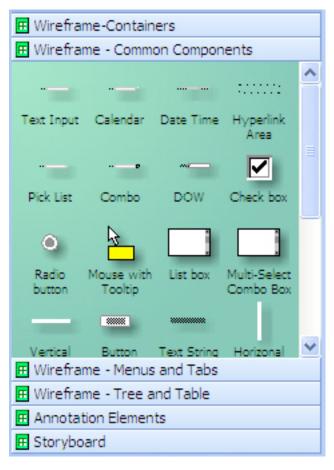


#### Storyboarding

- Documentation has centered around layout, priority and behavior of content and functional items
  - Interactions typically defined as discrete states (pages)
  - Multiple page flow diagrams are now a single page with rich interactions
- Storyboarding provides a way to capture design flow



- Animations can provide timing in context
- Hard to capture branches
- Tools. Visio, Photoshop CS2, etc.







- Apple to host media event in Tokyo - 15 hours ago
   iPod chip supplier hints at upcoming plans - 21 hours ago
   Apple unveils faster iBooks - 1 day ago
- Connection Manager

  The Connection Utility is a wrapper around asynchronous and synchronous thtp requests made via the XMLHTTPRequest object. The utility provides browser abstraction, object pooling, error handling, status indication, and callback functionality, enabling rapid prototyping and construction of user interactions involving asynchronous transactions between client and server.

#### Key Frames/MicroStates



Participant Interface Notes				
	Register page			
	18 July 2005			
Version:	1.0			
Function	al Notes:			

The registration page allows users to signup for Participate simply by entering a user name and a valid email address.

- Provide the user with some notification of what the email a friend action is worth in Participant points to encourage follow-through and introduce non-registered users in the Incentive program.
- On click, commit the user's entered email addresses and message, send to target addresses, and link user to a confirmation page
- For users who have invited friends over email, provide reporting on # invited and # accepted. Hide actual names by default, but allow users to view them by clicking the "view" link

When user completes name entry and clicks to email entry, compare the entered name to previously claimed names on the site. If the name is a match, generate alternates that can be clicked on to fill the entry field.

The name ryan\_c is unavailable. How about: ryan\_c\_01 iam\_ryanc

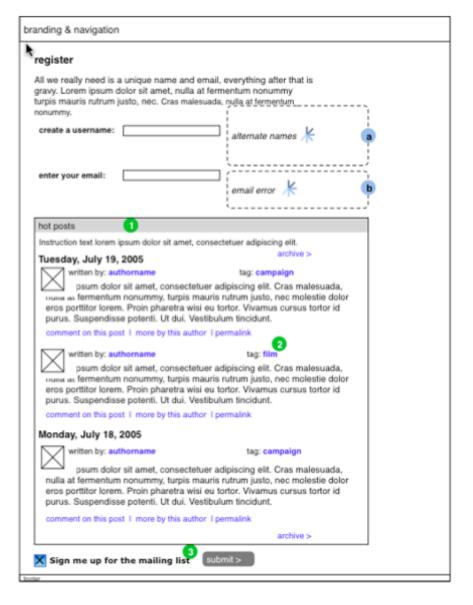


User makes selection or inputs new name that is valid & available:

That name works. Thanks!

b Is it possible to treat the "submit" button click as a call to validate the form of the user's entered email? If there are any formating errors, alert the user and prevent the page from loading the confirmation.

The address you entered isn't formatted properly.





DESIGNING FOR AJAX 133



# Detail

Storyboard Grid

# Context

Storyboards, Wireframes + Key Frames



Photoshop CS2 animations

http://looksgoodworkswell.blogspot.com/2005/11/animating-interactions-with-photoshop.html

Boxes and arrows article

http://www.boxesandarrows.com/view/
storyboarding\_rich\_internet\_applications\_with\_visio

• Interesting Moments Grid http://looksgoodworkswell.blogspot.com/2005/11/interaction-matrix.html

Interesting Moments

http://looksgoodworkswell.blogspot.com/2005/12/storyboarding-interesting-moments.html



# Participate?



## Have You Seen a Cool Example?

### Tag It!

- Use 'ypatternexample' tag in either delicious, Y! My Web2 or Scuttle
- Use whatever other tags to identify the pattern name you think it belongs to
- Write in the comment what is interesting about it or other thoughts
- Post It! Post video capture, screenshot or design
  - http://twiki.corp.yahoo.com/view/Ued/YPatternExamplePage



## Got Code?

Post It!
 http://twiki.corp.yahoo.com/view/Ued/YPatternExamplePage

YTWiki > Ued > YPatternExamplePage

Edit Attach Printable

### Design Pattern Examples Page

- Seen a cool pattern lately? Got something cool you are designing or prototyping? Got a great illustration of an existing pattern? Just add the URL to your screenshot or video as a new comment to this page.
- Got code that illustrates or implements a pattern? Post the URL to your code demo page here.
- Got design comps that illustrate or implement a pattern? Post the URL to your design comp page here.

Enter the URL to	your screenshot	or video, your	demo code p	age or your	design co	mp page a	along wi	th the
pattern name and	d a short description	on in the comn	nent area belo	ow:				

pattern name and a short description in the comment area below:	
	Add comment

Example: http://linkToMyScreenshot.com - Some Pattern Name - Some description (type: screenshot, video, code, design)

