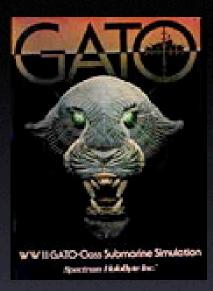
designing for ajax

Bill Scott Yahoo! Ajax Evangelist b.scott@yahoo.com



background.





JavaScript for Rich Internet Applications

An open-source JavaScript library for creating rich internet applications. Rico provides full Ajax support, drag and drop management and a cinematic effects library.

BACKGROUND

Rico is just one small part of a larger effort at Sabre Airline Solutions to create a suite of rich internet components, behaviors and effects for the web

The library is a fully object-oriented JavaScript library. Recently we refactored the library to extend the excellent prototype. is effort from the Ruby on Rails folks.

OPEN SOURCE

Rico is provide free and open-source (Apache 2.0 License) for either your personal or commercial use. <u>Sabre Airline Solutions</u> retains the copyright on the Rico code produced at Sabre.

BROWSER SUPPORT

Rico has been tested on IE 5.5, IE 6, Firefox 1.0x/Win, Camino/Mac, Firefox 1.0x/Mac. Currently there is no Safari or Mac IE 5.2 support. Support will be provided in a near future release for Safari.

AJAX SUPPORT

Ajax is the term that describes a set of web development techniques for creating interactive web applications. One of the key ingredients is the JavaScript object MinittpRequest. Rico provides a very simple interface for registering Ajax request handlers as well as IrML elements or JavaScript objects as Ajax response objects. Multiple elements and onlycts this yeb updated as the recitot of one Ajax request. Want to get started learning? Check out our demos and then read our two Ajax tutorials on the Documentation page.

Desktop applications have long used drag and drop in their Desktop appications have long used orige and origin their interfaces to simplify user interaction. Rico provides one of the simpler interfaces for enabling your welface application to support day a trion jour, but register any HTML element or JavaScript object as a draggable and any other HTML element or JavaScript object as a drop zone and Rico handles the rest.

CINEMATIC EFFECTS

When actions are no longer occurring just at the page level but within the page itself, more clues are required to clue the user on what has transpired. Cinematic effects such as scaling and smooth size intransitions can communicate change in richer ways than traditional web applications have explored before Rico provides several cinematic effects as well as some simple visual style effects in a very simple interface.

BEHAVIORS

Take some raw HTML and sprinkle in some behaviors and what do you get? Well in Rico you can get an <u>Accordion</u> component like those found in Macromedia Flex and Laszlo. Just nest some DIVs and with one line of JavaScript turn your div panels into an accordion. And the latest behavior is the LiveGrid. LiveGrid allows you to connect an Html table up to a stream of Ajax responses. Ajax requests are automatically called during table scrolling. The result is now Html tables can hold an unlimited amount of data scrolled into view on the fly as needed! More





NEW! LiveGrid Behavior!

Check out the Alternative to Paging!

The same in in the same

State State





YAHOO! DEVELOPER NETWORK

Yahoo! Developer Network > Design Pattern Library

- NAVIGATE

▶ Faceted Navigation Fly-out Menus Horizontal Bar Hub and Spoke Left Navigation

Module Tabs Navigation Tabs

▼ EXPLORE DATA

Auto Complete Calendar Picker To: vu Pagination

Item Pagination Search Pagination

▶ ORGANIZE DATA

▼ GIVE FEEDBACK - Ratings & Reviews

Rating an Object Writing a Review

▶ PERFORM ACTION

■ CUSTOMIZE

Drag and Drop Drag and Drop Modules

Drag and Drop Objects

▶ In Page Editing

Sliders

CALL ATTENTION

■ IMPROVE READABILITY

- Ratings & Reviews Review Architecture

GROUP RELATED ITEMS

▶ ORGANIZE SCREEN/PAGE

Welcome

Welcome to the Yahoo! Design Pattern Library. We are very happy to be sharing our library with the design and development community. This is our first drop of what we hope to be a monthly release cycle for the publication of patterns. In many cases we

have bundled the patterns with pointers to related code from the Yahoo! User Interface Code Library. We hope this is a useful resource and look forward to your feedback.

What's a Pattern?

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

Recent Patterns



The user needs to enter an item into a text box which could ambiguous or hard to remember and therefore has the potential to be mis-typed.

AP Reuters | AFP | USATOR

· Cargo Ship Blocks Sue



International Observers - Dall Chaus Divide Am

Module Tabs The user needs to navigate through one or more stacked panes of content without refreshing the page.

Results Page: 1 2 3 4 Next

Search Pagination

The user needs to view a set A user wants to quickly

of search results ranked by leave their opinion on an relevance that is too large to object, with minimal

Travel > Guides > North Amer ica > United States > New Yor New York City > Things to do

Breadcrumbs

User needs to navigate potentially large quantities of information efficiently. without becoming lost.



Drag and Drop Modules

The user needs needs to re-arrange the layout of modules on a web page directly with the mouse

First | < Prev | Next > | Last

The user needs to view data



Navigation Tabs

Rating an Object

flow they are involved in.

The user needs to navigate through a site to locate content and features and have clear indication of their current location in the site.



Object Pagination

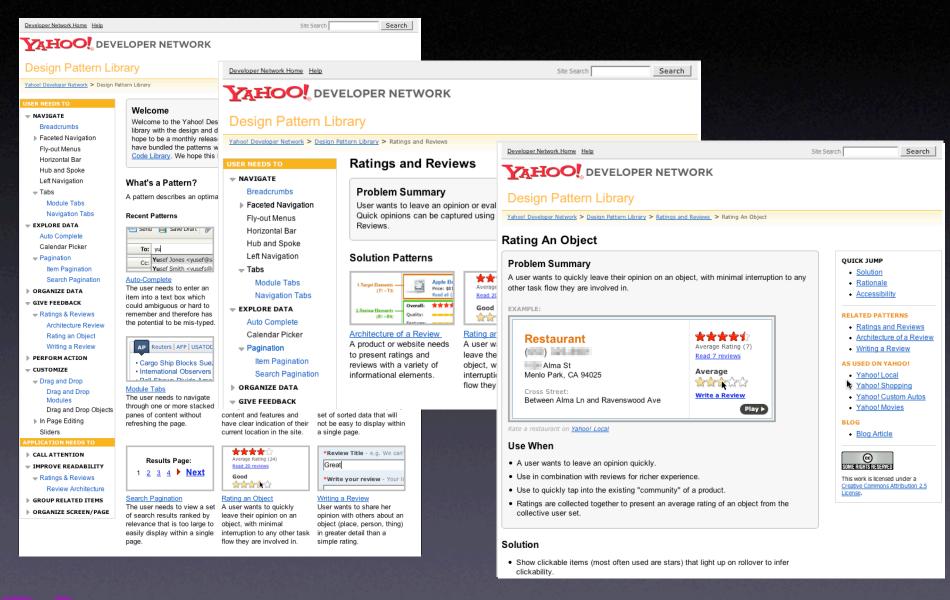


Writing a Review

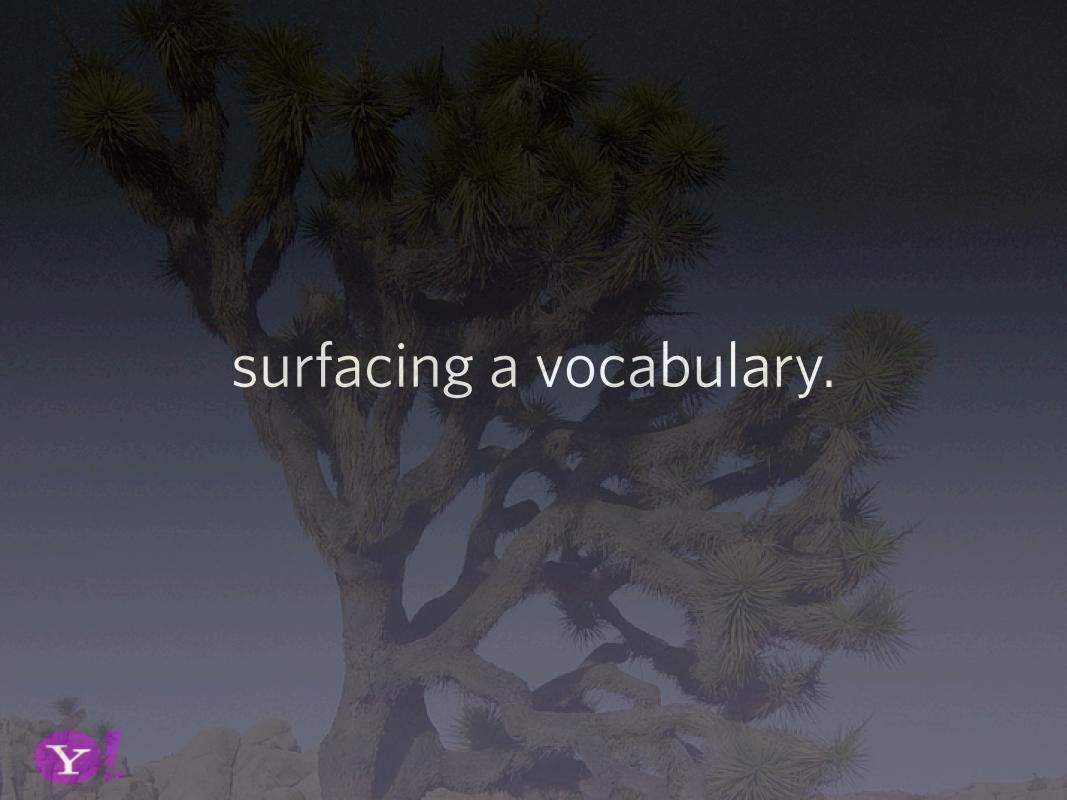
User wants to share her opinion with others about an object (place, person, thing) easily display within a single interruption to any other task in greater detail than a simple rating.



developer.yahoo.com/ypatterns







current patterns.

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. Transition. Dim. Brighten. Cross Fade. Contract. Expand. Fade In. Fade Out. Move. Self-Healing. Slide. Highlight. Invitation. Cursor Invitation. Drop Invitation. Tool Tip Invitation. Hover Invitation.

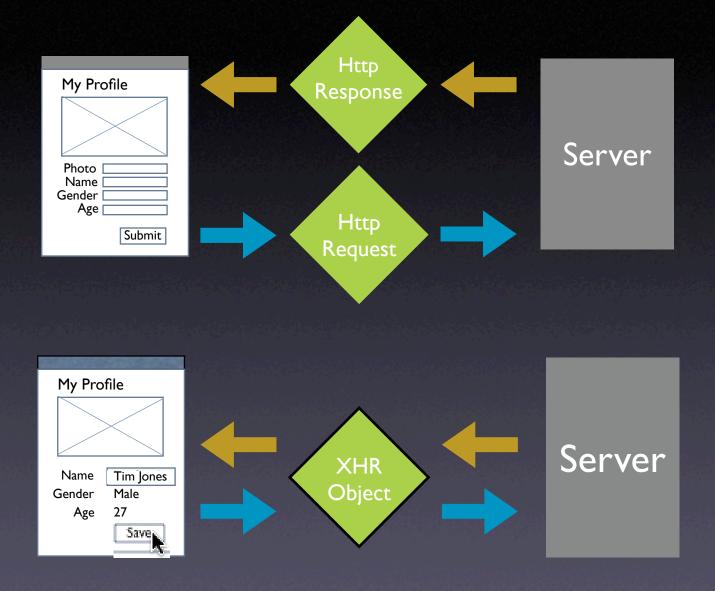


rich patterns.

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.

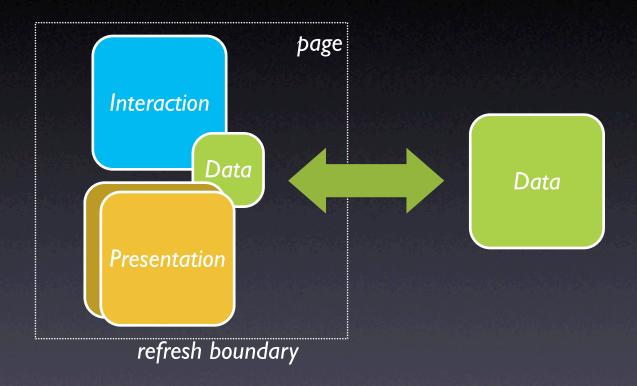


classic model. rich model.



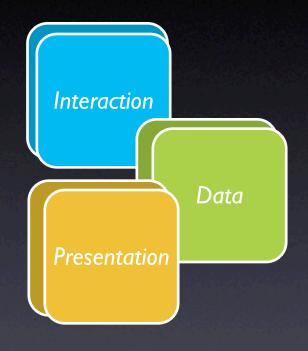


interaction. presentation. data.





data near. interaction rich.

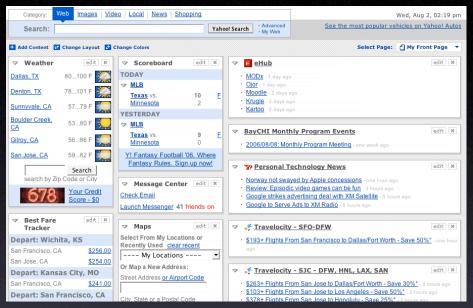




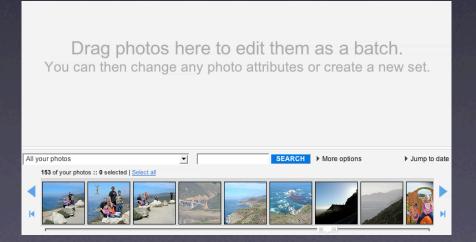
design principles



principle. make it direct.



pattern. drag and drop.





pattern. inline editing.



pattern. in-context tools.



What about discoverability?



State park near our home in San Jose

Click to edit

5 photos | Add a comment?

Photos are from 22 Oct 05.



What about discoverability?

Use direct editing on page content

What about save/cancel?
Avoid page jitter
Reduce the feeling of modes



State park near our new home in San Jose (next to Milpitas)

SAVE

OR

CANCEL



What about discoverability?

Pick Up at the Store
☐ Orange Juice
☐ Tomatoes ☐ Lettuce
☐ Bread
Chips Add Item
Make a new list Reorder lists
Remove from sidebar, Delete this page, Email me this page Send email to this page: miles12betty@billwscott.backpackit.co
Changes Help Text Formatting Weblog Forum Privacy

Use direct editing on page content

What about save/cancel?
Avoid page jitter
Reduce the feeling of modes

	lantzilla pro says:
	with biscuits and gravy and all the fixins Posted 16 hours ago. (permalink)
Add you	ur comment
2	
(Some HTM	is OK)
(Some HTM	L is OK.)

☐ Create a home page for the VisDe to make findability easier



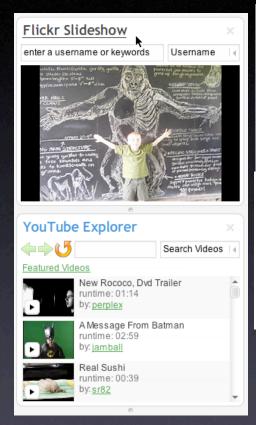
Account for experimental patterns as well as established patterns

Provide in-context tools

Only good for single operations
Can actually slow you down



What about discoverability?





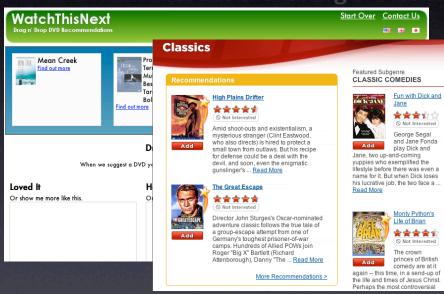
- DRAG Milk
- ☐ DRAG Bread
- ORAG Orange Juice 2
- ☐ DRAG Tomatoes
- ☐ DRAG Lettuce
- · What is spam?
- Can I transfer my message credits?
- How do I delete my HandyPay account?
- What if I didn't receive my full message package?
- I need to contact customer care regarding the Compose Text Message service.

Use direct editing on page content

What about save/cancel?

Avoid page jitter

Reduce the feeling of modes



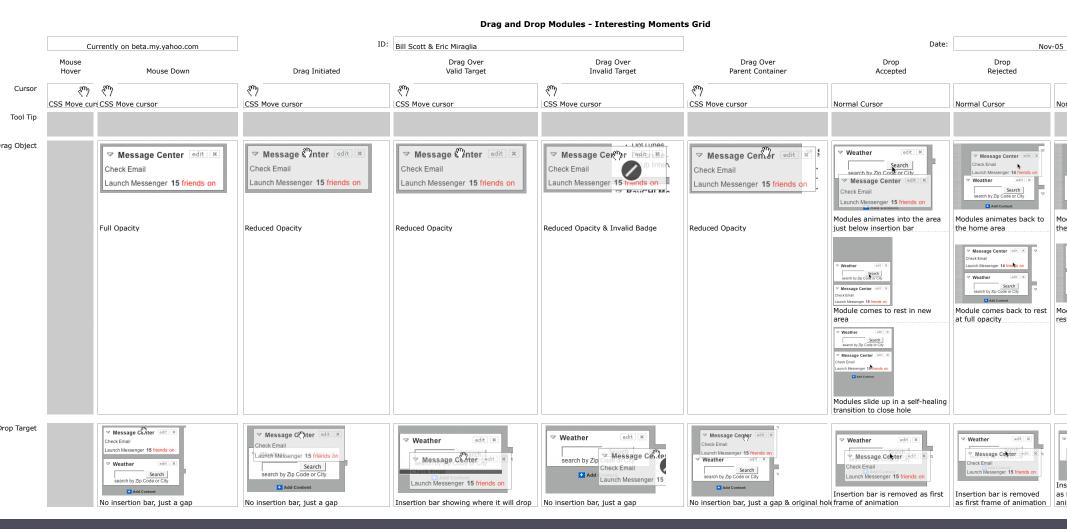
Use drag and drop where appropriate

Not for simply setting an attribute Good for layout changes or containment Needs transitions

Provide in-context tools
Only good for single operations
Can actually slow you down

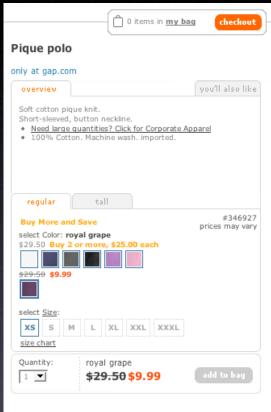


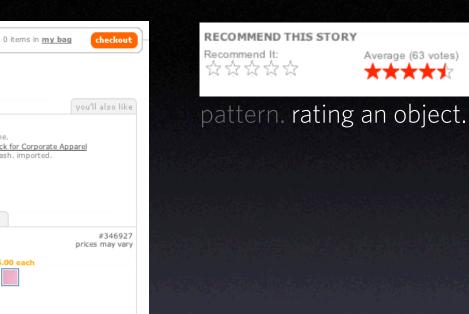
Take care of the interesting moments

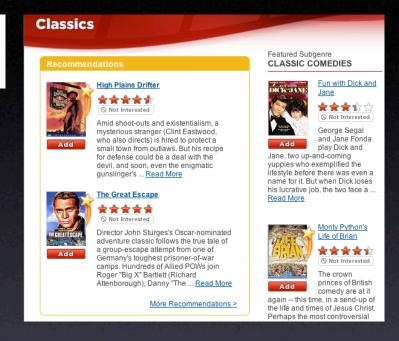




principle. keep a light footprint.







pattern. remembered collection.



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

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

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

pattern. in page action.

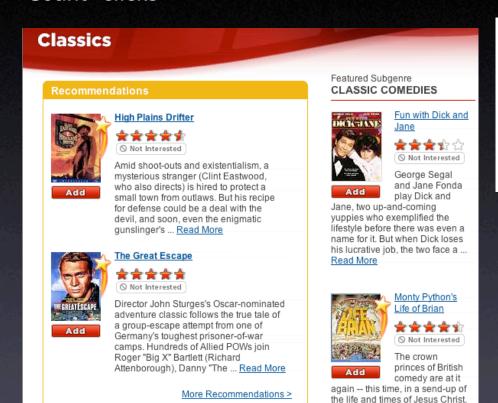
diaa it



category: apple

Watch your click weight

Keep actions immediate and light Count "clicks"



Perhaps the most controversial



282

diggs

digg it

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

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

60 comments blog this email this



Watch your click weight

Keep actions immediate and light Count "clicks"

Design for engaging moments

The Critics: My Grade: A Rate this В Movie! 14 reviews C Select grade Yahoo! Users: to the right D B+write a review F 13199 ratings

Use invitations Keep it fun, exciting and light Treat it like an impulse aisle





Watch your click weight

Keep actions immediate and light Count "clicks"

RECOMMEND THIS STORY





Use lightweight events

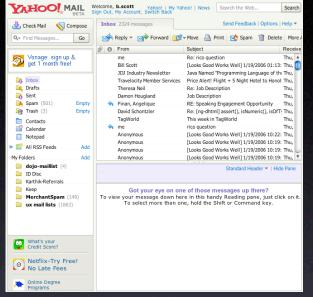
Hover
Blur, focus
Click. Avoid double-click

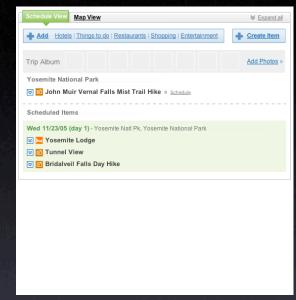


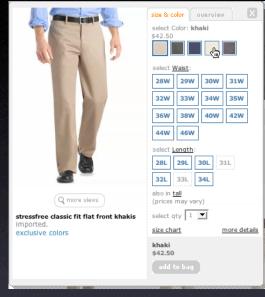
Design for engaging moments

Use invitations Keep it fun, exciting and light Treat it like an impulse aisle

principle. cross borders reluctantly.



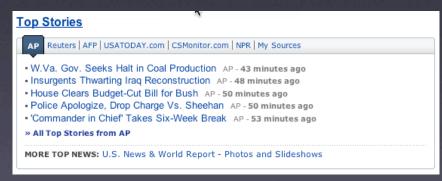




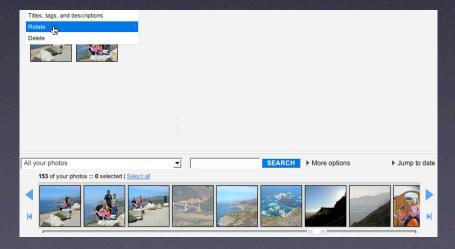
pattern. endless scrolling.

pattern. in-context expand.

pattern. inline assistant.



pattern. hover details.

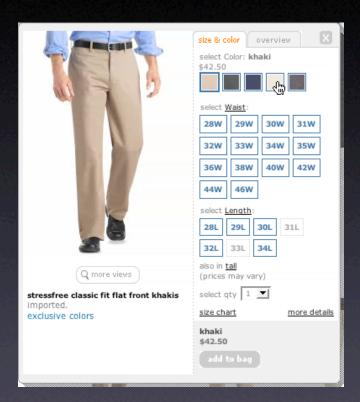


pattern. lightweight popup + lightbox



Rethink process flows

Its the user's model, not the page model Every page jump is a mental speed bump







Rethink process flows

Its the user's model, not the page model Every page jump is a mental speed bump

Rethink paging

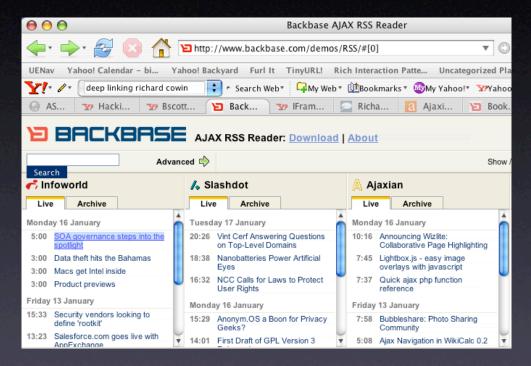
Its the user's model, not the paging model
Use scrolling for "owned" data
Watch out for dual scroll bar issue

Photo Click for info	Price	Bd/Ba Sq Ft	Address and Area Presented By	(Click F	More Virtual Tours	Watch	n out for dual so	croll bar issue
				TOT	A 1A	X SEARCH		
	\$1,750,000 Single Res	6+, 4+ 3700	14080 BEAR CREEK RD Boulder Creek, CA 95006 (San Lore Valley) Schwarzbach Associates	LiveGrid Dem Select Search Catego	onstration ory: Web In	nages Videos	Powered by Ya	
- ANA A	\$1,995,000			Search Images	flowers			Search Yahoo!
ATTIMITY OF	Single Res	6+, 4+	17617 MOUNTAIN CHARLIE RD LOS	Search Results			Results 1 - 5	of about 1580284 for flowers
T I I THE		5675	GATOS, CA 95033 (Unincorporated Los Gatos Mtns) Almaden Oaks Realtors		flowers 025 flowers021jpg 110k 29F. http://wp.li.ru/flowers 1024x768 - jpeg fmt - 0.3MB	eb2004 flowers022jpg 783	k 29Feb2004 flowers023jpg 186k	Ô
	\$2,286,000 Single Res	5, 4+ 4800	20930 PANORAMA DR Los Gatos, CA 95033 (Los Gatos M Alain Pinel Realtors		http://wp.li.ru/flowers	eb2004 flowers060jpg 134	lk 29Feb2004 flowers061jpg 120k	
	\$2,750,000 Single Res	5, 4+ 5000	155 LARITA DR Ben Lomond, CA 95005 (San Lorer Valley) Network Alliance Real Estate		flowers 045 flowers041jpg 277k 29F. http://wp.li.ru/flowers 1024x768 - jpeg fmt - 0.1MB	eb2004 flowers042jpg 125	sk 29Feb2004 flowers043jpg 744k	
	\$2,777,000 Single Res	5, 4+ 5819	777 HAPPY VALLEY RD Scotts Valley, CA 95065 (Scotts Val Linda Burroughs Real Estate	900	flowers 076 flowers072jpg 820k 29F http://wp.li.ru/flowers 1024x768 - jpeg fmt - 0.1MB	eb2004 flowers073jpg 160	lk 29Feb2004 flowers074jpg 120k	
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Rethink process flows

Its the user's model, not the page model Every page jump is a mental speed bump



Rethink paging

Its the user's model, not the paging model
Use scrolling for "owned" data
Watch out for dual scroll bar issue

Plan for linking, crawling and back button

Not everything is a single page application What will the user think the back button does?



cross borders reluctantly

Use overlays

For momentary interruption
Replace page transition
When editing an individual, more complex item
Be symmetrical
Not disturb the page

Starter Web Page Publish basic informa

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

View a sample.

The second secon

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

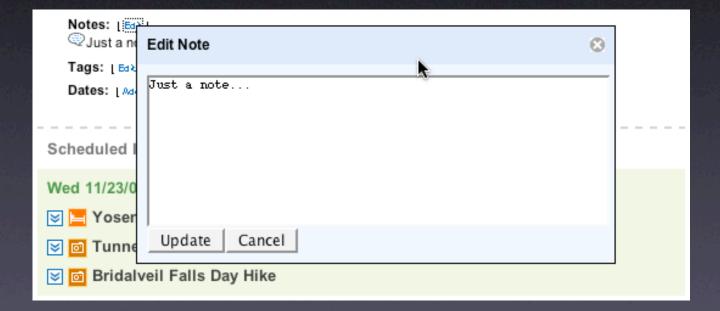
Point your new domain name to a web site you already have with domain forwarding. This is a useful feature if you own multiple domain names.

· 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.





Use overlays

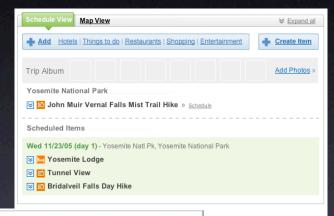
For momentary interruption
Replace page transition
When editing an individual, more complex item
Be symmetrical
Not disturb the page





Use in-context expands

For editing part of a collection Need to see surrounding context For managing content modules





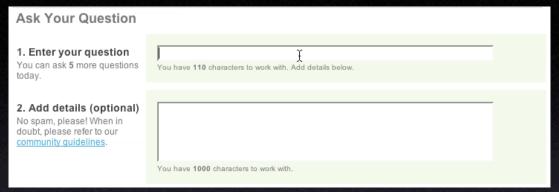


key principle

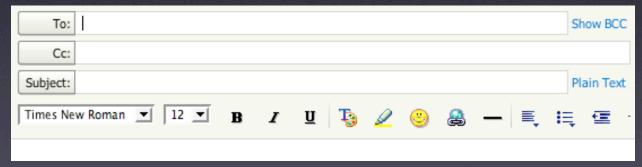
Prefer direct, lightweight, in-page interaction.



principle. give live feedback.



pattern. live suggest.



Find Athletes and Countries PRESENTED BY CHEVROLET **Medal Count** GERMANY 11 29 UNITED 9 25 STATES CANADA 10 24 AUSTRIA 23 RUSSIA 22 MY YAHOO! RSS » Full Medal Count

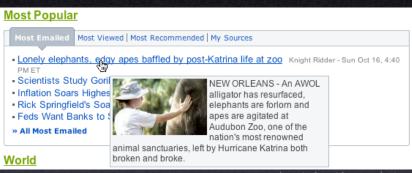
pattern. auto complete.



give live feedback

Keep the goal in mind

Design for immediacy Is it narrowing or is it distracting



Just-in-time data

Stu	dents	to Er	llonn						St	itudents to E	inroll —						
	Cren	w ld	Last Name	First Name					- 1	Crew Id	Last Na	iffie	First Name				
3	6009	922	Peterson	Shelley		,			- 6	3 600922	Peterson		Shelley				
	3493	394	Craft	Adrian						349394	Craft		Adrian				
	4329	939	Douglas	Elayne						2 432939	Douglas		Elayne				
- 2	4683	370	Hill	Petra						3 468370	Hill		Petra				
	9993	300	Barnes	James						2 999300	Barnes		James				
2	3449	335	Smith	James						344935	Smith		James				
	1392	204	Miler	Gordon						Z 139204	Miler		Gordon				
Cou	inse C	Calend	dar		DEC 2005	T	,	,	GI 4	ourse Calen			,	DEC 2005	7	,	•
	·						2			•		•			-	2	- 3
																	·
		-	•	5 6	7	8	9	10			4		6	7	8	9	10
		11	1	12 13	14	15	16	17		1	1	12	13	14	15	16	17
		18	В	19 20	21	22	23	24			8	15	20	21	22	23	24
		25	5	26 27	28	29	30	31		2	15	26	27	28	29	30	31

Just-ın-time logic



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 Yahoo! Shortcuts and common searches. Give it a spin! Type in these examples below, or try your own searches:

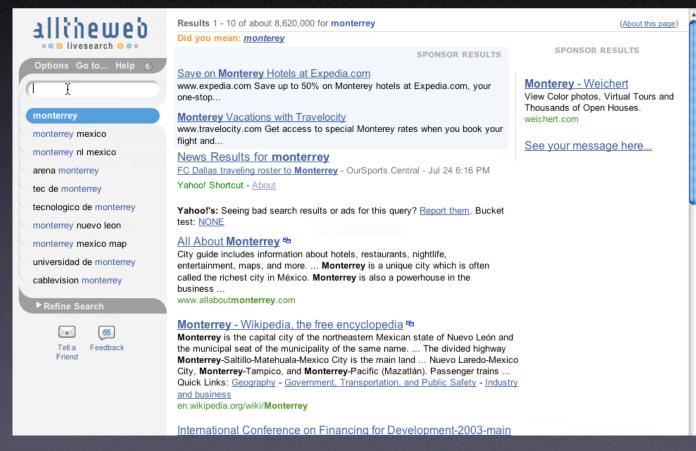
- · boston weather
- wikipedia
- nfl

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





Design for immediacy
Is it narrowing or is it distracting
Use feedback to boost confidence
Let the user iterate where possible





Design for immediacy
Is it narrowing or is it distracting
Use feedback to boost confidence
Let the user iterate where possible

Keep the user engaged

Time passes faster Look for engaging moments

Connecting...





Design for immediacy
Is it narrowing or is it distracting
Use feedback to boost confidence
Let the user iterate where possible

Keep the user engaged

Time passes faster Look for engaging moments

Find a domai	n name:		
www. billsportfol	io.com	Search	
(ex. widgetde	signs.com)		
Jacobsky St. St. 1888, S.		od reken i u toku At	
Required information fo	r Google account		
Your current email address:	someone@somewhere.com		CANDO DE SENA
	e.g. myname@example.com. This will be yo		and the second second
Choose a password:	Minimum of 6 characters in length.	Password strength: T	oo short

Use live-previews

Look before you leap



Design for immediacy
Is it narrowing or is it distracting
Use feedback to boost confidence
Let the user iterate where possible

Keep the user engaged

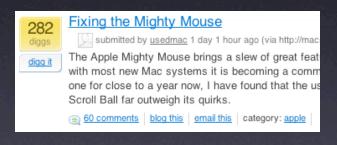
Time passes faster Look for engaging moments





Use live-previews

Look before you leap



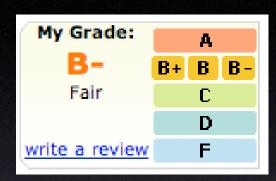


Keep feedback focused

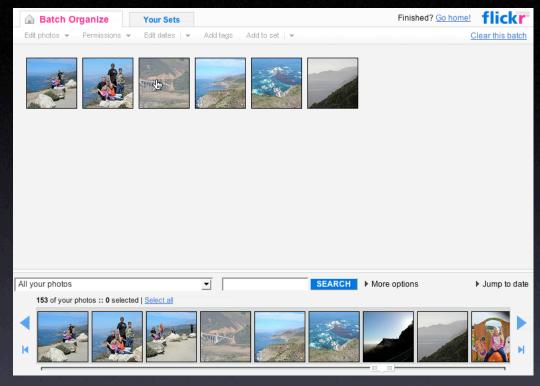
Keep it in context Updating too many areas at once will be confusing Show dynamically what is relevant Avoid creating feedback noise/jitter



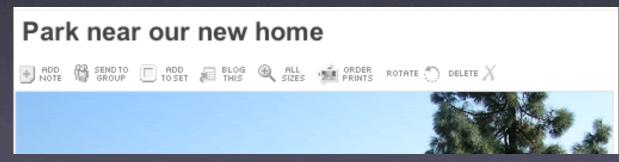
principle. offer an invitation.



pattern. hover invitation.



pattern. drop invitation.

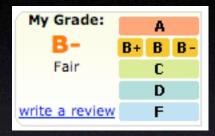


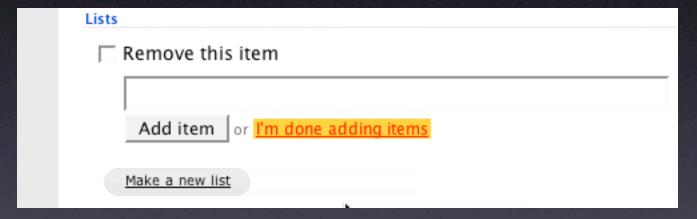
pattern. tooltip invitation + hover invitation.



Make it engaging

Use lightweight events as a welcome mat Rediscover the hover







Make it engaging

Use lightweight events as a welcome mat Rediscover the hover



To see a product preview in action, hover over the link below.

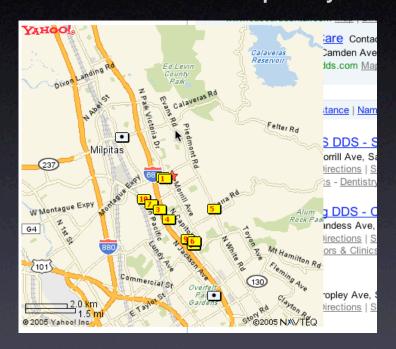
Forty Associates recently added product previews to their Web site as part of a small beta program. During the beta, visitors to Associate sites who viewed a product preview clicked through to Amazon.com over 4% of the time; those clicks resulted in a purchase nearly 6% of the time.

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.

Keep actions out of it

Don't make the user afraid to explore Don't proselytize



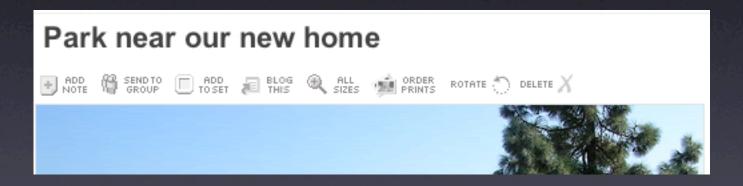


Make it engaging

Use lightweight events as a welcome mat Rediscover the hover

Keep actions out of it

Don't make the user afraid to explore Don't proselytize



Get the actors involved

Hover Invitation Cursor Invitation Tooltip Invitation



Keep actions out of it

Make it engaging

Use lightweight events as a welcome mat Rediscover the hover



Get the actors involved

Hover Invitation Cursor Invitation Tooltip Invitation

Use invitations to aid discoverability

Two challenges: idiom & feature Adding signposts, always-on clues doesn't scale Add tours, help pedals, tips, spotlights



principle. show transitions.

```
Remove this item

And this one too

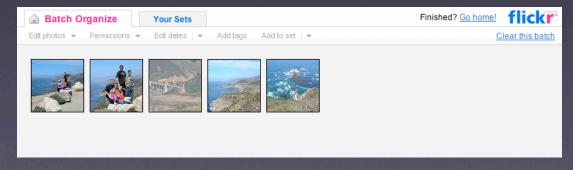
Edit adding a new item

Add item or I'm done adding items
```

pattern. fade transition + self-healing transition.



pattern. slide + animate.





pattern. spotlight.

Speak to the BRAIN

Understanding attention processing





Tom Stafford & Matt Webb

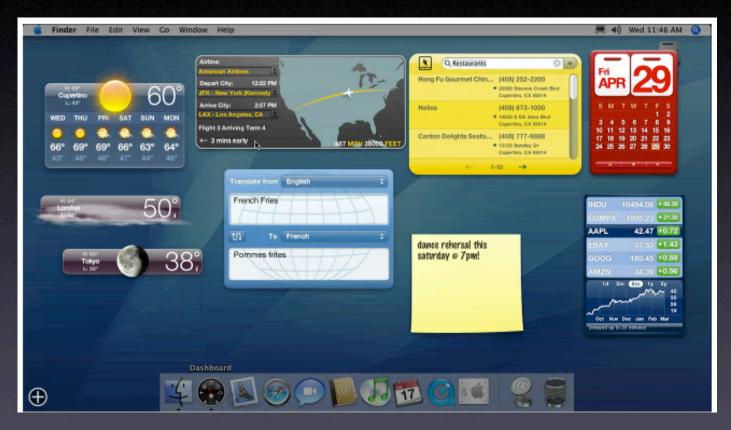
Foreword by Steven Johnson, author of Mind Wide Open





Speak to the BRAIN

Understanding attention processing Sending the wrong message







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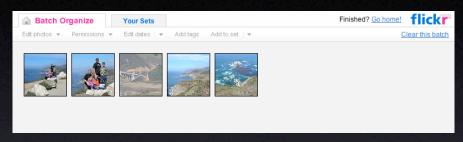
Events

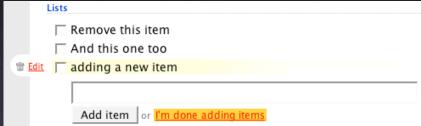
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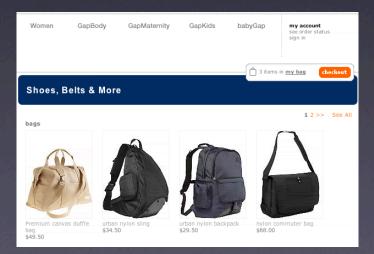
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BayCHI Monthly Program

Speak to the BRAIN







What you can communicate

Speed up time Slow down time Show state change Show relationships between objects Focus attention



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42...58 F

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Tracker

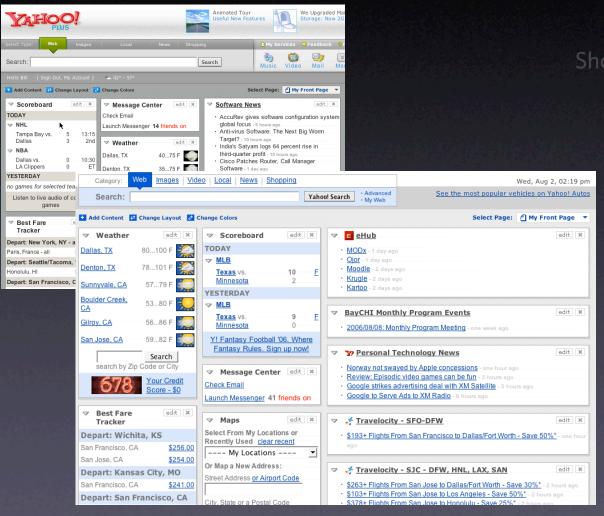
Paris, France - all

Honolulu, HI



Speak to the BRAIN

Understanding attention processing Sending the wrong message



What you can communicate

Speed up time
Slow down time
Show state change
Show relationships between objects
Focus attention

Keep it sane

"Cut in half" rule of thumb Use a "contrast knob" approach Don't overuse

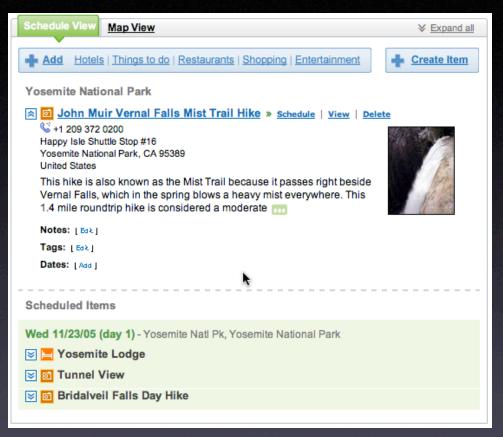


key principle

Provide invitations beforehand, transitions during, and feedback after interaction



principle. think in objects.



pattern. Shareable Object.

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The power of sharing

Bloggable, shareable, findable How to dial-in community Collections

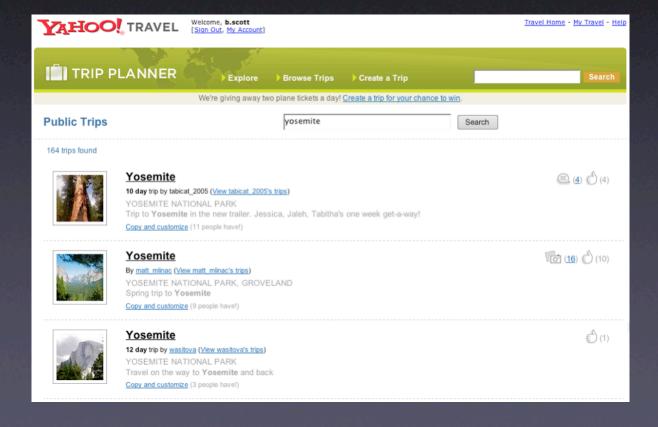
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My Web Results for amsterdam trip (49)

1. Trip to Amsterdam - photos, history, maps - Virtual trip to Amsterdam @

Web **trip** to **Amsterdam**. Historical and sightseeing overview ... **Trip** to **Amsterdam**. To begin with **Amsterdam** we should first note, that this city has two features making ... One will never forget a **Amsterdam trip** around the city by river ...

www.medievalamsterdam.com - 9k - Cached - More from this site - Save







Web 2.0 as a platform

Rich objects fit the SOA model Creates a good separation of concerns Mashups



The power of sharing

Bloggable, shareable, findable How to dial-in community Collections key principle

Think in terms of the user's mental model and their primary goals



key principles

Prefer direct, lightweight, in-page interaction.

Provide invitations beforehand, transitions during, and feedback after interaction.

Think in terms of the user's mental model and their primary goals.



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