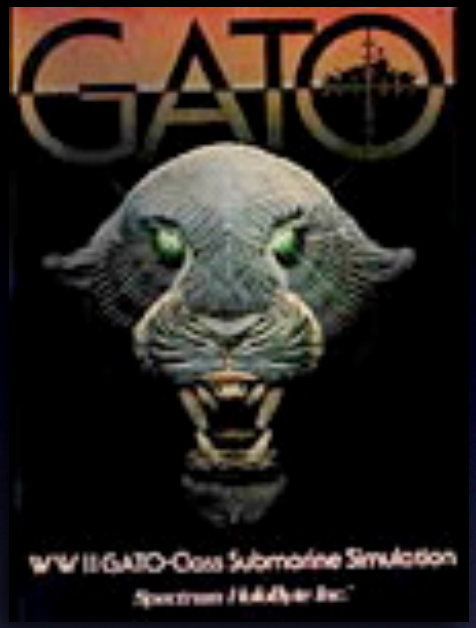
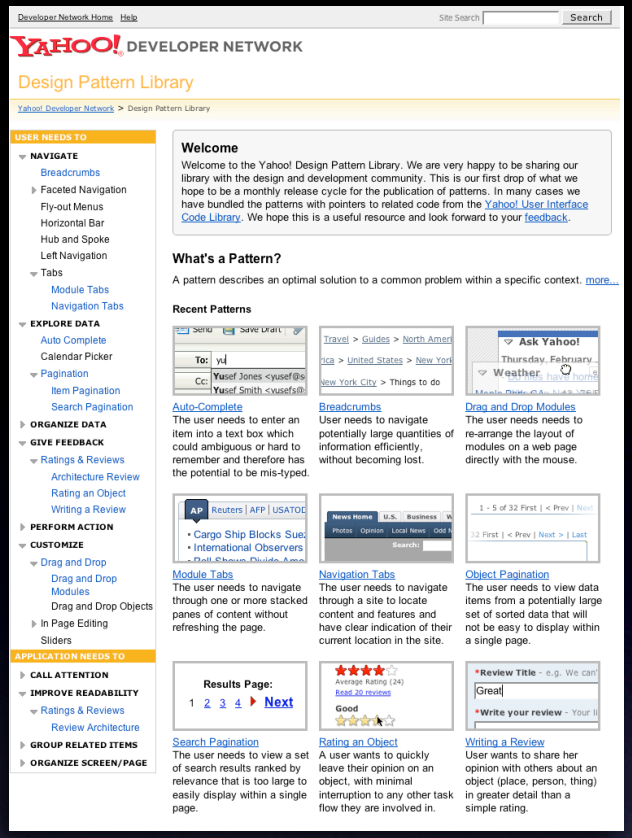
Designing Web Interfaces

Principles & Patterns for Rich Interaction

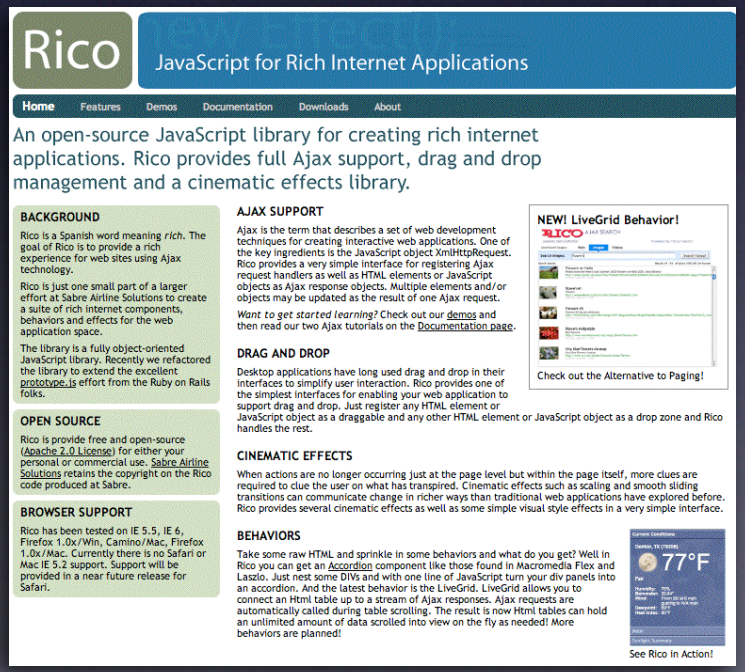
Bill Scott
Director, UI Engineering

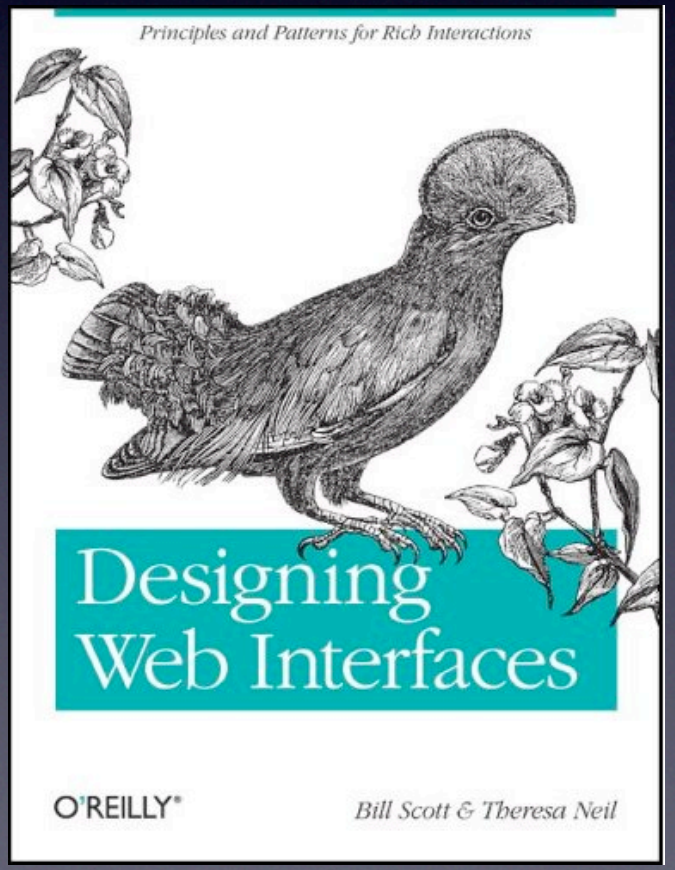
background


GATO
www.GATO-Class Submarine Simulation


Developer Network Home Help
Site Search Search
YAHOO! DEVELOPER NETWORK
Design Pattern Library
Yahoo! Developer Network > Design Pattern Library
USER NEEDS TO
NAVIGATE
Breadcrumbs
Faceted Navigation
Fly-out Menus
Horizontal Bar
Hub and Spoke
Left Navigation
Tabs
Module Tabs
Navigation Tabs
EXPLORE DATA
Auto Complete
Calendar Picker
Pagination
Item Pagination
Search Pagination
ORGANIZE DATA
GIVE FEEDBACK
Ratings & Reviews
Architecture Review
Rating an Object
Writing a Review
PERFORM ACTION
CUSTOMIZE
Drag and Drop
Drag and Drop Modules
Drag and Drop Objects
In Page Editing
Sliders
APPLICATION NEEDS TO
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
Auto-Complete
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.
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.
Module Tabs
The user needs to navigate through one or more stacked panes of content without refreshing the page.
Navigation Tabs
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
The user needs to view data items from a potentially large set of sorted data that will not be easy to display within a single page.
Results Page:
1 2 3 4 Next
Search Pagination
The user needs to view a set of search results ranked by relevance that is too large to easily display within a single page.
Rating an Object
A user wants to quickly leave their opinion on an object, with minimal interruption to any other task flow they are involved in.
Review Title - e.g. We can'
Great
Write your review - Your li
Writing a Review
User wants to share her opinion with others about an object (place, person, thing) in greater detail than a simple rating.

NETFLIX
Bill Scott | Your Account | Buy / Redeem Gift | Help
Browse DVDs
Watch Instantly
Your Queue
Movies You'll
Friends & Community
DVD Sale $5.99
Home
Genres
New Releases
Previews
Netflix Top 100
Critics' Picks
Award Winners
Because you enjoyed:
Enron: The Smartest Guys in the Room
Who Killed the Electric Car?
Iraq for Sale: The War Profiteers
We think you'll enjoy:
Global Warming: The Signs and the Science
Play
Add
YOUR RECENT ACTIVITY
SUGGESTIONS FOR YOU
TV Sci-Fi & Fantasy
TV Dramas
Add All


Rico
JavaScript for Rich Internet Applications
Home
Features
Demos
Documentation
Downloads
About
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 a Spanish word meaning rich. The goal of Rico is to provide a rich experience for web sites using Ajax technology.
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 application space.
The library is a fully object-oriented JavaScript library. Recently we refactored the library to extend the excellent prototype.js 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. Sabre Airline Solutions 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 XmlHttpRequest. Rico provides a very simple interface for registering Ajax request handlers as well as HTML elements or JavaScript objects as Ajax response objects. Multiple elements and/or objects may be updated as the result of one Ajax request.
Want to get started learning? Check out our demos and then read our two Ajax tutorials on the Documentation page.
NEW! LiveGrid Behavior!
Check out the Alternative to Paging!
DRAG AND DROP
Desktop applications have long used drag and drop in their interfaces to simplify user interaction. Rico provides one of the simplest interfaces for enabling your web application to support drag and drop. Just 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 sliding transitions 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 Accordion 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 behaviors are planned!
77°F
See Rico in Action!


Principles and Patterns for Rich Interactions
Designing Web Interfaces
O'REILLY
Bill Scott & Theresa Neil

Newton's Third Law of Motion

For every action, there is an equal and opposite reaction

interesting moments abound to engage the user
it's the nuance stupid
make "less" become "more"

Interaction (action) + *Feedback (reaction)*

6 principles for Designing Web Interfaces

1. make it direct
2. keep it lightweight
3. stay on the page
4. provide invitations
5. use transitions
6. react immediately

make it direct

Allow input wherever you have output
Shorten the length of interaction
Make objects directly actionable

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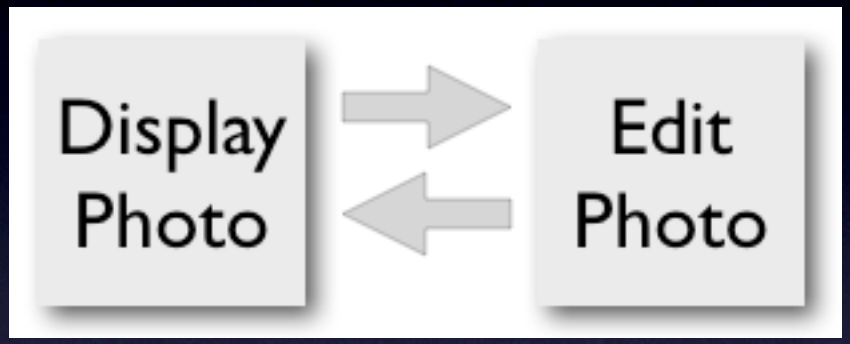
Shorten the length of interaction
Make objects directly actionable



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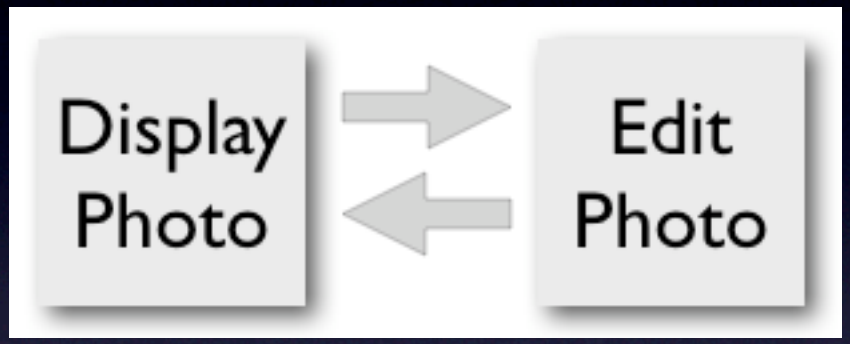
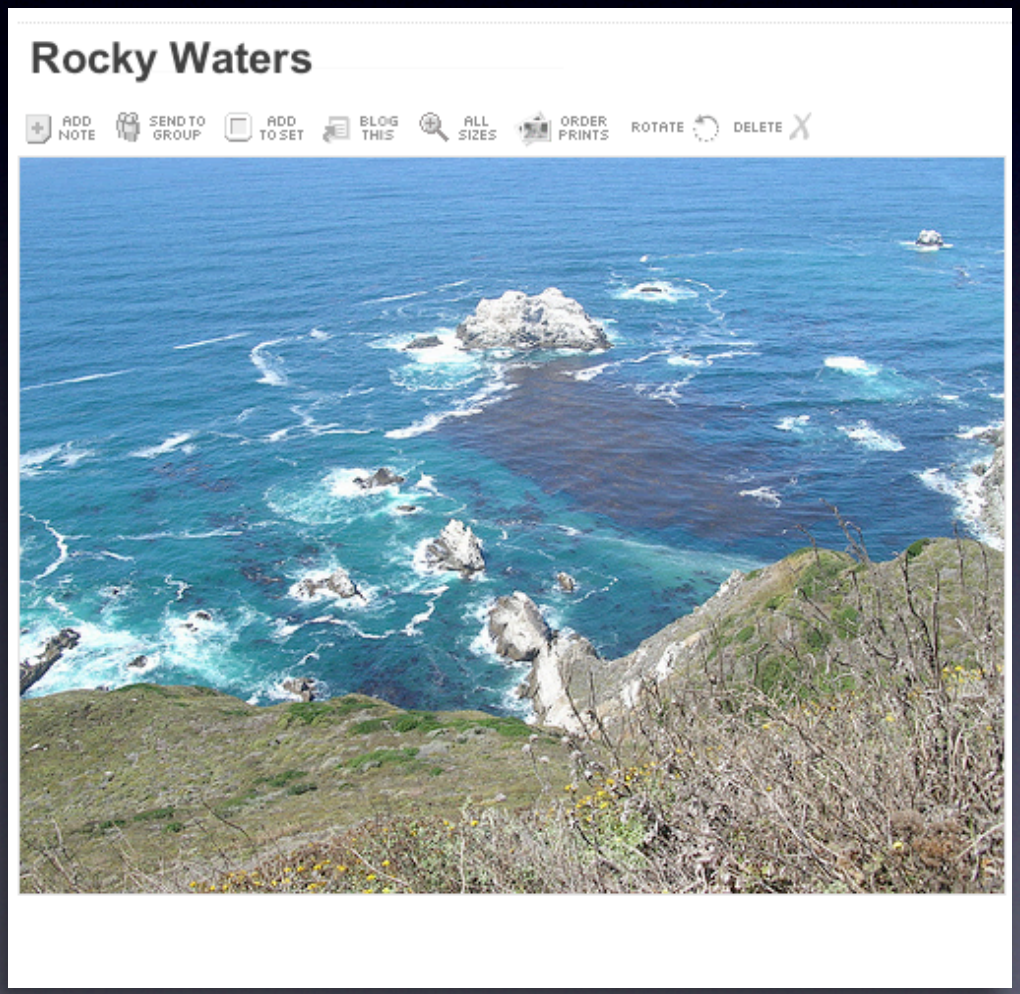
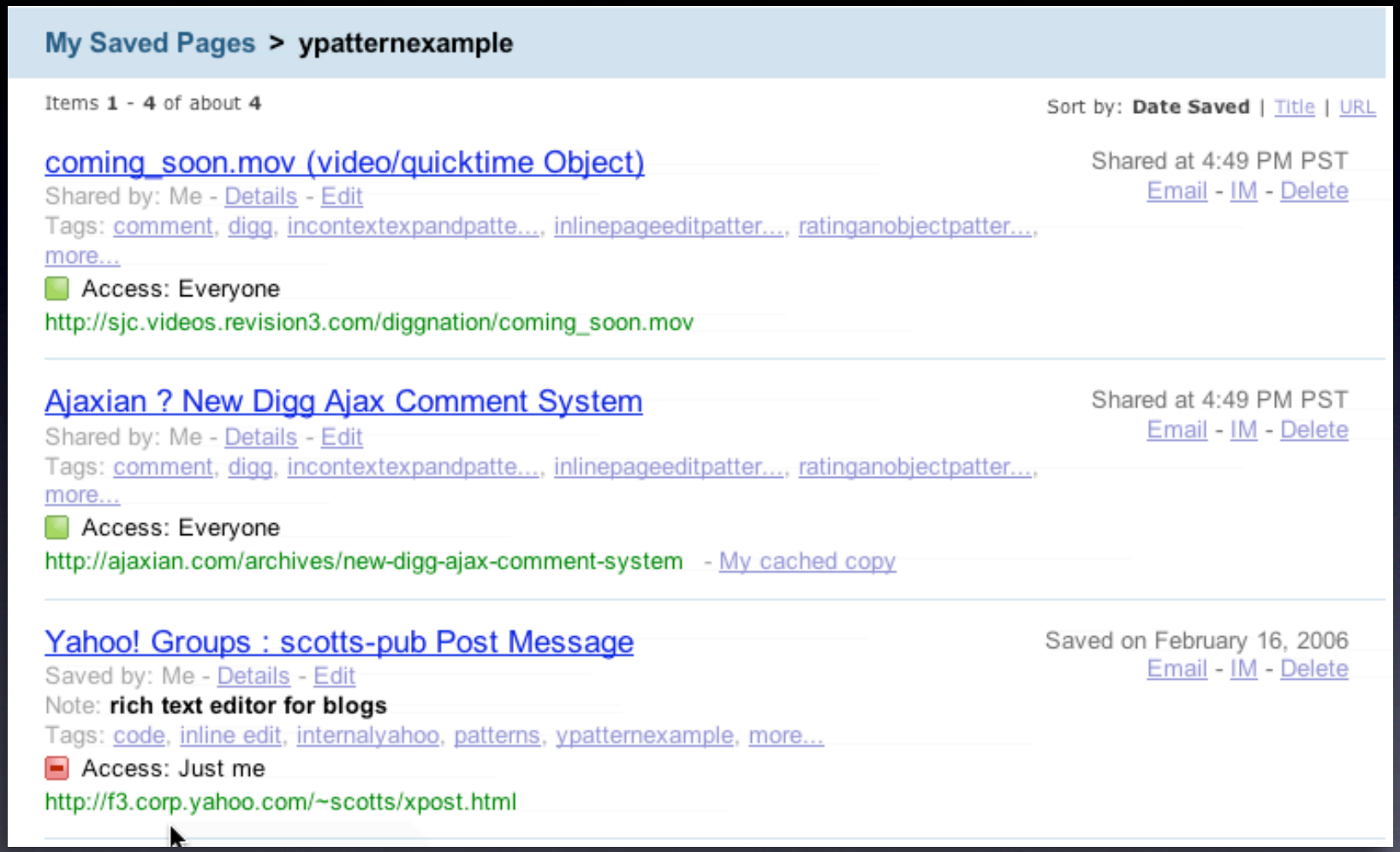




inline editing



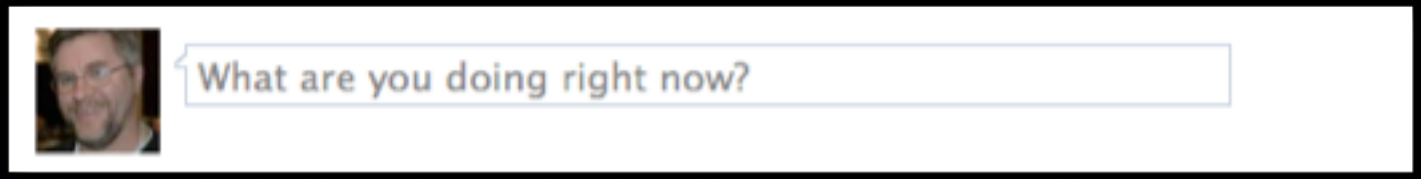
Yahoo! Bookmarks

discoverability

invitations

make it direct. **inline editing**

discoverability
invitations



facebook. **prompt-based invitation**

make it direct. **inline editing**

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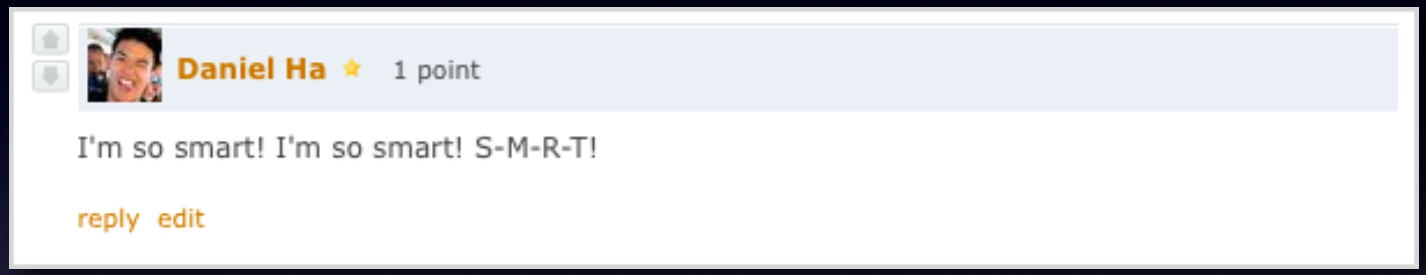

disqus. **explicit "edit" invitation**

make it direct. **inline editing**

discoverability
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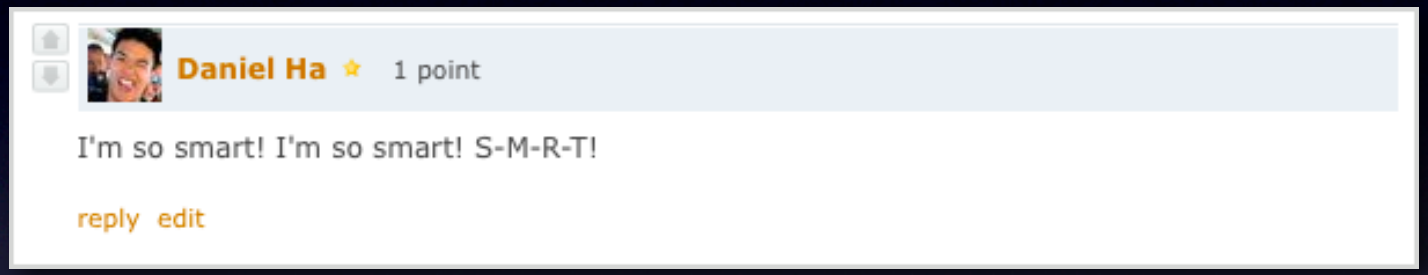

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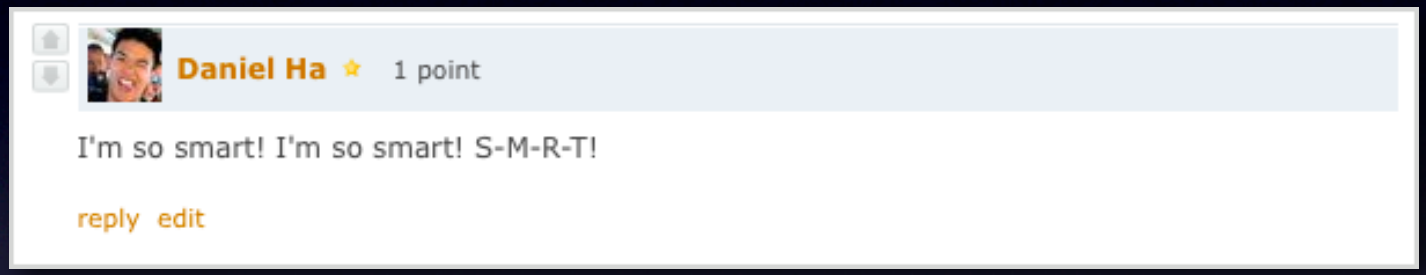

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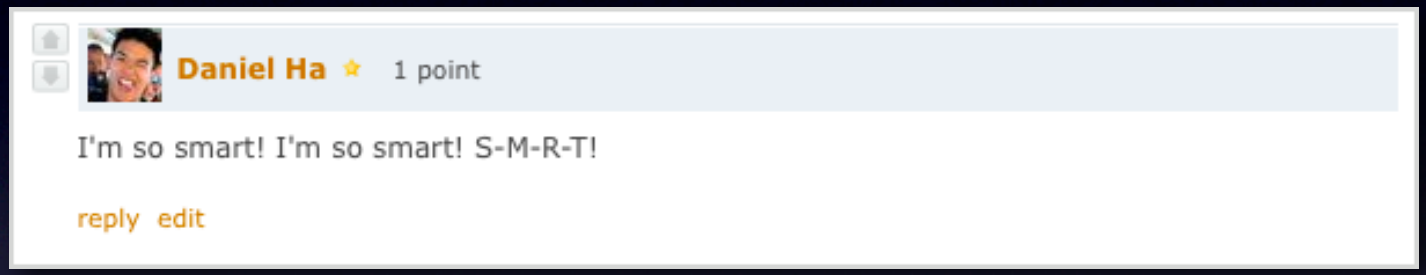

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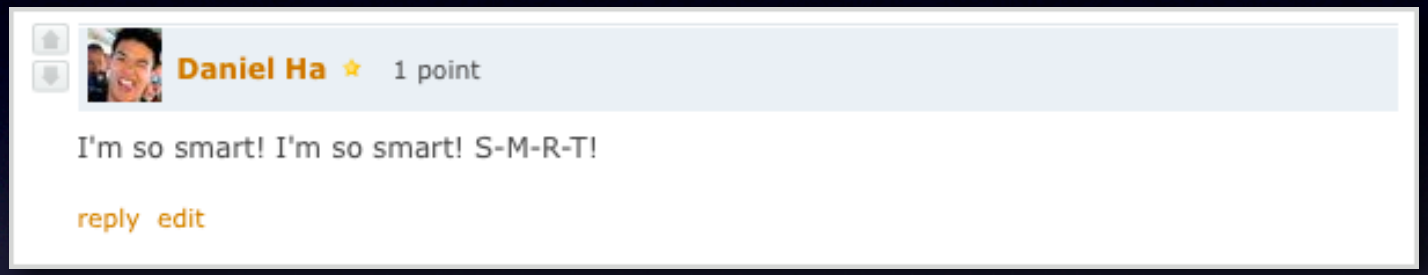

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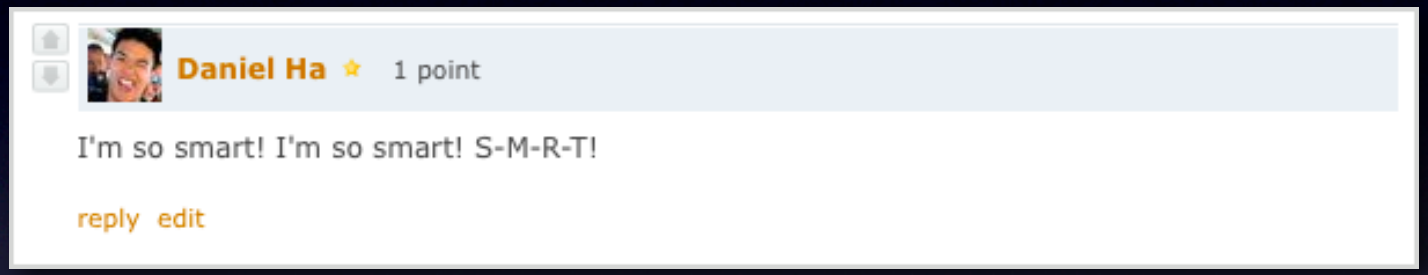

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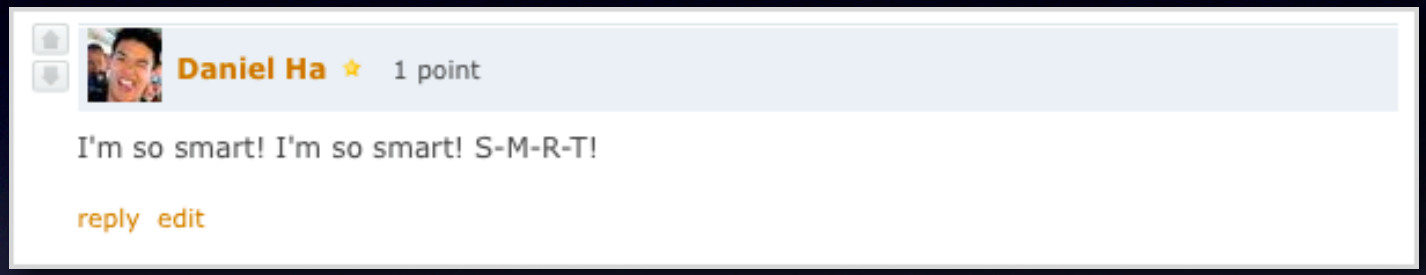

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flickr. **on hover**

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complex editing

blending modes

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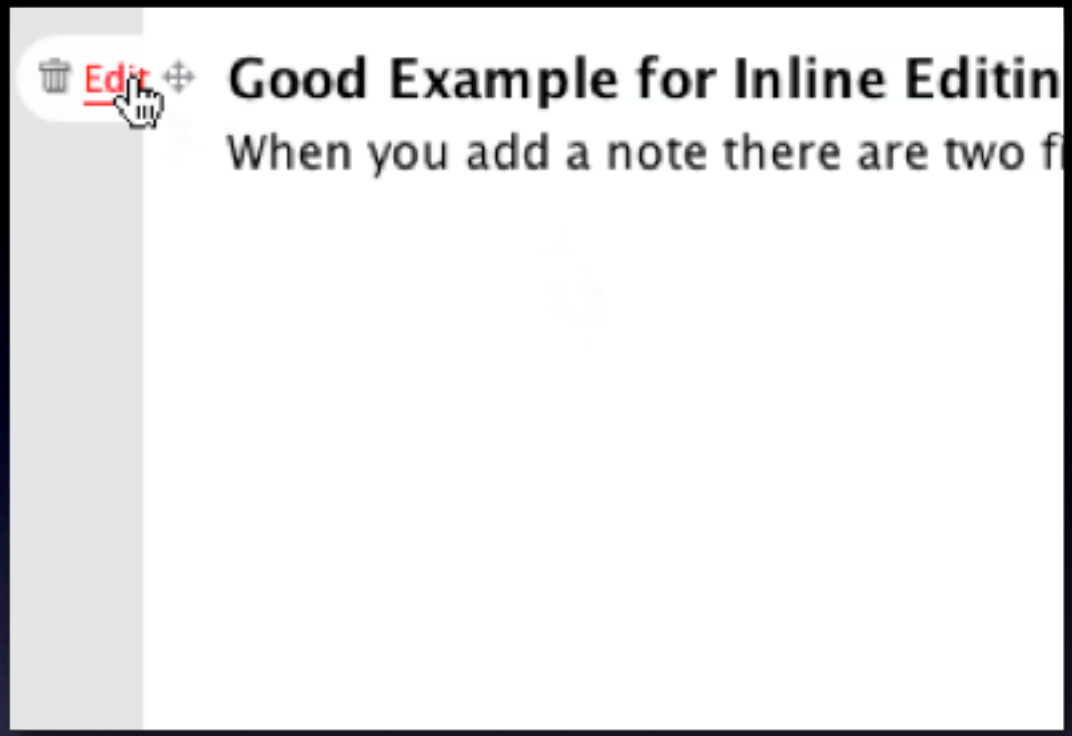

backpackit. **complex inline editing**

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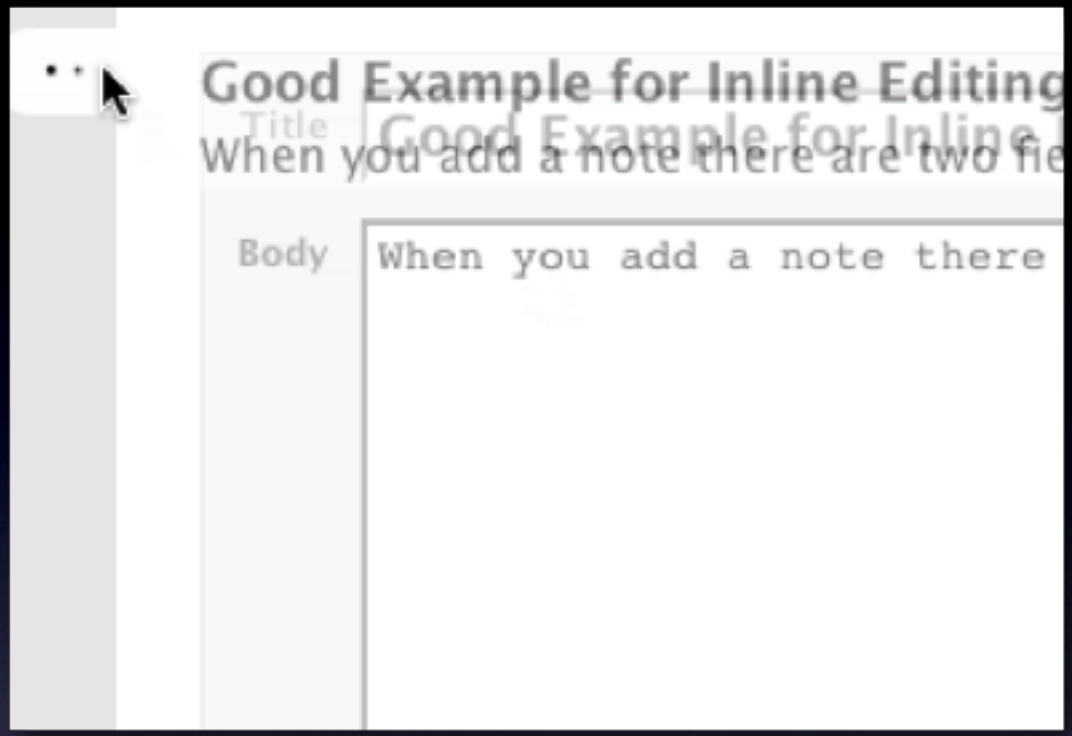

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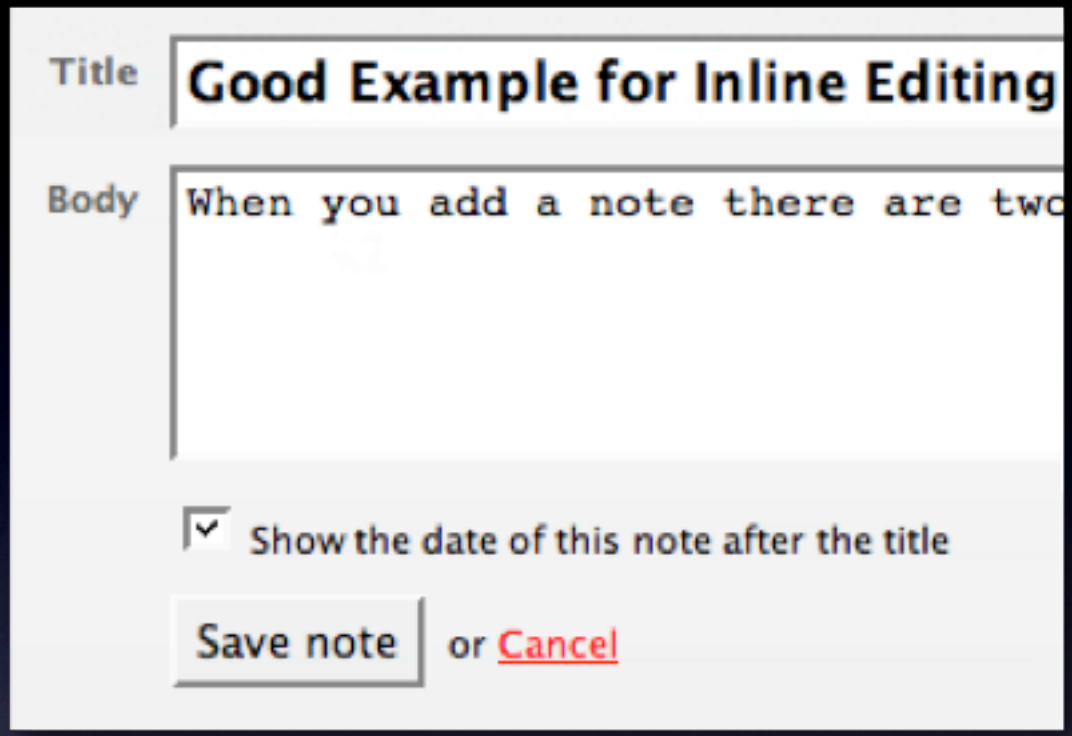

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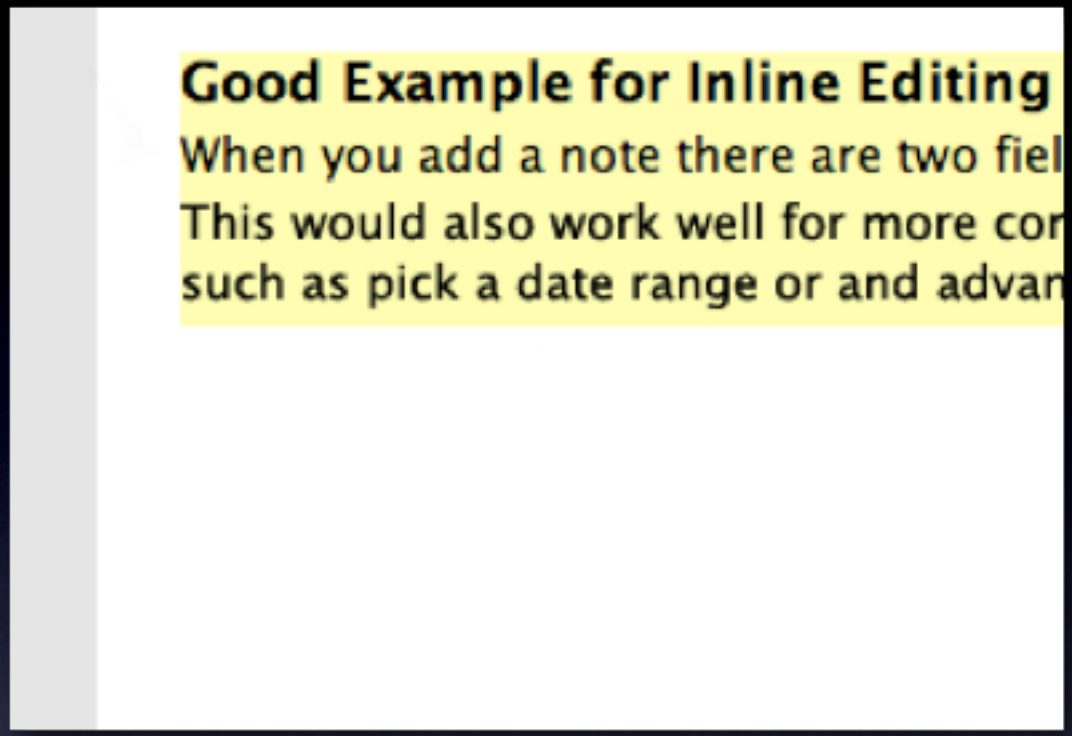

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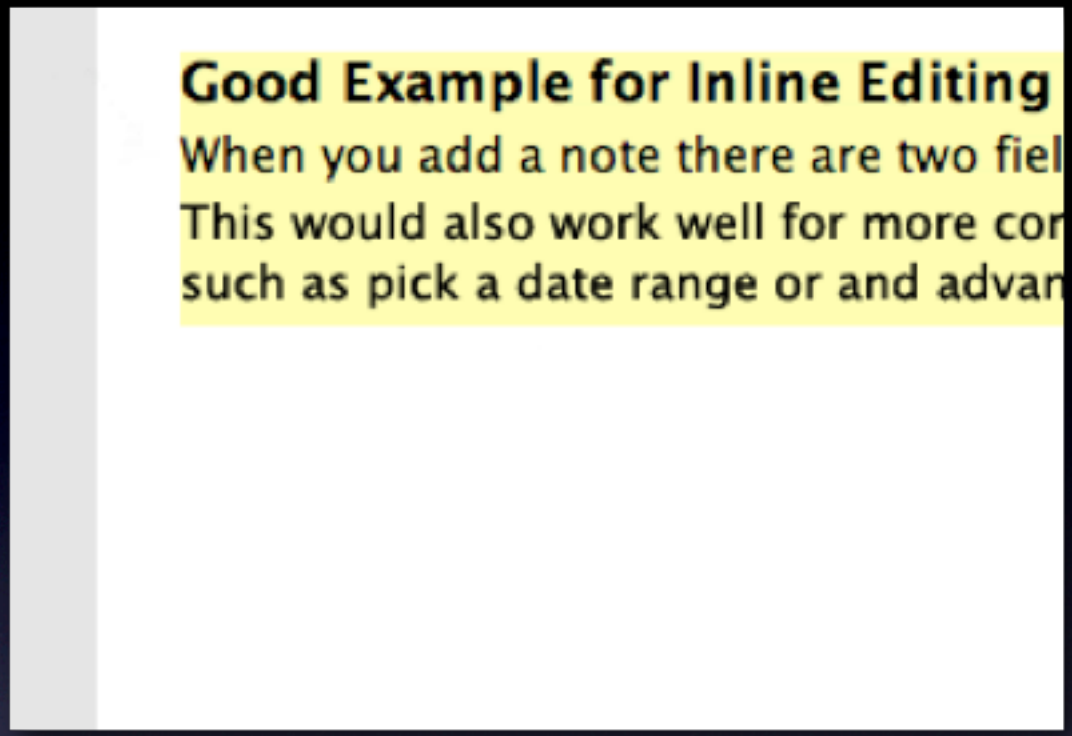

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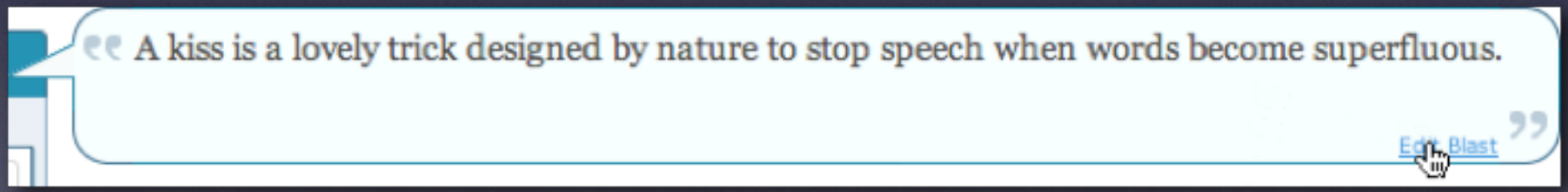

Yahoo! 360 blast. **blending display & edit modes**

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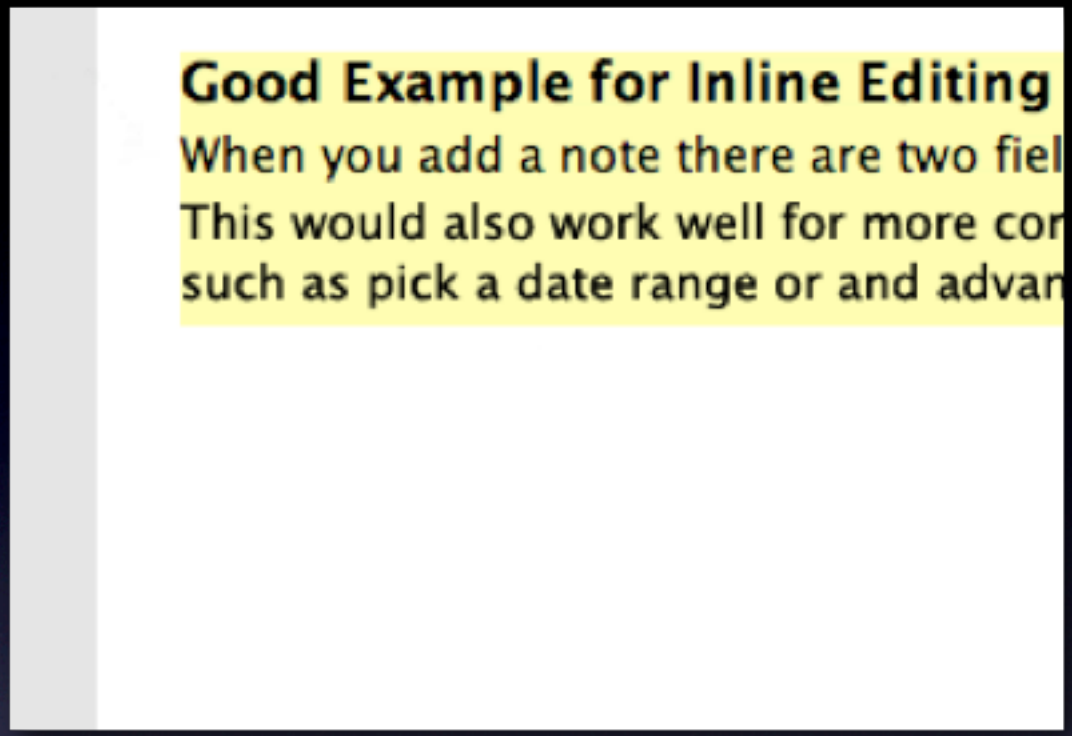

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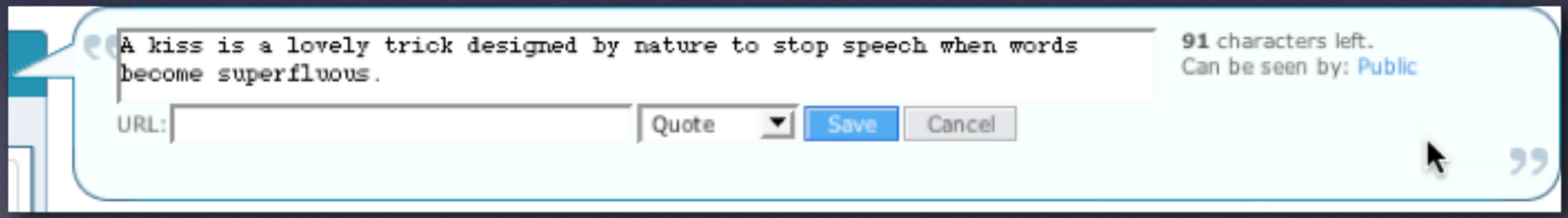

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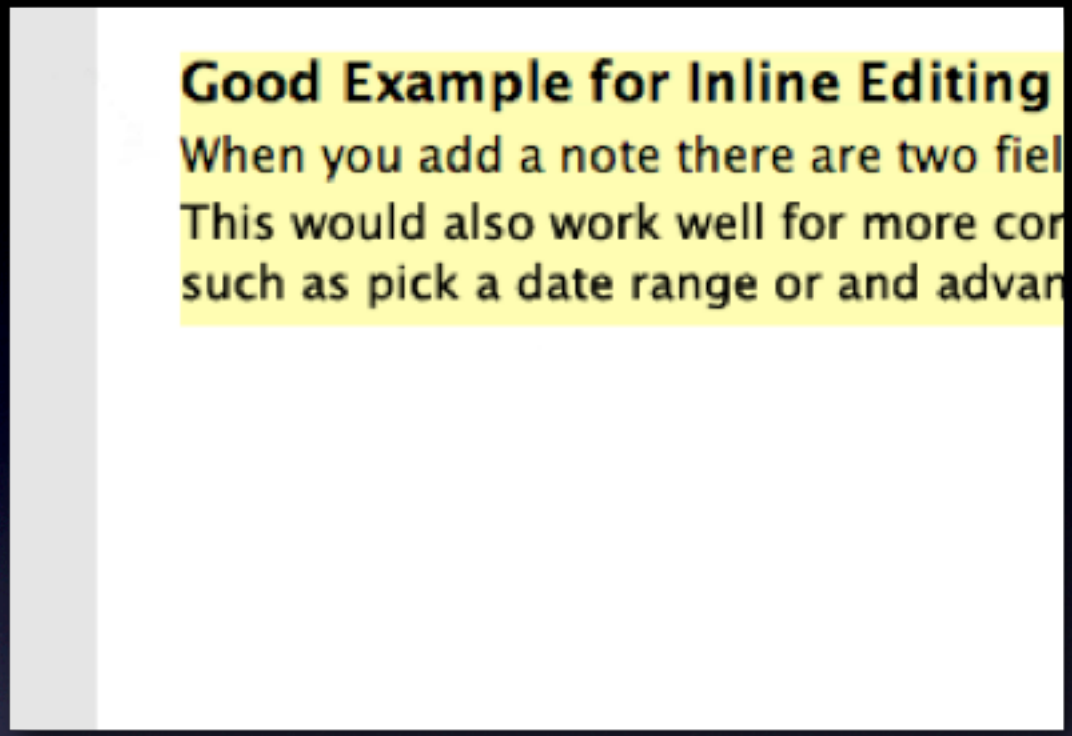

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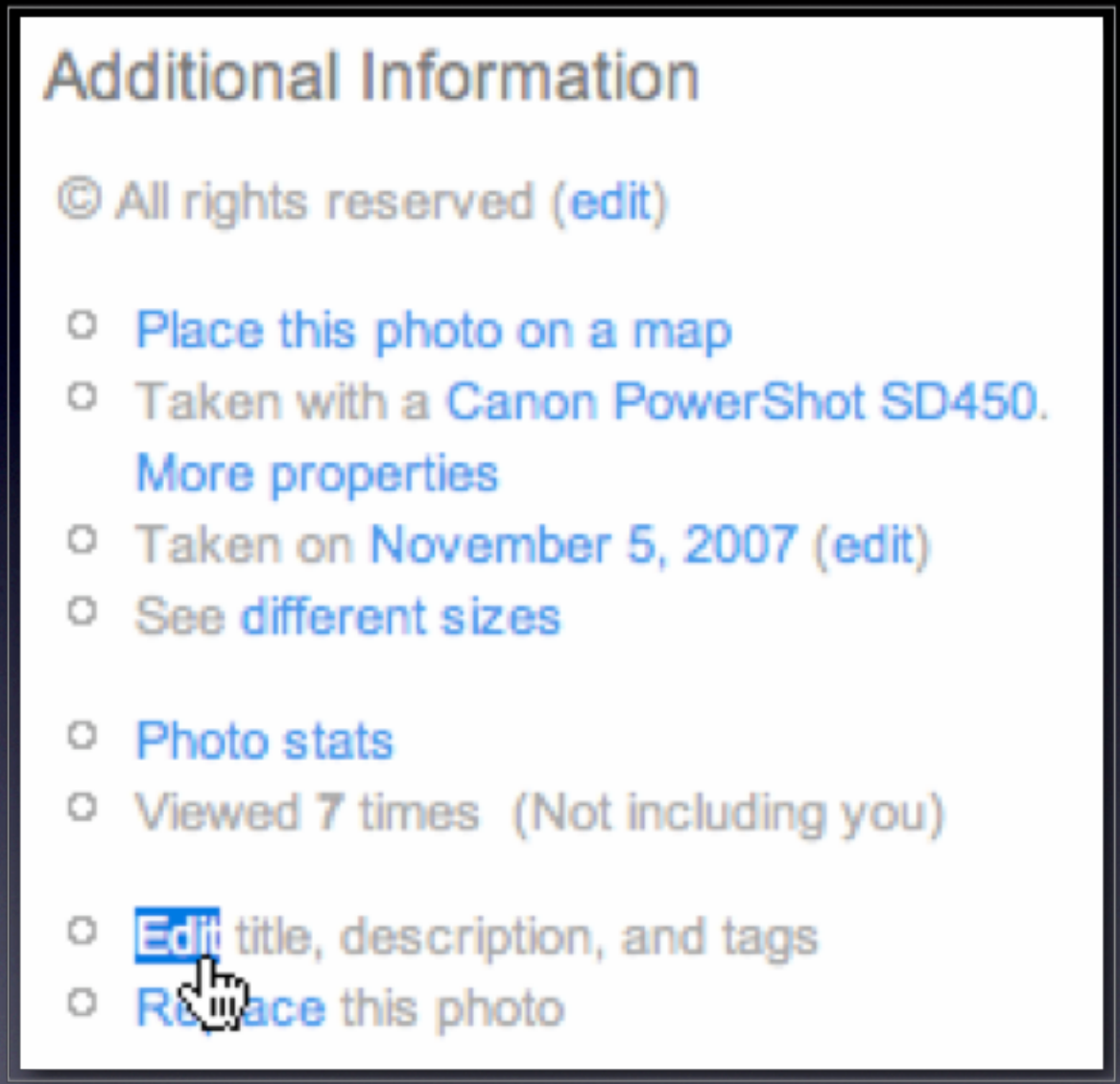

flickr. alternate edit path

make it direct. **inline editing**

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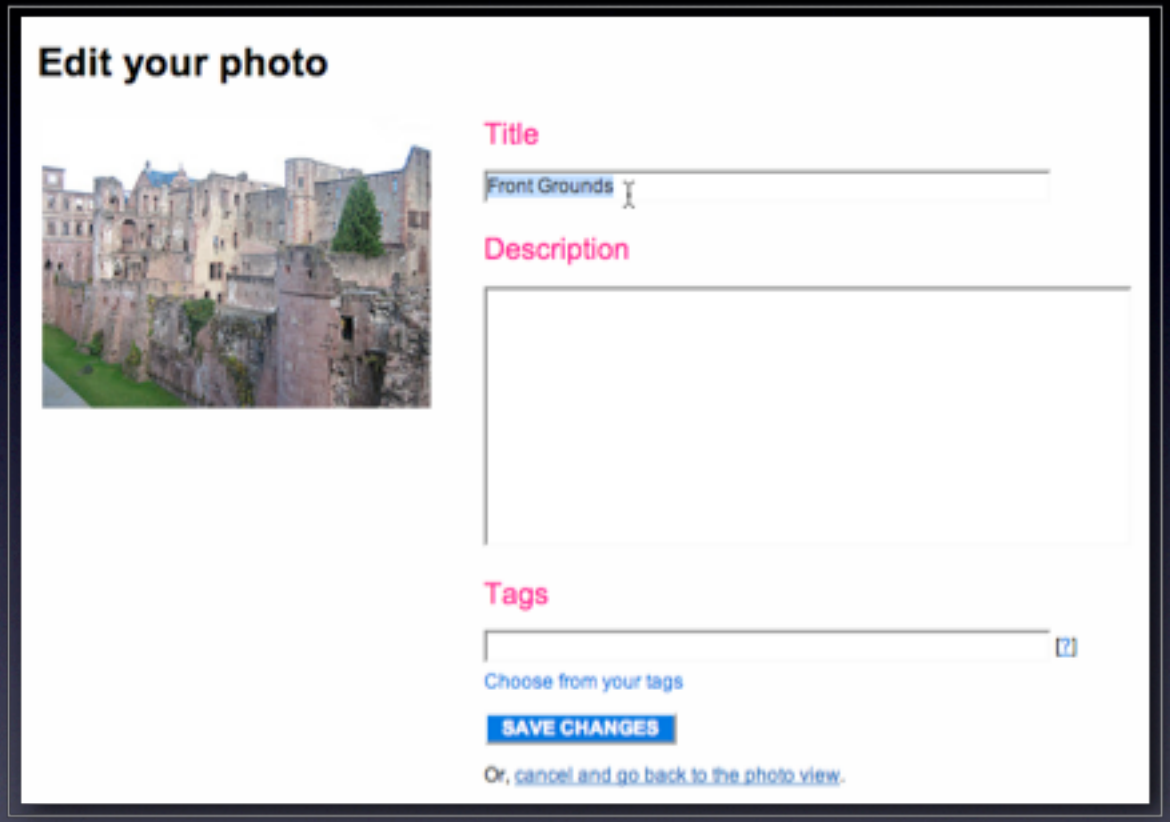

flickr. alternate edit path

group editing

symmetry of interaction

discoverability vs readability

group editing

symmetry of interaction
discoverability vs readability

iPhone. **non-symmetrical; readability**

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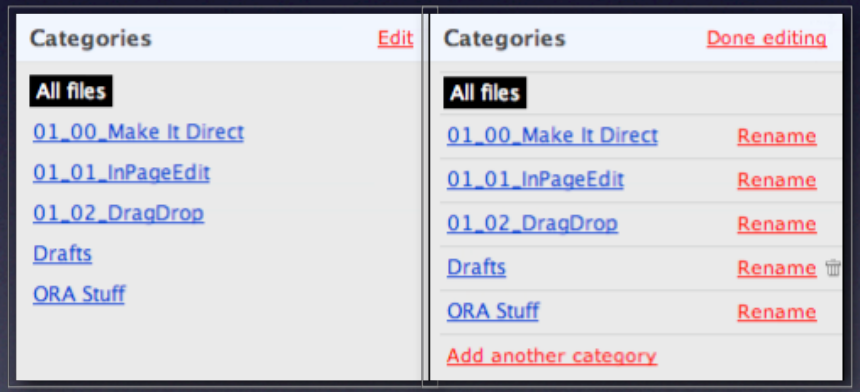

basecamp. **symmetry of interaction**

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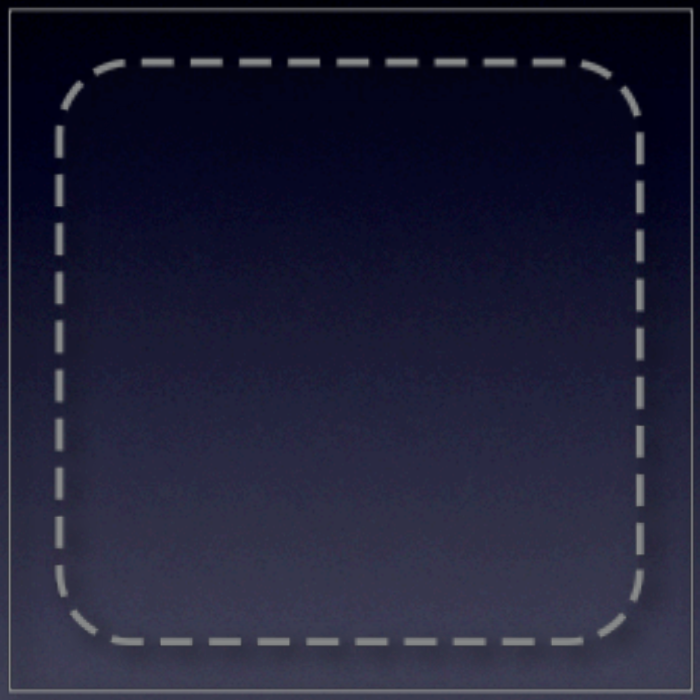

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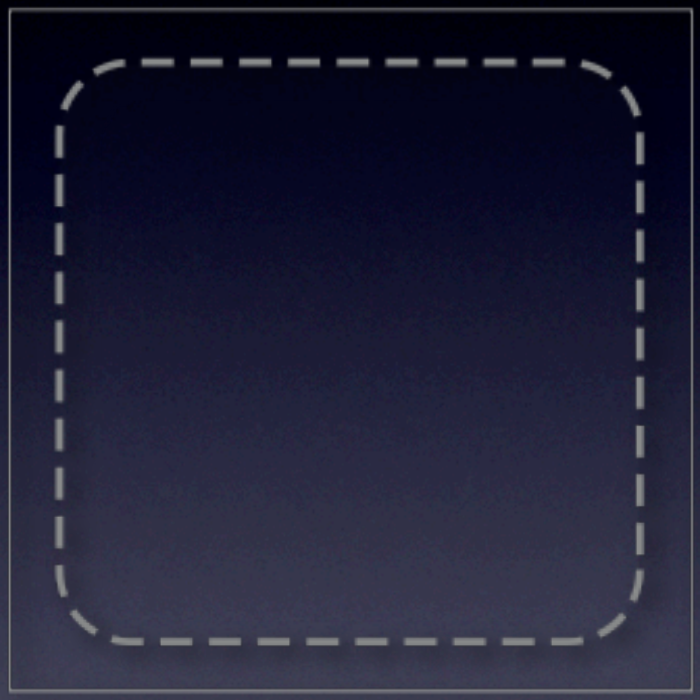

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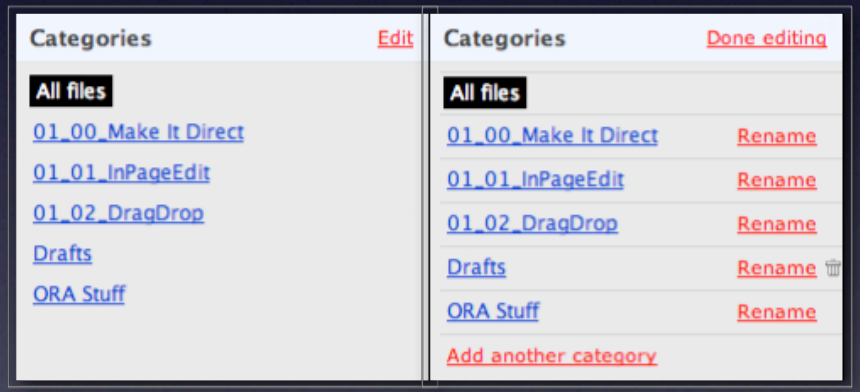

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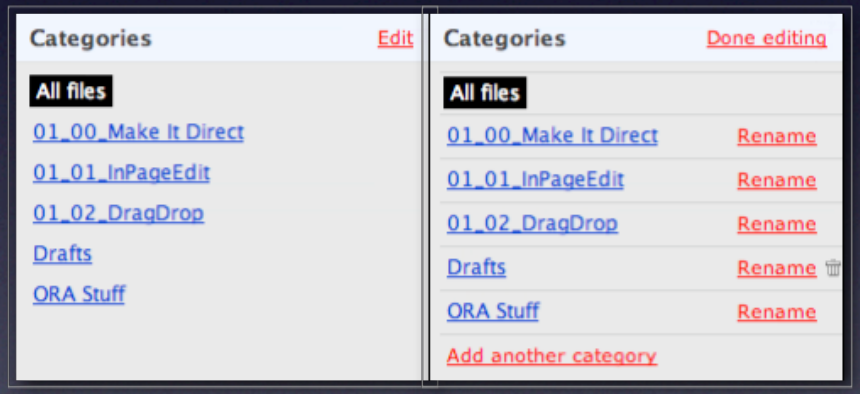


basecamp. **symmetry of interaction**

"If readability is more important than editing
then keep the editing action hidden
until the user interacts with the content."

drag and drop

Category: Web | Images | Video | Local | News | Shopping

Wed, Aug 2, 02:19 pm

Search: Yahoo! Search · Advanced · My Web

See the most popular vehicles on Yahoo! Autos

Add Content | Change Layout | Change Colors

Select Page: My Front Page

Weather edit

Dallas, TX	80...100 F
Denton, TX	78...101 F
Sunnyvale, CA	57...79 F
Boulder Creek, CA	53...80 F
Gilroy, CA	56...86 F
San Jose, CA	59...82 F

Search

search by Zip Code or City

678 Your Credit Score - $0

Best Fare Tracker edit

Depart: Wichita, KS

San Francisco, CA	$256.00
San Jose, CA	$254.00

Depart: Kansas City, MO

San Francisco, CA	$241.00

Depart: San Francisco, CA

Scoreboard edit

TODAY

MLB

Texas vs. Minnesota 10 2 F

YESTERDAY

MLB

Texas vs. Minnesota 9 0 F

Y! Fantasy Football '06. Where Fantasy Rules. Sign up now!

Message Center edit

Check Email

Launch Messenger 41 friends on

Maps edit

Select From My Locations or Recently Used clear recent

---- My Locations ----

Or Map a New Address:

Street Address or Airport Code

City, State or a Postal Code

eHub edit

- MODx - 1 day ago
- Ojor - 1 day ago
- Moodle - 2 days ago
- Krugle - 2 days ago
- Kartoo - 2 days ago

BayCHI Monthly Program Events edit

- 2006/08/08: Monthly Program Meeting - one week ago

Personal Technology News edit

- Norway not swayed by Apple concessions - one hour ago
- Review: Episodic video games can be fun - 3 hours ago
- Google strikes advertising deal with XM Satellite - 5 hours ago
- Google to Serve Ads to XM Radio - 6 hours ago

Travelocity - SFO-DFW edit

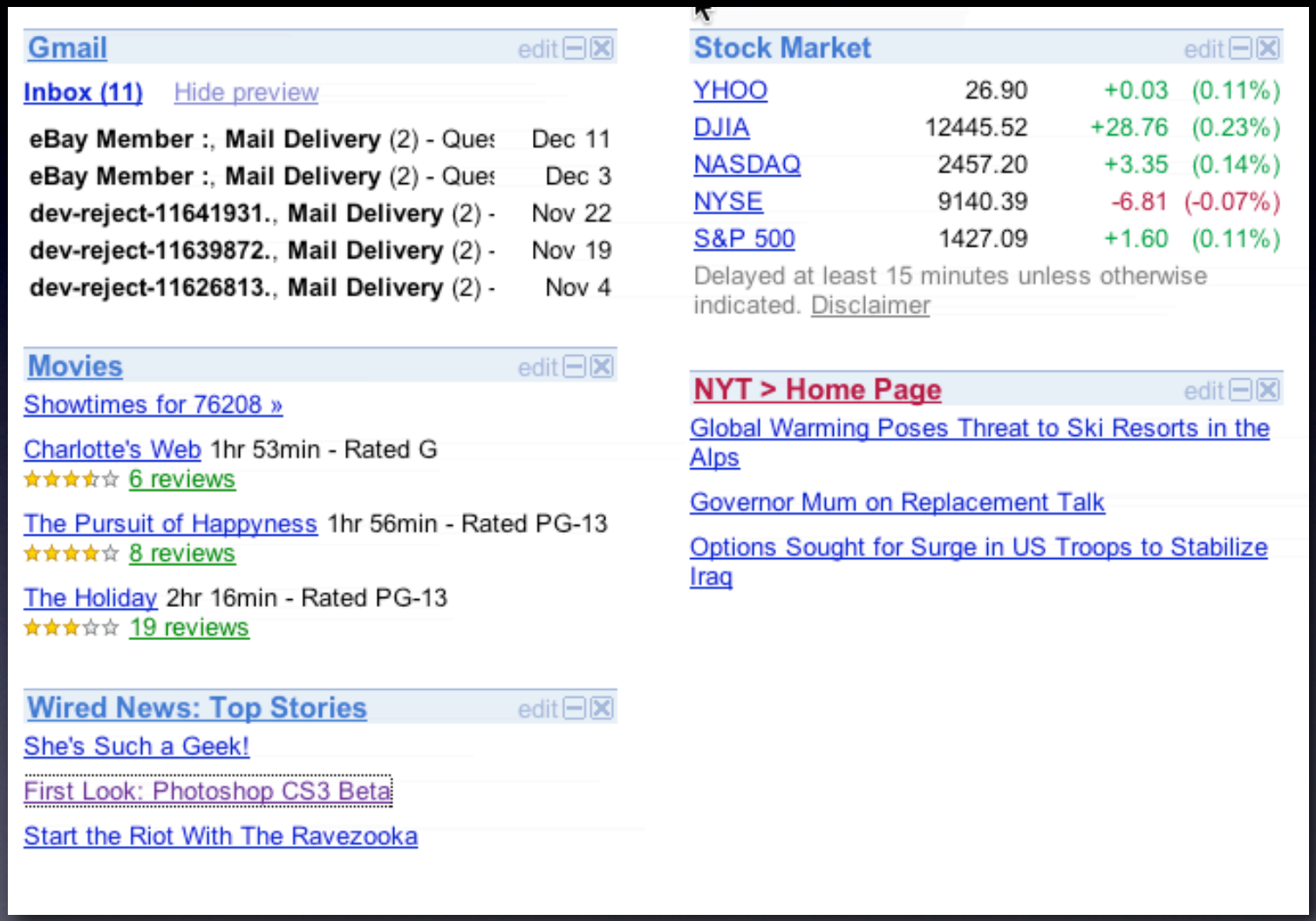
- $193+ Flights From San Francisco to Dallas/Fort Worth - Save 50%* - one hour ago

Travelocity - SJC - DFW, HNL, LAX, SAN edit

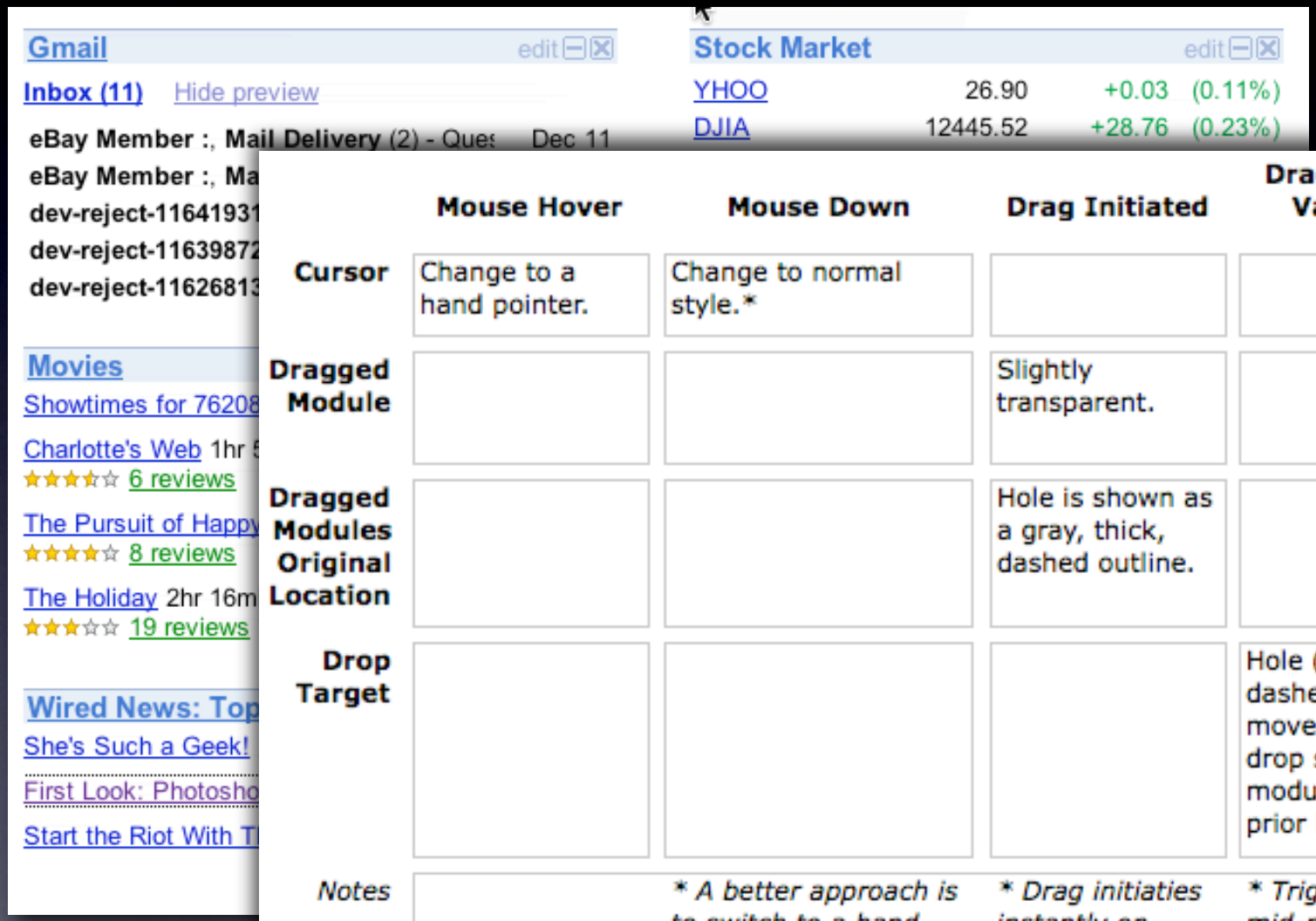
- $263+ Flights From San Jose to Dallas/Fort Worth - Save 30%* - 2 hours ago
- $103+ Flights From San Jose to Los Angeles - Save 50%* - 2 hours ago
- $378+ Flights From San Jose to Honolulu - Save 25%* - 2 hours ago

My Yahoo! **drag and drop**

Take care of the interesting moments



Take care of the interesting moments



	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 initiaties instantly on mouse down.*	** Triggers when the mid-point of the dragged object enters a valid drop target.*	

discoverability

hover invitation
interesting moments
activation on mouse down
tip during alternate path
additional visual affordances

make it direct. **drag and drop**

discoverability

hover invitation

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netflix. **few hints.**

make it direct. **drag and drop**

discoverability

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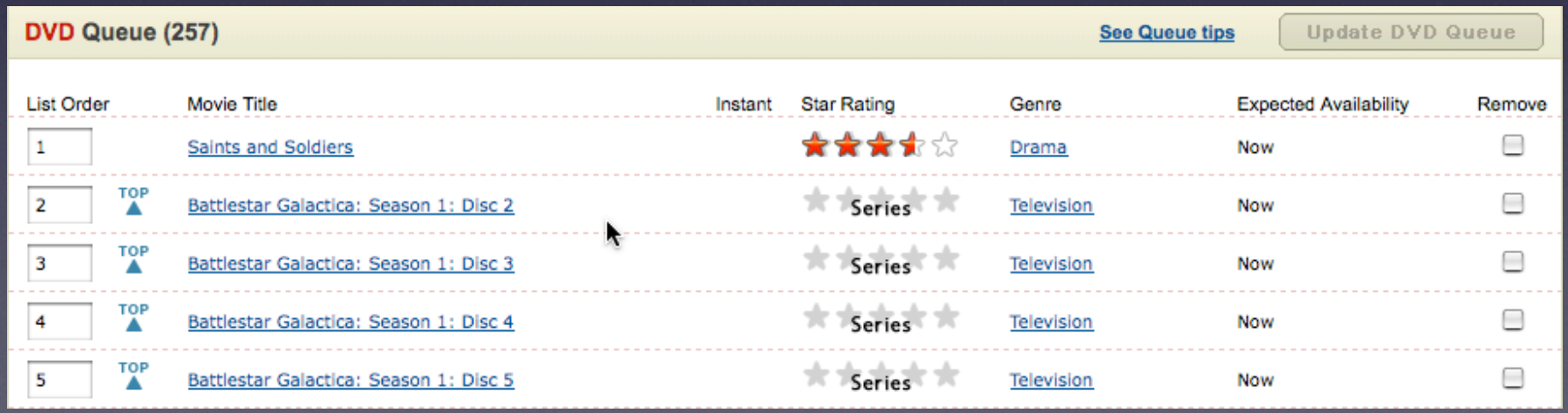
yahoo! teachers. **hints during interesting moments**



netflix. **few hints.**

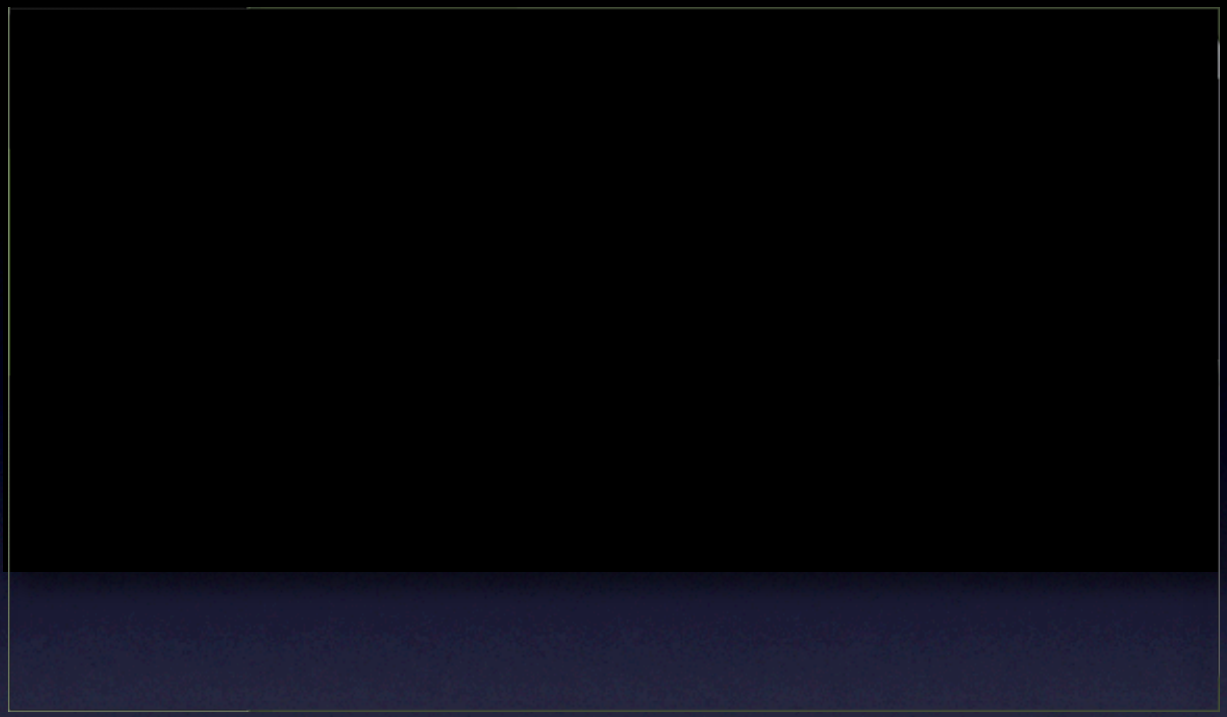
drag and drop

Not for simply setting an attribute

Don’t construct artificial visual constructs

make it direct. **drag and drop**

anti-pattern. **artificial construct**



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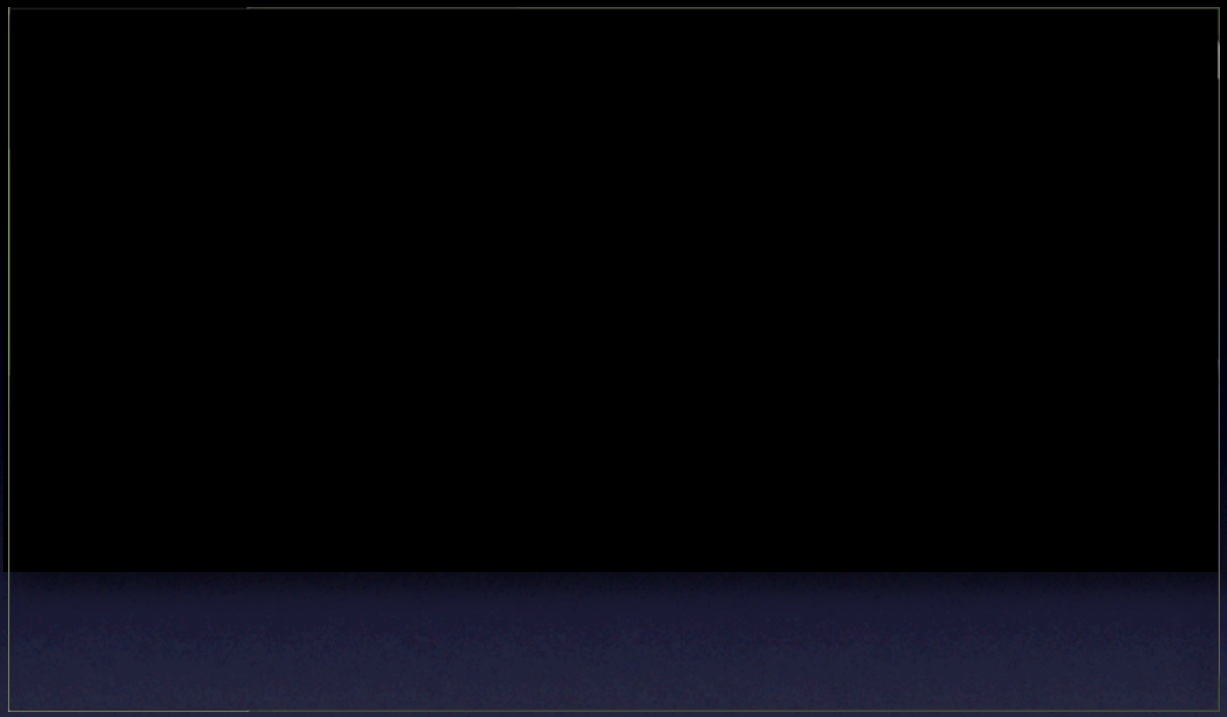

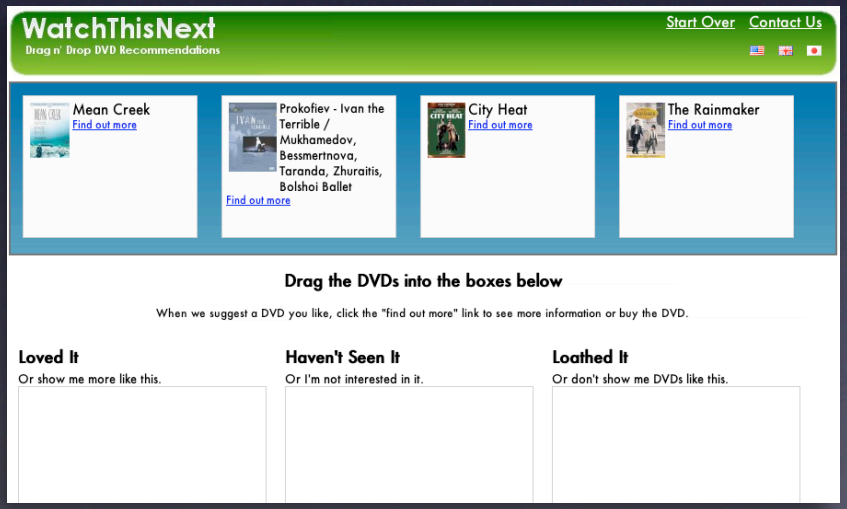

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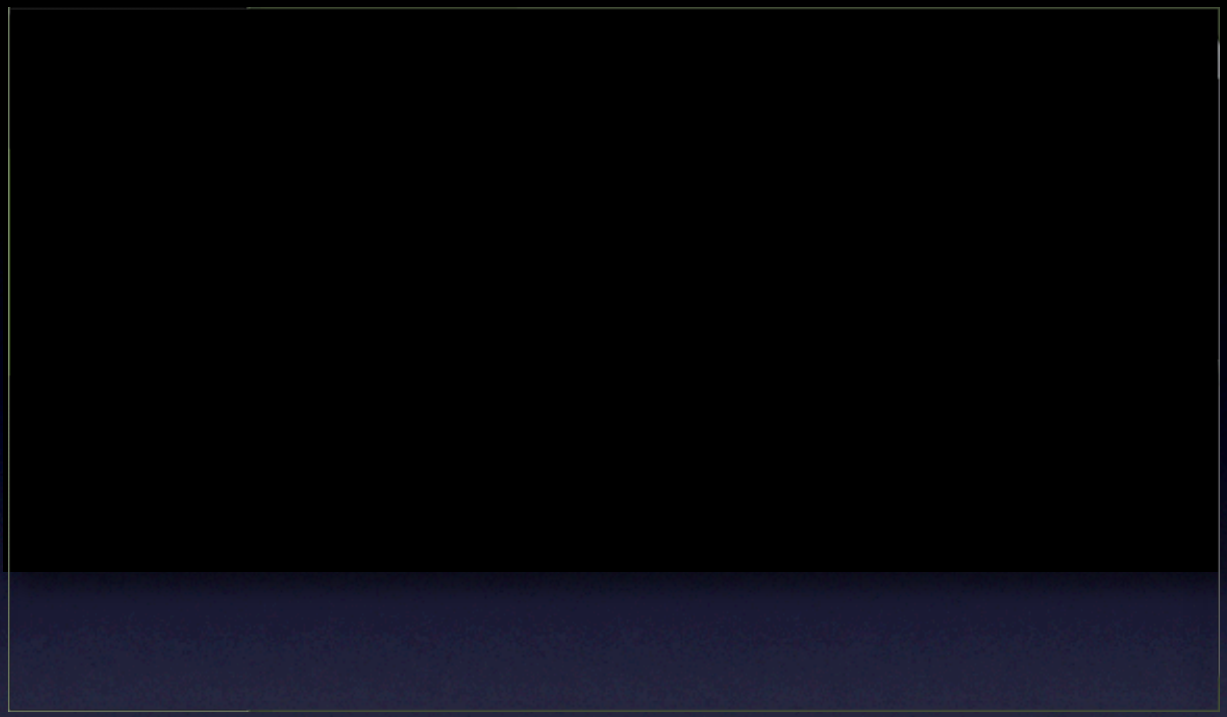
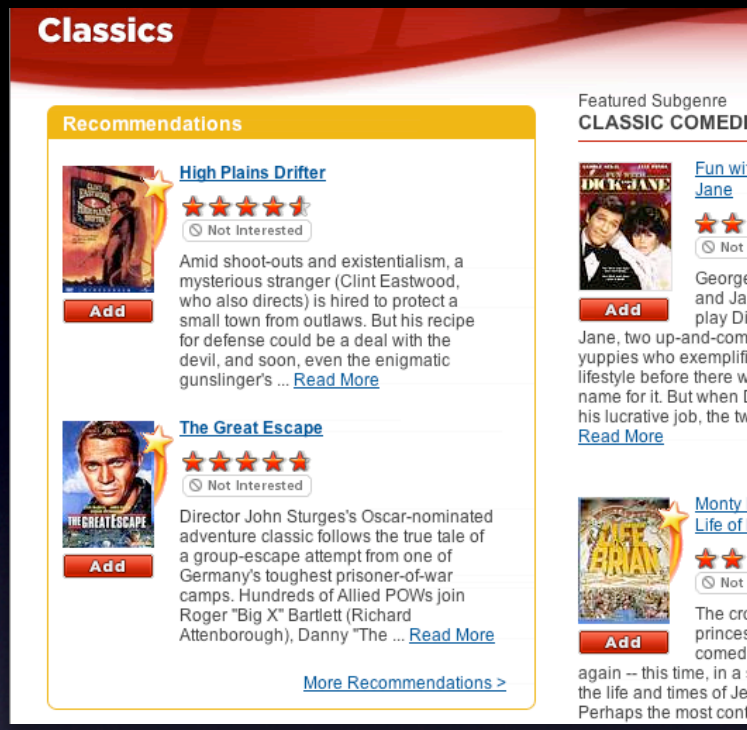
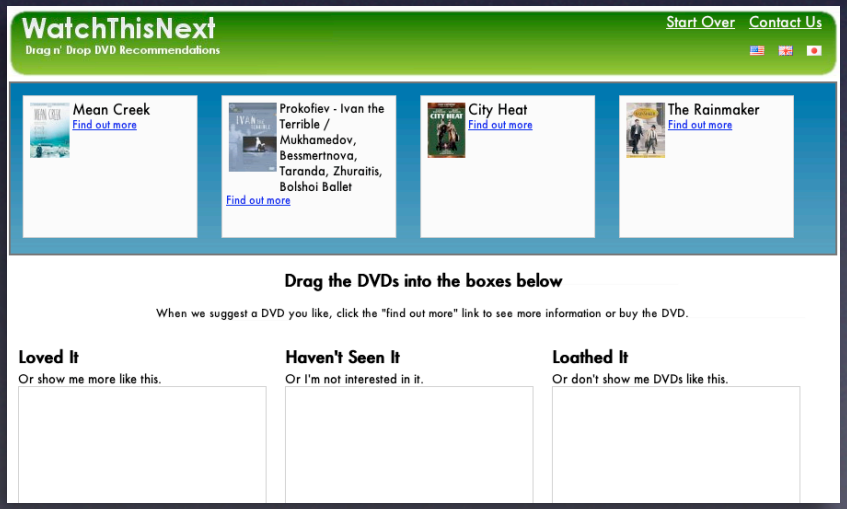






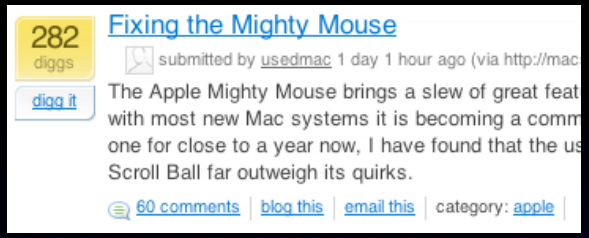
drag and drop

Not for simply setting an attribute

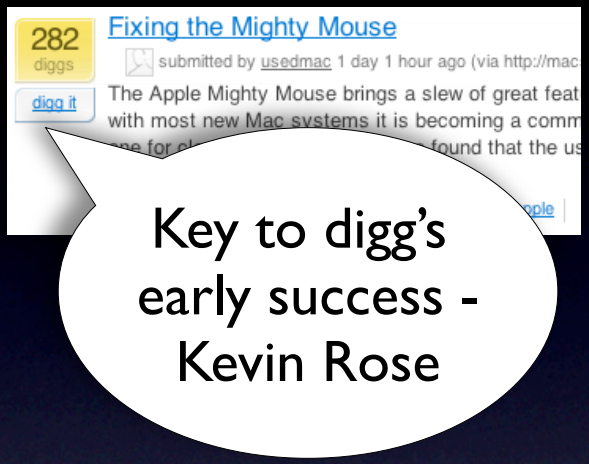
Don't construct artificial visual constructs

keep it lightweight

digg. in page action

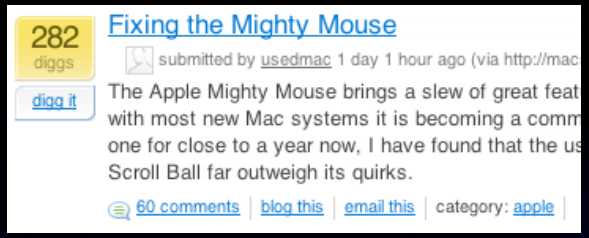


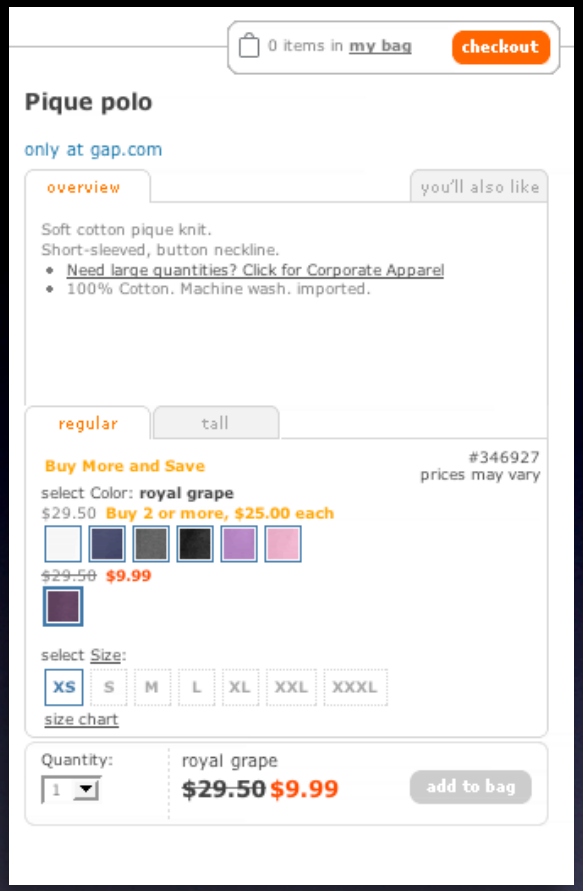
digg. in page action



keep it lightweight. **contextual tools**

digg. **in page action**

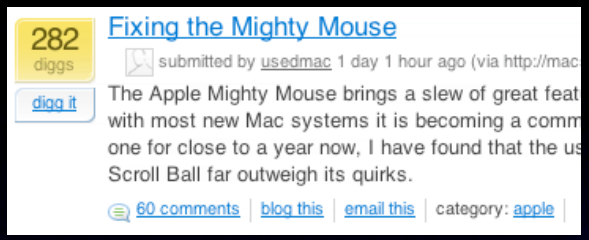


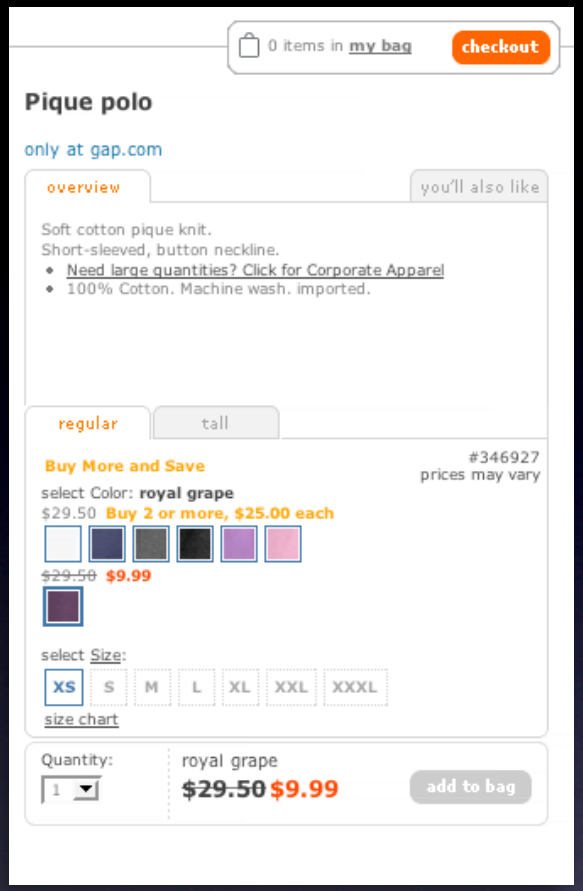


the gap. **remembered collections**

keep it lightweight. **contextual tools**

digg. **in page action**





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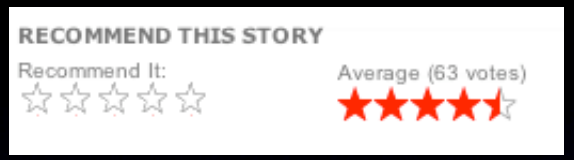
y! news, netflix. **rating an object**



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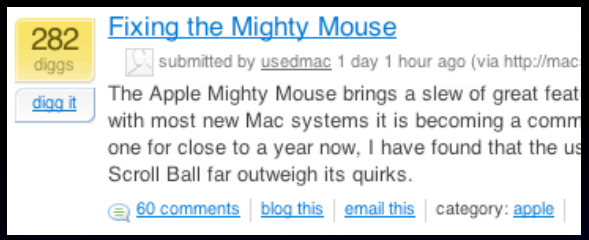

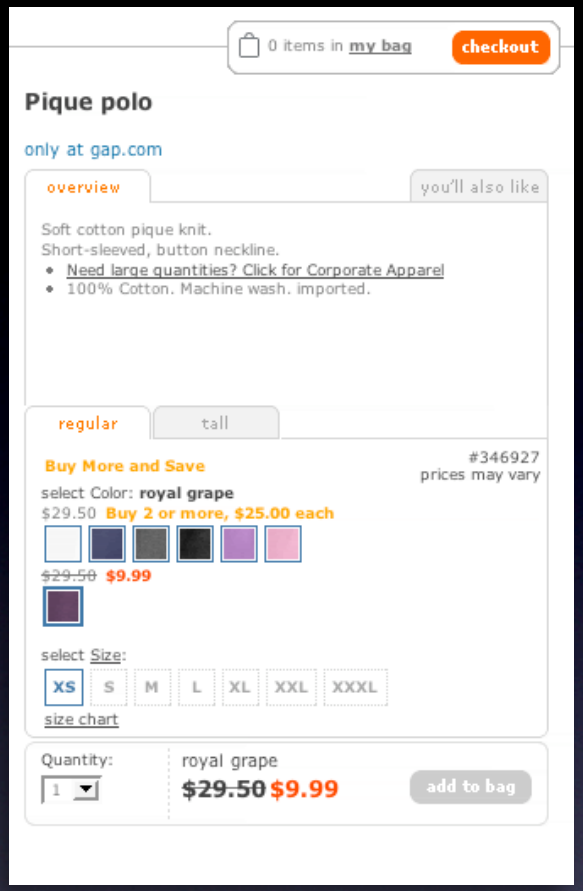

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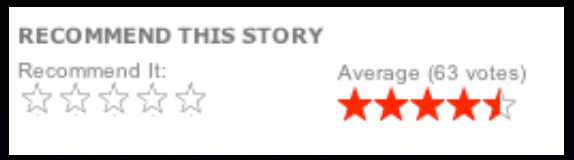

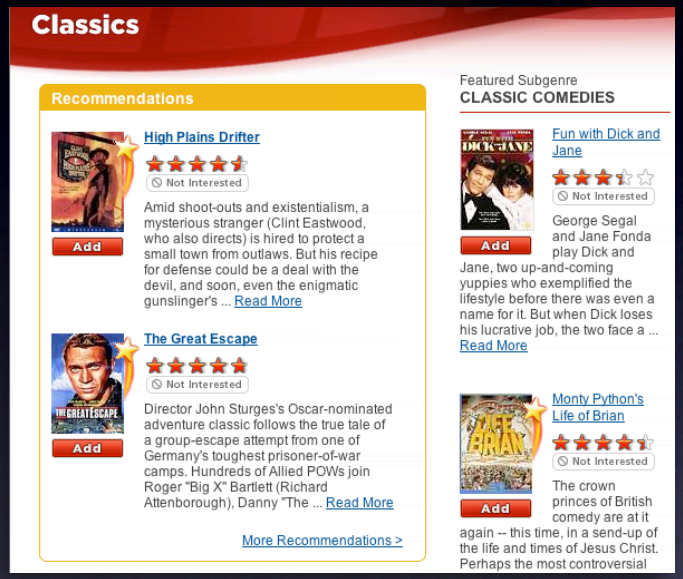

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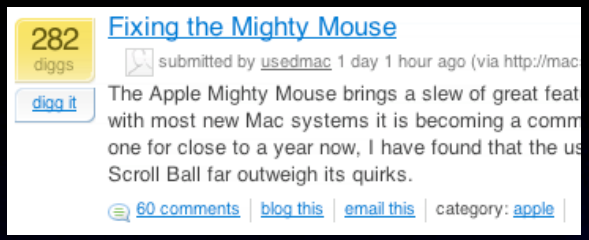
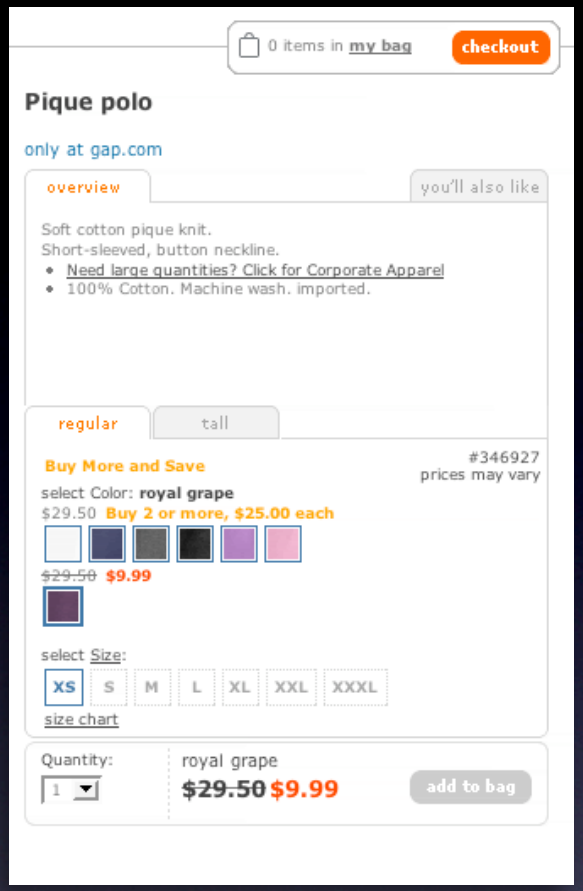
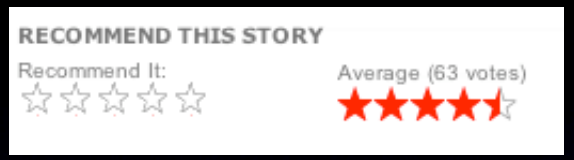
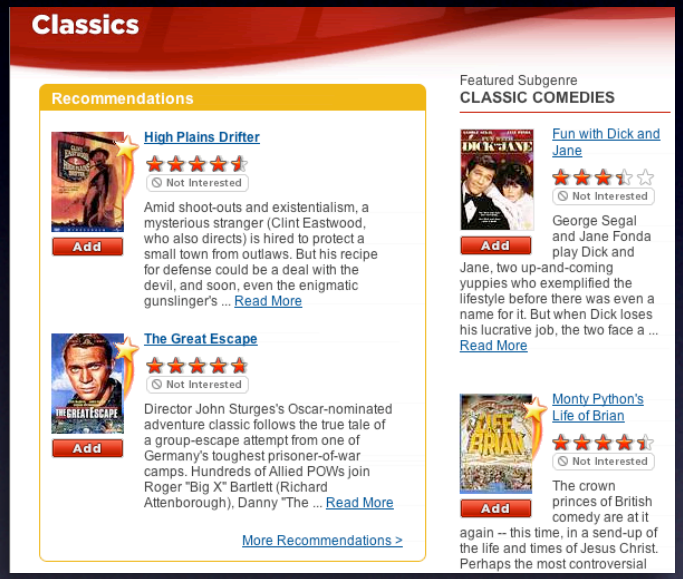




the gap. remembered collections

y! news, netflix. rating an object





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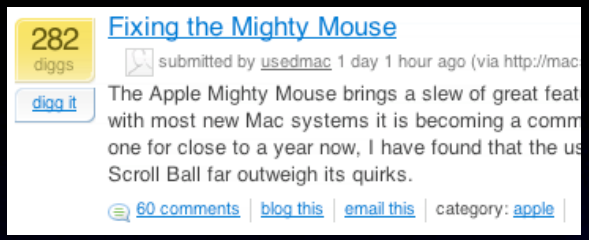

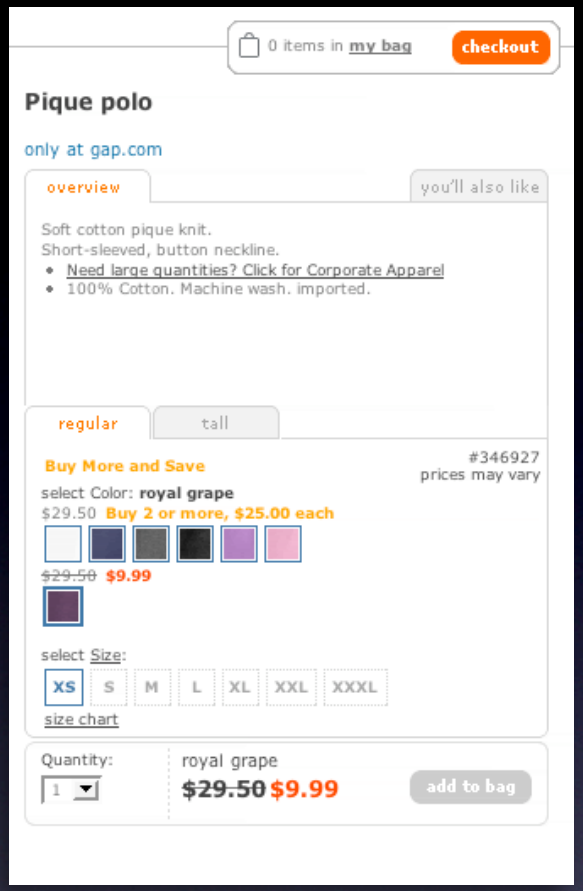

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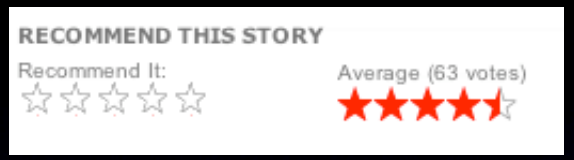

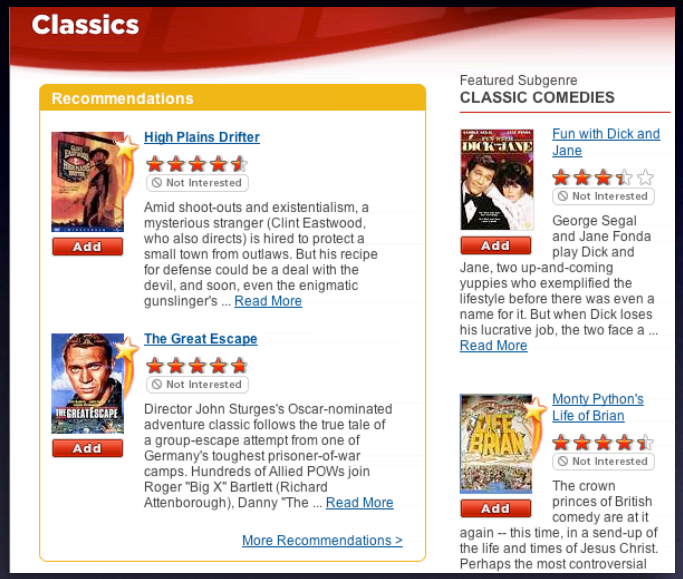

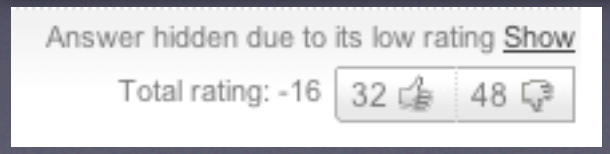

y! movies, y! answers. **rating an object**

keep it lightweight. **contextual tools**

digg. **in page action**

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the gap. **remembered collections**

y! news, netflix. **rating an object**

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y! movies, y! answers. **rating an object**

lantzilla pro says:
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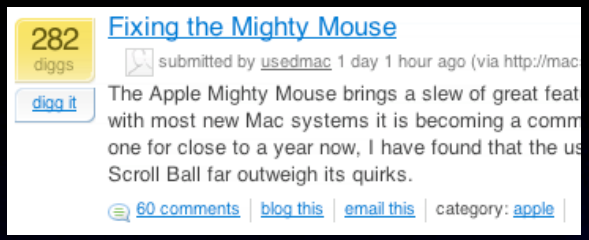
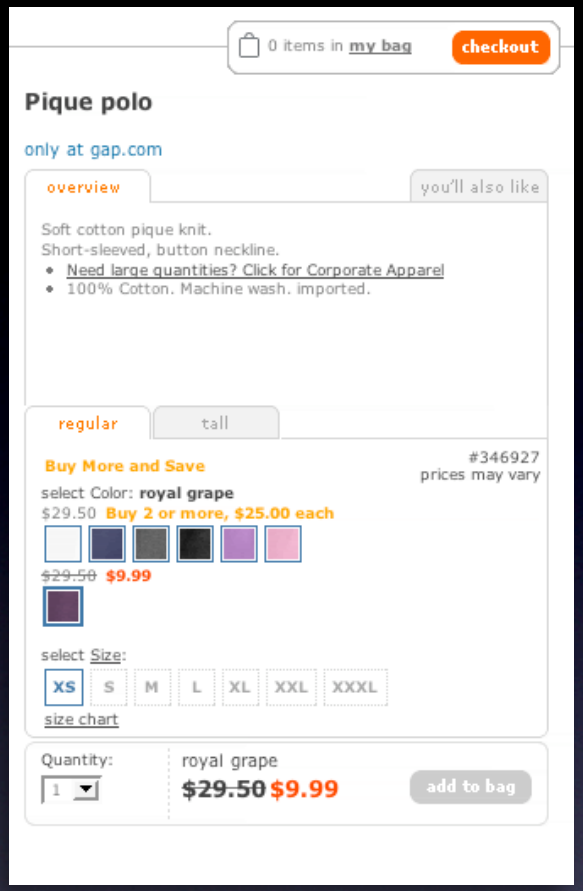
flickr. **in-context tools**

keep it lightweight. **contextual tools**

digg. **in page action**





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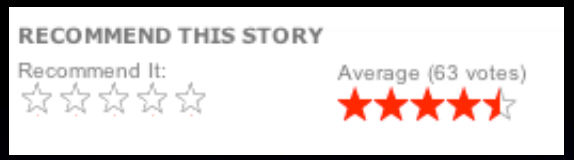
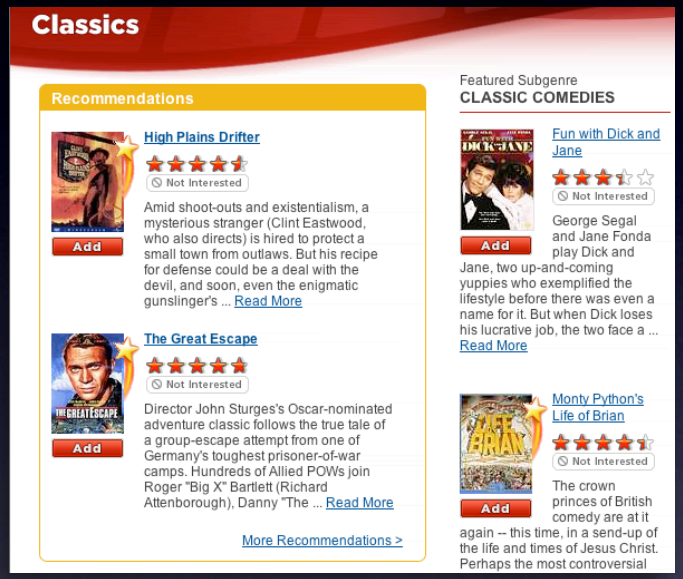
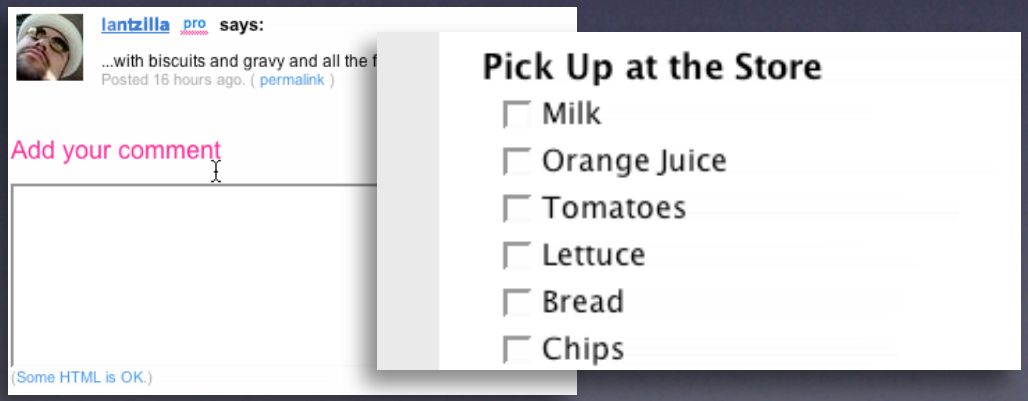
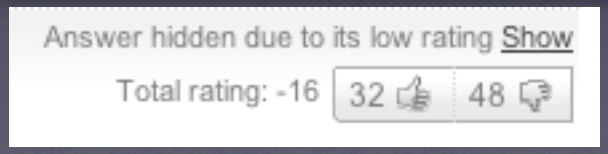






flickr. **in-context tools**



y! movies, y! answers. **rating an object**

keep it lightweight. **contextual tools**

Same as context menus
Only good for single objects
Can actually slow you down

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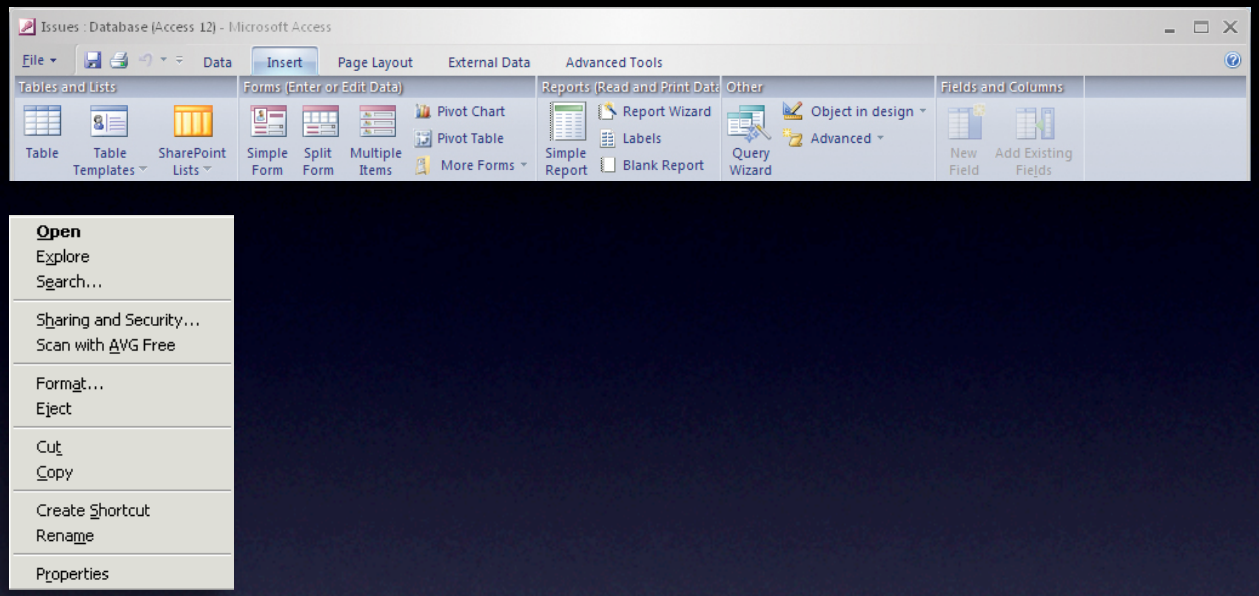

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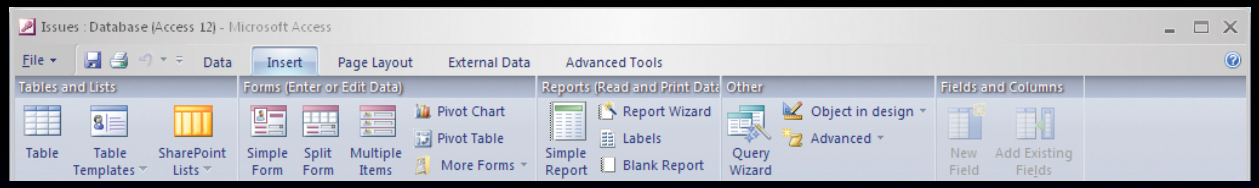

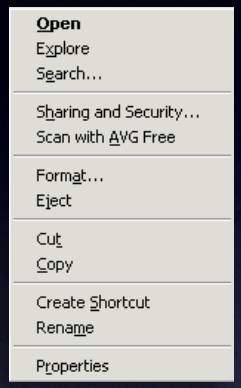

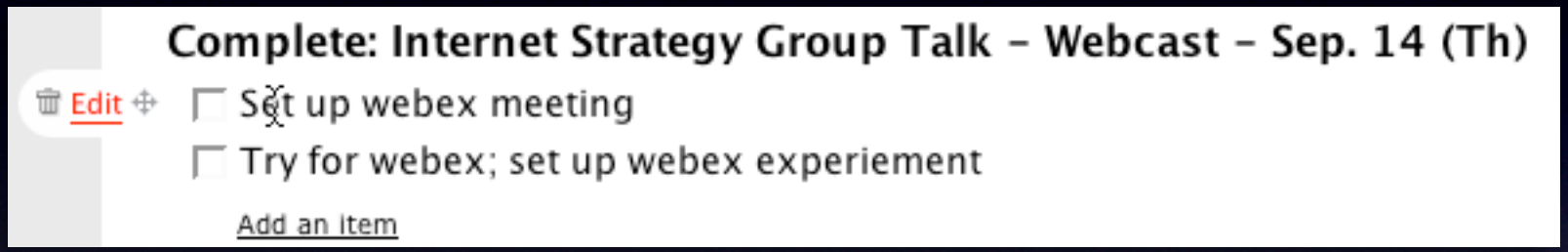

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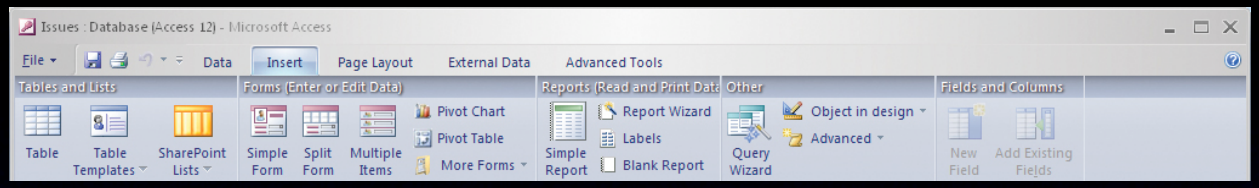

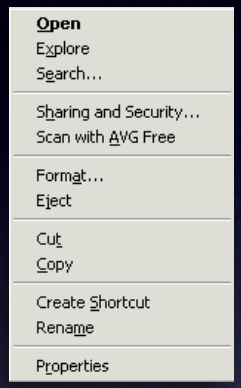

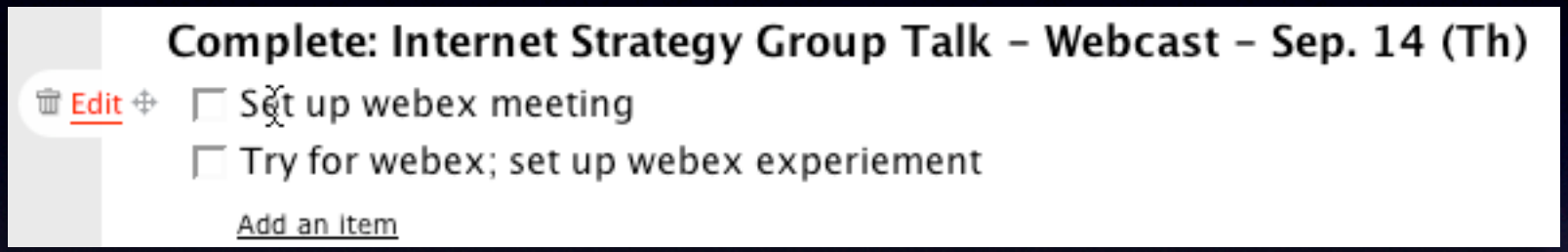

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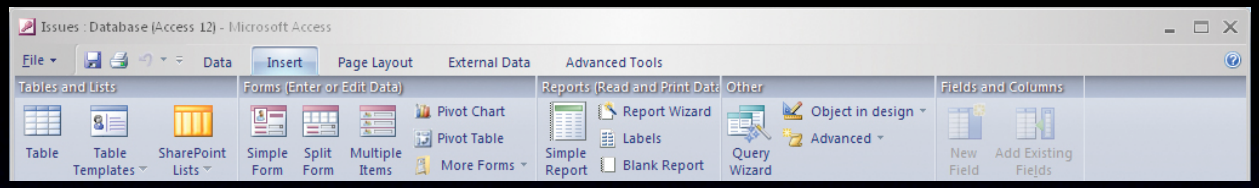

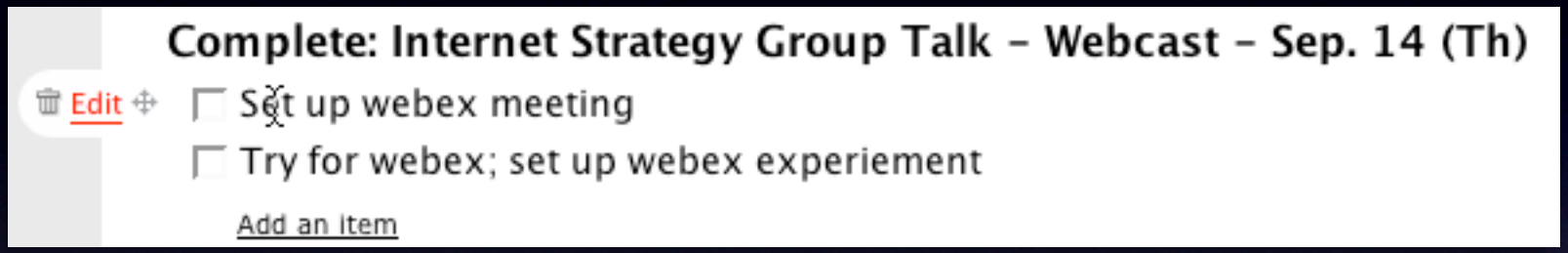

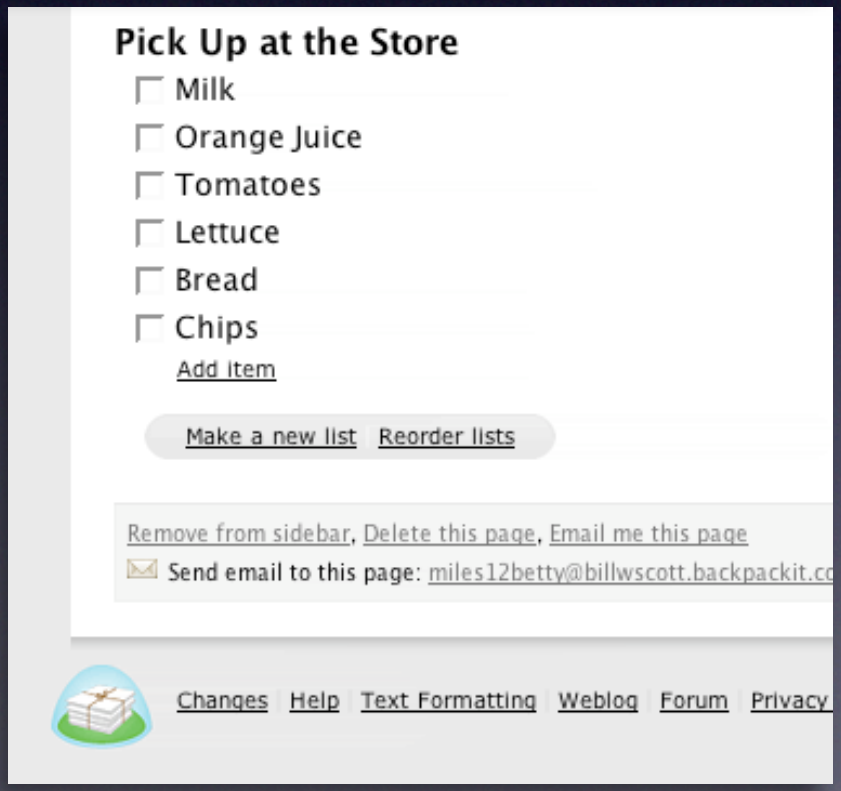

Remove the “pain points”

Shorten the path

Keep actions immediate and light

Use hover, blur, focus; avoid heavy events

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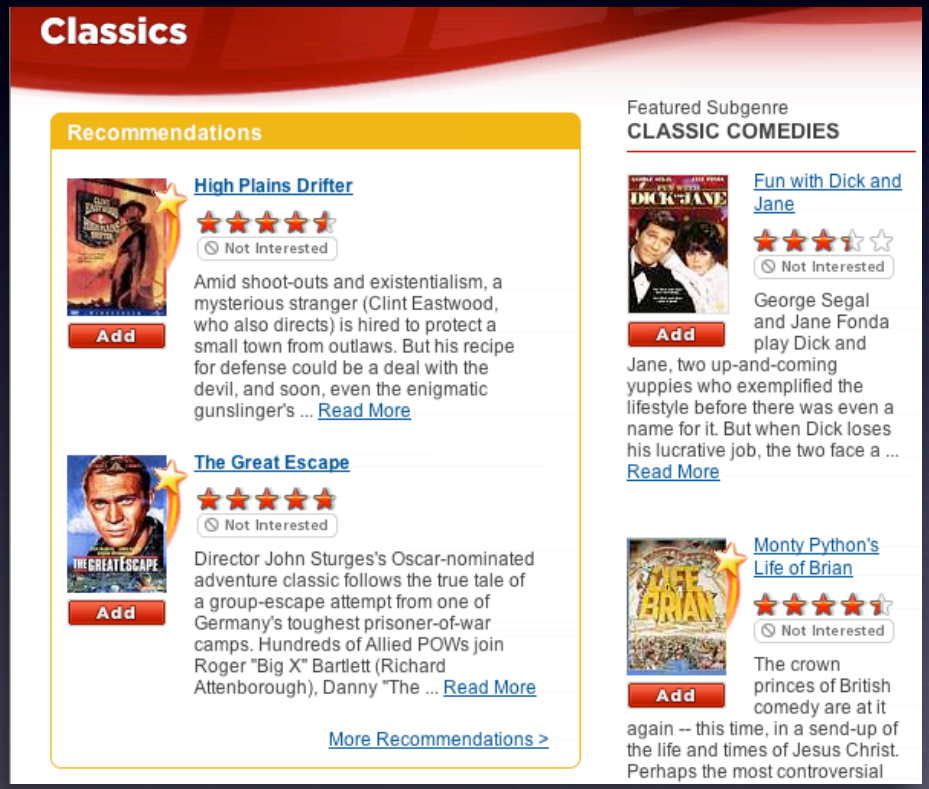
Keep actions immediate and light

Use hover, blur, focus; avoid heavy events



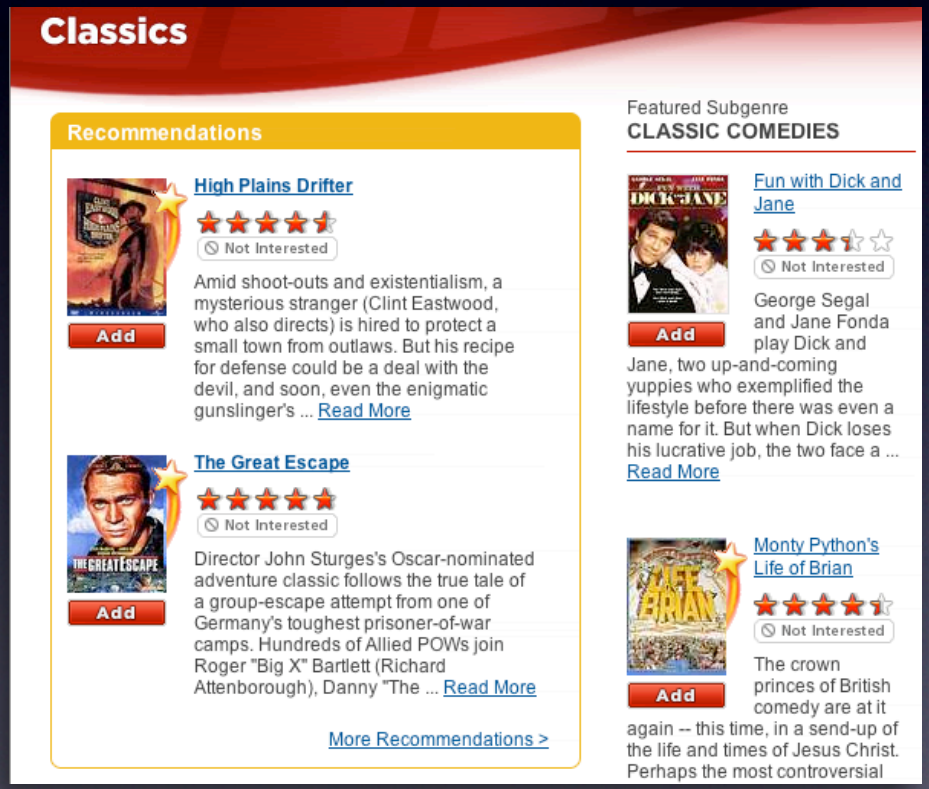
netflix. **ratings**

Remove the "pain points"

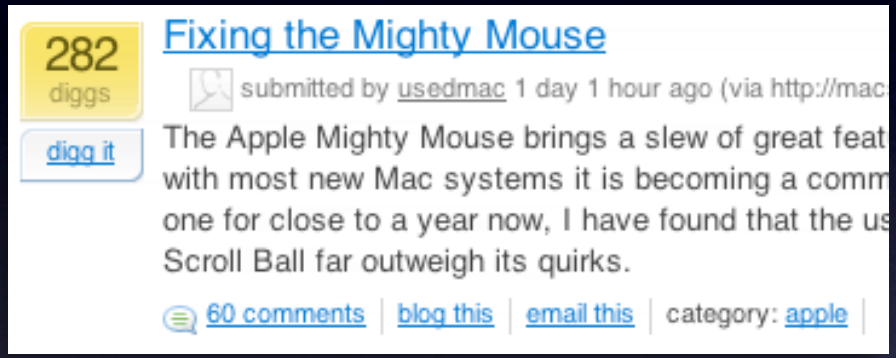
Shorten the path

Keep actions immediate and light

Use hover, blur, focus; avoid heavy events



netflix. **ratings**



digg. **vote**

click-weight

seek time

decision time

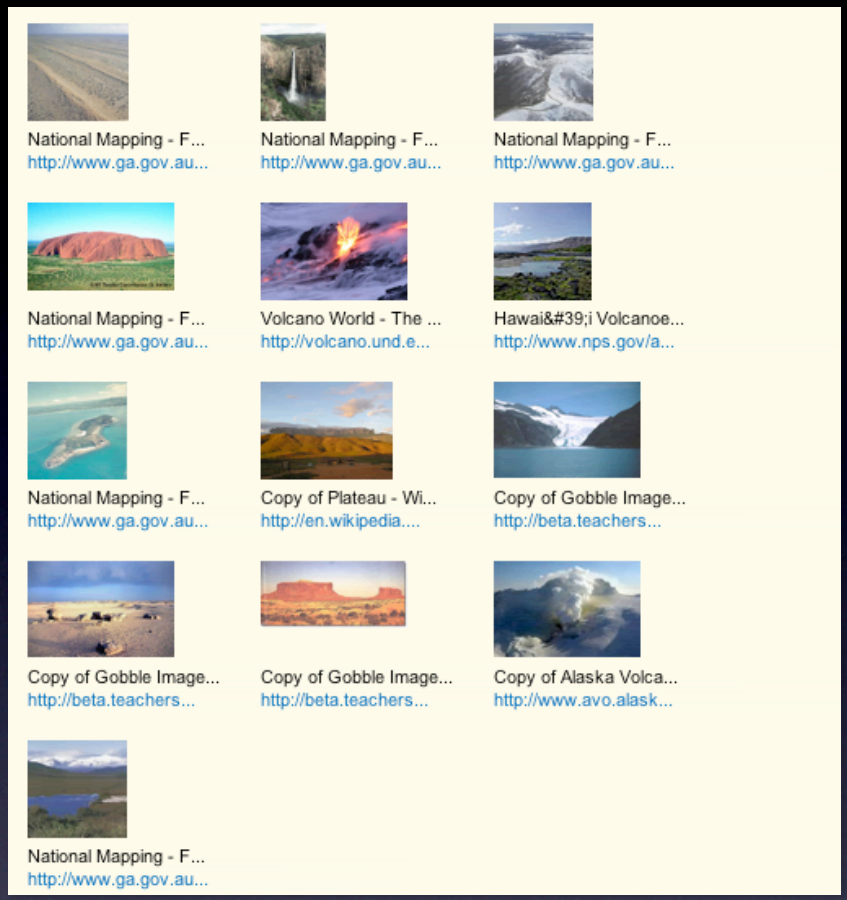
second guessing

wait time

interaction steps

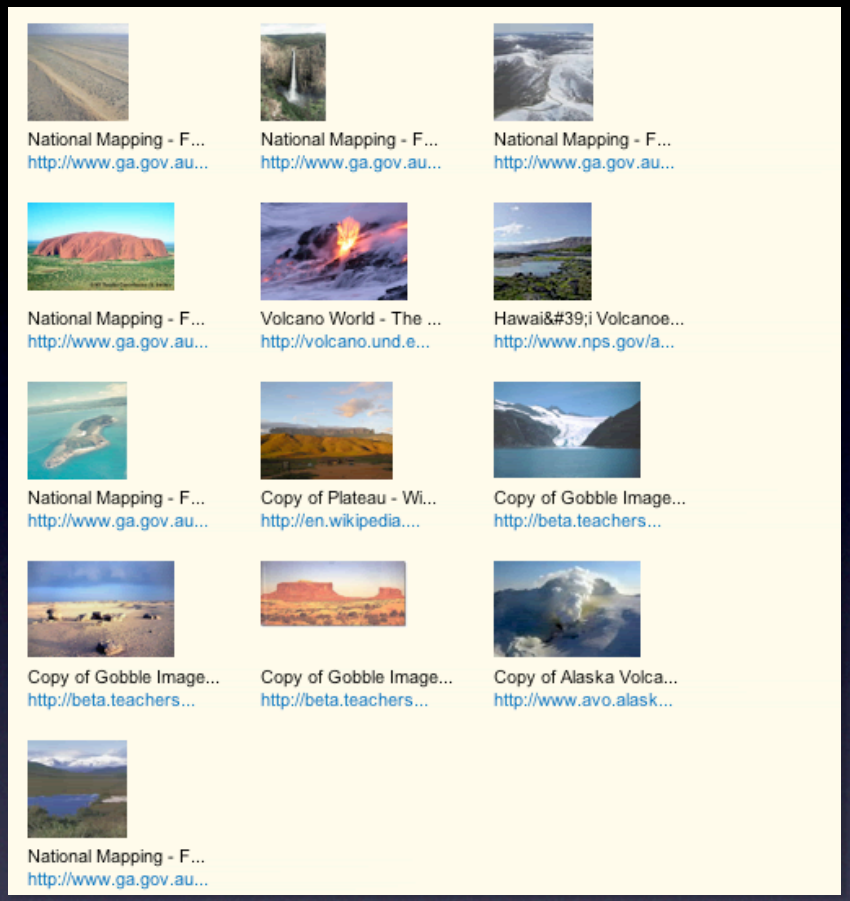
cost/benefit tradeoff

keep it lightweight. **anti-patterns**

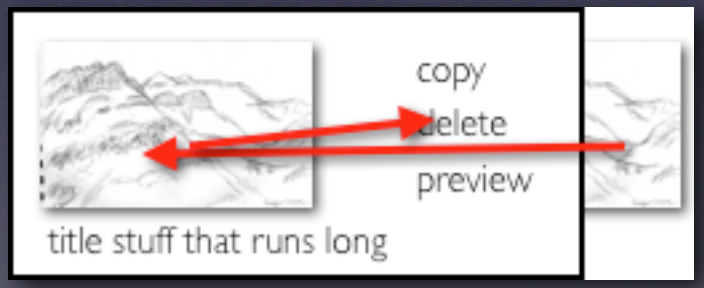


y! teachers. anti-pattern. **hover & cover**

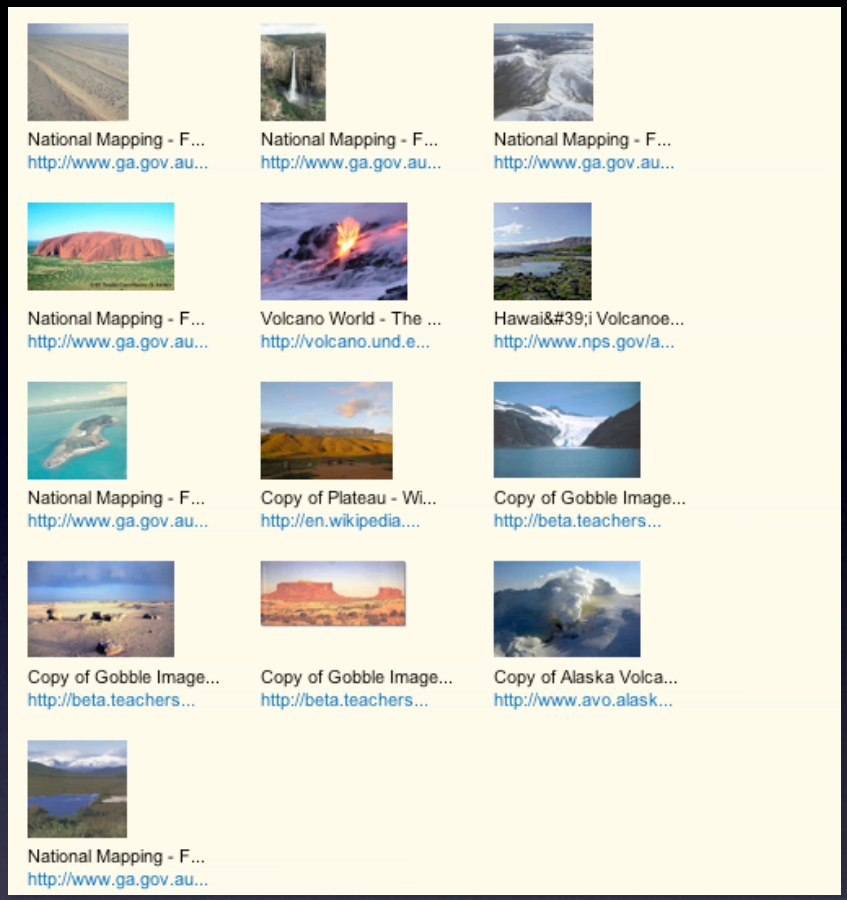
keep it lightweight. **anti-patterns**



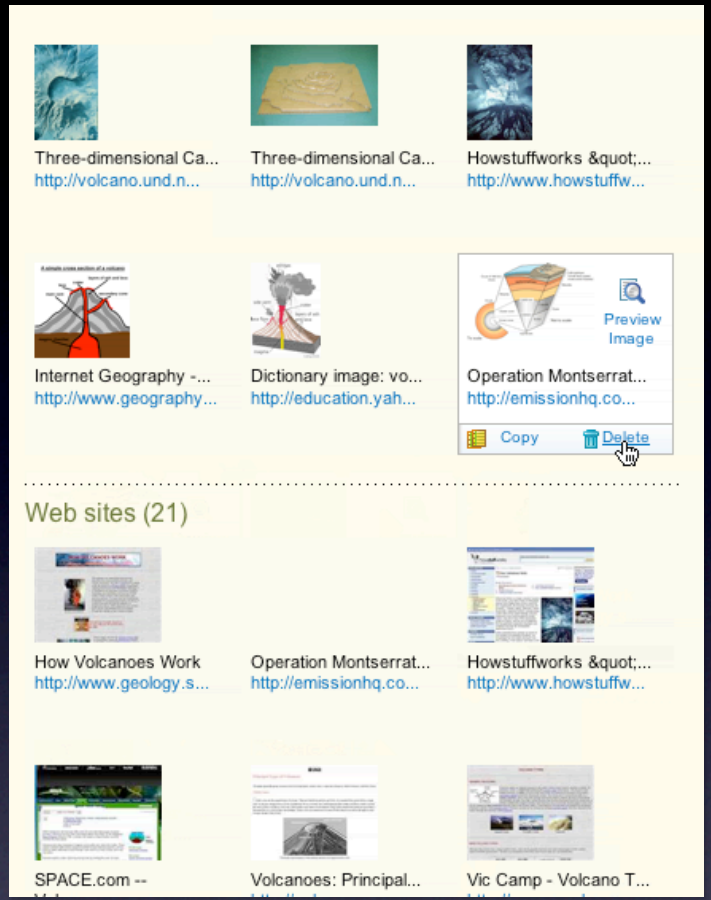
y! teachers. anti-pattern. **hover & cover**



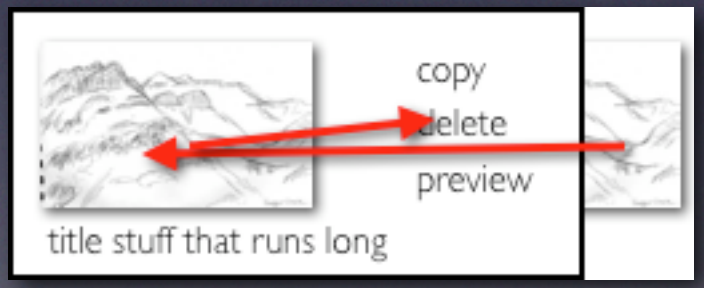
keep it lightweight. **anti-patterns**



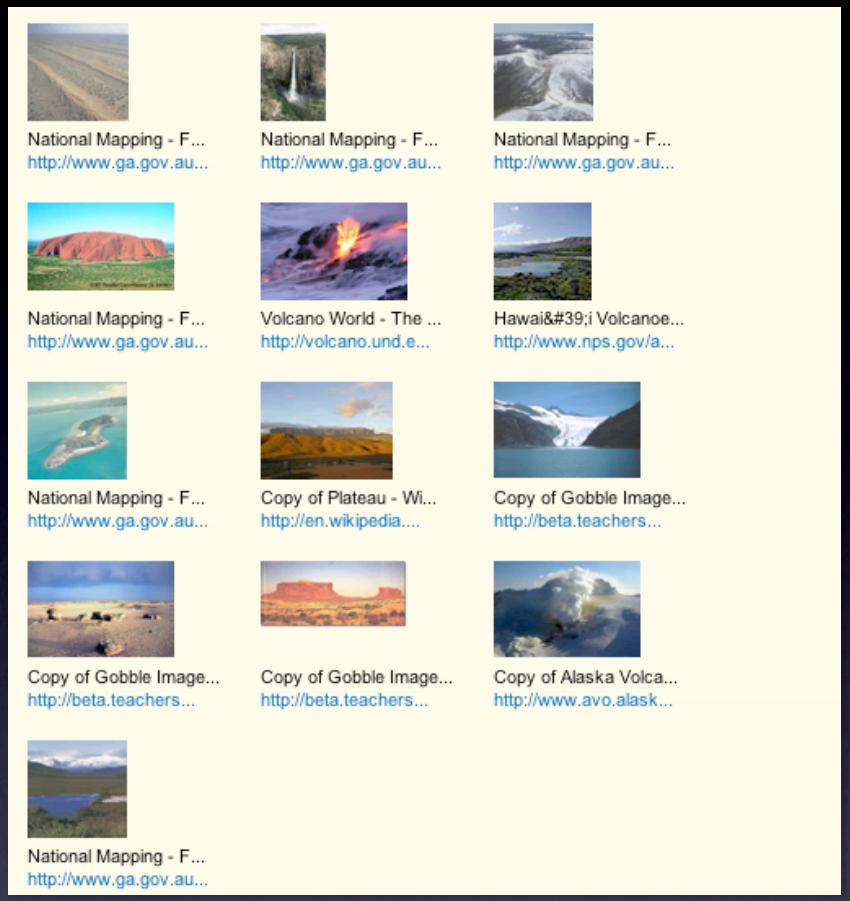
y! teachers. anti-pattern. **hover & cover**



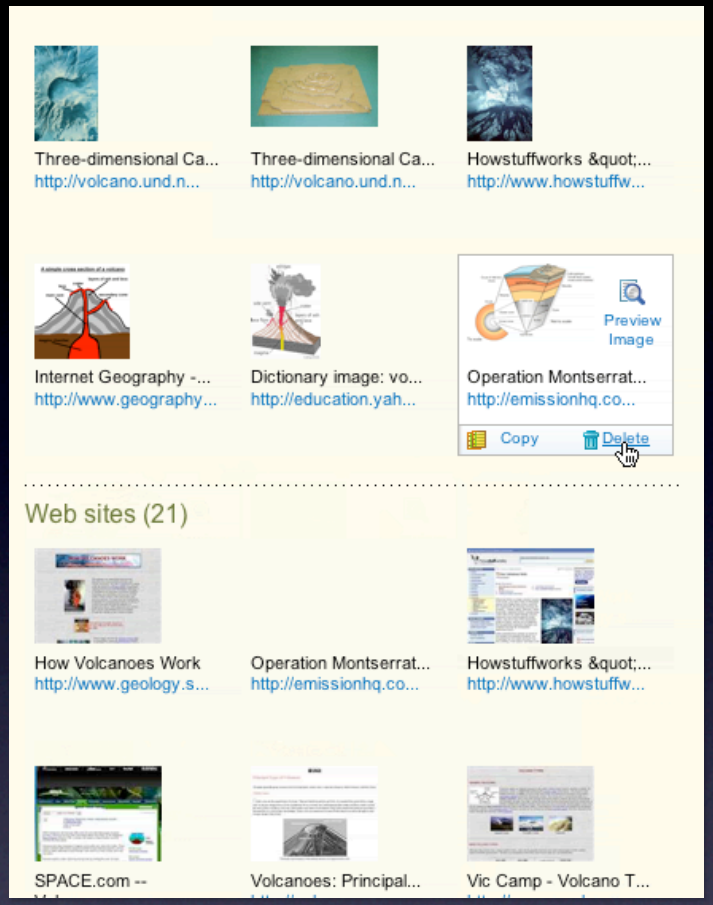
y! teachers. anti-pattern. **hover & cover. resolved**

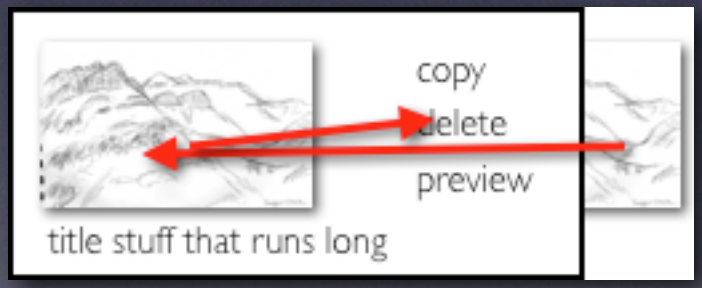


keep it lightweight. **anti-patterns**

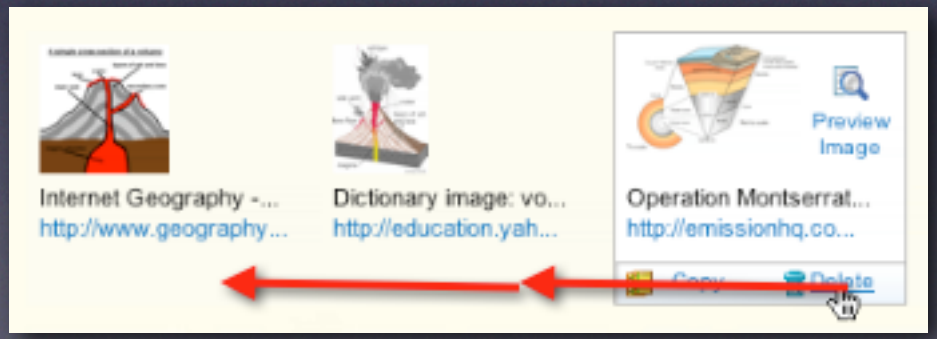


y! teachers. anti-pattern. **hover & cover**



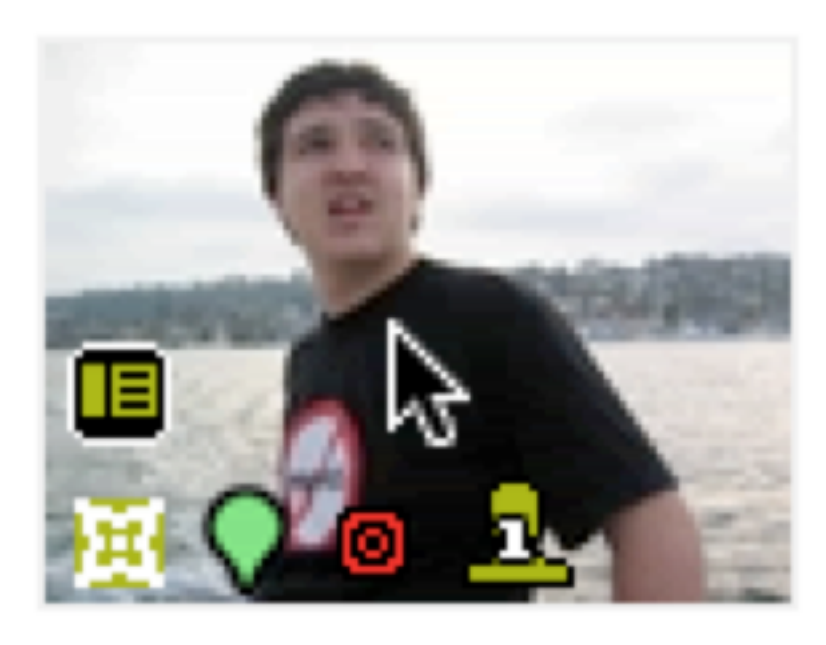


y! teachers. anti-pattern. **hover & cover. resolved**



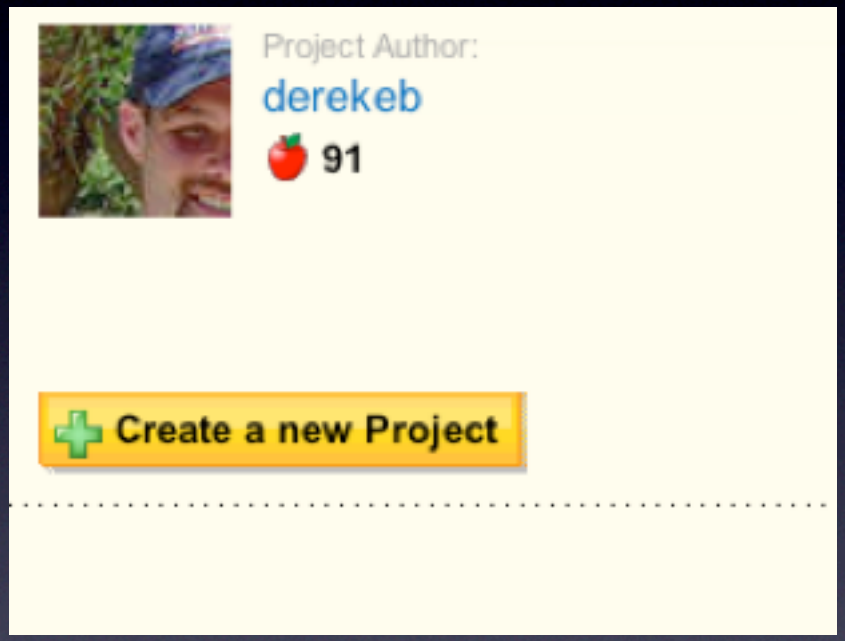
keep it lightweight. **anti-patterns**

zooomr. anti-pattern. **mystery meat**



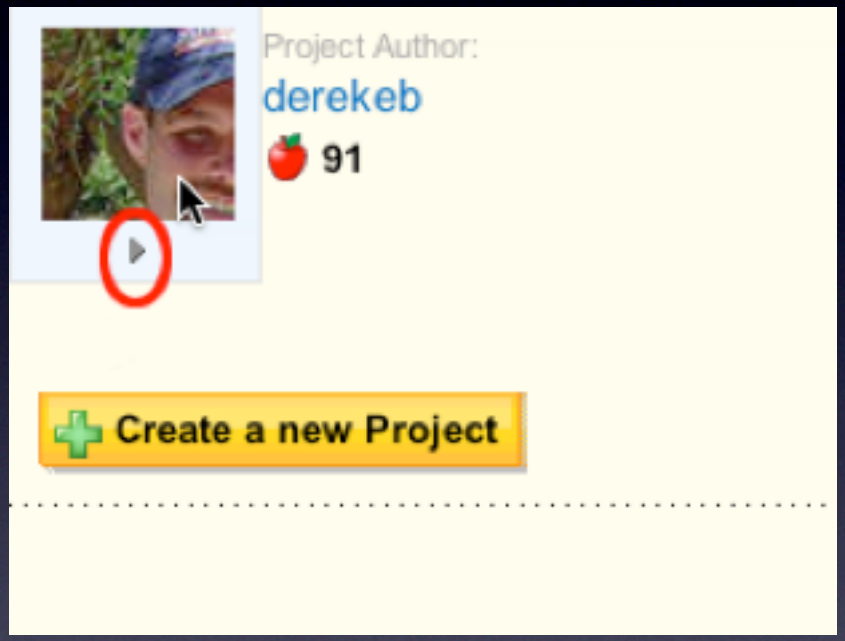
zooomr. anti-pattern. **mystery meat**

zooomr. anti-pattern. **mystery meat**



y! teachers. anti-pattern. **tiny targets**

zooomr. anti-pattern. **mystery meat**



y! teachers. anti-pattern. **tiny targets**

zooomr. anti-pattern. **mystery meat**

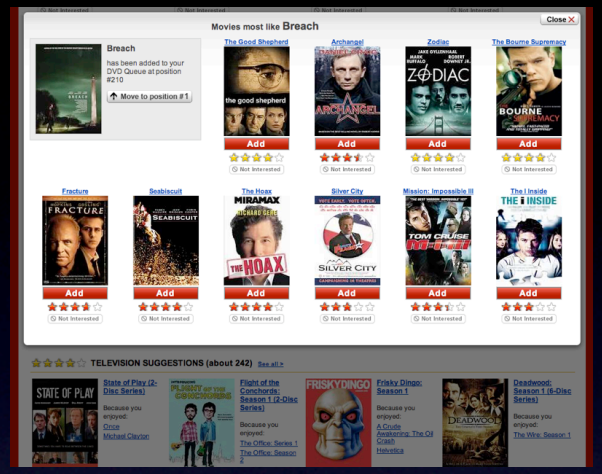
y! teachers. anti-pattern. **tiny targets**

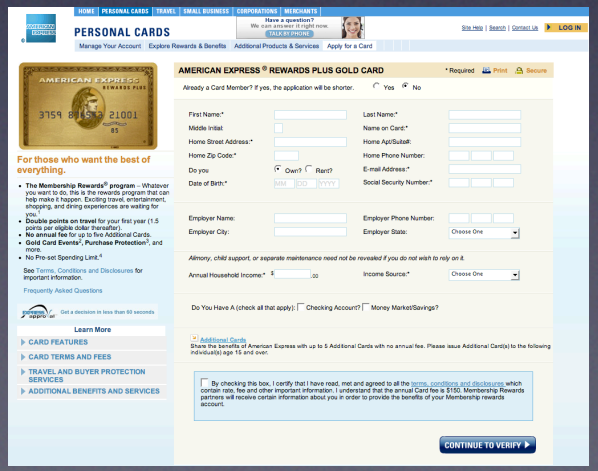
stay on the page

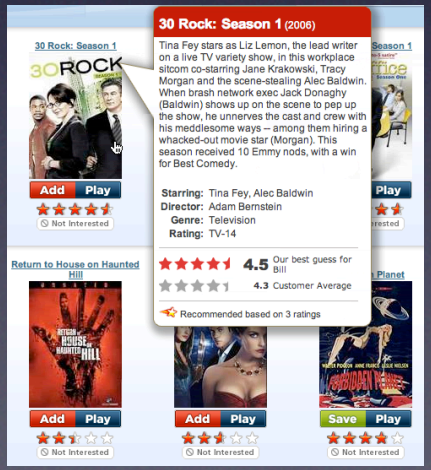
stay on the page. **overlay**

overlays
dialog overlay
detail overlay
input overlay

considerations
lightbox effect
modality
activation







y on the page. **overlay**

overlays

dialog overlay

detail overlay

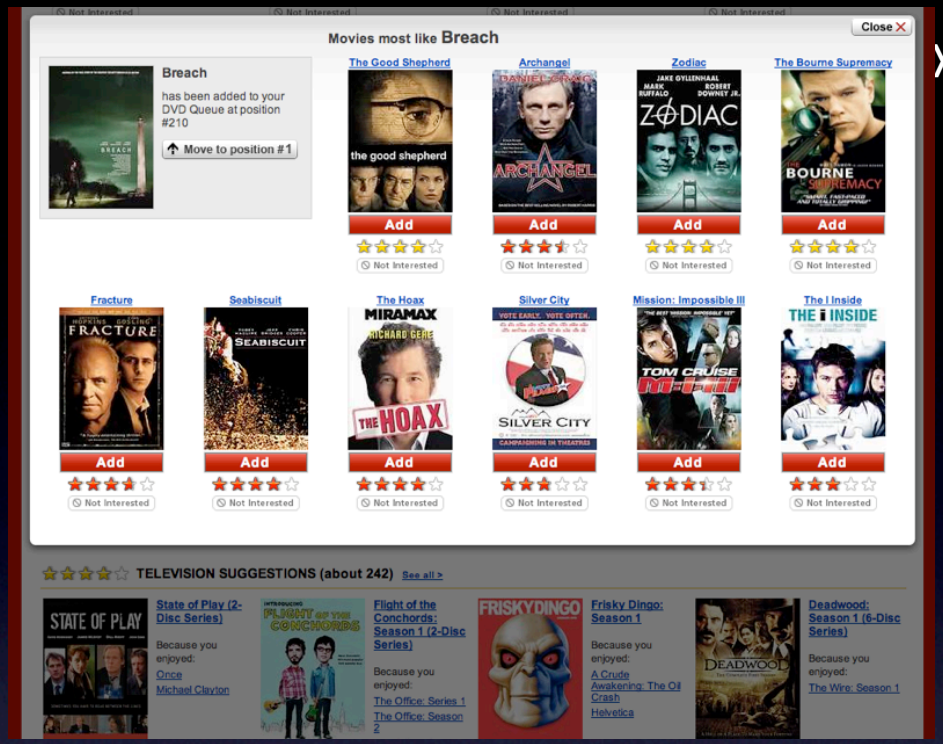
input overlay

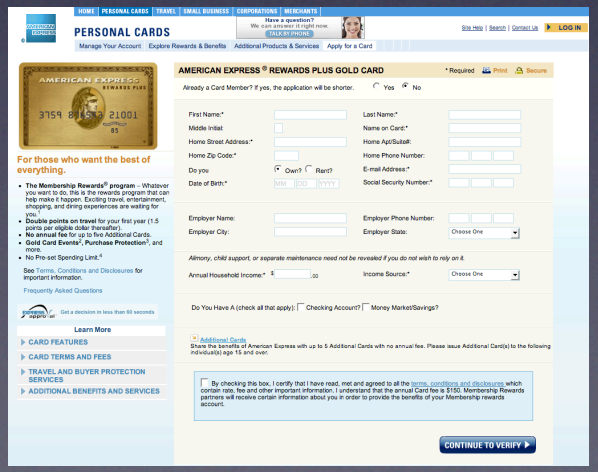
considerations

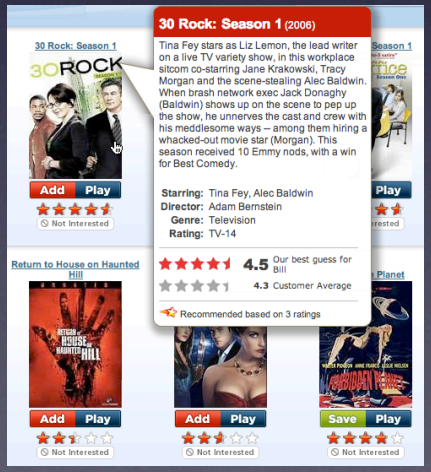
lightbox effect

modality

activation







y on the page. **overlay**

overlays

dialog overlay

detail overlay

input overlay

considerations

lightbox effect

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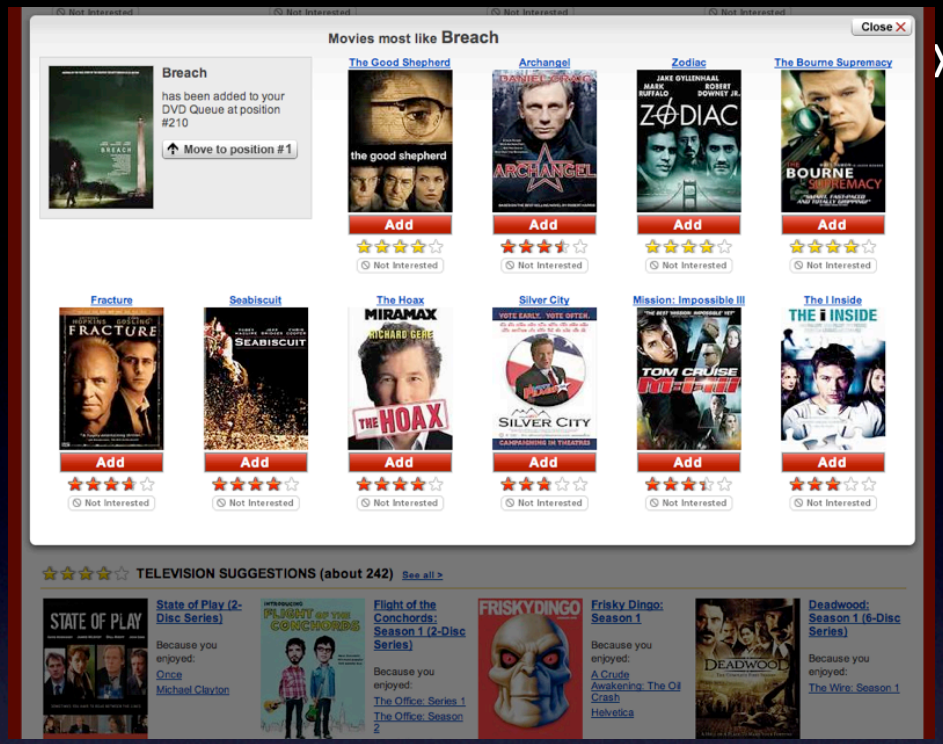
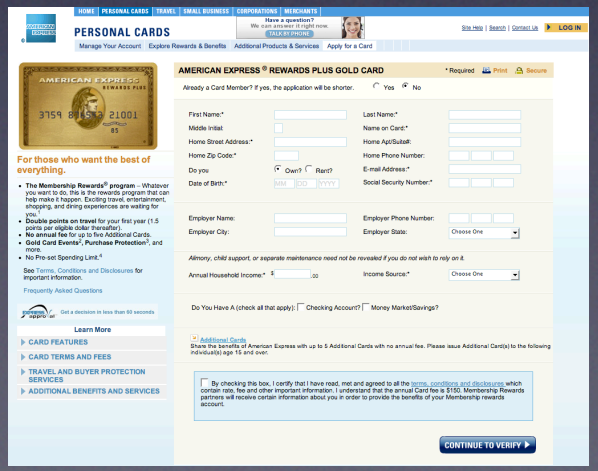
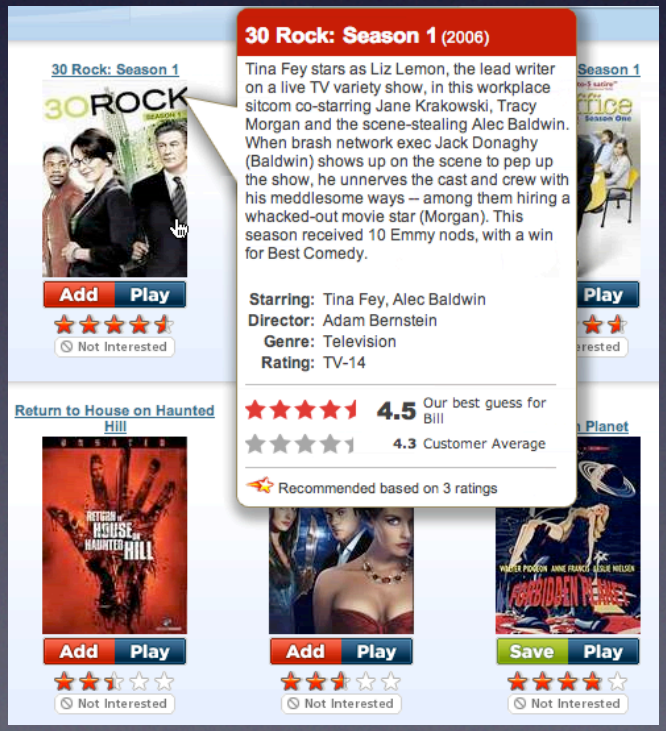


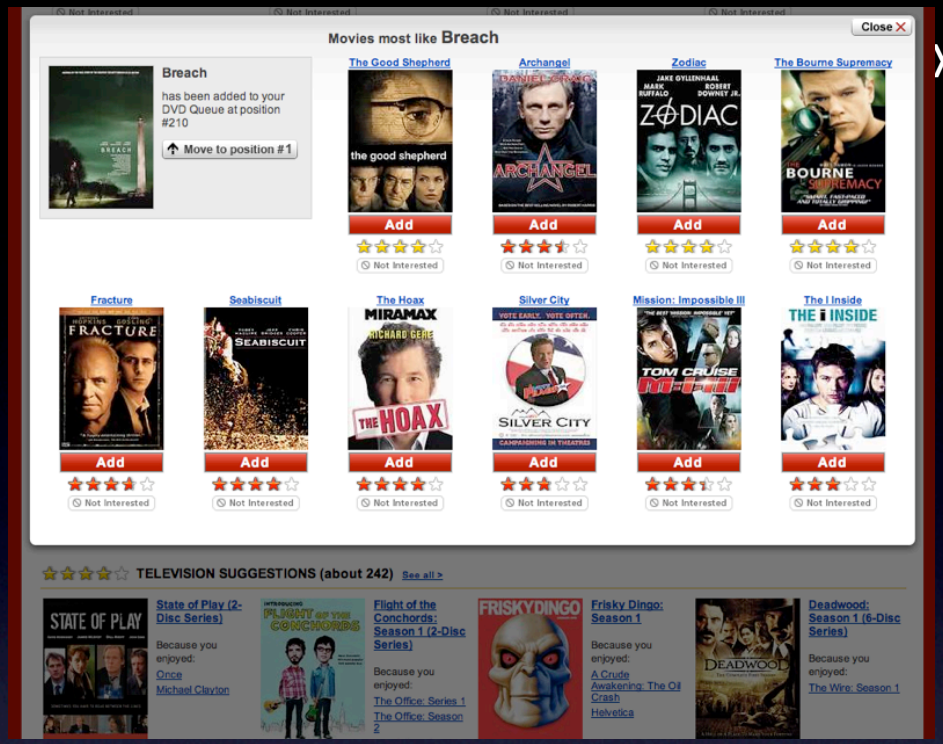


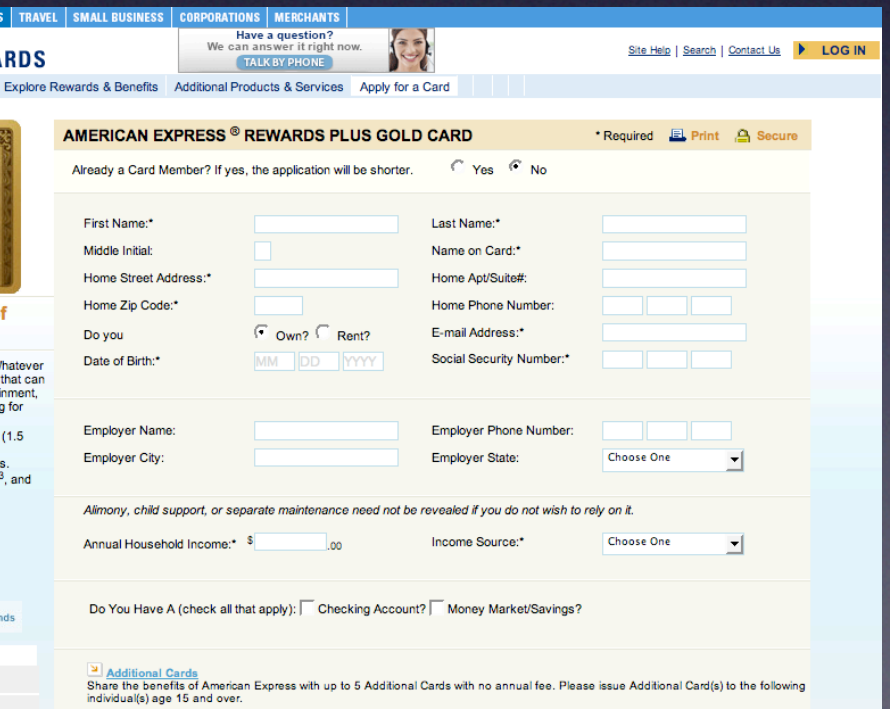


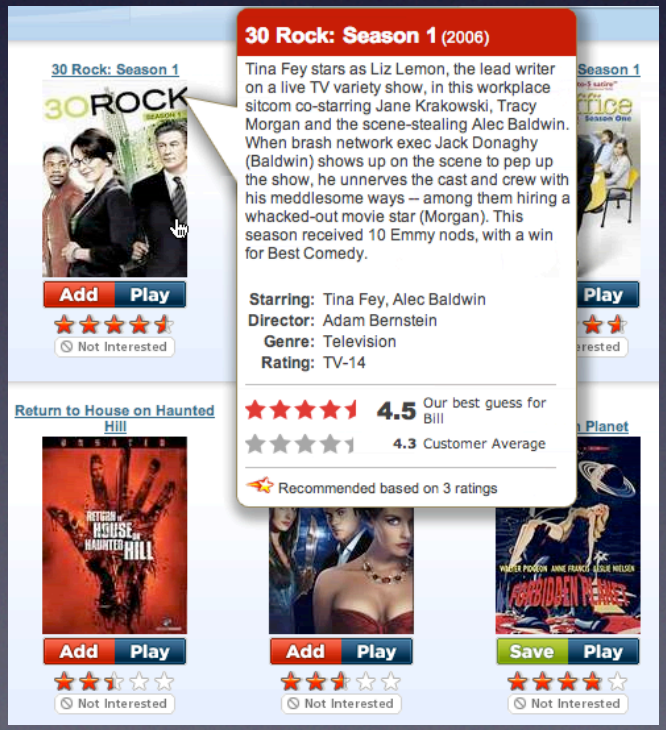
y on the page. **overlay**

overlays
dialog overlay
detail overlay
input overlay

considerations
lightbox effect
modality
activation







stay on the page. **overlay**

anti-pattern. y! photos. **idiot boxes**

stay on the page. **overlay**

stay on the page. **overlay**

anti-pattern. borders. **hover & cover**

anti-pattern. y! photos. **idiot boxes**

stay on the page. **overlay**

anti-pattern. y! photos. **idiot boxes**

anti-pattern. borders. **hover & cover**

anti-pattern. amazon. **mouse trap**

inlays

in-context configuration
in-context insight
parallel content
inlay vs. overlay

inlays

in-context configuration
in-context insight
parallel content
inlay vs. overlay

my y!. **in-context configuration**

inlays

in-context configuration
in-context insight
parallel content
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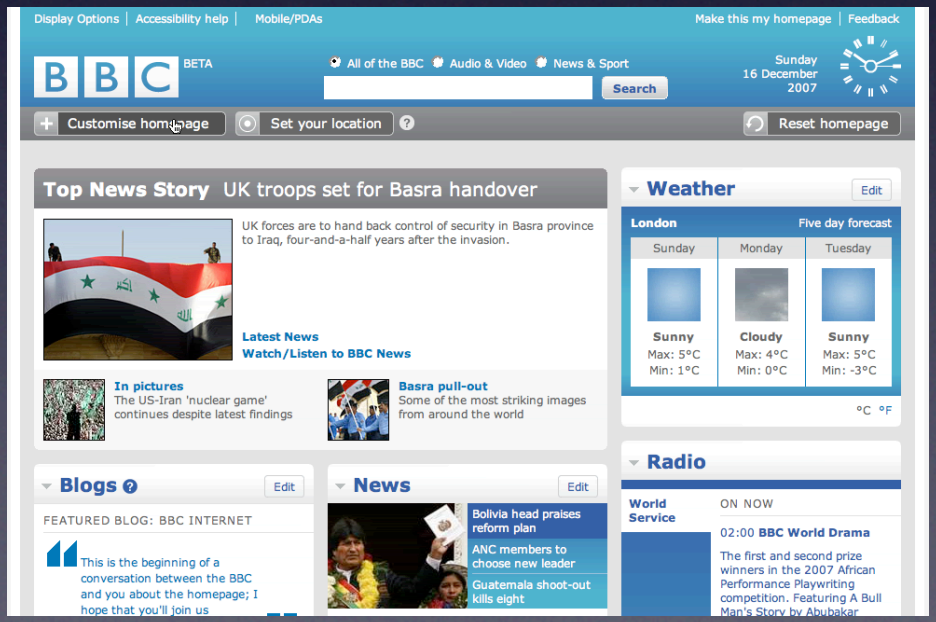
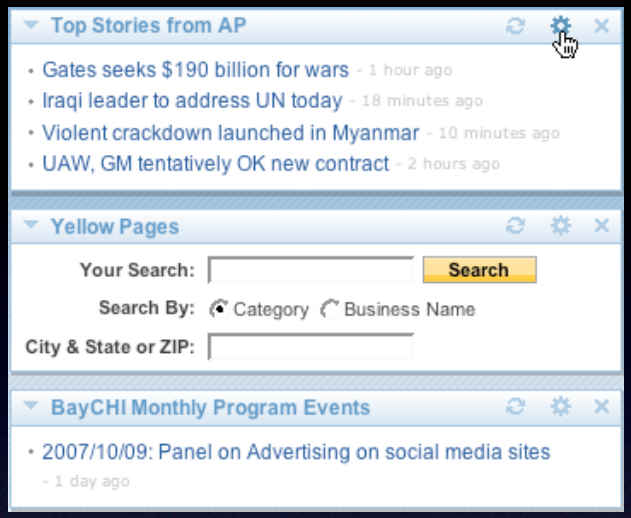
my y!. **in-context configuration**



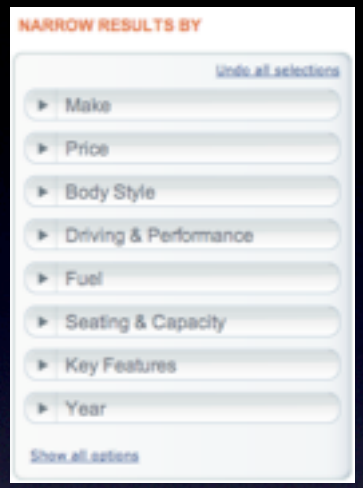
bbc. **in-context configuration**

inlays

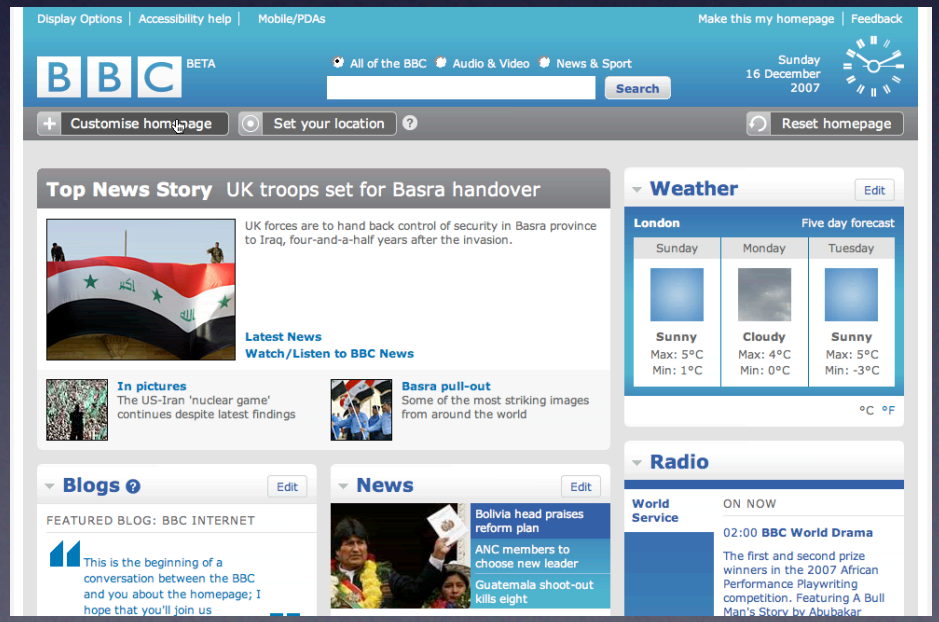
in-context configuration
in-context insight
parallel content
inlay vs. overlay



my y!. **in-context configuration**



y! autos. **accordion**



bbc. **in-context configuration**

inlays

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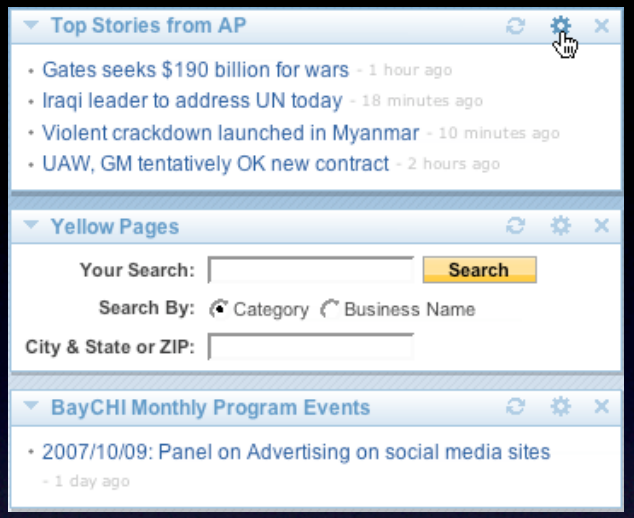
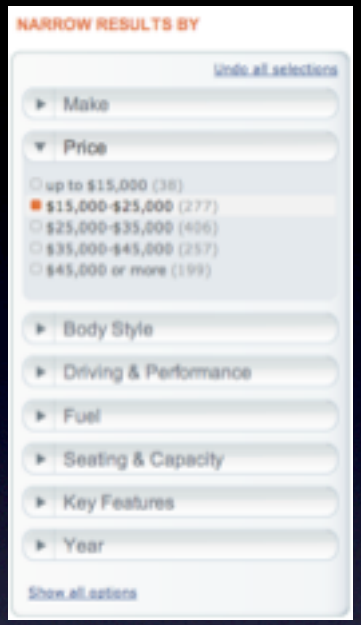
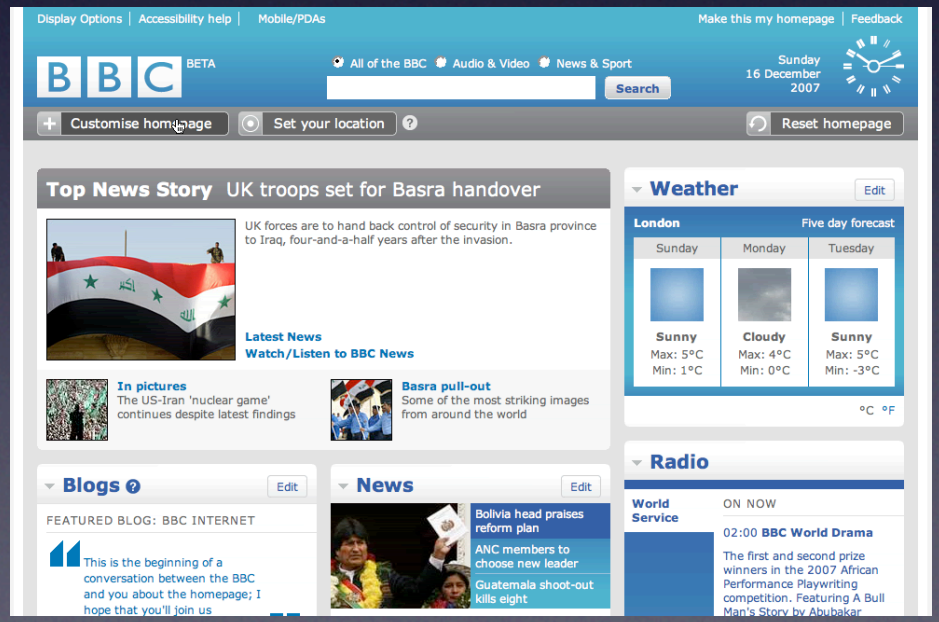


my y!. **in-context configuration**



y! autos. **accordion**



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inlays

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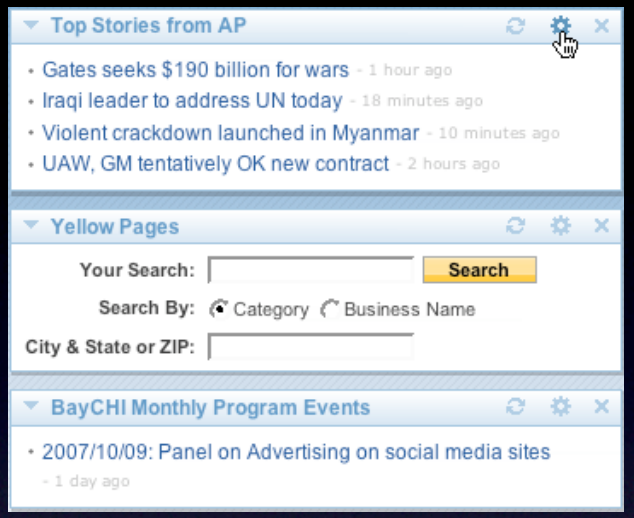
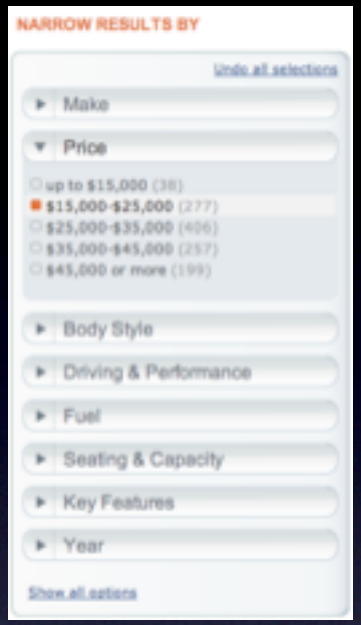
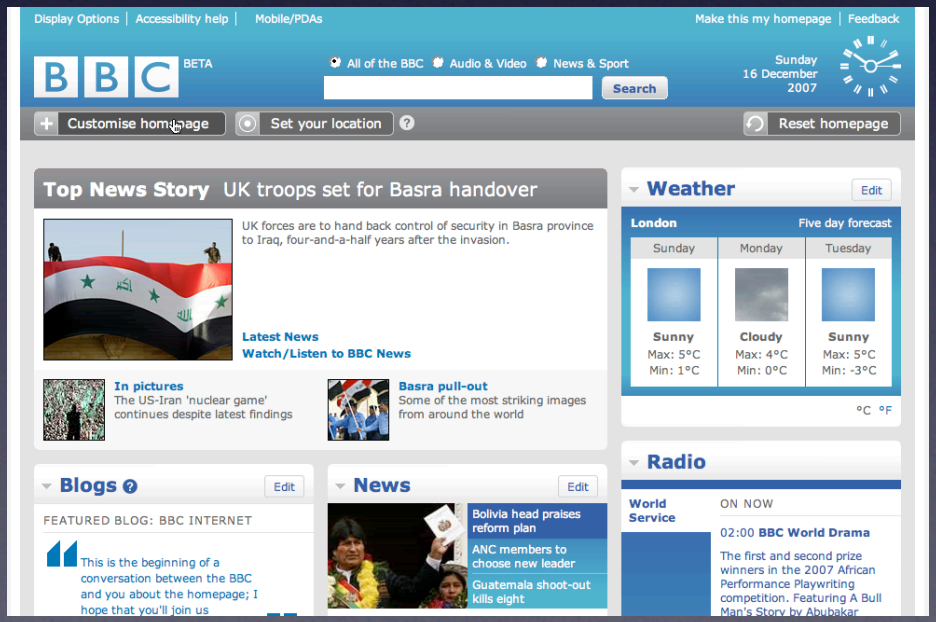


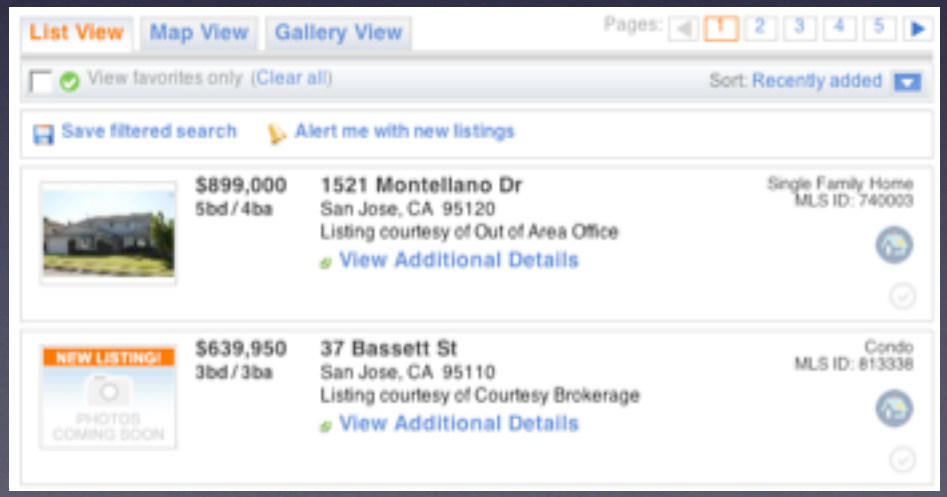
my y!. **in-context configuration**



y! autos. **accordion**



bbc. **in-context configuration**

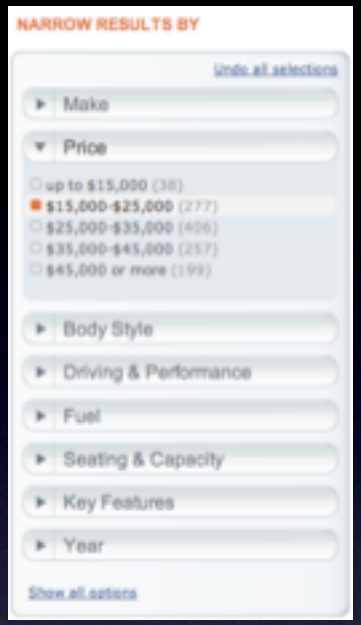


roost. **in-context insight**

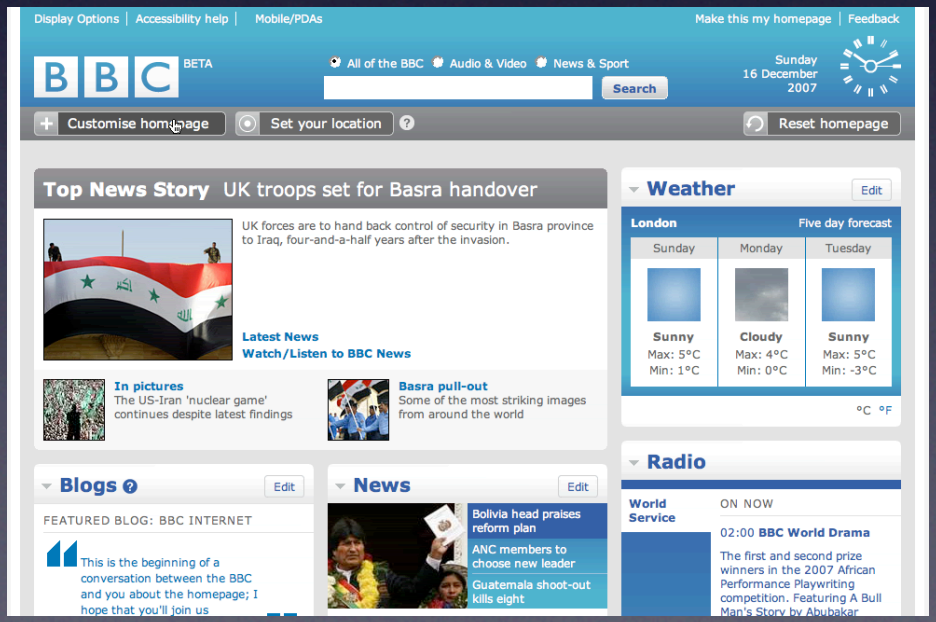
inlays

in-context configuration
in-context insight
parallel content
inlay vs. overlay

my y!. **in-context configuration**



y! autos. **accordion**



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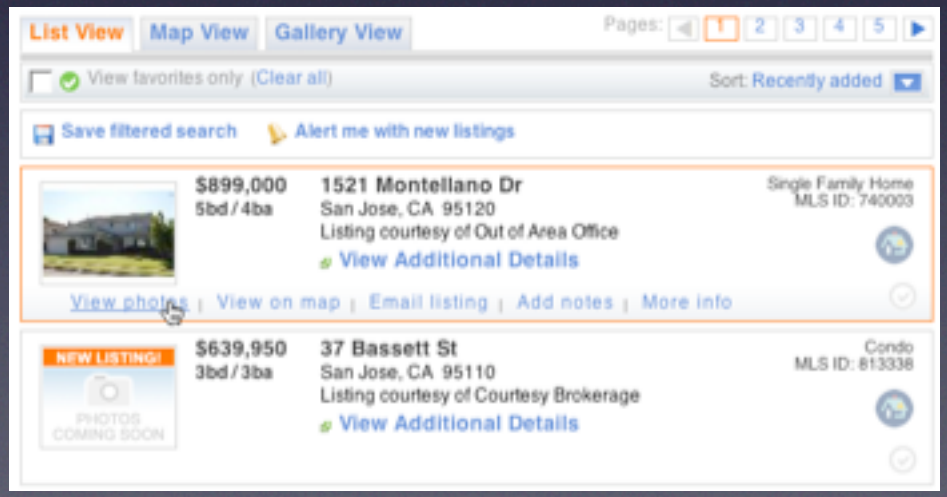

roost. **in-context insight**

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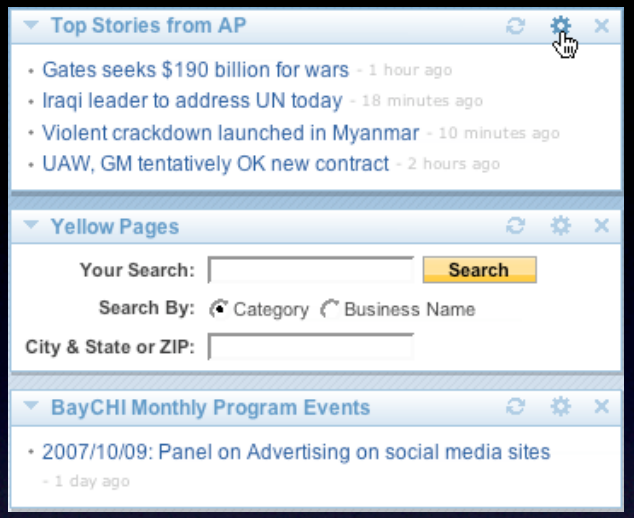
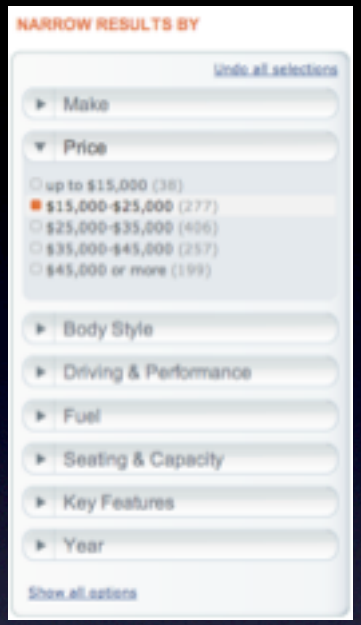
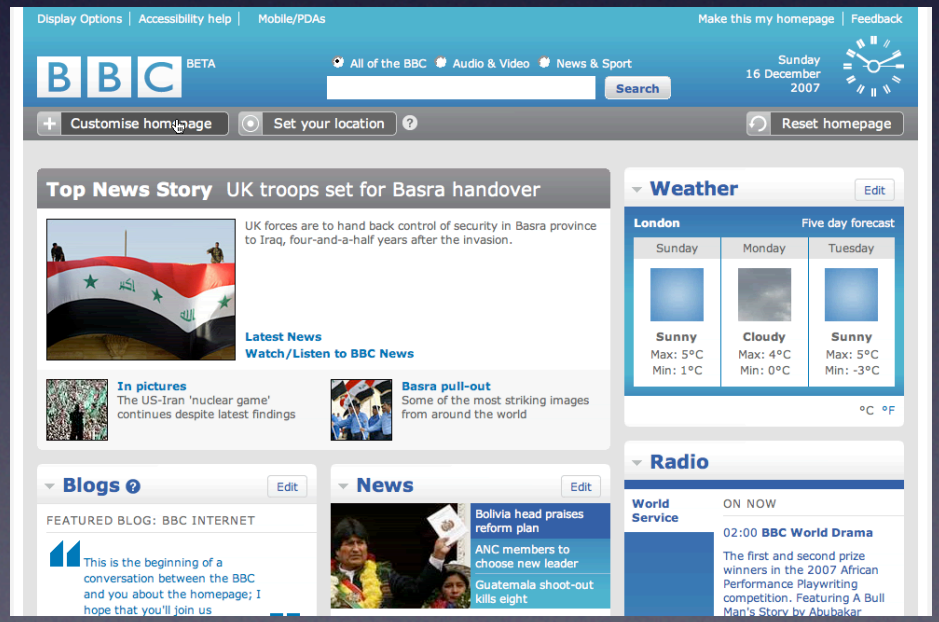


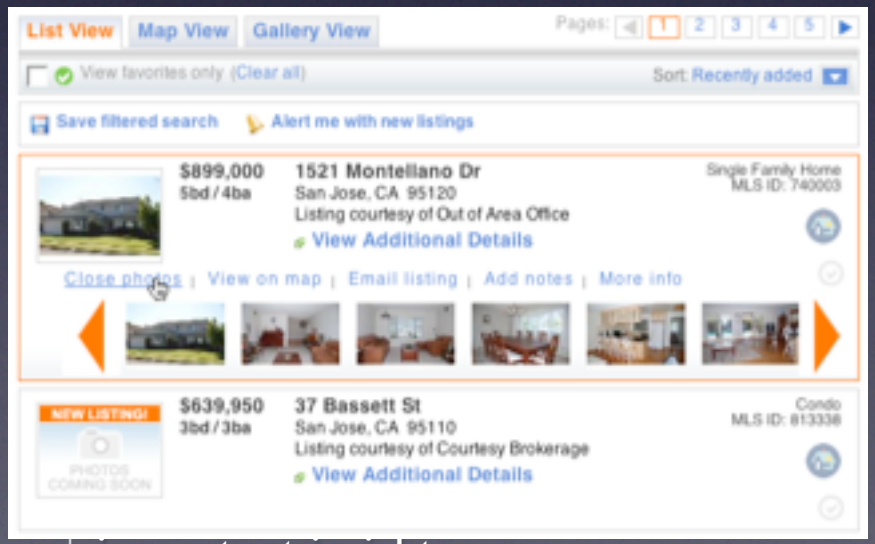
my y!. **in-context configuration**



y! autos. **accordion**



bbc. **in-context configuration**



roost. **in-context insight**

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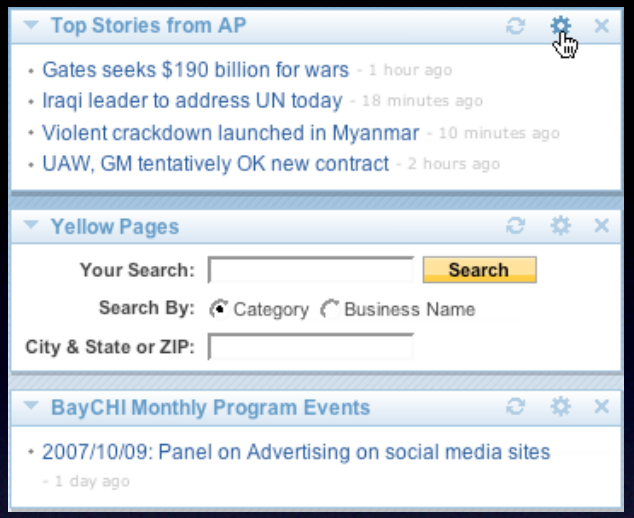
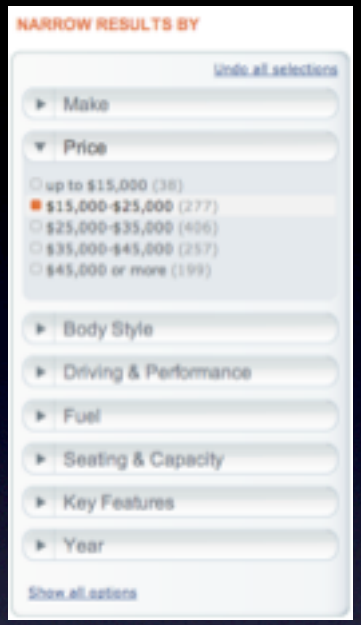


my y!. **in-context configuration**



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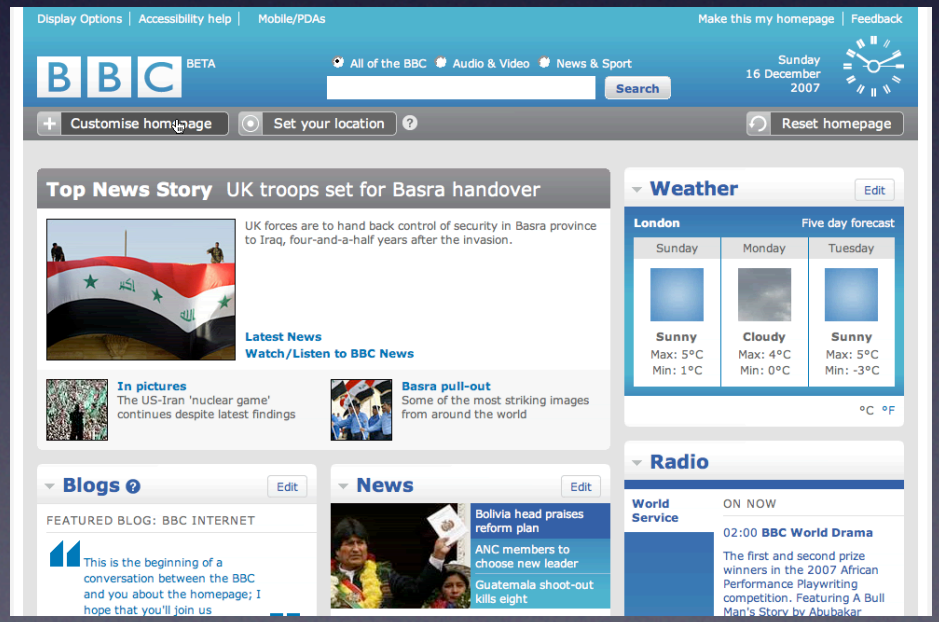
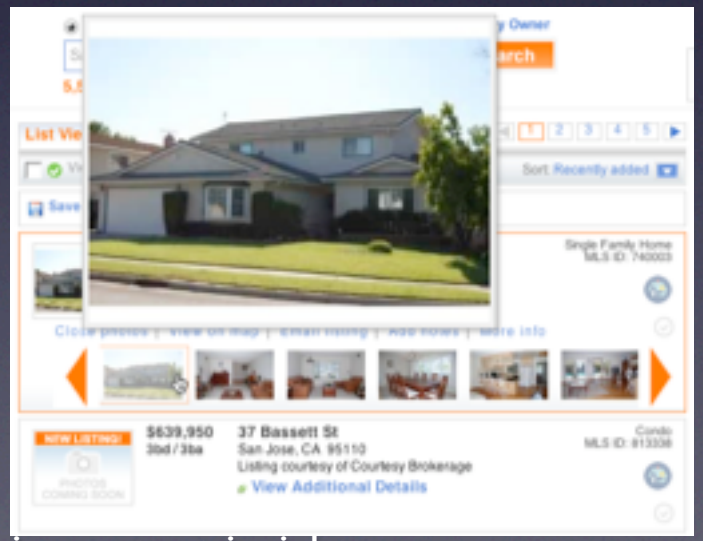


bbc. **in-context configuration**



roost. **in-context insight**

Rethink paging

use scrolling for "owned" data
watch out for dual scroll bar issue
hybrid of paging & scrolling

mlslistings. **pagination**

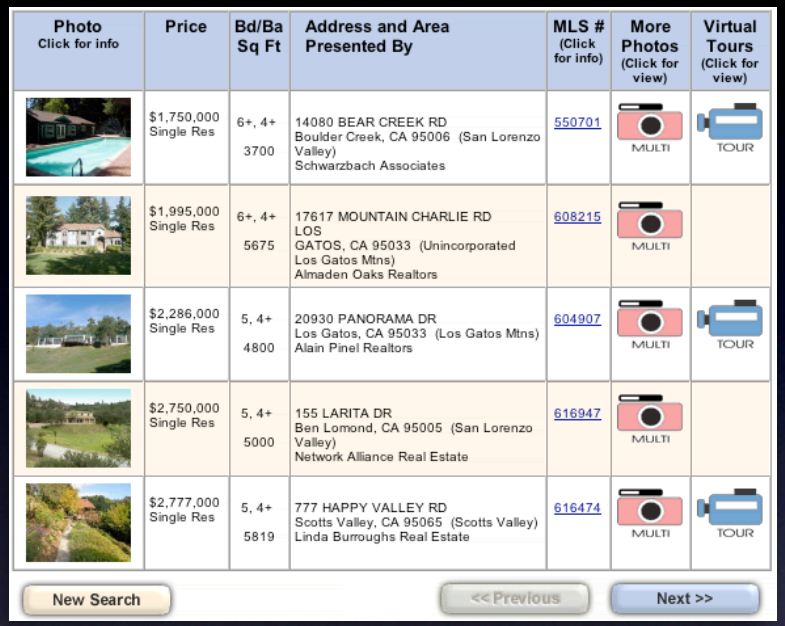


Photo Click for info	Price	Bd/Ba Sq Ft	Address and Area Presented By	MLS # (Click for info)	More Photos (Click for view)	Virtual Tours (Click for view)
	$1,750,000 Single Res	6+, 4+ 3700	14080 BEAR CREEK RD Boulder Creek, CA 95006 (San Lorenzo Valley) Schwarzbach Associates	550701	MULTI	TOUR
	$1,995,000 Single Res	6+, 4+ 5675	17617 MOUNTAIN CHARLIE RD LOS GATOS, CA 95033 (Unincorporated Los Gatos Mtns) Almaden Oaks Realtors	608215	MULTI	
	$2,286,000 Single Res	5, 4+ 4800	20930 PANORAMA DR Los Gatos, CA 95033 (Los Gatos Mtns) Alain Pinel Realtors	604907	MULTI	TOUR
	$2,750,000 Single Res	5, 4+ 5000	155 LARITA DR Ben Lomond, CA 95005 (San Lorenzo Valley) Network Alliance Real Estate	616947	MULTI	
	$2,777,000 Single Res	5, 4+ 5819	777 HAPPY VALLEY RD Scotts Valley, CA 95065 (Scotts Valley) Linda Burroughs Real Estate	616474	MULTI	TOUR

New Search << Previous Next >>

Rethink paging

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hybrid of paging & scrolling

stay on the page. **virtual**

mlslistings. **pagination**

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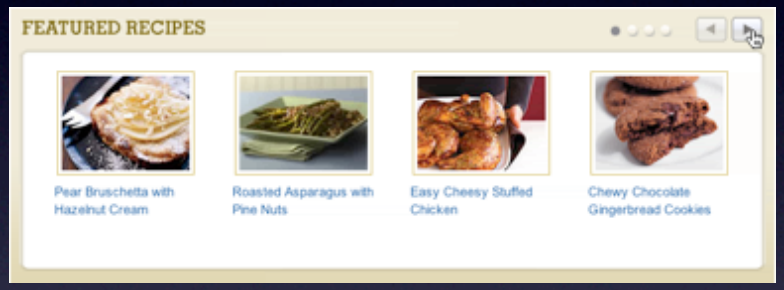

y! health. **carousel**

stay on the page. **virtual**

mlslistings. **pagination**

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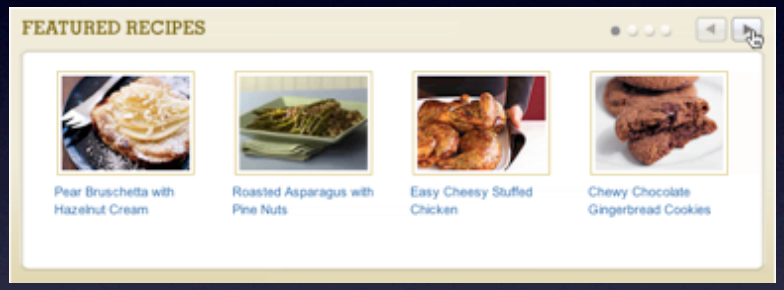

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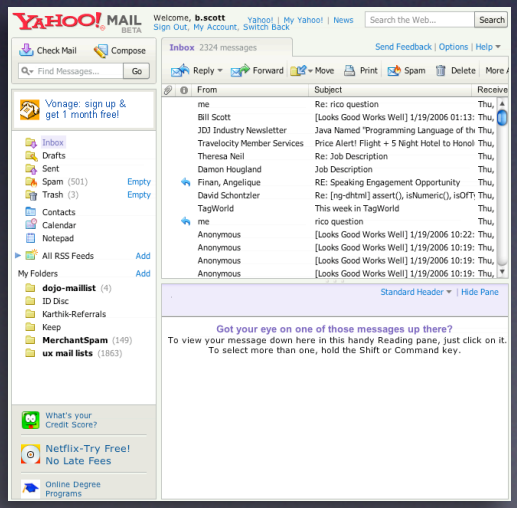
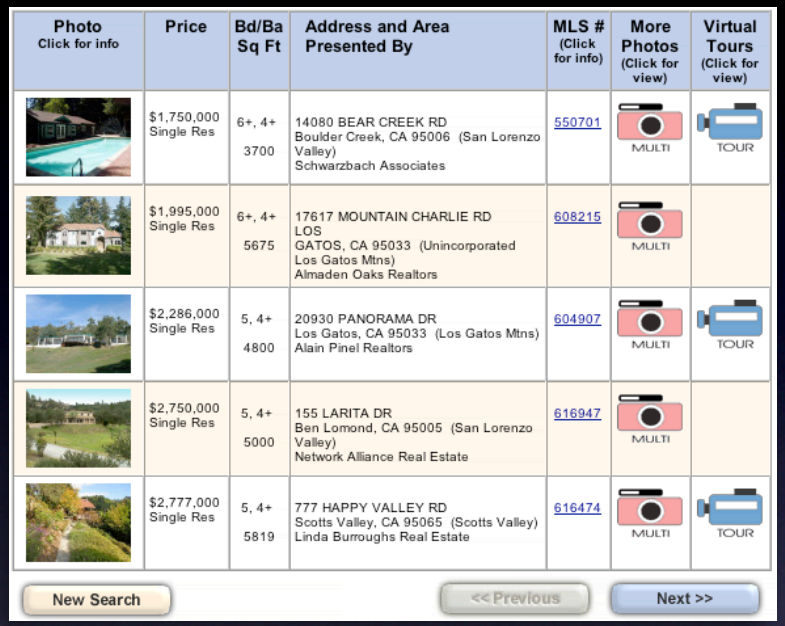


y! mail. **on-demand scrolling**

stay on the page. **virtual**

mlslistings. **pagination**



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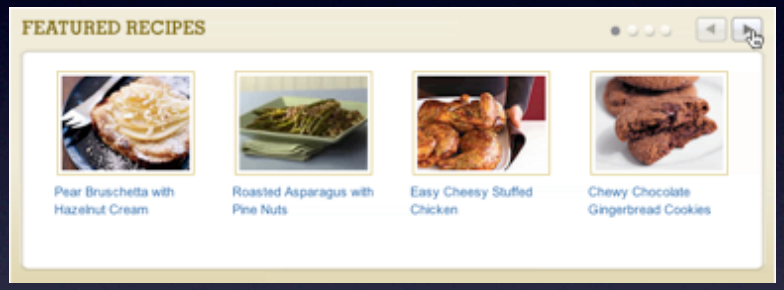

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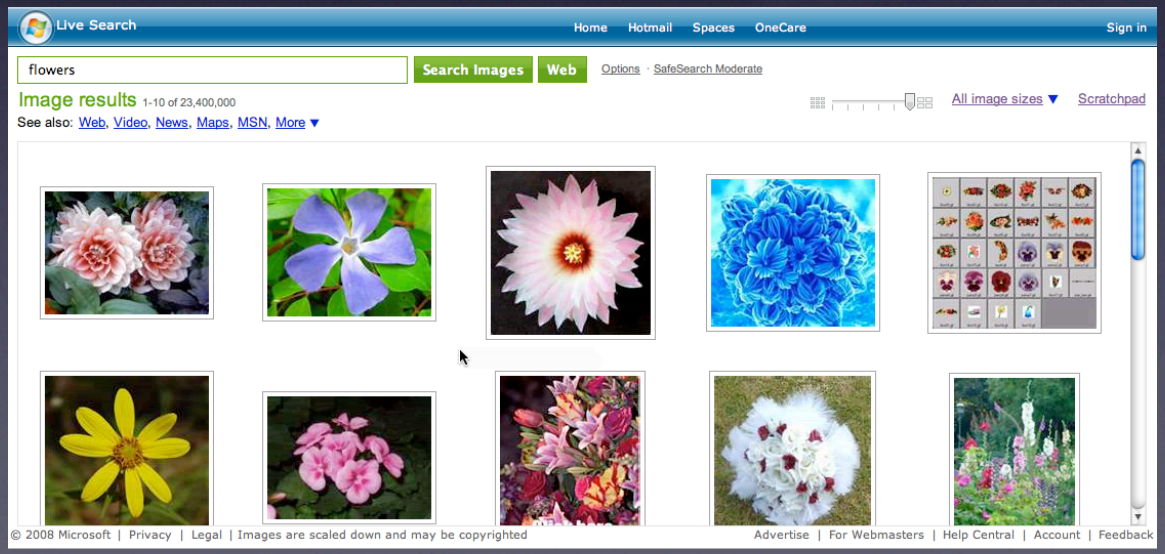
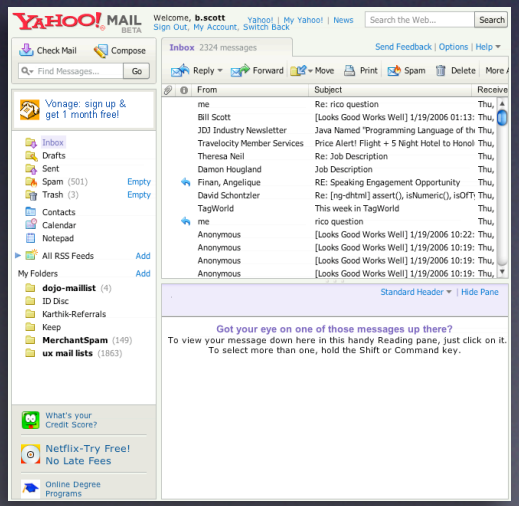


microsoft live. **paged scrolling**



y! mail. **on-demand scrolling**

Rethink paging

in-place paging

zoomable user interface (zui)

stay on the page. **virtual**

endless. **seamless paging**

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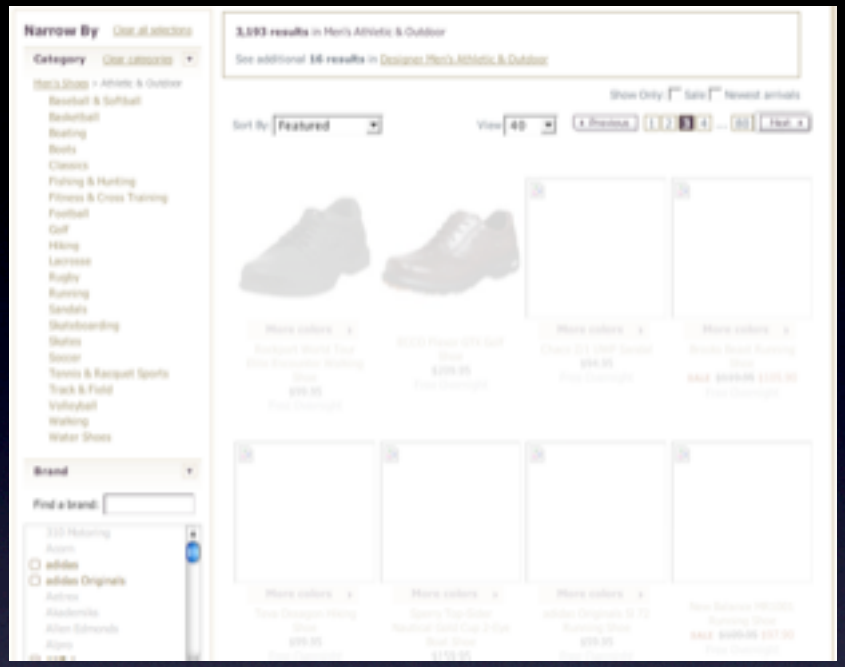

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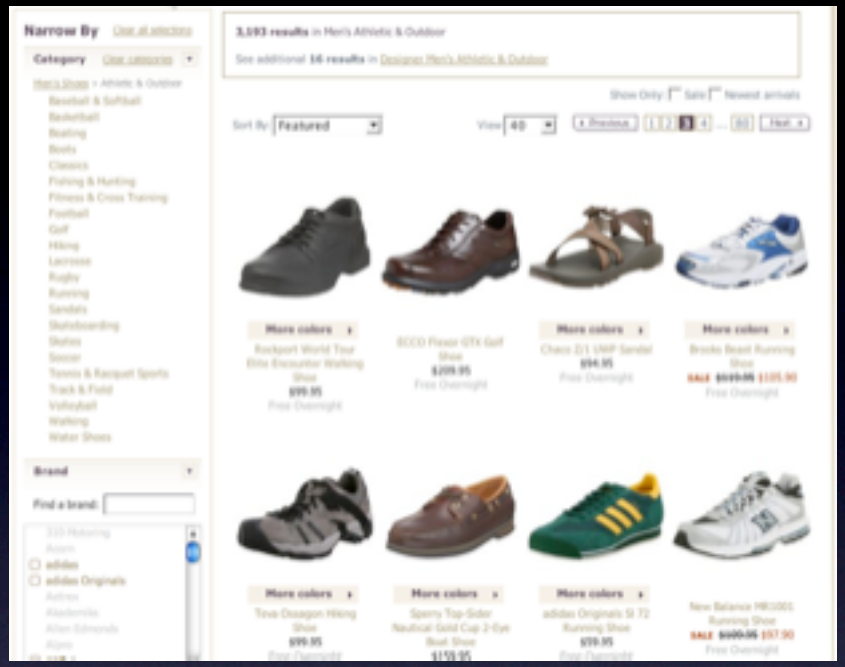

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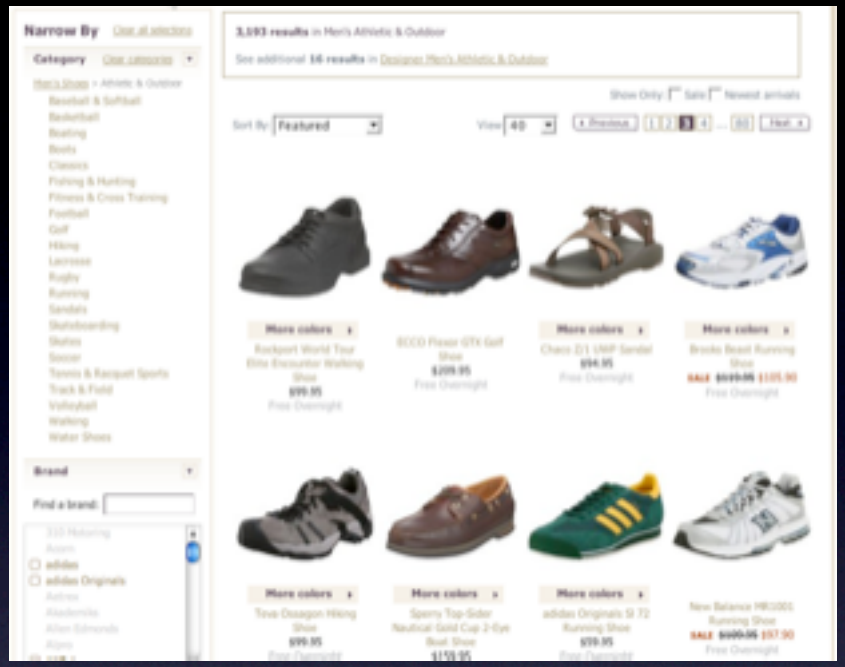

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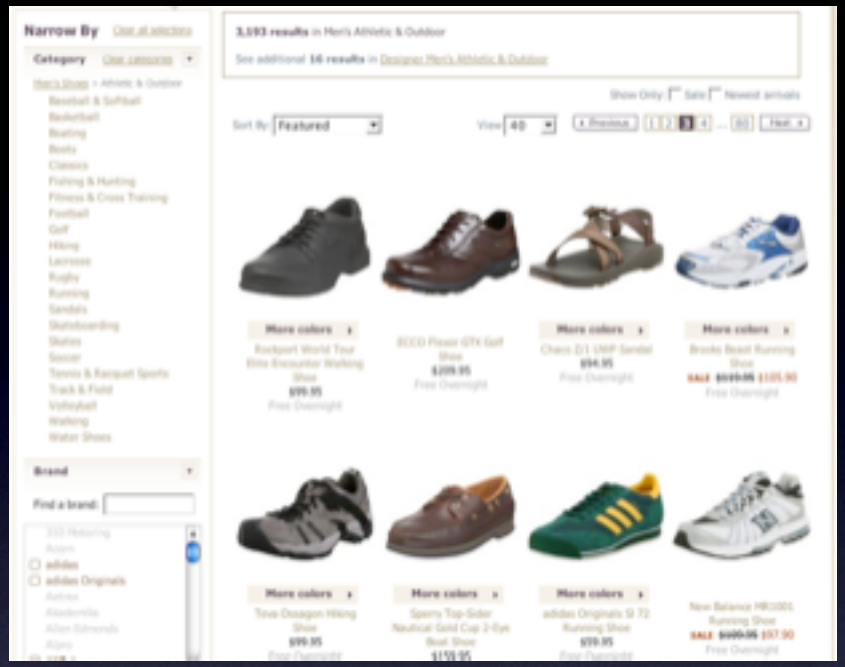

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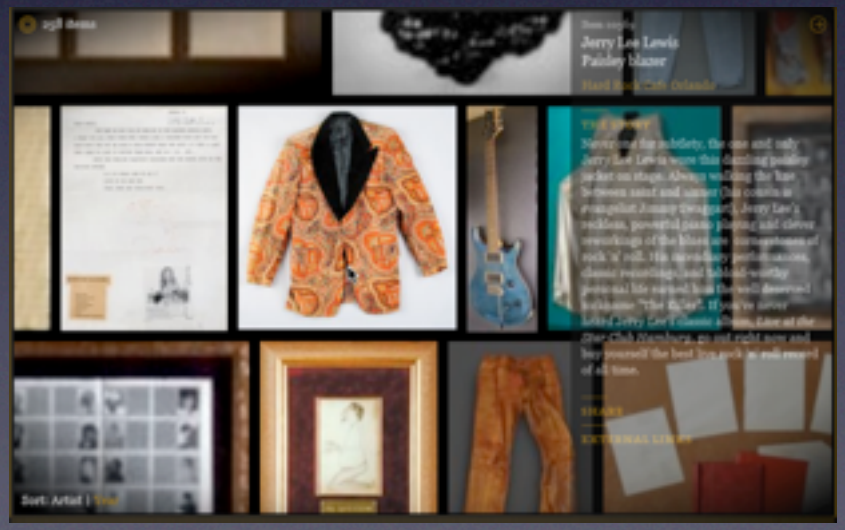

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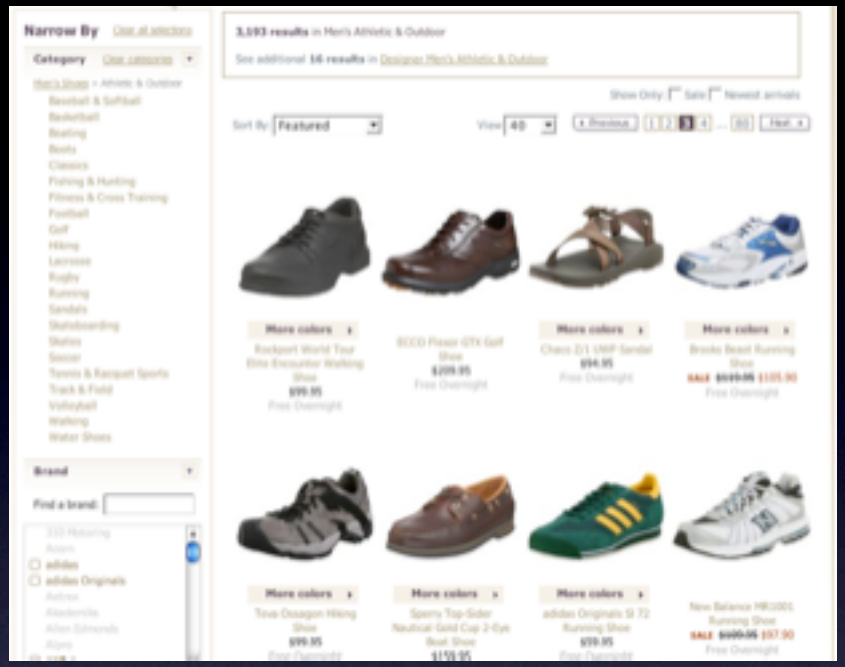

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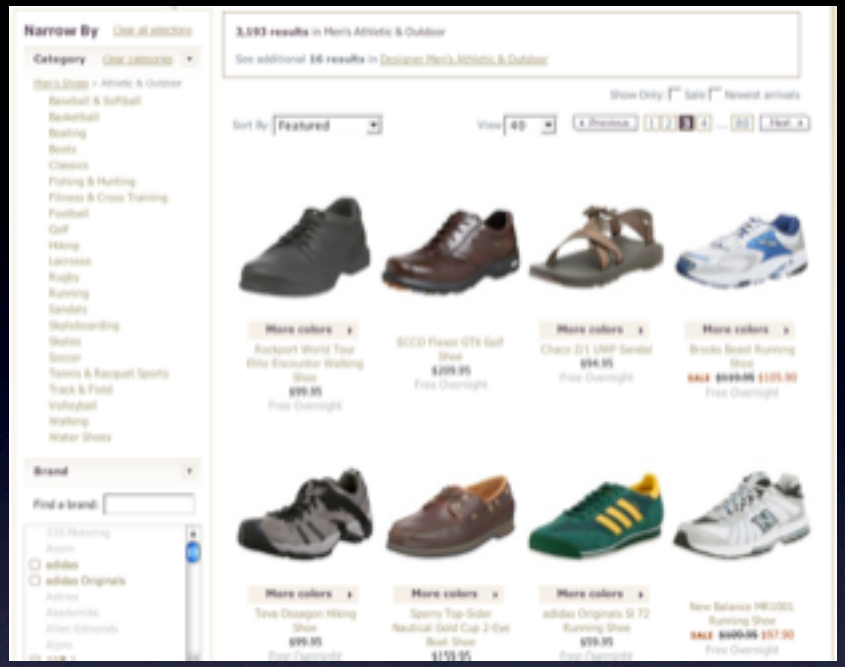

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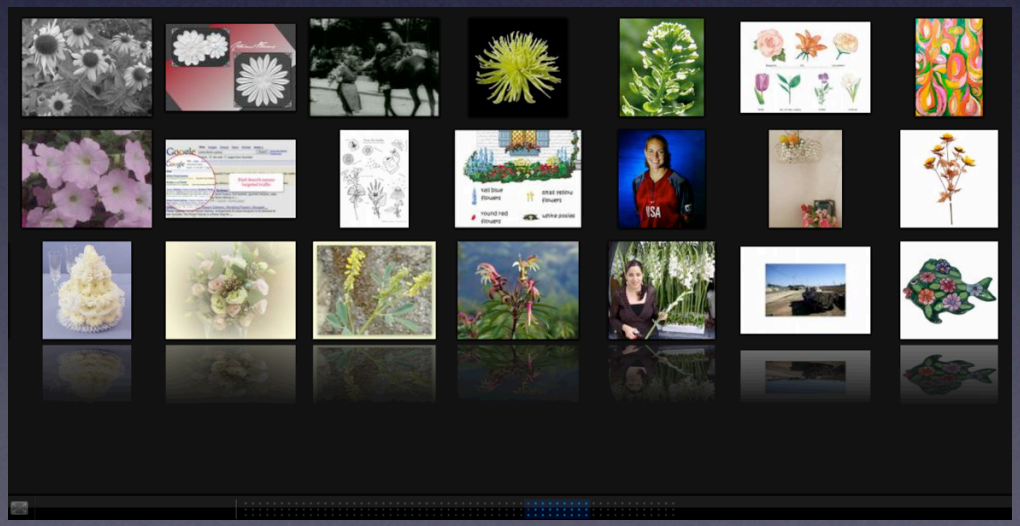


cool iris (piclens). **zui**

rethink process flows

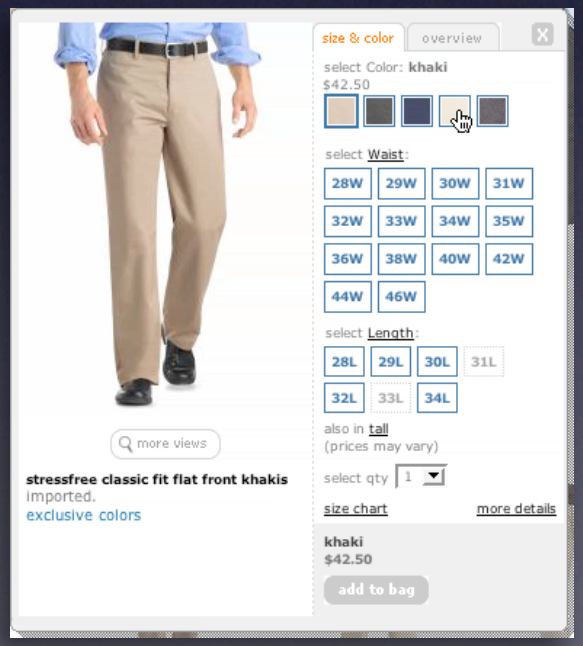
the user's mental model vs page model

every page jump is a mental speed bump

rethink process flows

the user's mental model vs page model

every page jump is a mental speed bump



the gap. **inline assistant**

rethink process flows

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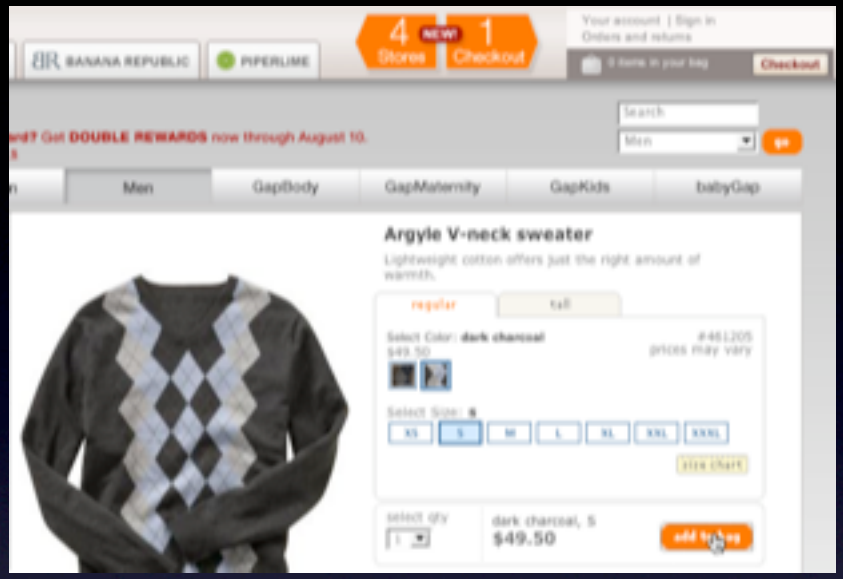
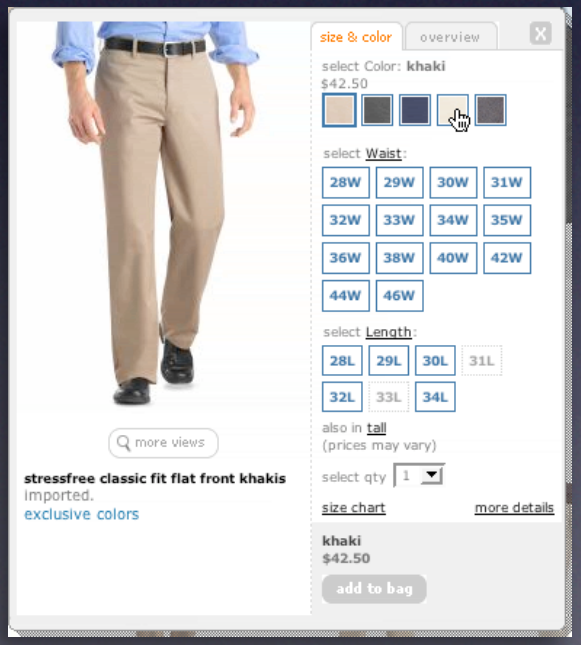


the gap. **inline checkout**



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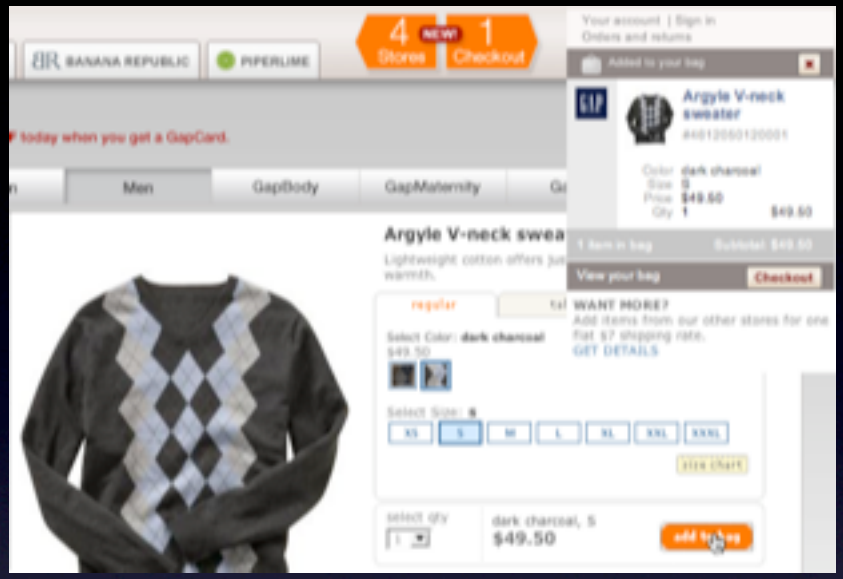

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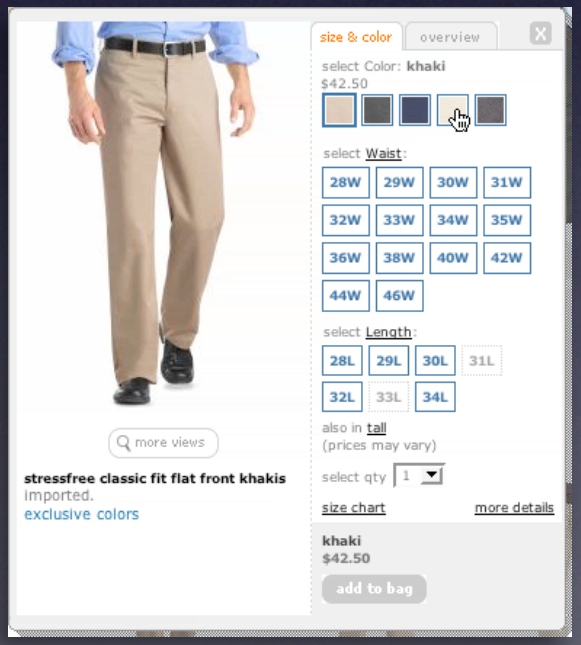

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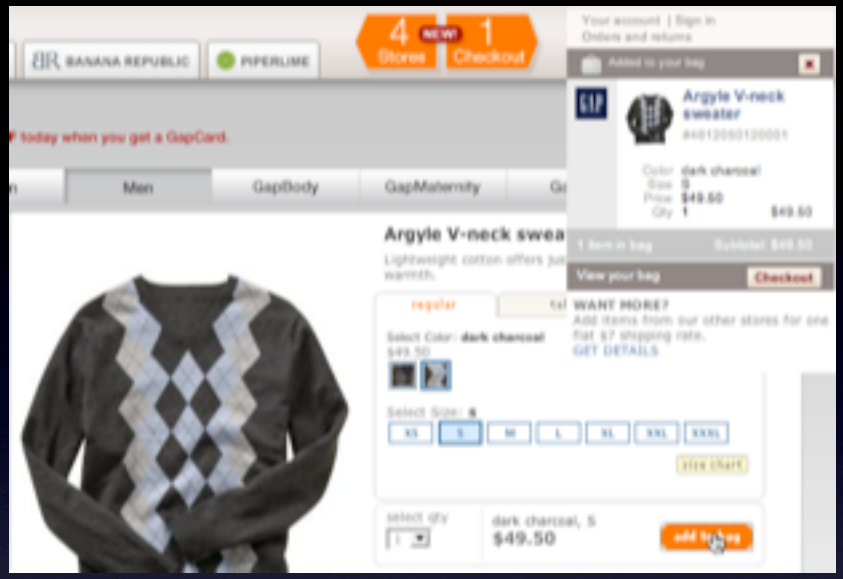

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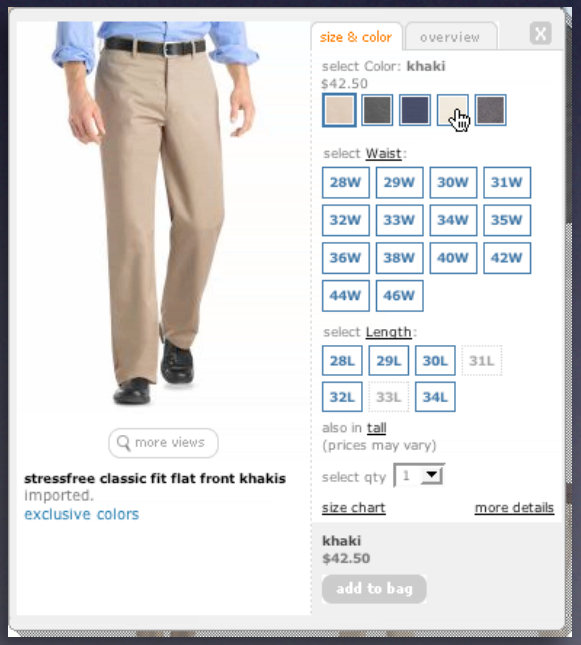

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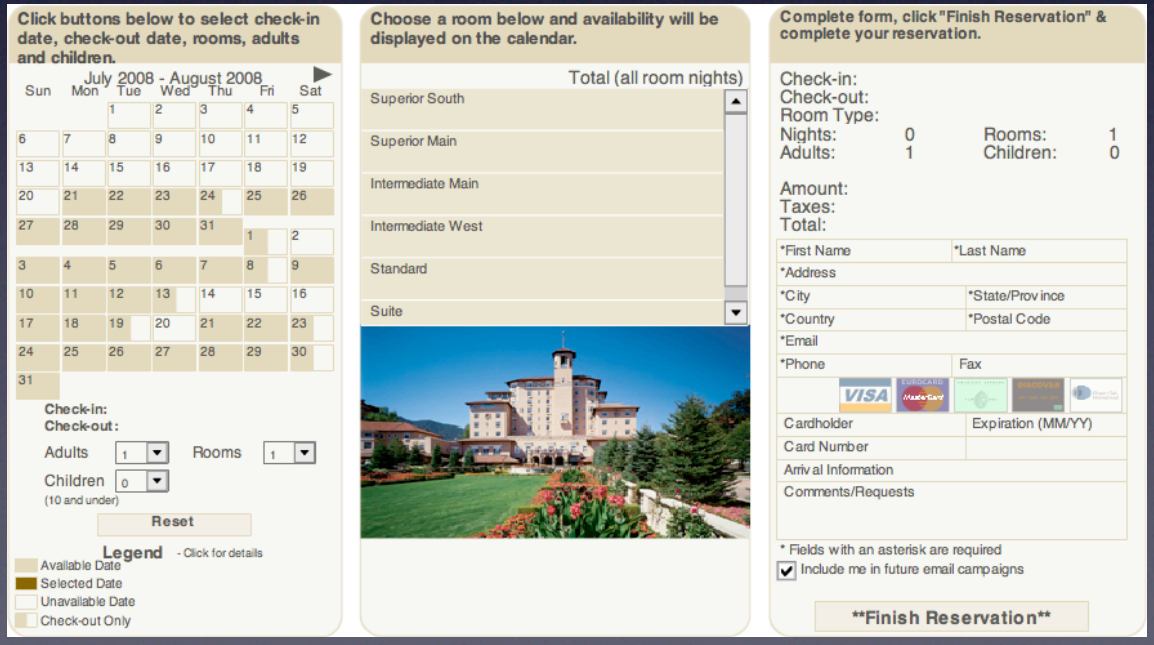


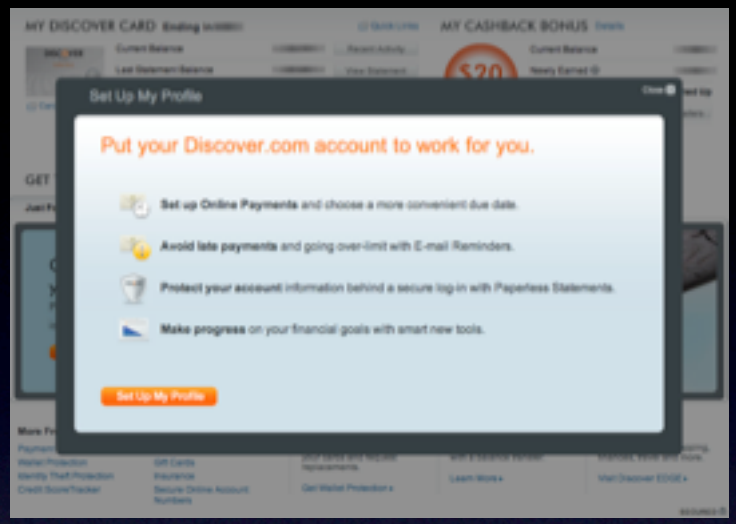
broadmoor hotel. **one page checkout**

step by step?

yes, sometimes works best

step by step?

yes, sometimes works best



discover card. **step by step**

stay on the page. **process flow**

step by step?

yes, sometimes works best

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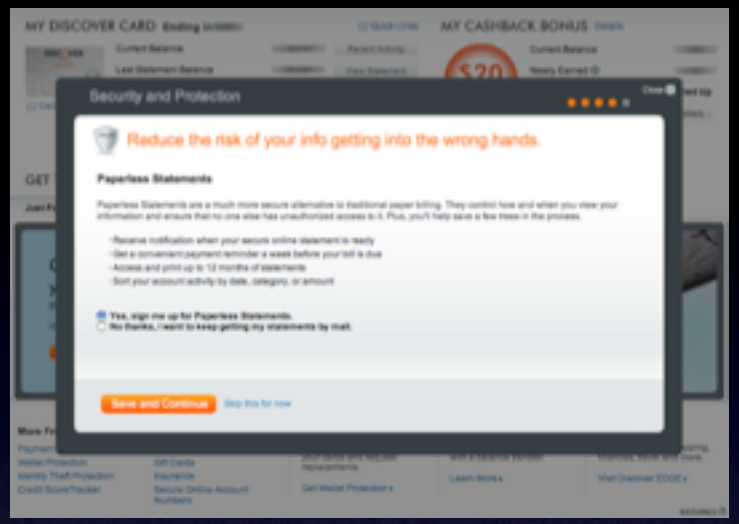

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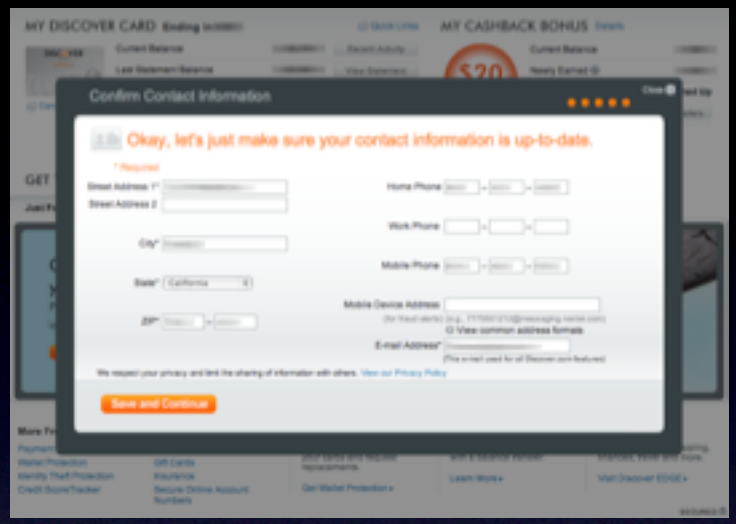

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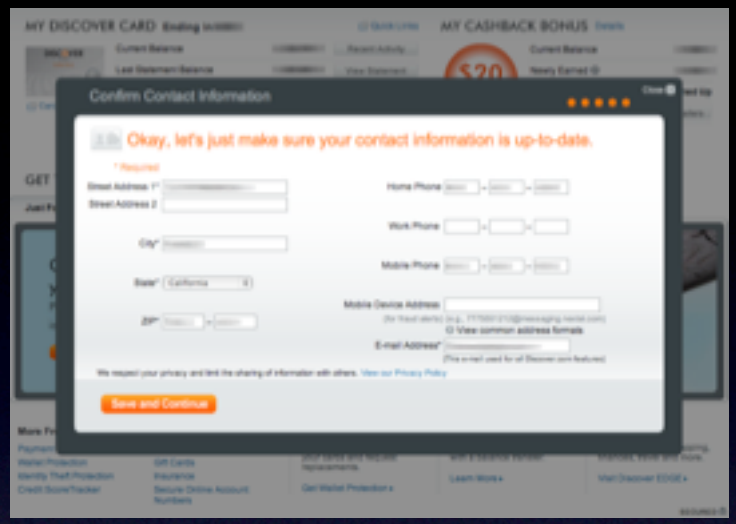

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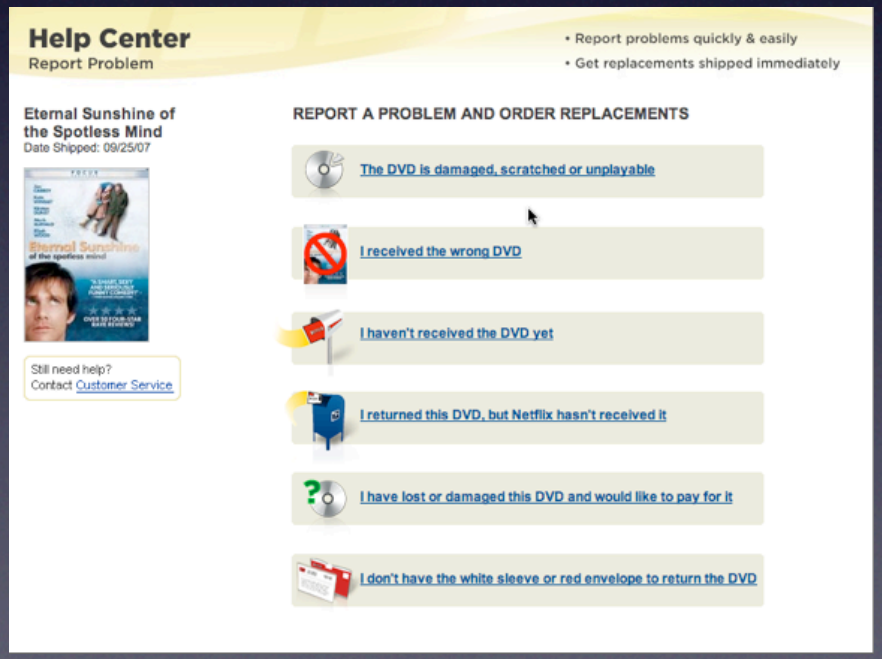

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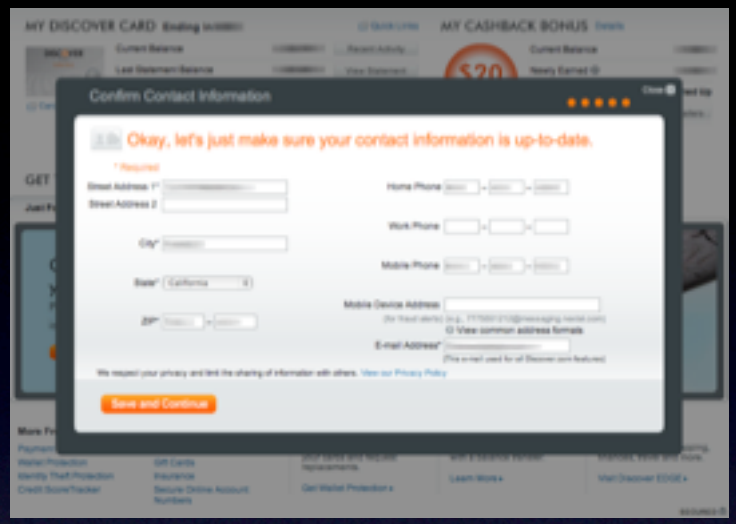

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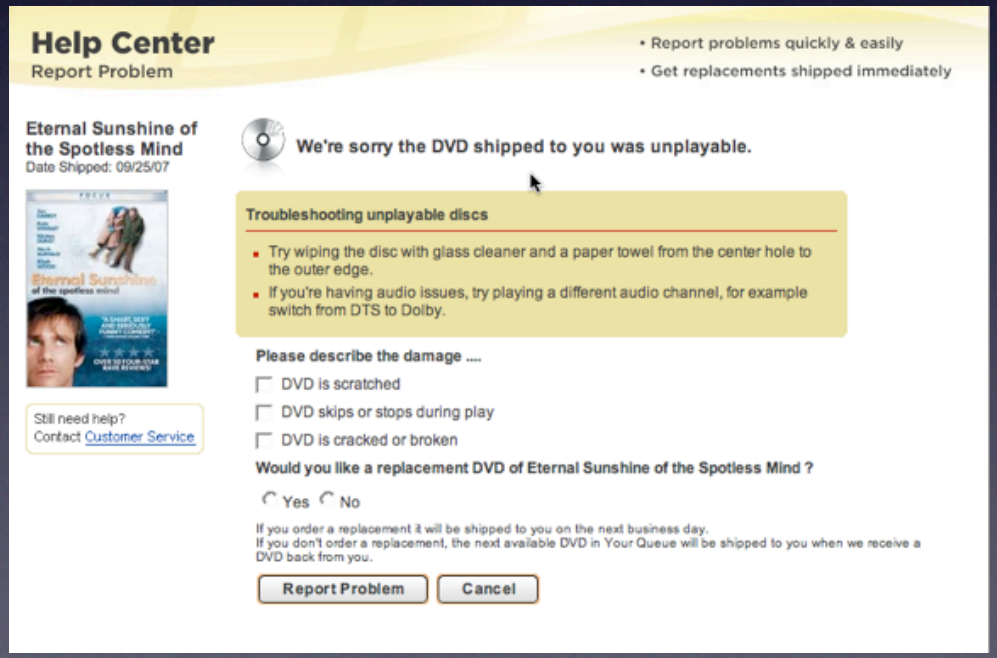
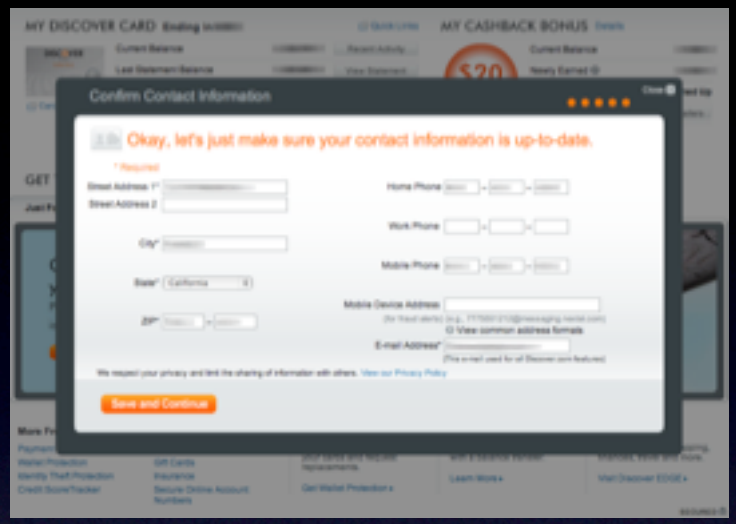


netflix. **step by step**

stay on the page. **process flow**

step by step?

yes, sometimes works best



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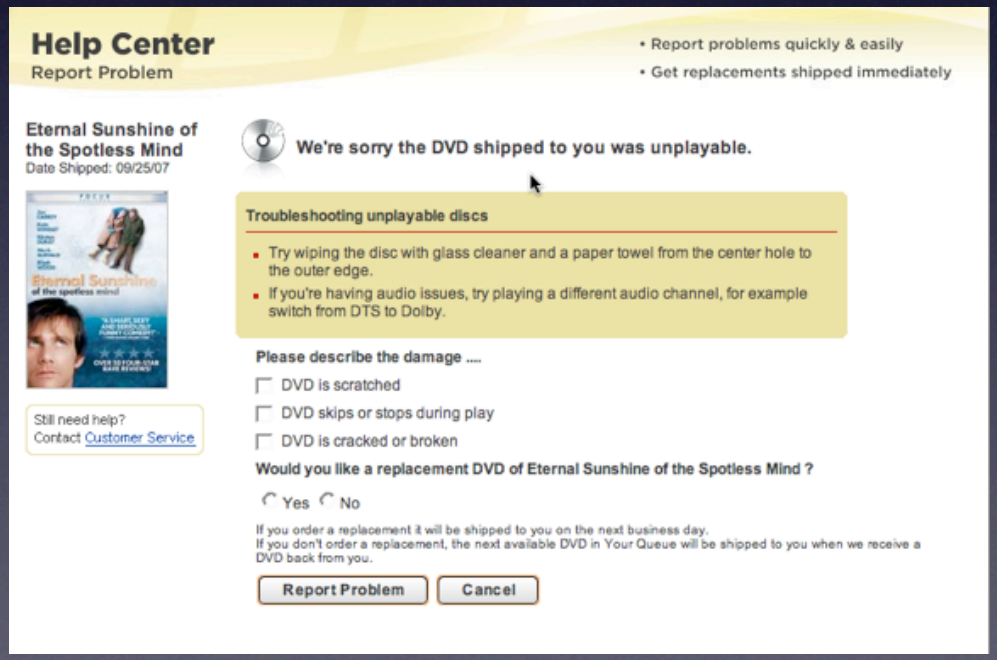
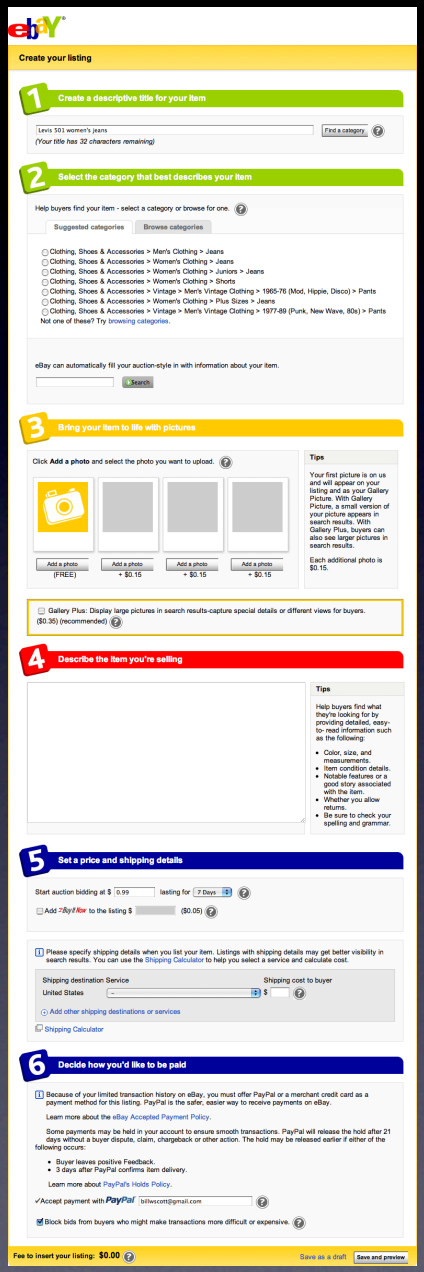


netflix. **step by step**



ebay. **single page flow**

the answer is in testing

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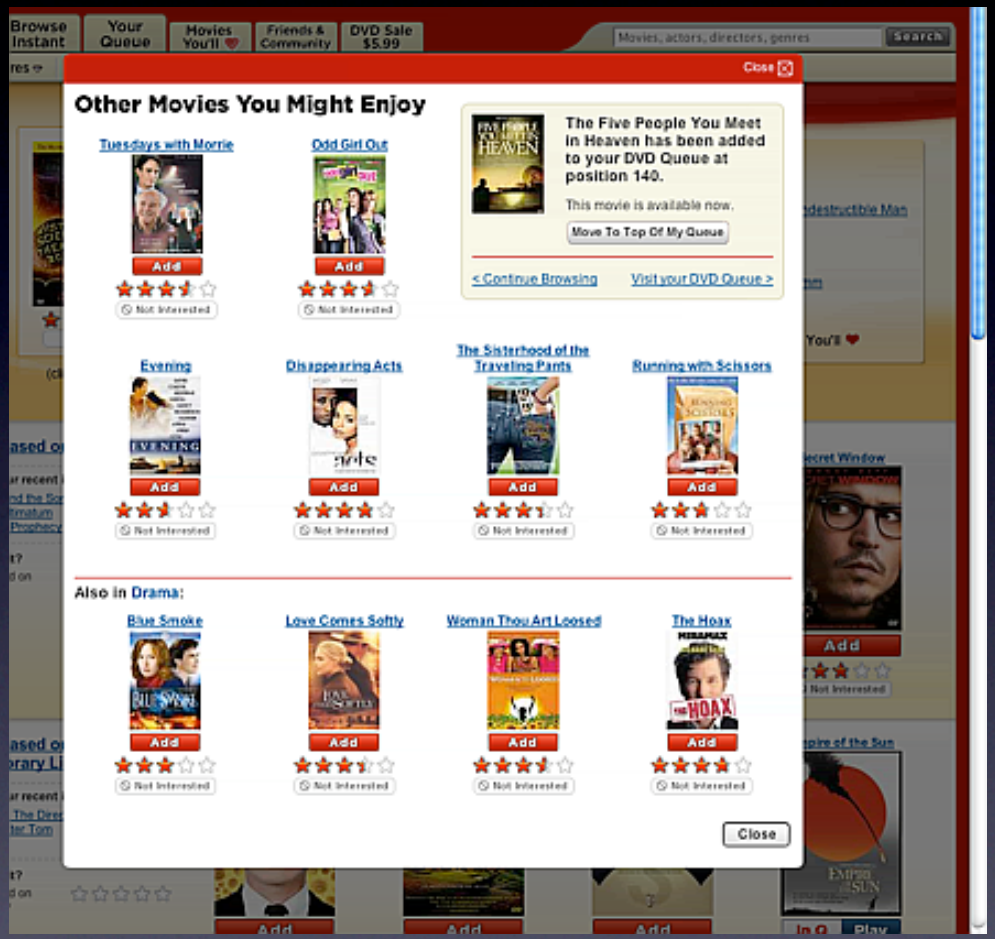
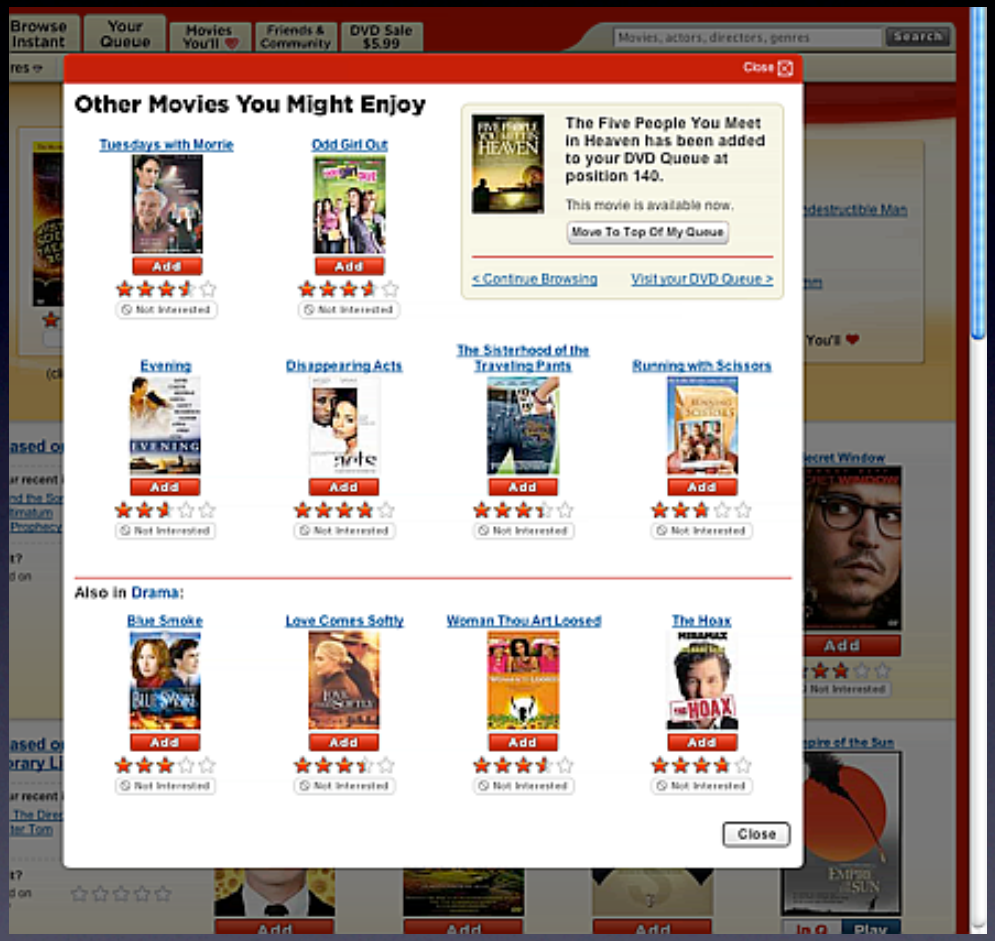
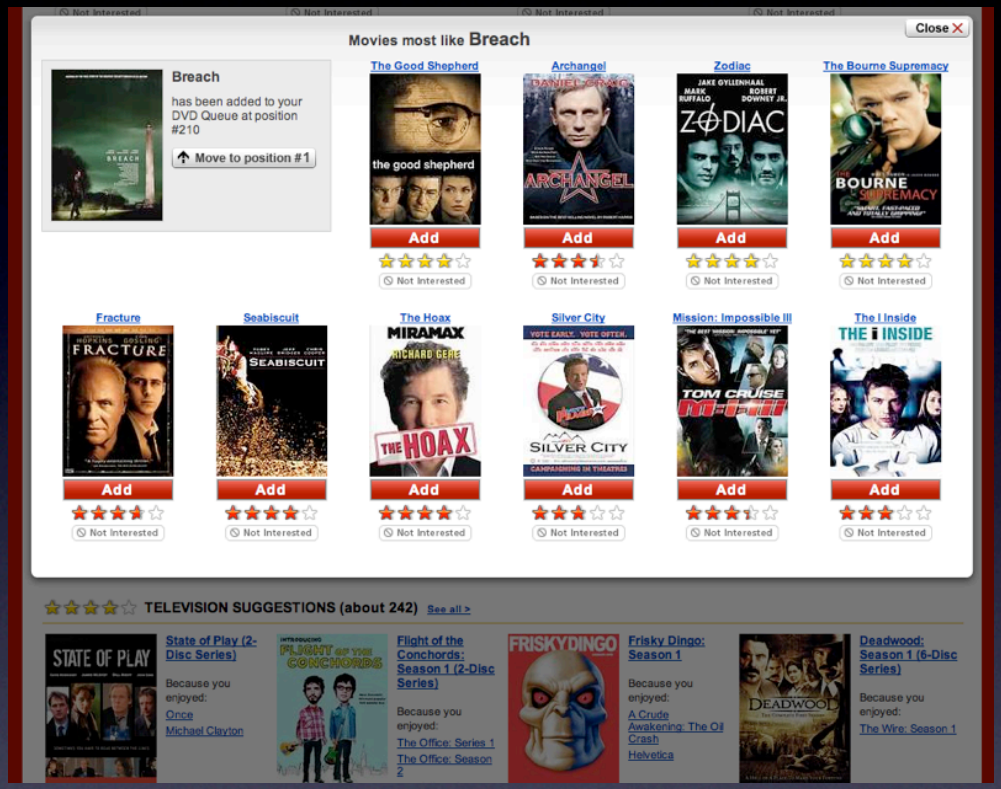


netflix. **stalker overlay**

the answer is in testing



netflix. **stalker overlay**



netflix. **simpler overlay**

offer an invitation

unfinished look

dog-ear

empty slots

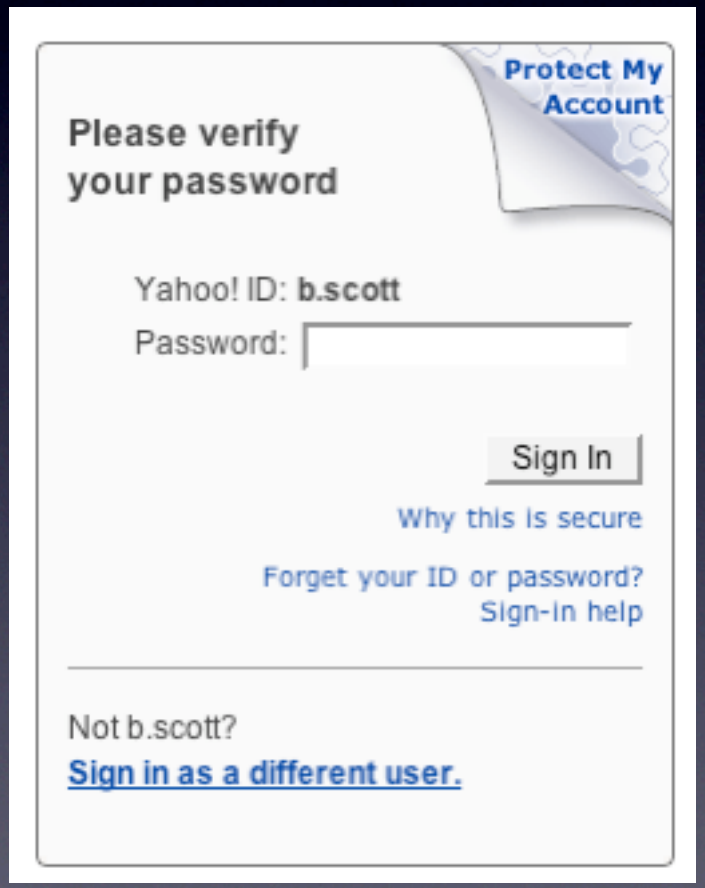
blank slate

unfinished look

dog-ear

empty slots

blank slate



yahoo login! **dog-ear invite**

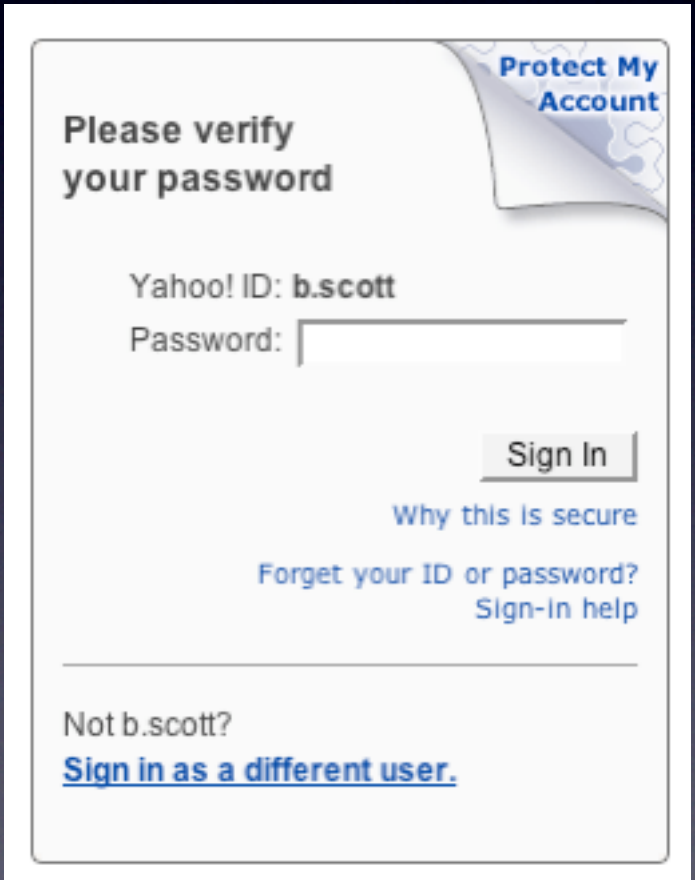
offer an invitation. **static invitation**

unfinished look

dog-ear

empty slots

blank slate



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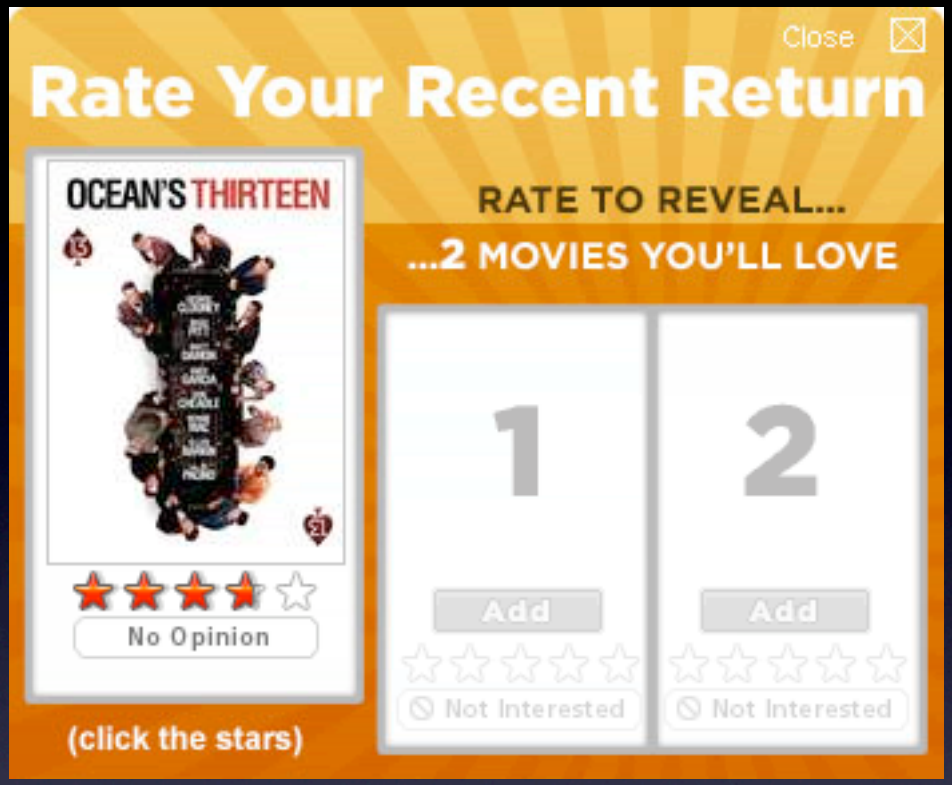


netflix. **rate invitiation (blank slots)**

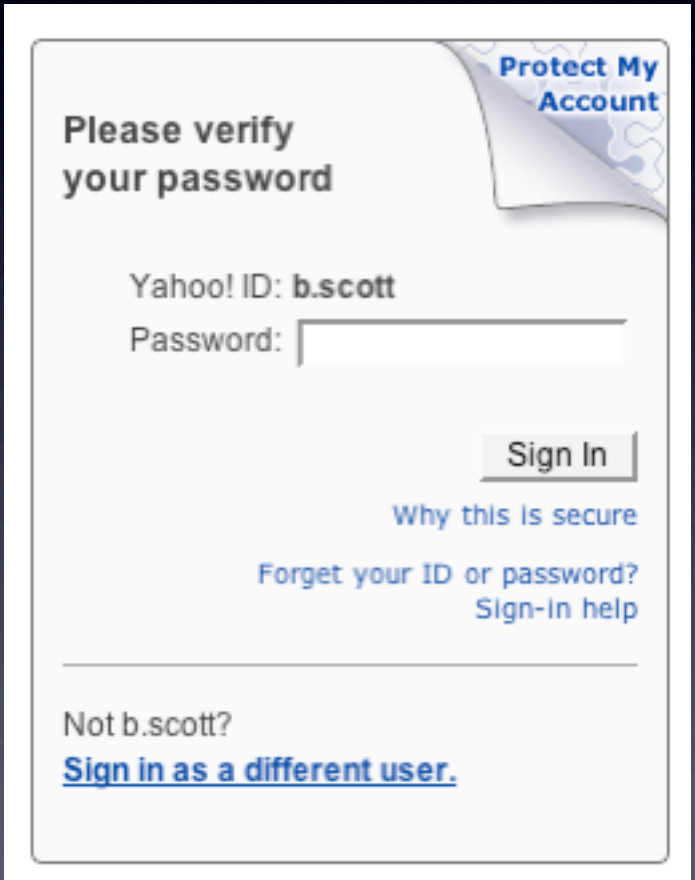
offer an invitation. **static invitation**

unfinished look

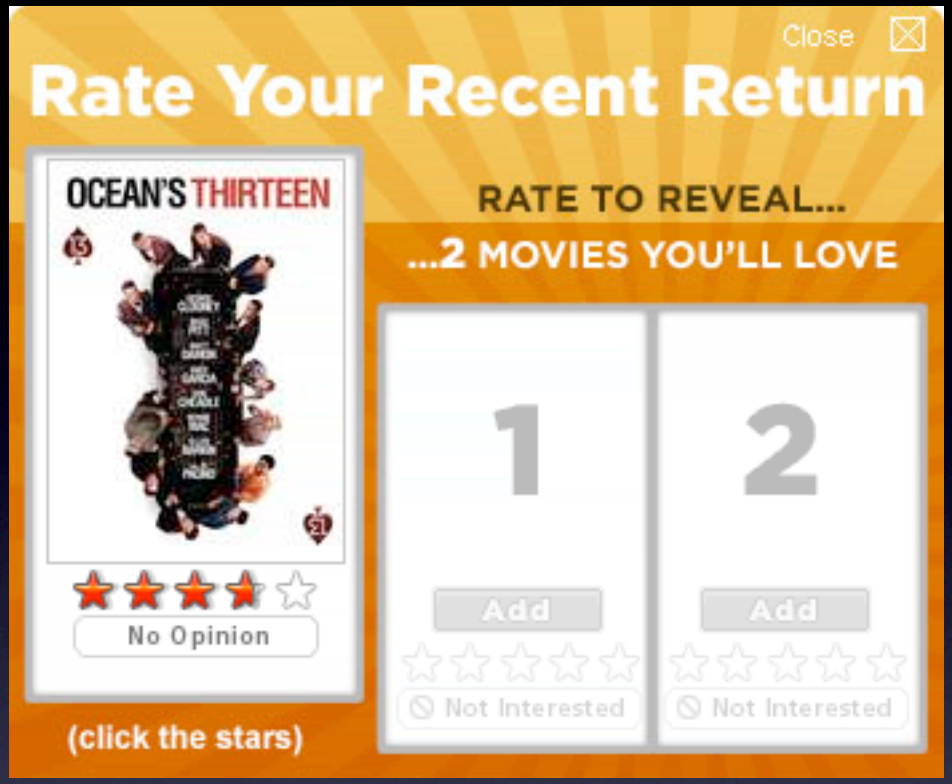
dog-ear

empty slots

blank slate



yahoo login! **dog-ear invite**



netflix. **rate invitiation (blank slots)**

backpackit. **blank slate invitation**

call to action

1-2-3 messaging

spotlighting or lightbox

provide a peek

call to action

1-2-3 messaging
spotlighting or lightbox
provide a peek

discover! **1-2-3 call to action**

call to action

1-2-3 messaging
spotlighting or lightbox
provide a peek

discover! **1-2-3 call to action**

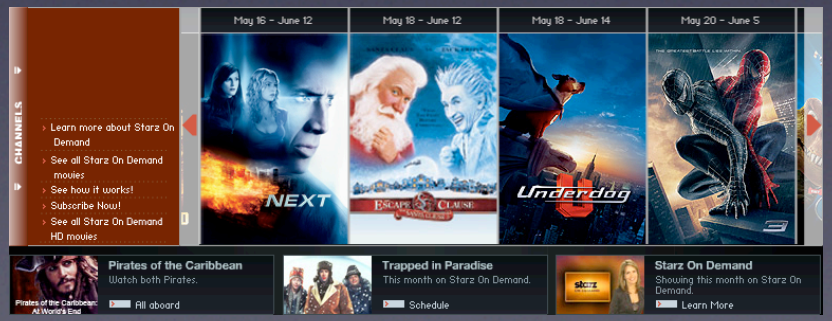
yahoo! **tour invitation**

call to action

1-2-3 messaging
spotlighting or lightbox
provide a peek

discover! **1-2-3 call to action**

yahoo! **tour invitation**



starz play! **sneak peek in carousel**

Discoverability

No easy answer

Use the hover to reveal interaction

Use the familiar to teach the new

Can't flag all interactions

Discoverability

No easy answer

Use the hover to reveal interaction

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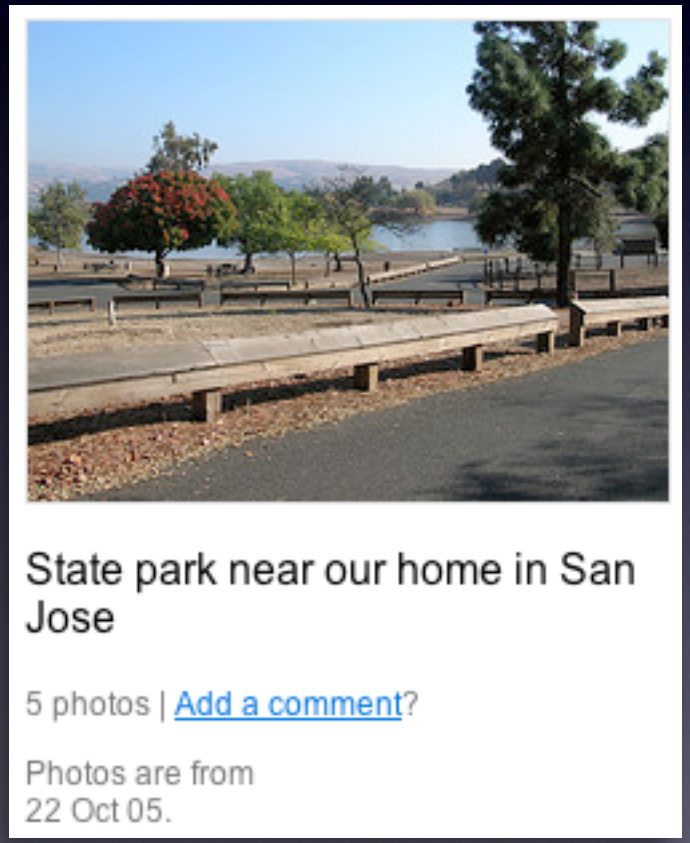
Can't flag all interactions



flickr. **hover invitation**

Discoverability

No easy answer

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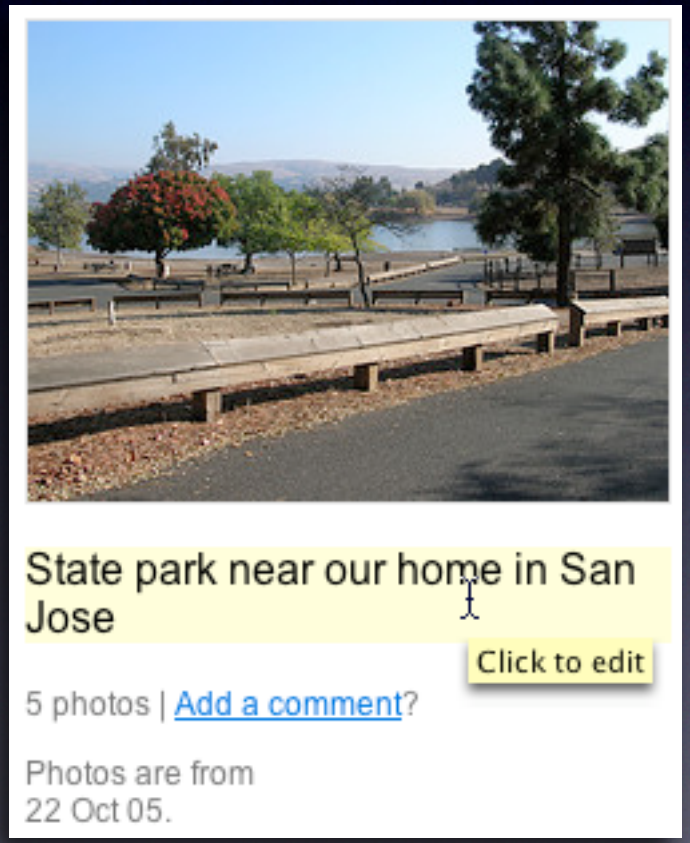

flickr. **hover invitation**

Discoverability

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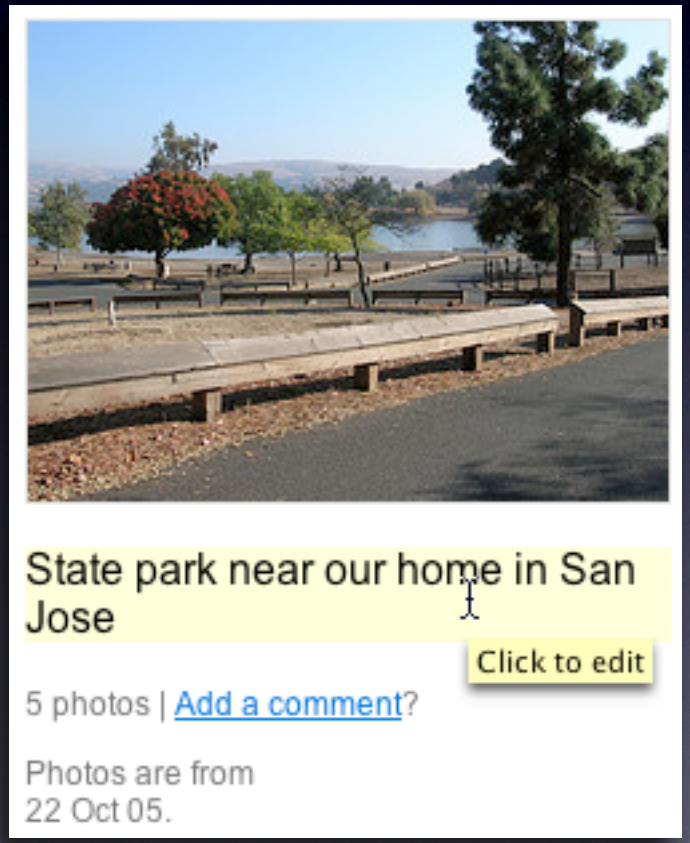
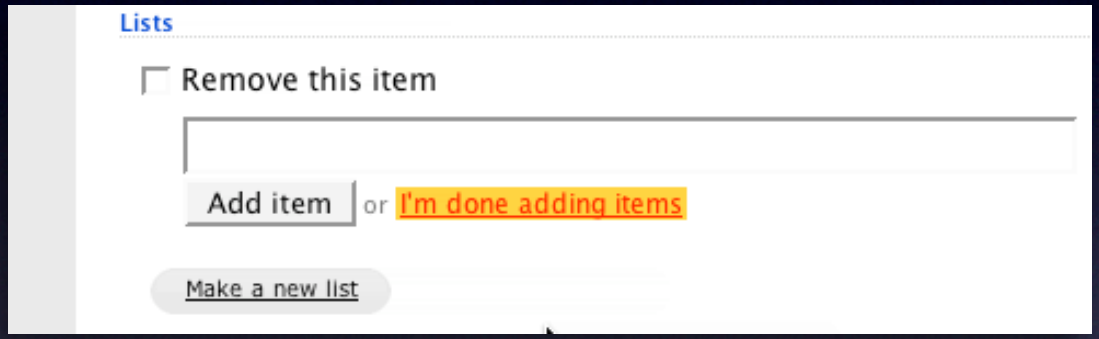


flickr. **hover invitation**



backpackit. **tooltip invitation + hover invitation + cursor invitation**

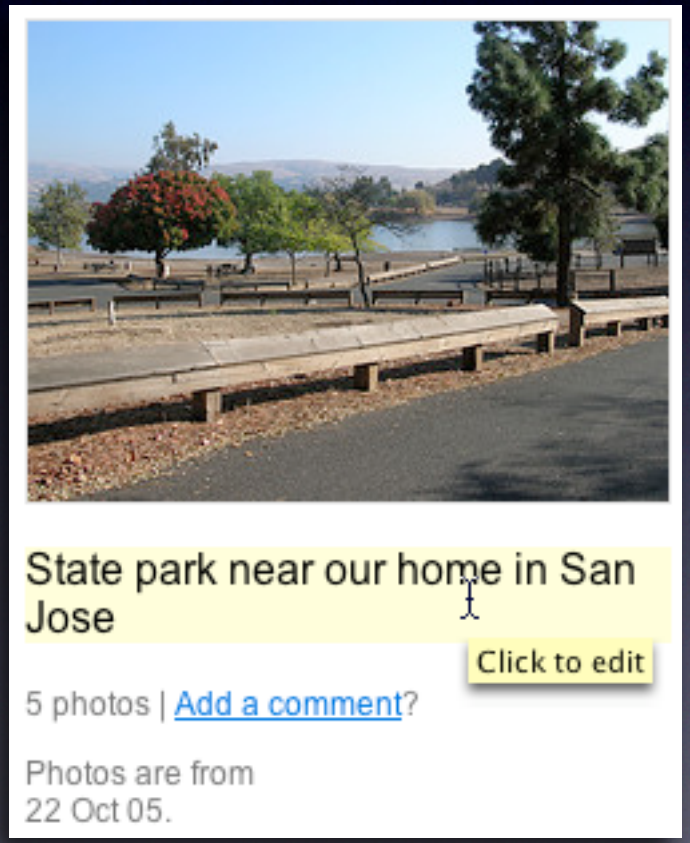
Discoverability

No easy answer

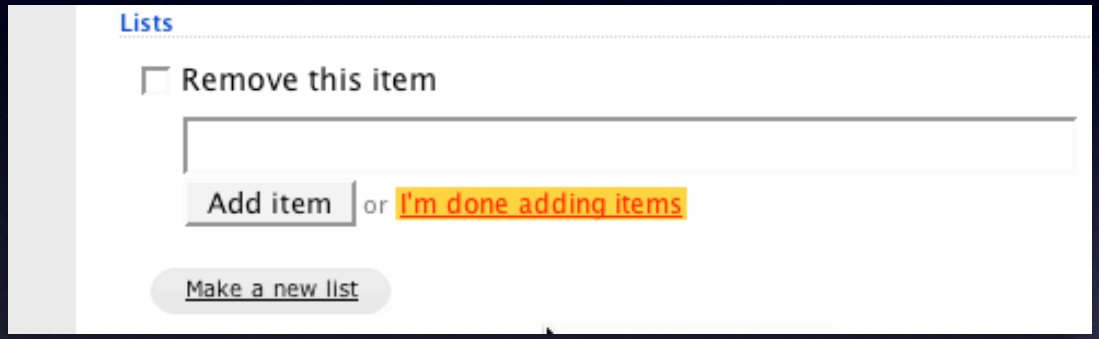
Use the hover to reveal interaction

Use the familiar to teach the new

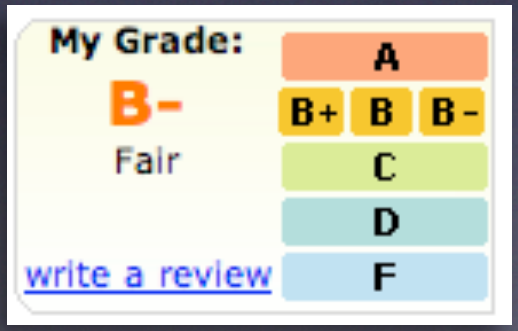
Can't flag all interactions



flickr. **hover invitation**



backpackit. **tooltip invitation + hover invitation + cursor invitation**



y! movies. **hover invitation**

Discoverability

No easy answer

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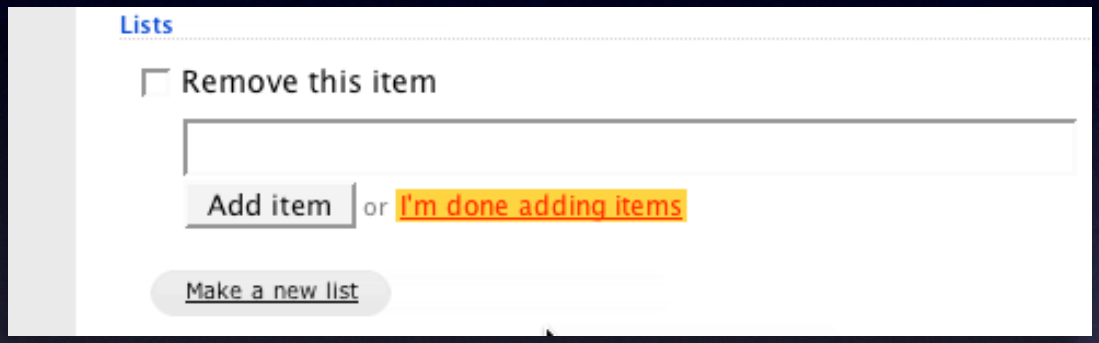
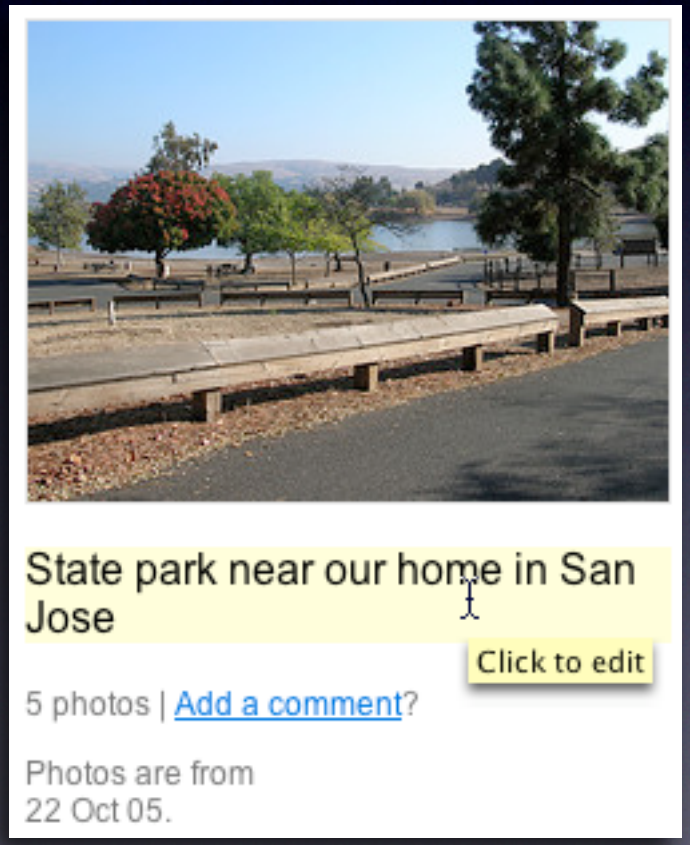
Use the familiar to teach the new

Can't flag all interactions

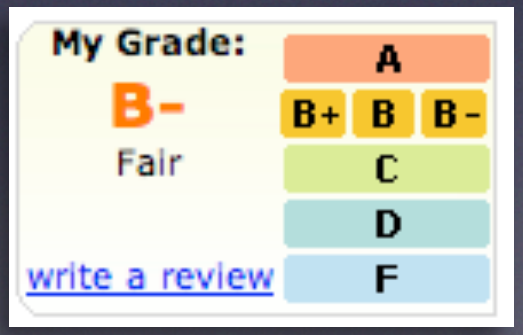
backpackit (fake). **being too explicit**



backpackit. **tooltip invitation + hover invitation + cursor invitation**



flickr. **hover invitation**

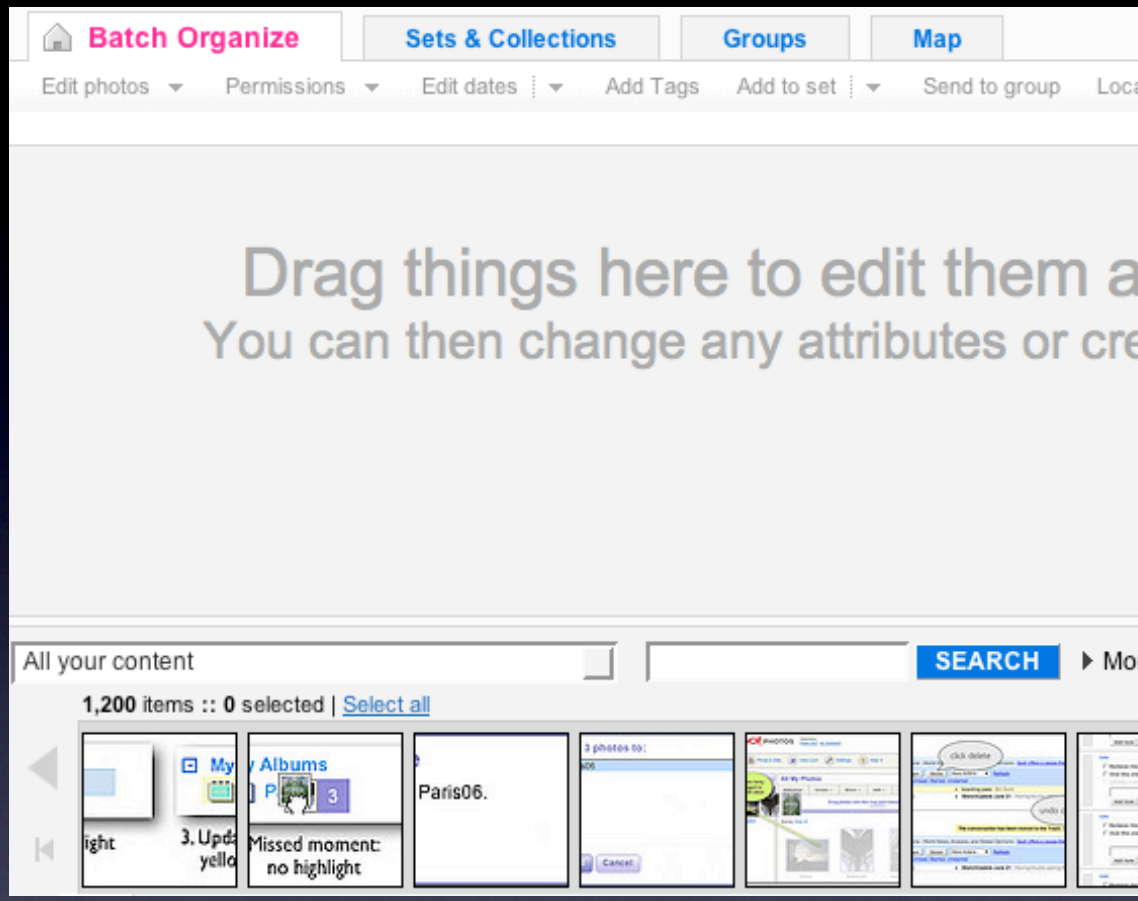


y! movies. **hover invitation**

drag and drop
use the interesting moments
before, during and after

drag and drop

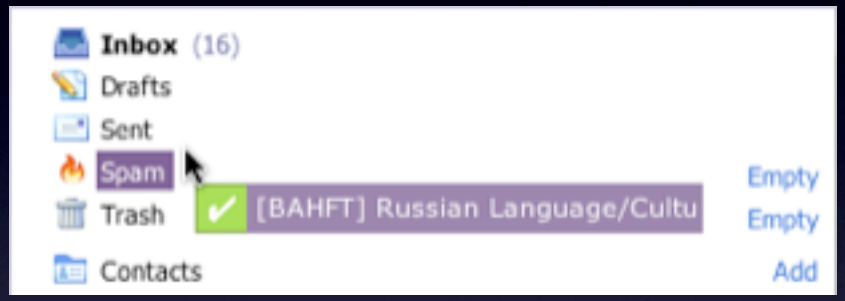
use the interesting moments
before, during and after



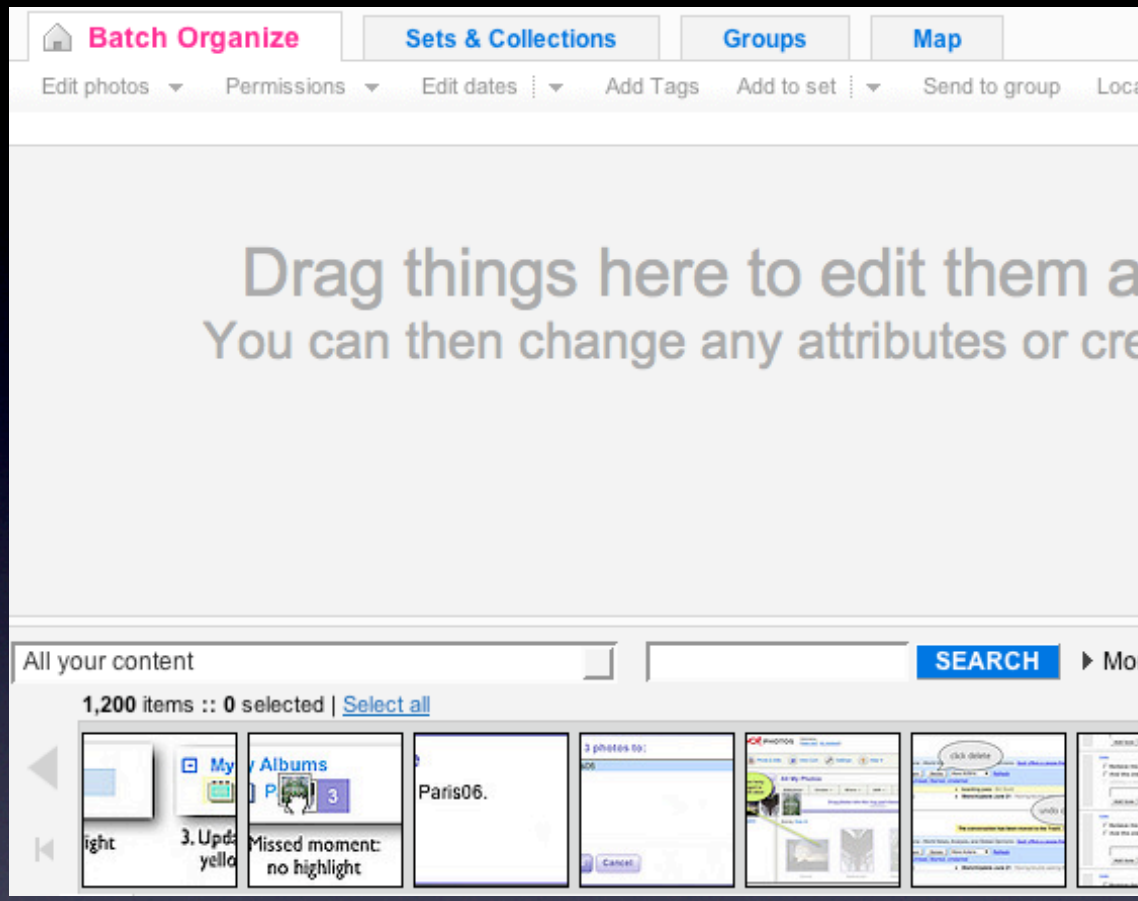
flickr. **drop here invitation (static)**

drag and drop

use the interesting moments
before, during and after



flickr. **drop here invitation (interactive)**



flickr. **drop here invitation (static)**

drag and drop

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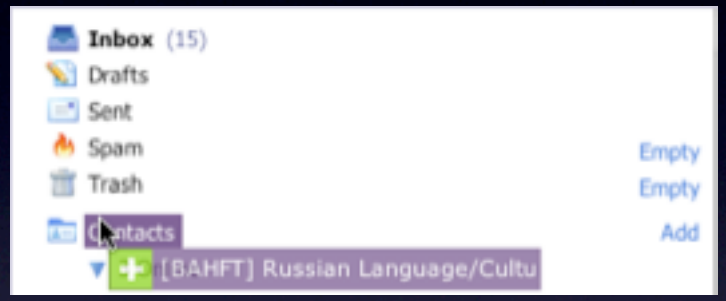
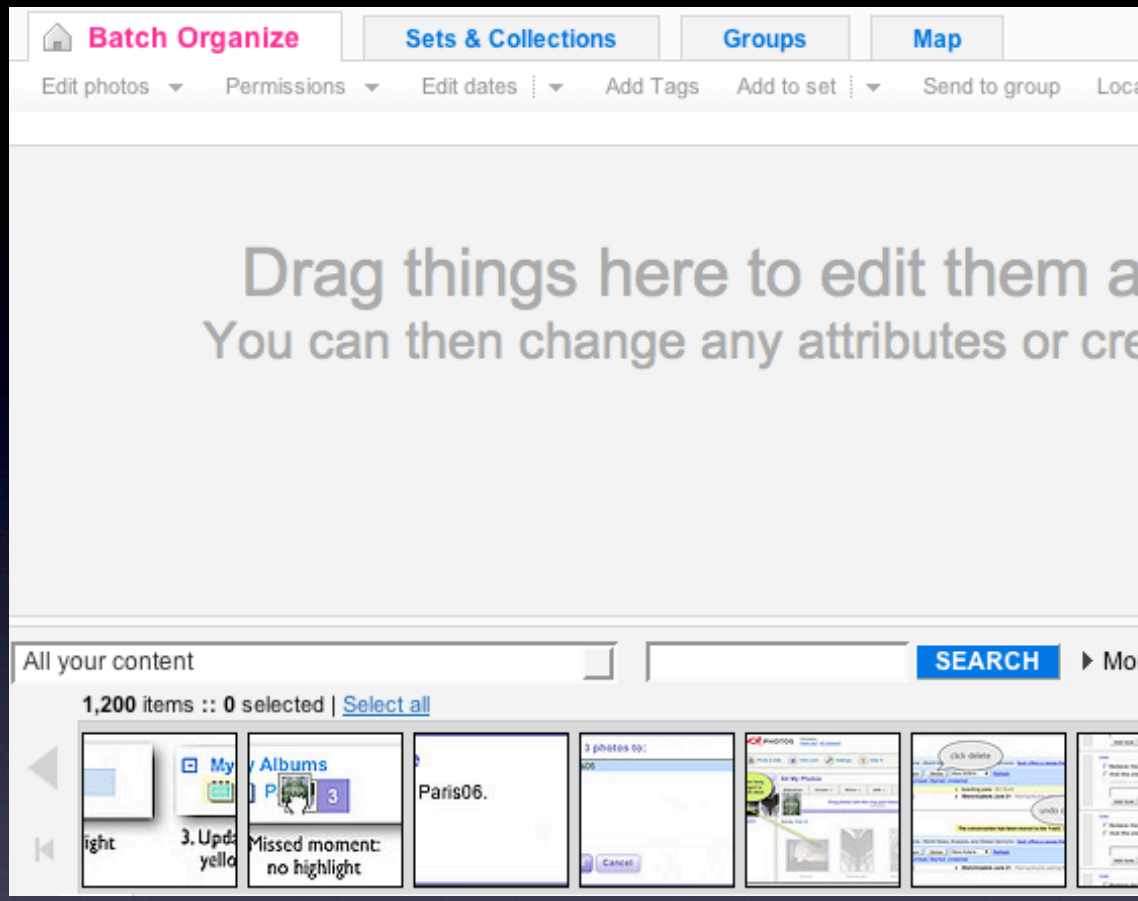


flickr. **drop here invitation (interactive)**



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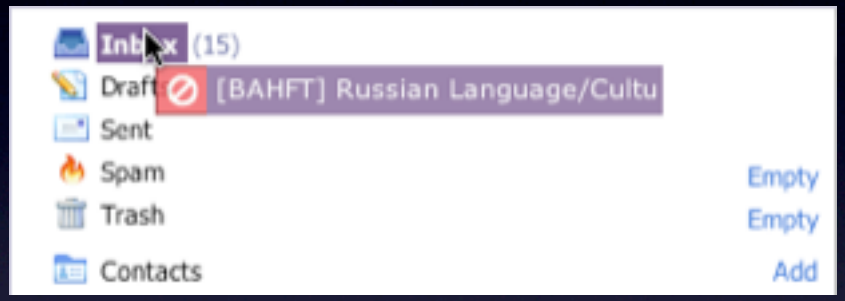
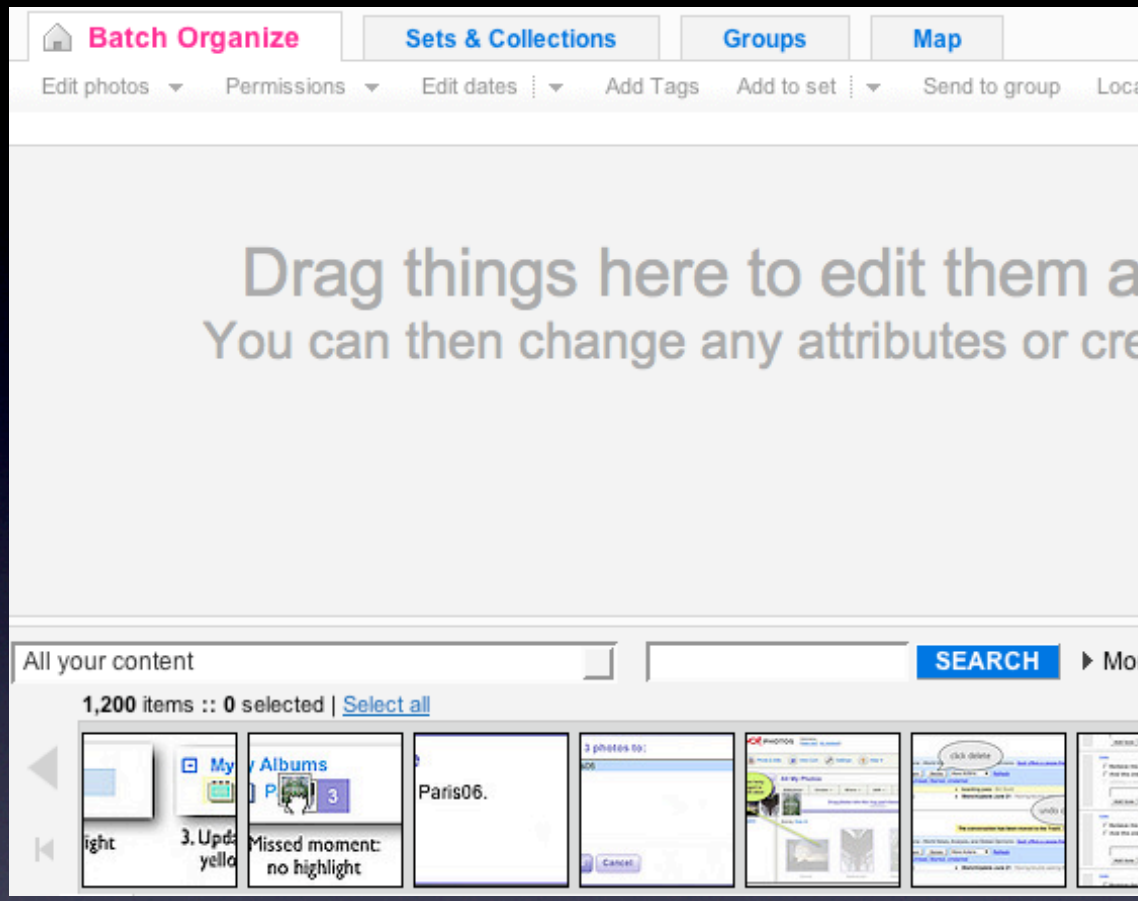


flickr. **drop here invitation (interactive)**

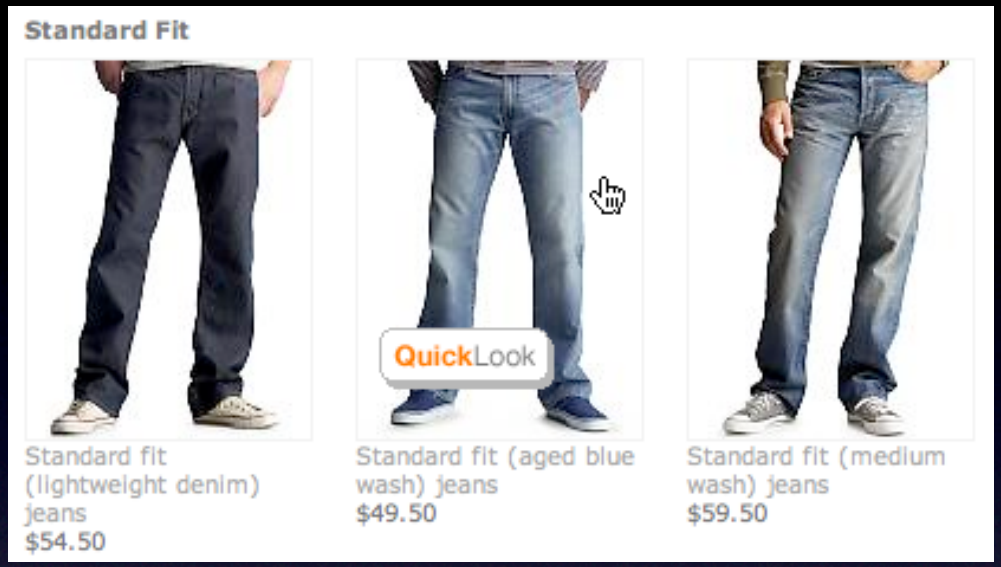


flickr. **drop here invitation (static)**

bridge the new with the old

hyperlinks as actions
reveal with hovers
drop down clues

offer an invitation. **dynamic invitation**



the gap. **button**

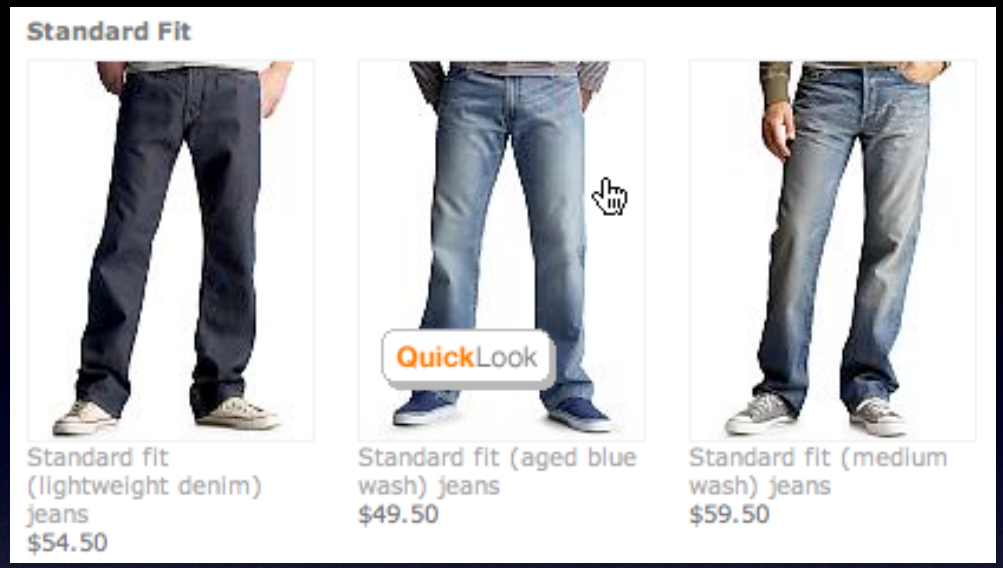
bridge the new with the old

hyperlinks as actions

reveal with hovers

drop down clues

offer an invitation. **dynamic invitation**



the gap. **button**

y! mail. **embedded buttons**

bridge the new with the old

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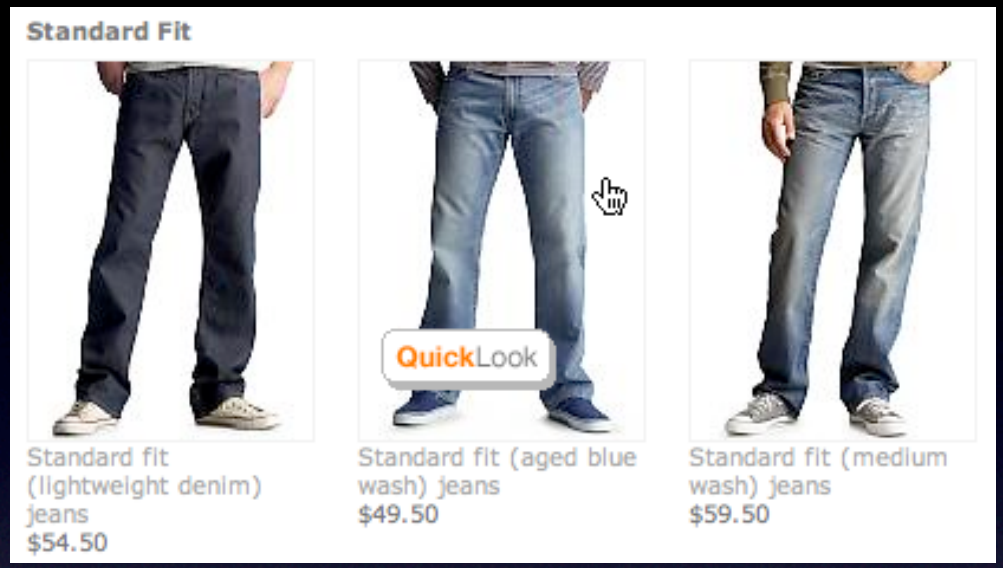


the gap. **button**

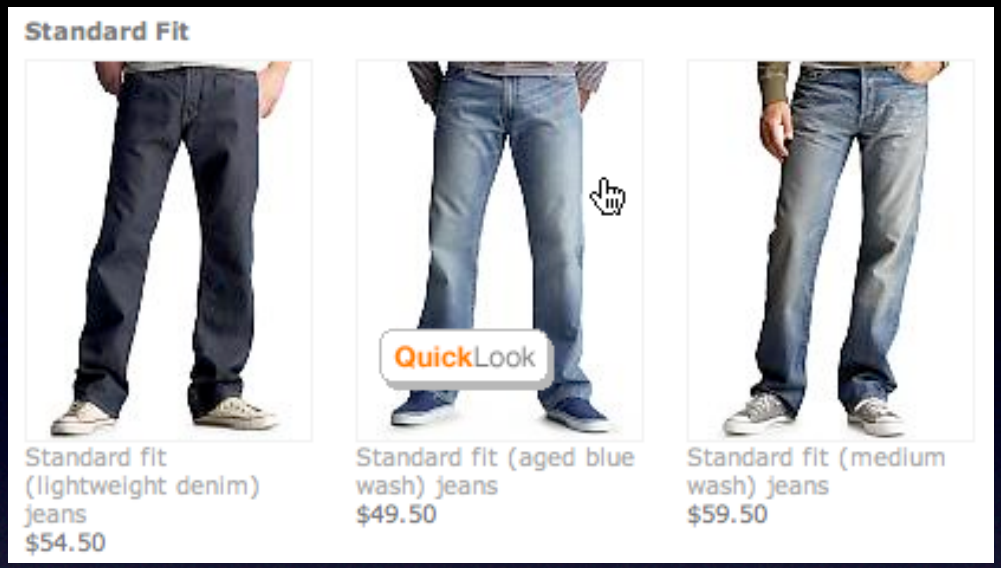
y! mail. **embedded buttons**

bridge the new with the old

hyperlinks as actions
reveal with hovers
drop down clues

backpackit. **revealed hyperlinks/icons**

offer an invitation. **dynamic invitation**



the gap. **button**

bridge the new with the old

hyperlinks as actions
reveal with hovers
drop down clues

backpackit. **revealed hyperlinks/icons**

y! mail. **embedded buttons**

flickr. **drop down affordance**

offer an invitation. **anti-patterns**

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. Click here for answers to questions you might have about the beta program.

anti-pattern. amazon. **mouse trap**

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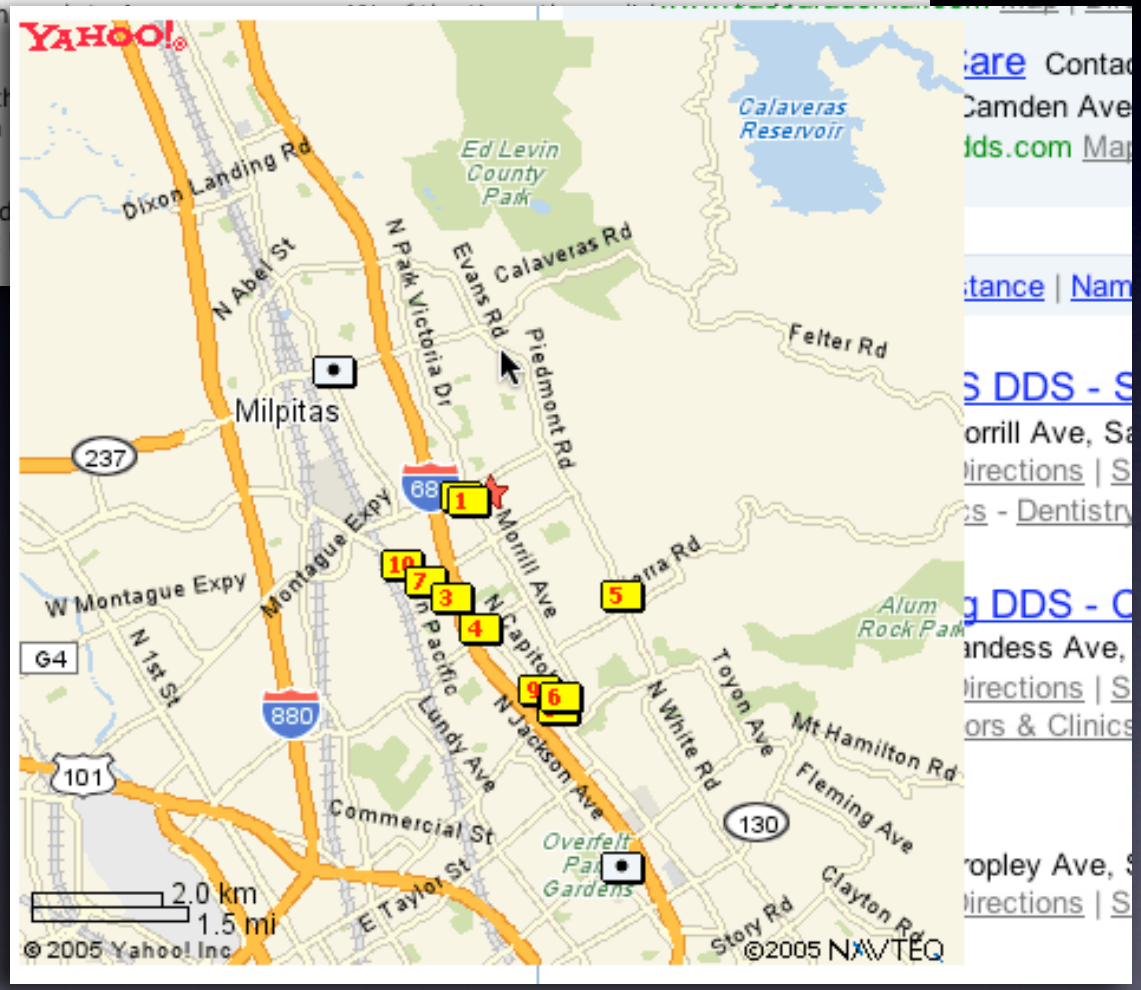
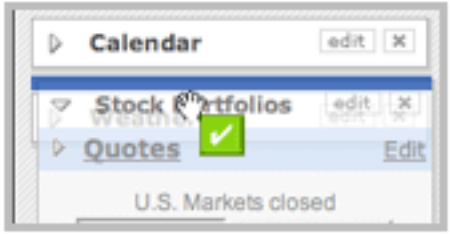


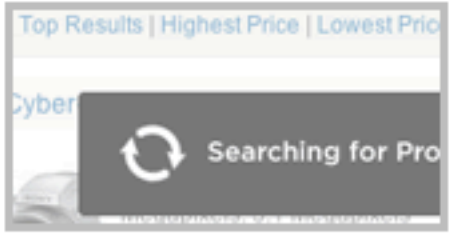
anti-pattern. y! maps. **mouse trap**

use transitions

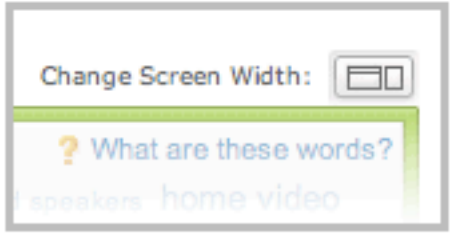
use transitions



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

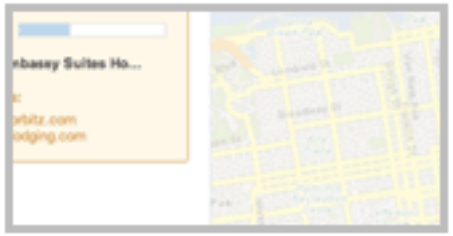


Brighten Transition
Designer wants to make a previously dimmed object a point of focus by making the object bright again.



Collapse Transition
The designer needs to communicate that an object is no longer of primary importance, yet wants to keep it available in a smaller form.

Cross Fade Transition
Designer wants to communicate that a new view of an object is replacing the previous view of the object.

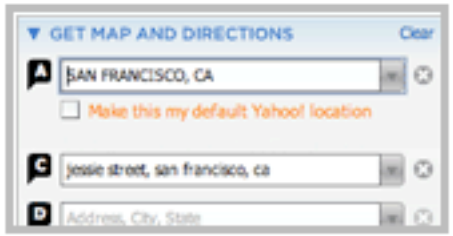


Dim Transition
Designer needs to communicate that an object is of secondary importance.

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

Fade In Transition
Designer needs to communicate that an object is being added to the page or application.

Fade Out Transition
Designer needs to communicate that an object is going away.



Self Healing Transition
Designer wants to show that an object has been removed from a list of objects.

use transitions

Cross Fade Transition
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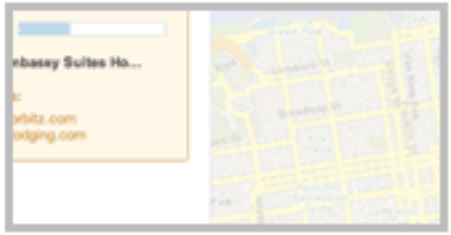

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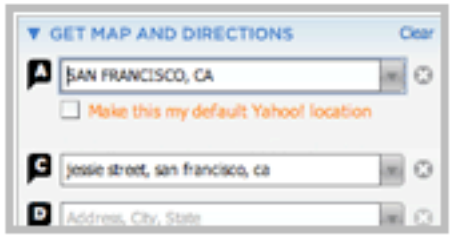

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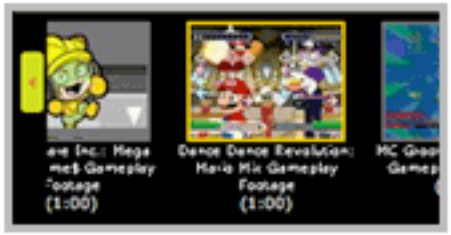
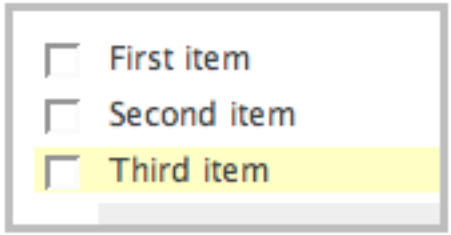


Slide Transition
The designer wants to bring new content into the page and would like to communicate the additional content's relationship with other items on the page.



Spotlight Transition
Designer needs to call attention to where a data value or content has changed within the interface.

use transitions

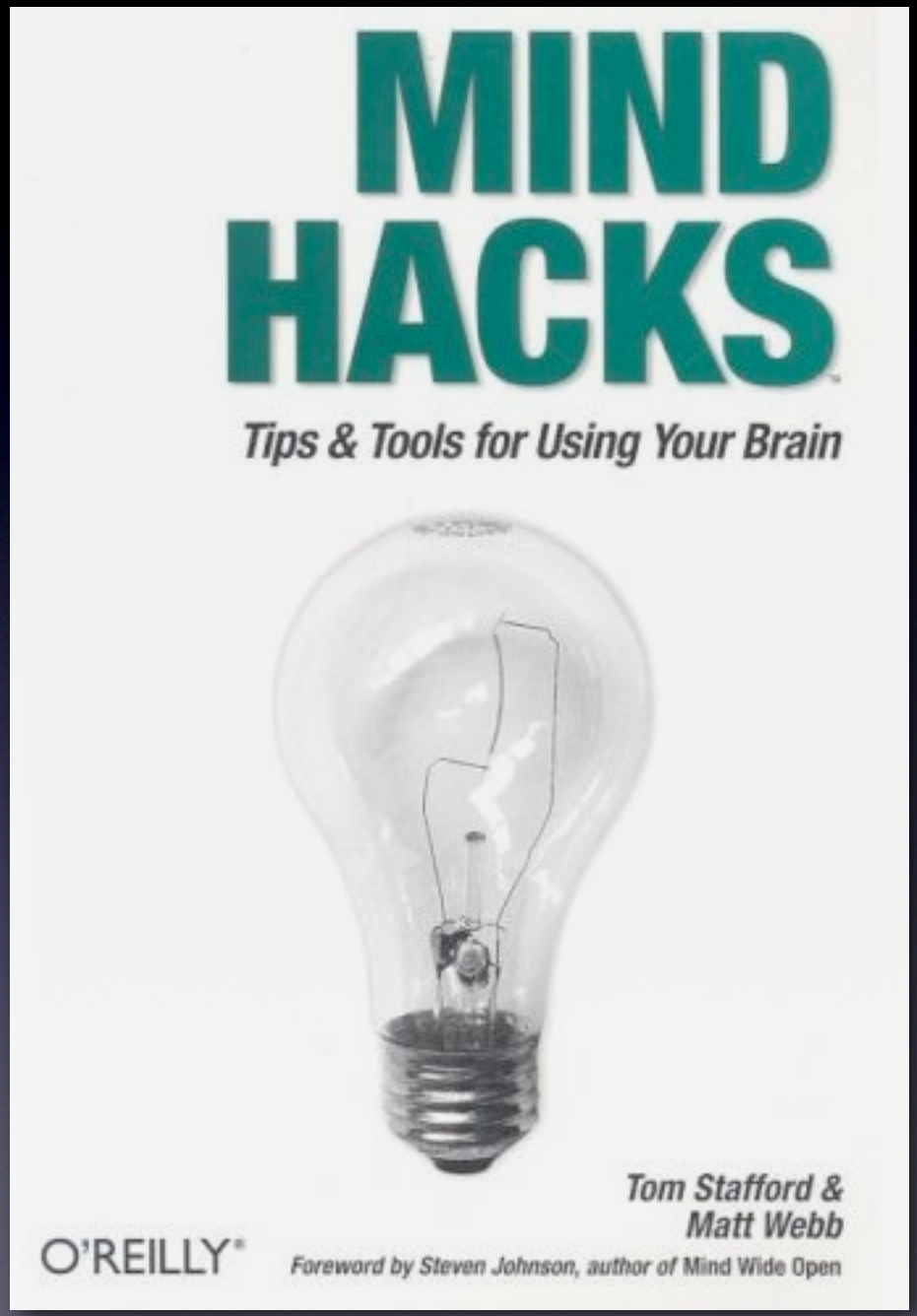
Speak to the brain

Understanding attention processing

use transitions

Speak to the brain

Understanding attention processing



Speak to the brain

Understanding attention processing

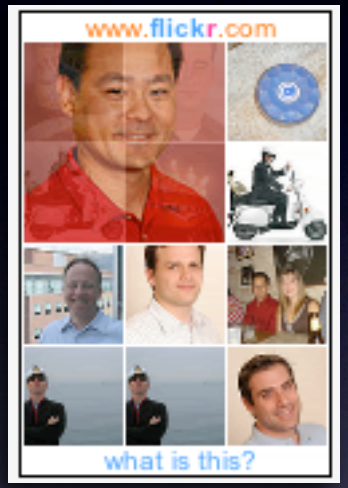
Sending the wrong message

use transitions

Speak to the brain

Understanding attention processing

Sending the wrong message

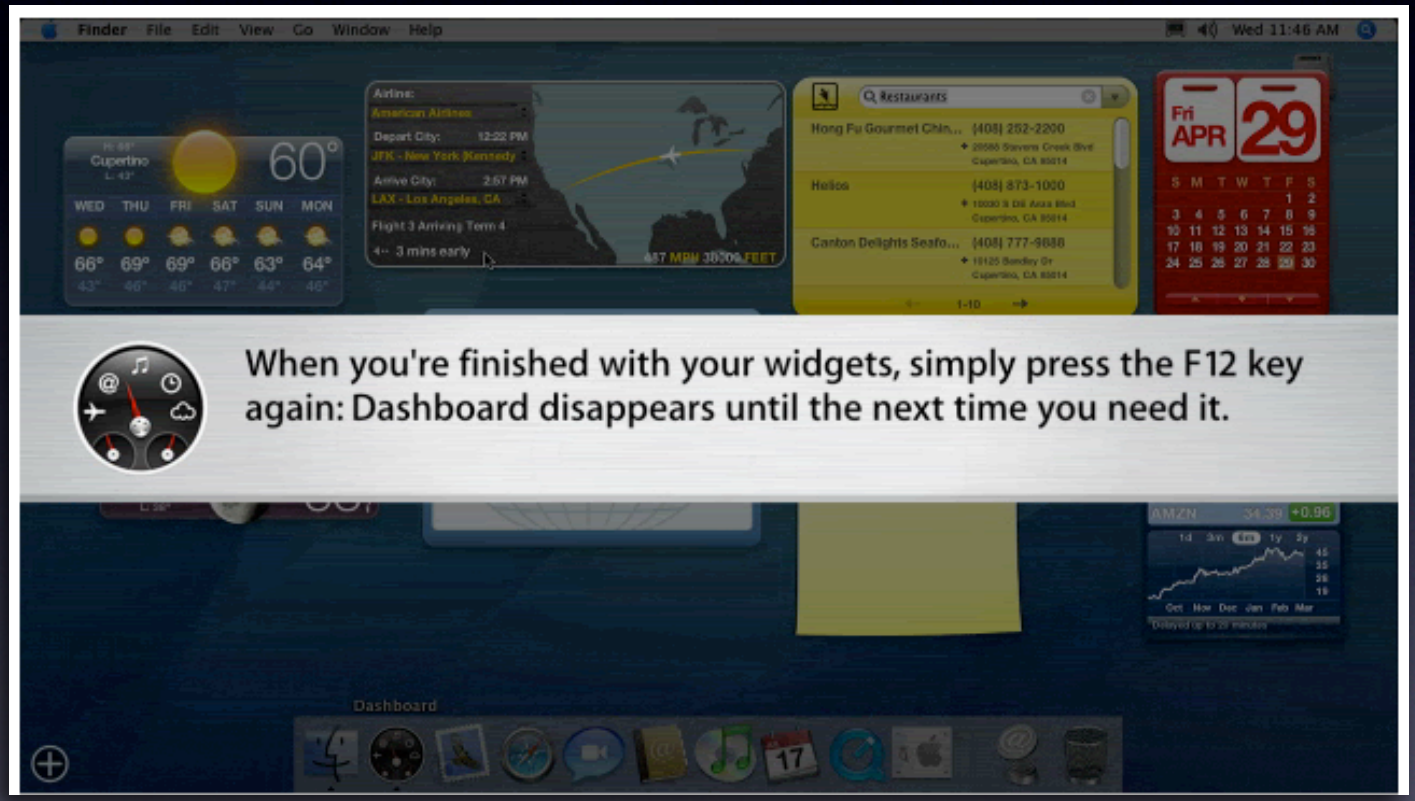


flickr **zeitgeist**

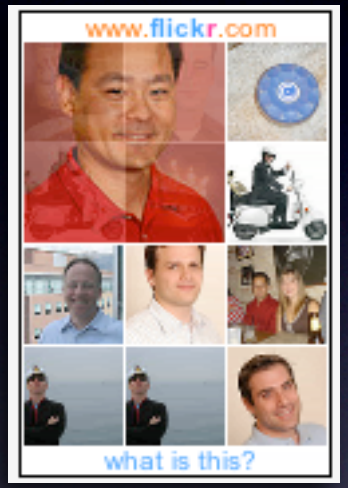
Speak to the brain

Understanding attention processing

Sending the wrong message



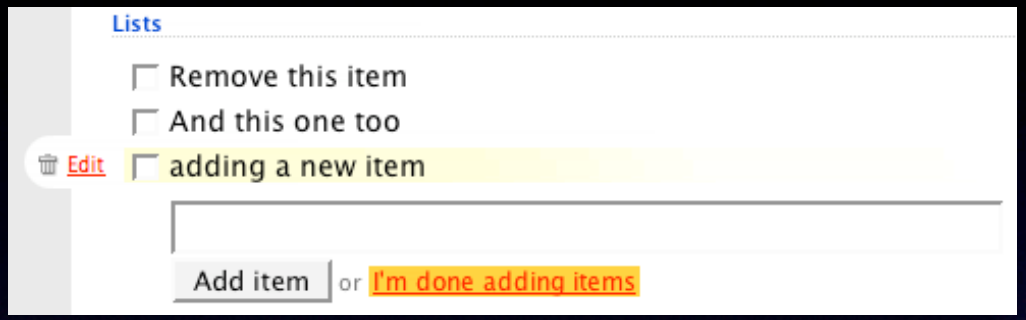
mac **widgets**



flickr **zeitgeist**

use transitions

backpackit. **fade transition + self-healing transition.**



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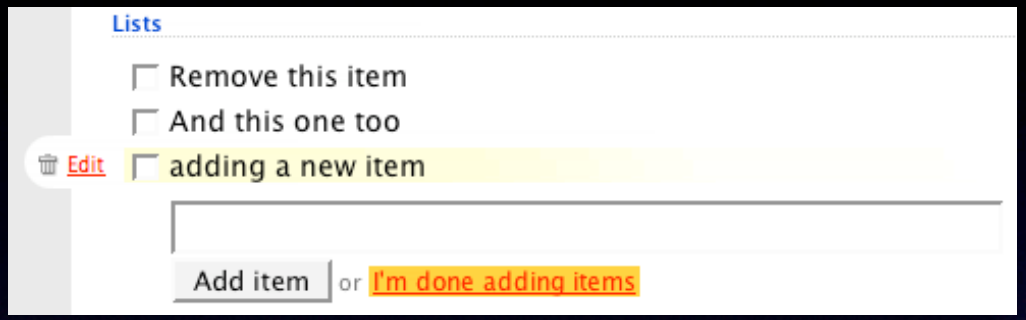
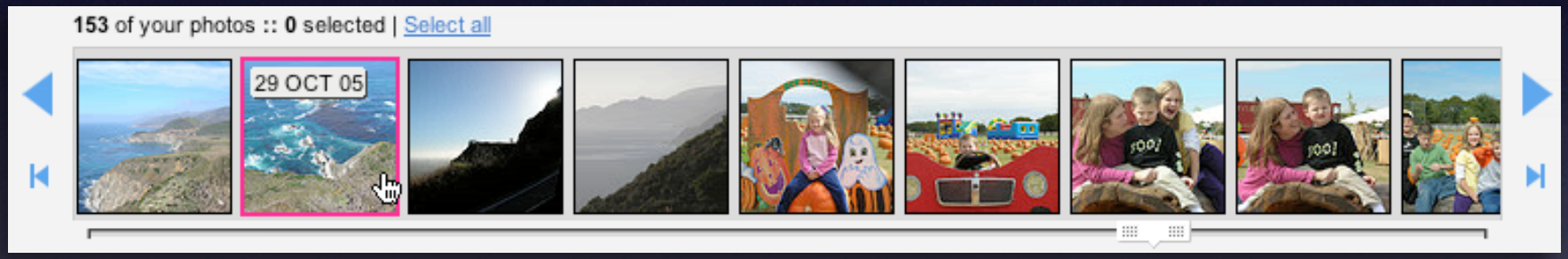
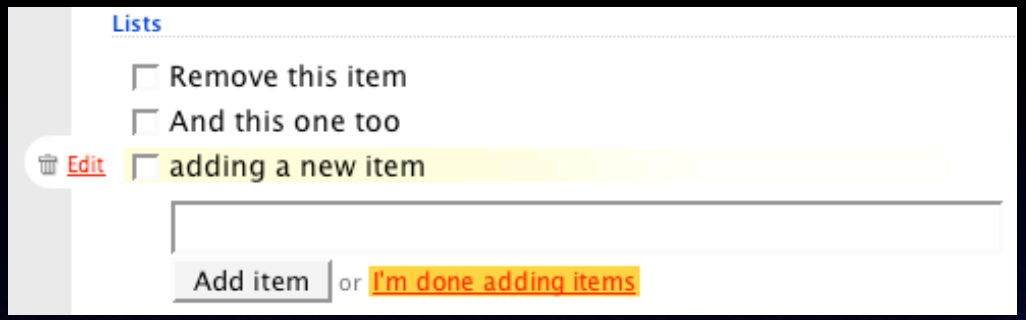


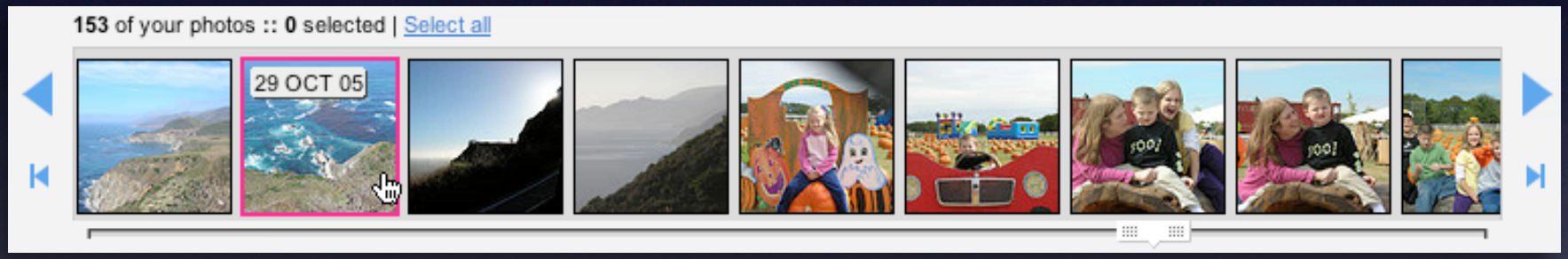
flickr. **slide transition.**



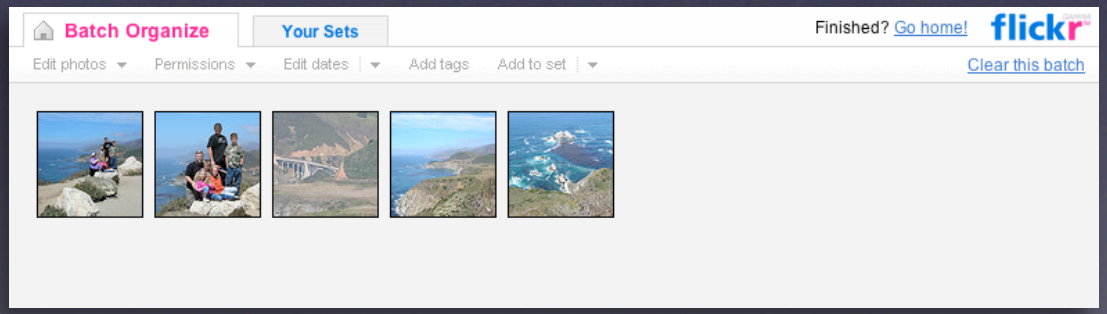
backpackit. **fade transition + self-healing transition.**



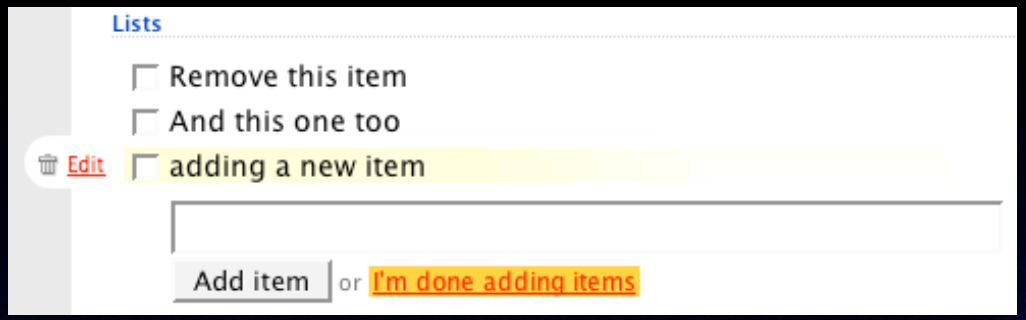
flickr. **slide transition.**

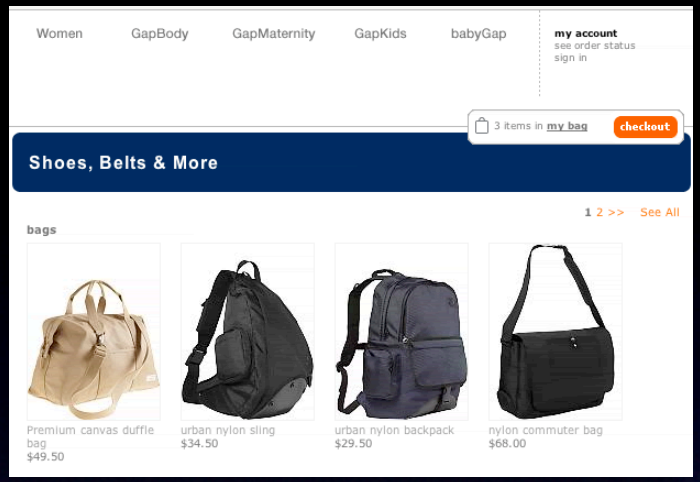


flickr. **active spotlight.**



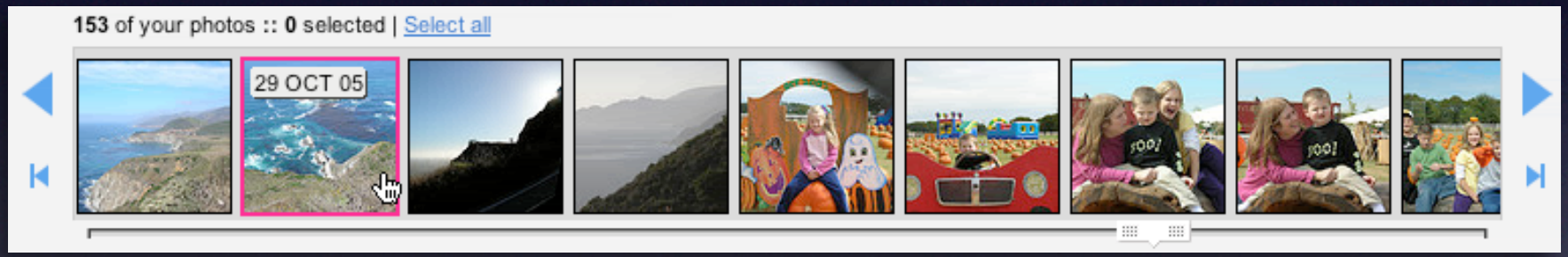
backpackit. **fade transition + self-healing transition.**



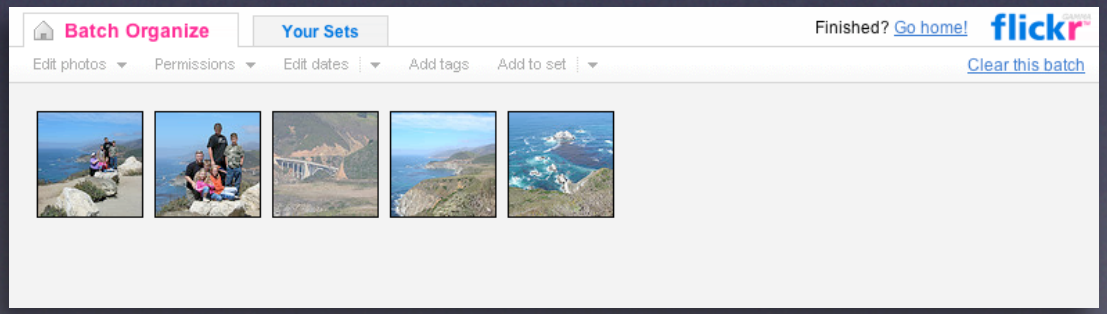


the gap. **zoom box.**

flickr. **slide transition.**



flickr. **active spotlight.**



you can...

speed up time
slow down interaction
show state change
show relationships between objects
focus attention

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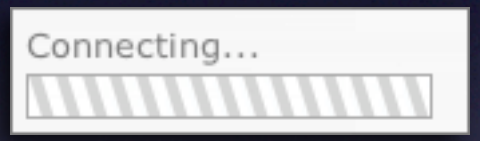

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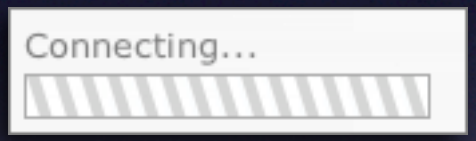

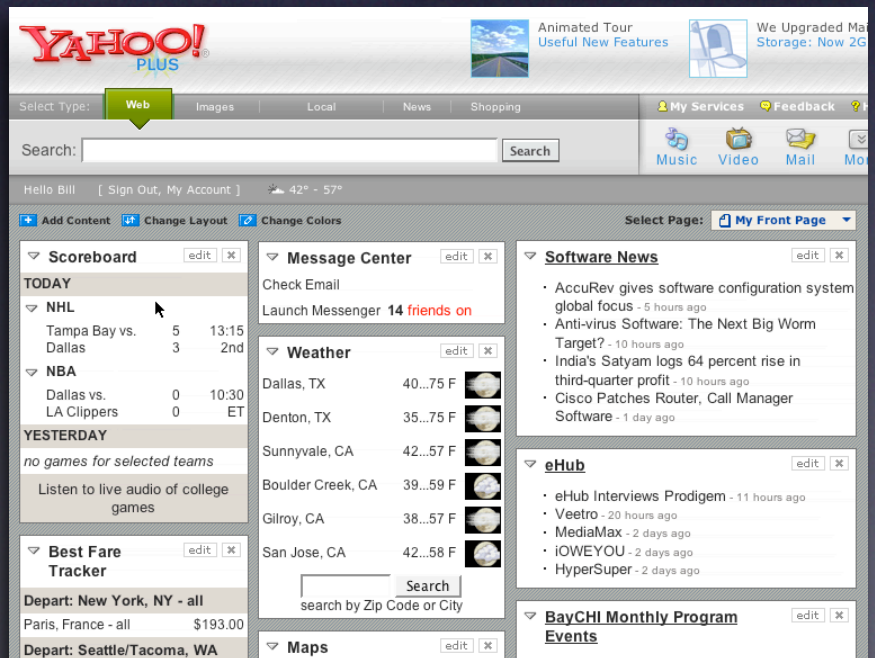

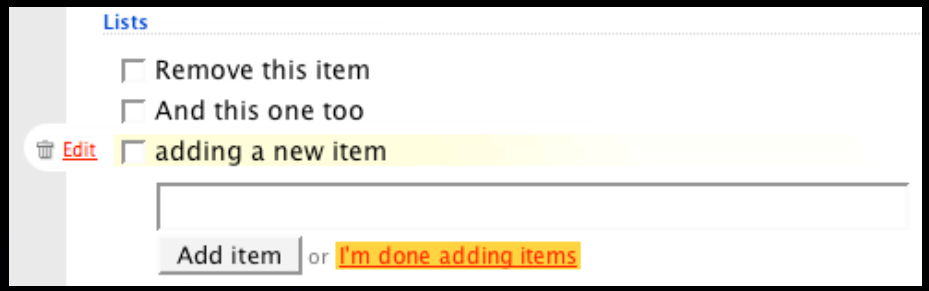

use transitions

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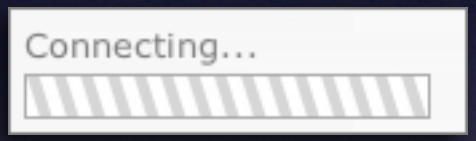

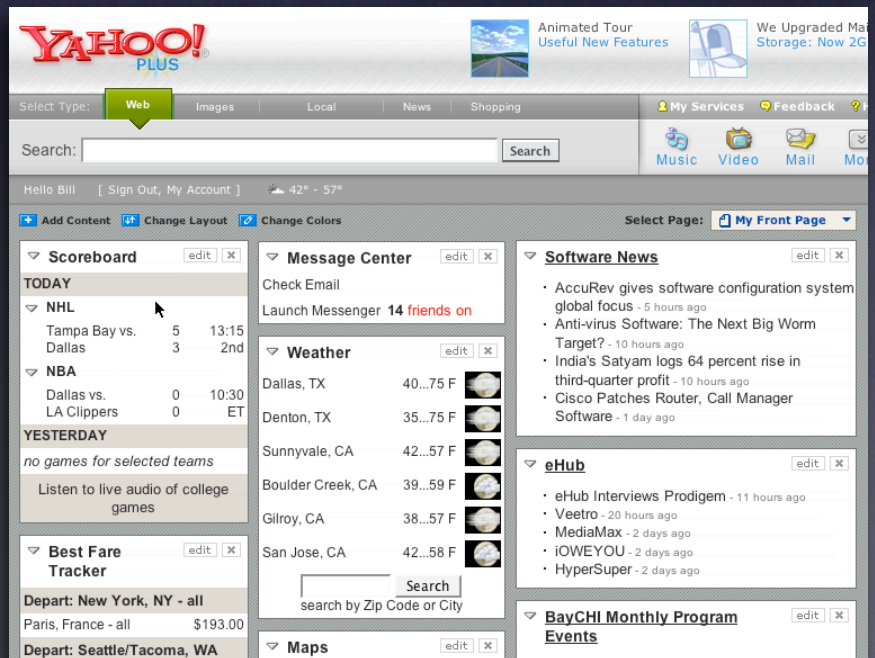

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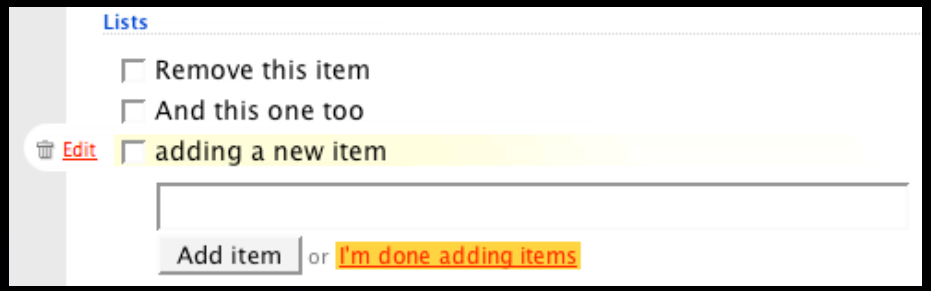

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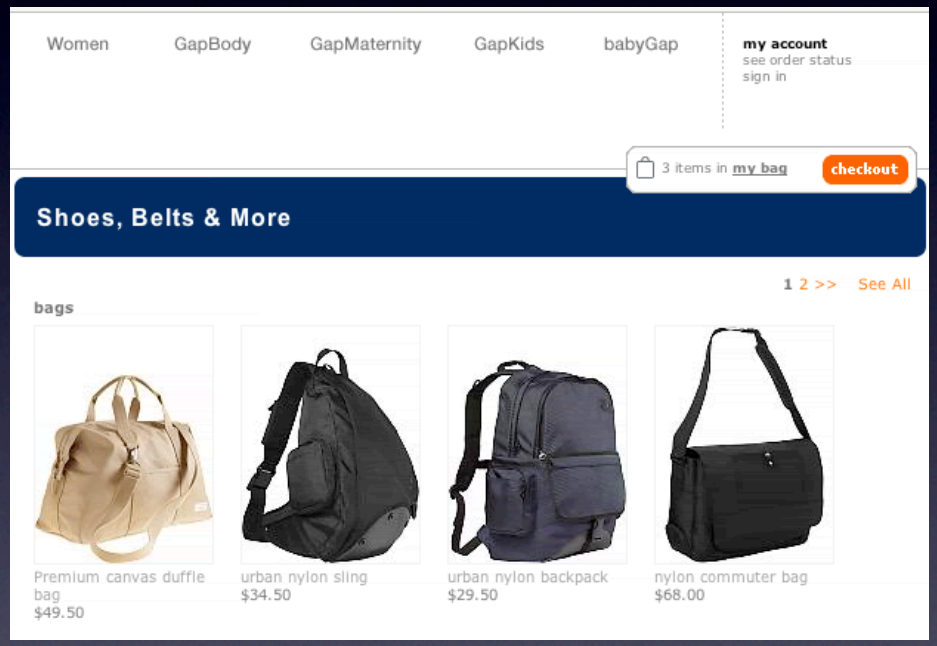

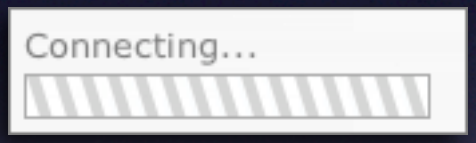

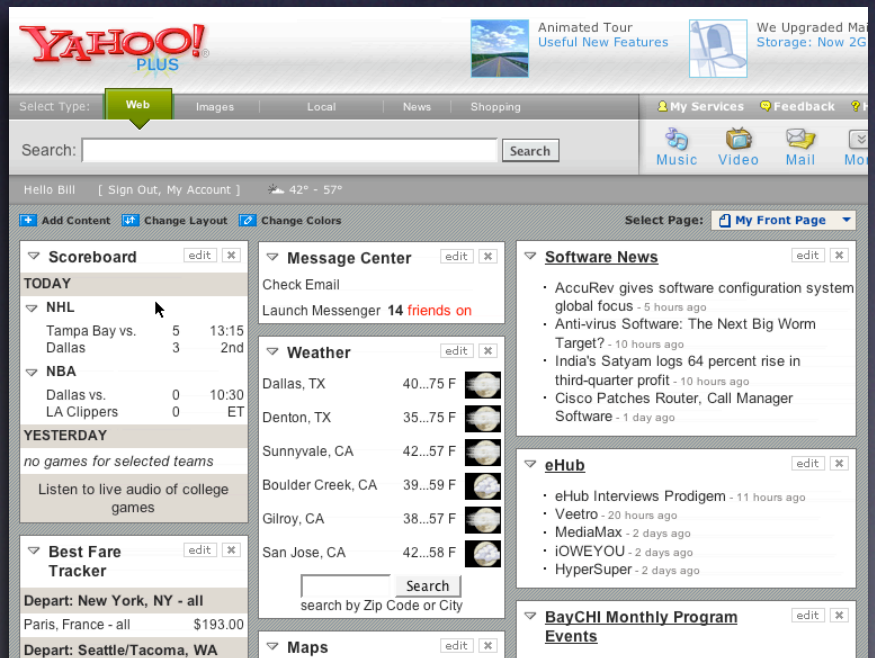

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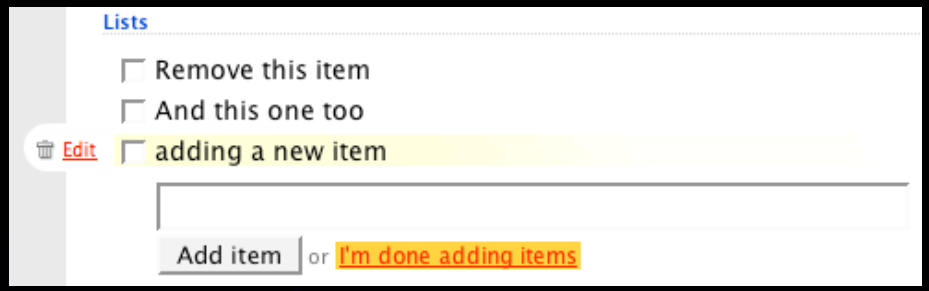

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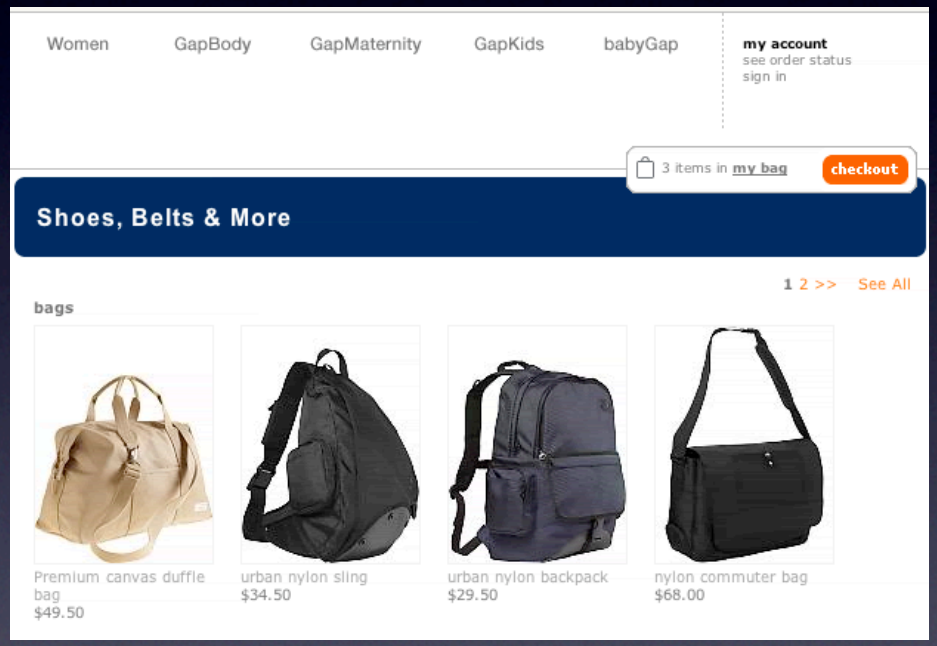
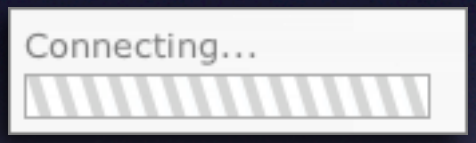
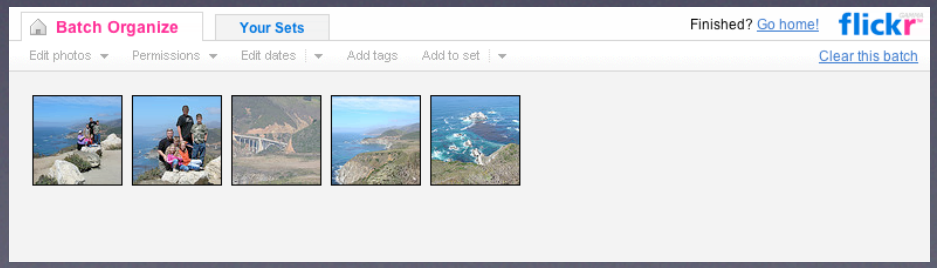
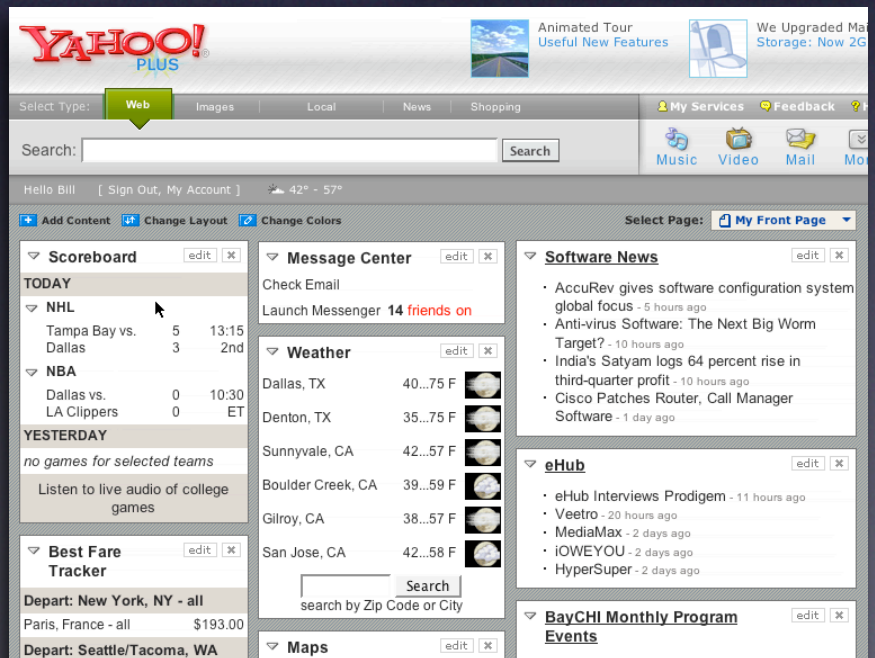








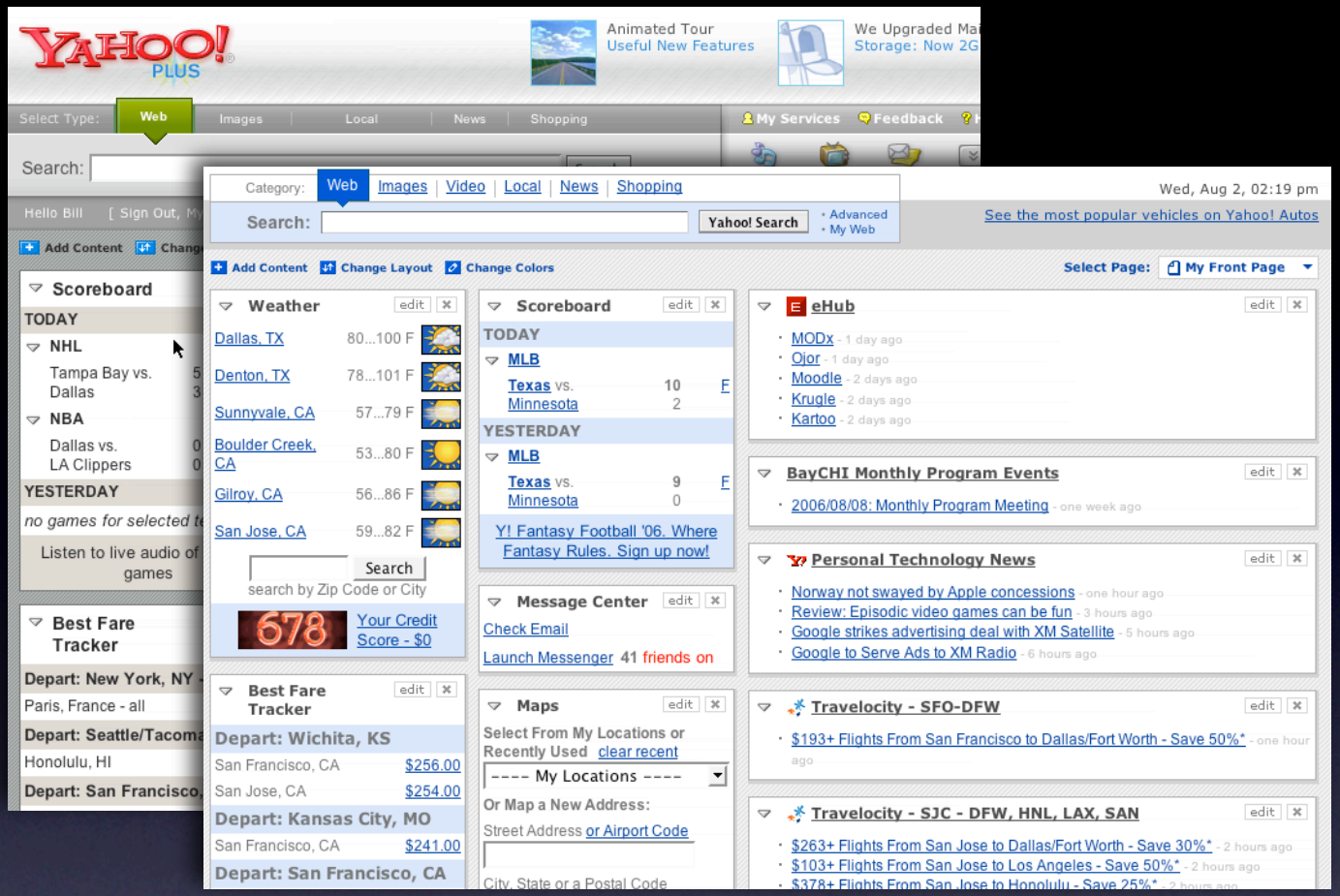
use transitions

Keep it sane

"Cut it in-half" rule of thumb

Use "contrast knob" approach

use transitions



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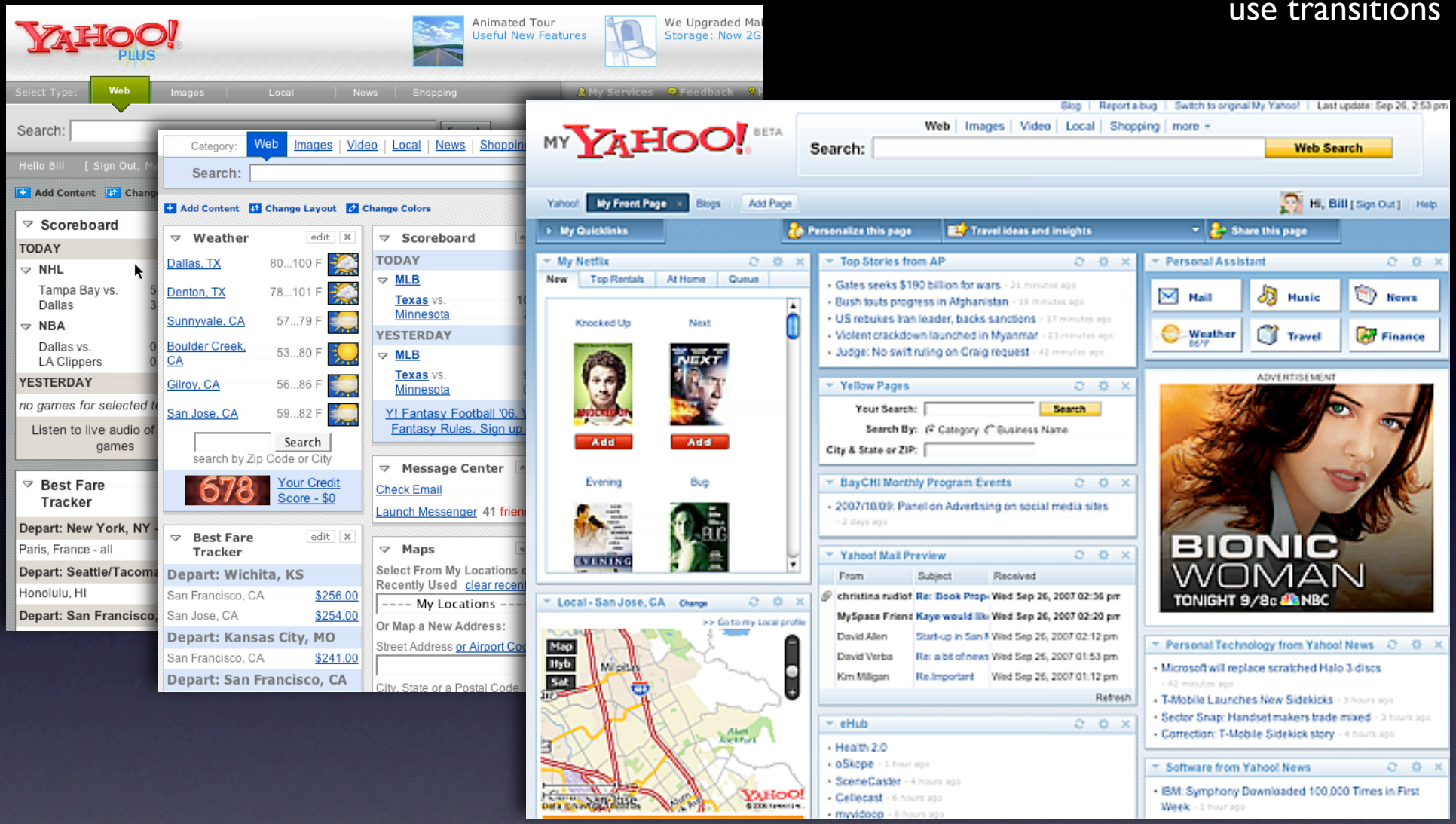


Keep it sane

"Cut it in-half" rule of thumb

Use "contrast knob" approach

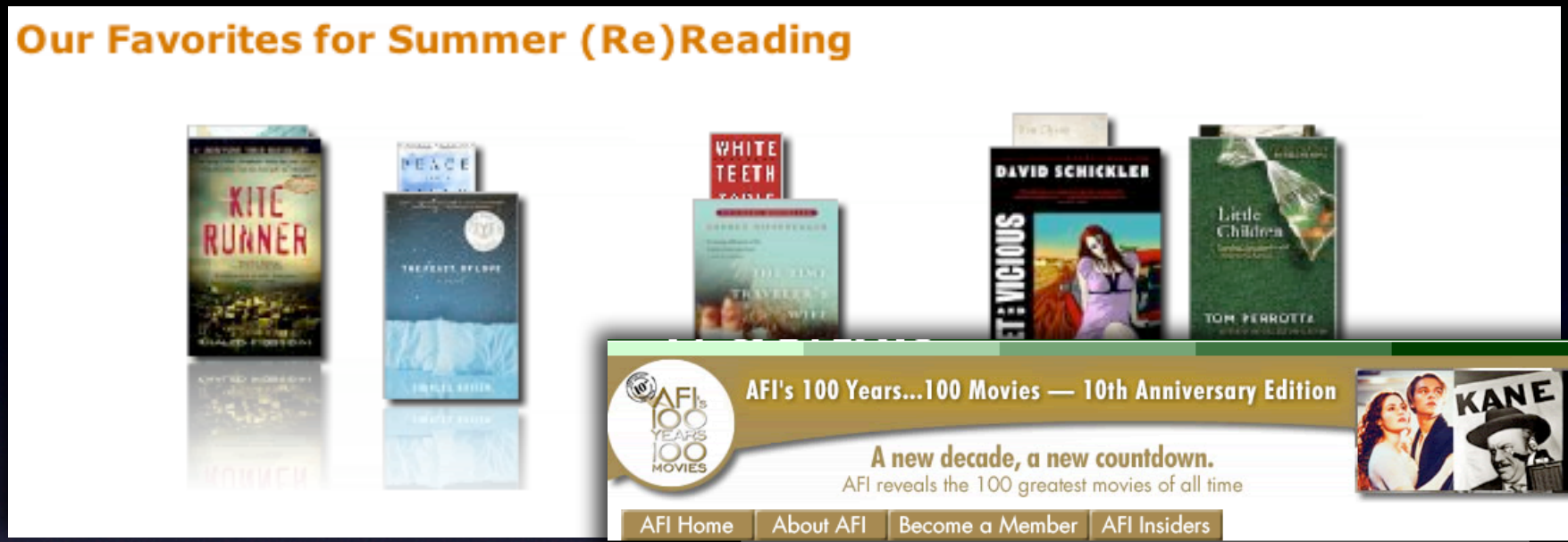
use transitions. **anti-patterns**

anti-pattern. borders. **needless fanfare**

use transitions. **anti-patterns**

anti-pattern. amazon. **animation gone wild**

anti-pattern. amazon. **animation gone wild**



anti-pattern. afi. **animation gone wild**

use transitions. **anti-patterns**

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   471 N 18th St, San Jose, CA
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   www.zoneprofiles.com/plumberinsanjose.html
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2. Sunnyvale Storm **Drain Repairs** — 6.22 mi
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   3560 Flora Vista Ave # 204, Santa Clara, CA
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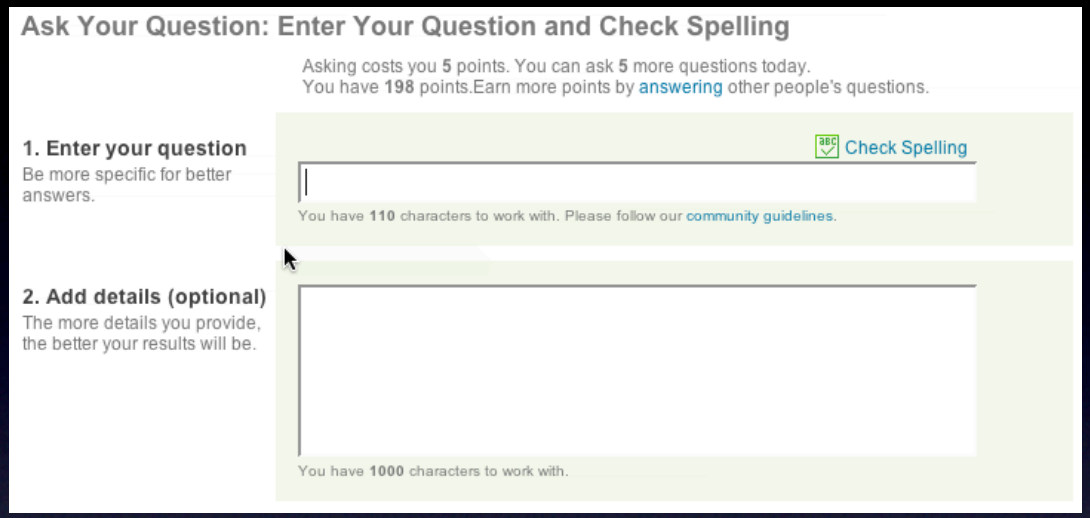
react immediately

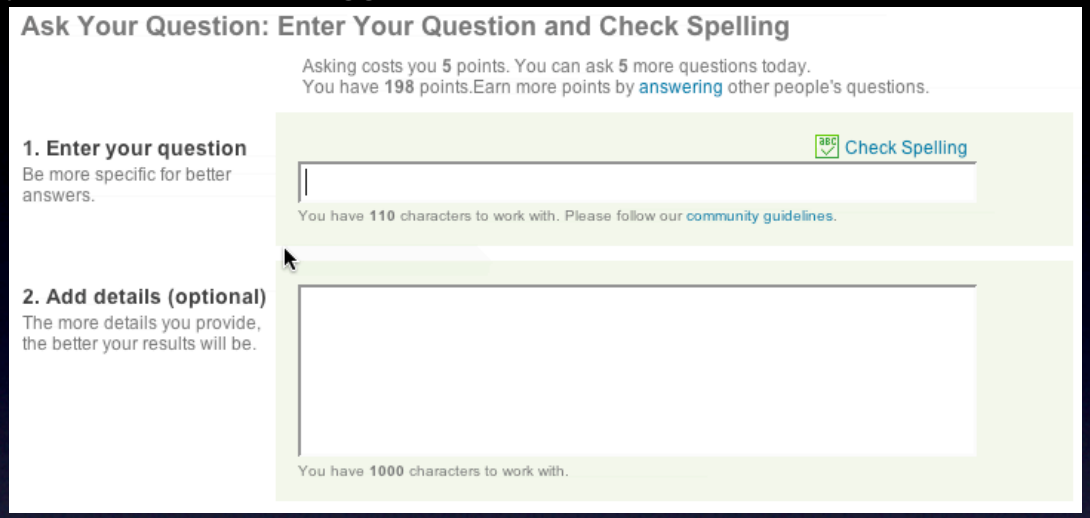
react immediately

react immediately



react immediately

y! answers. **live suggest**



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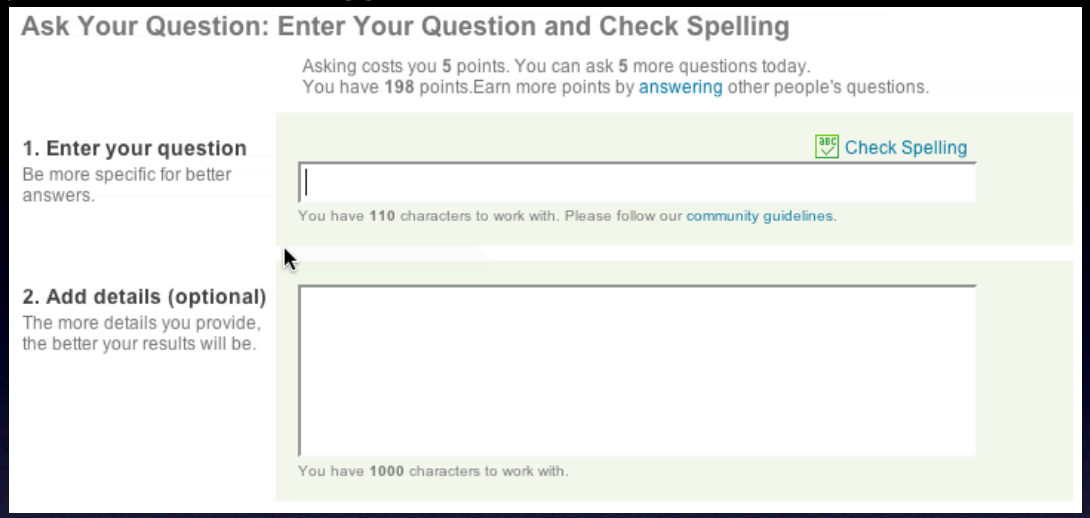
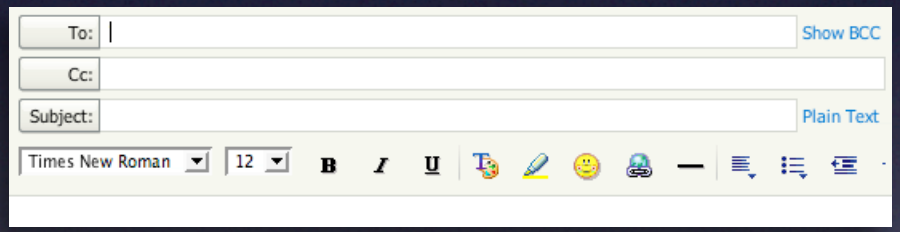


y! mail, kayak. **auto complete**



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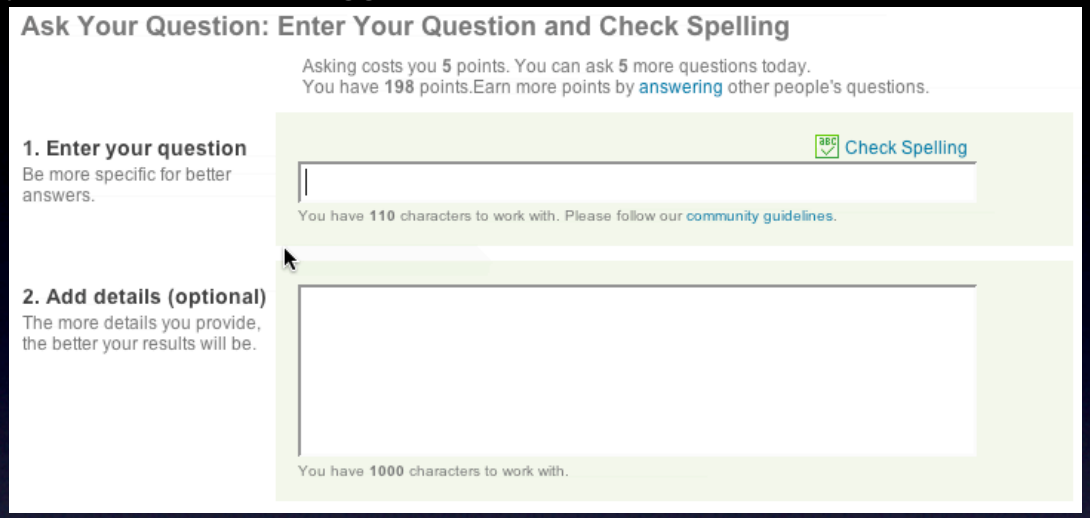

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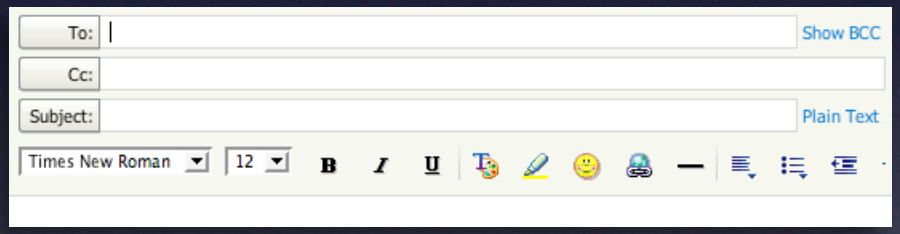

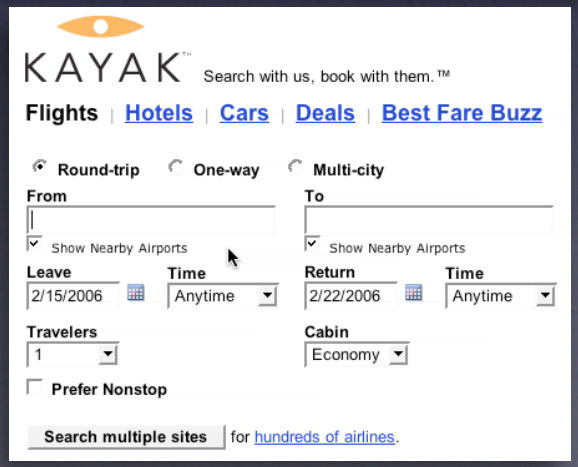

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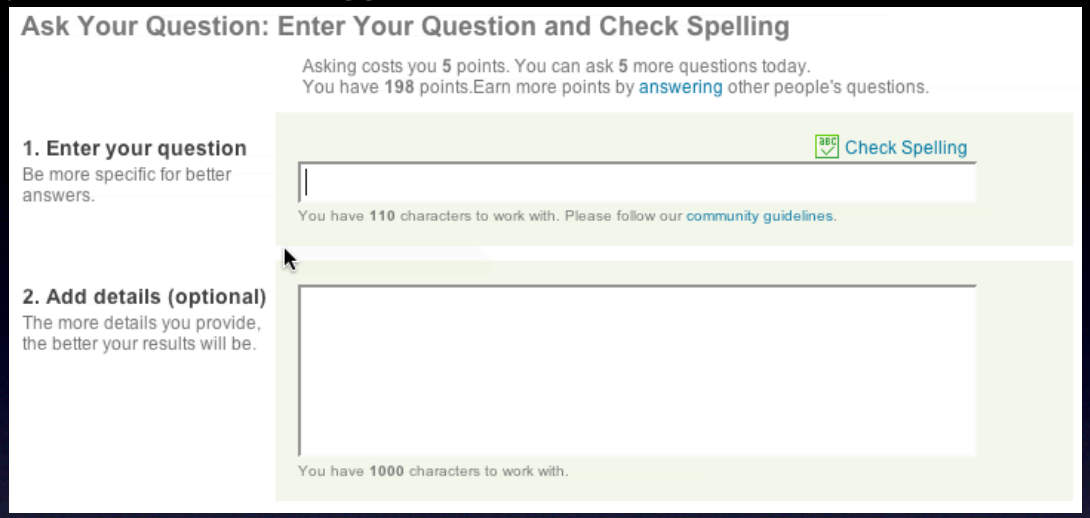

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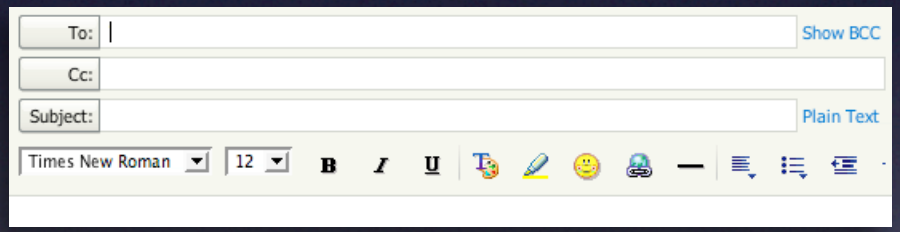
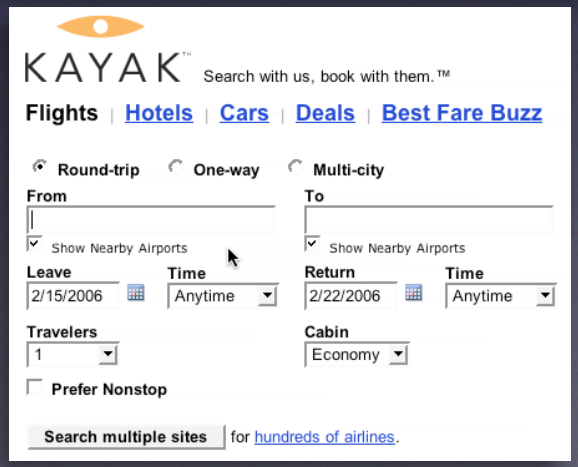
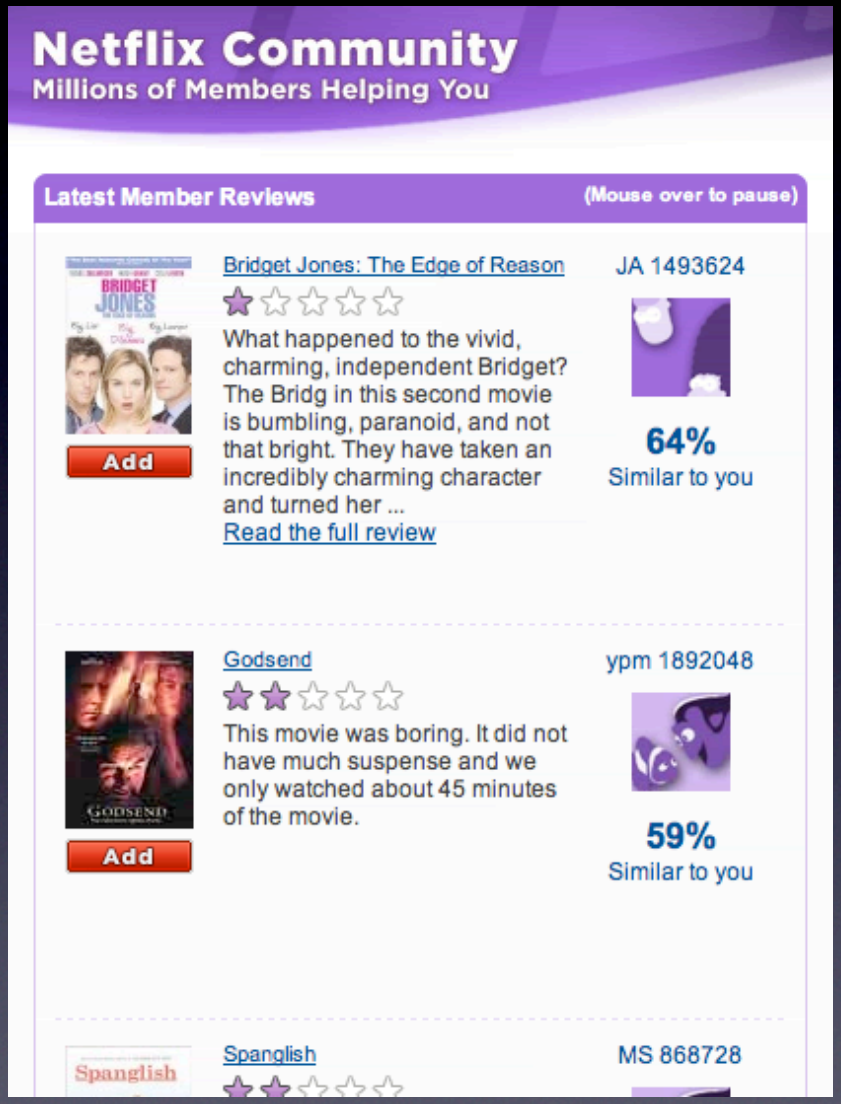


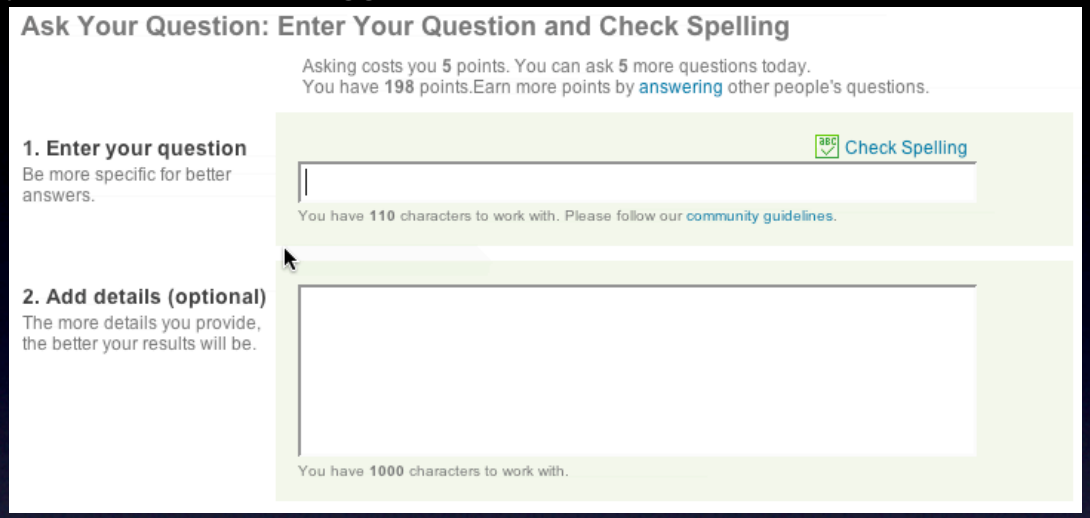


netflix. **periodic refresh**



react immediately

y! answers. **live suggest**



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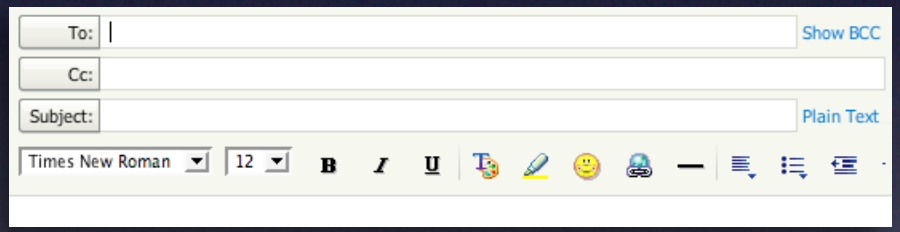
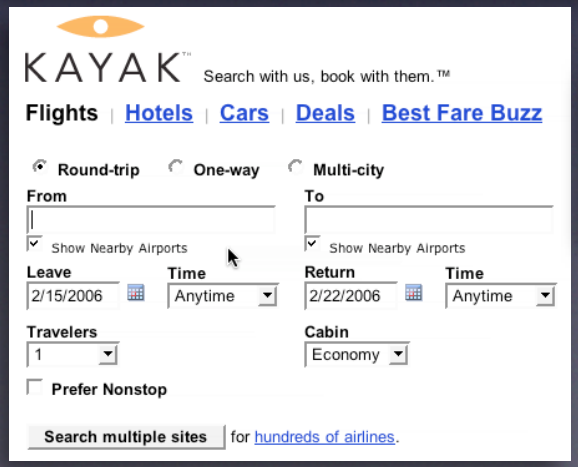
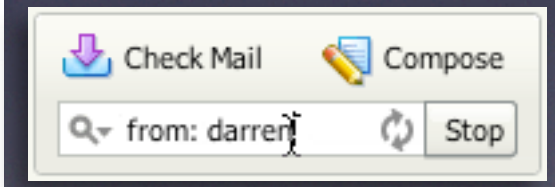
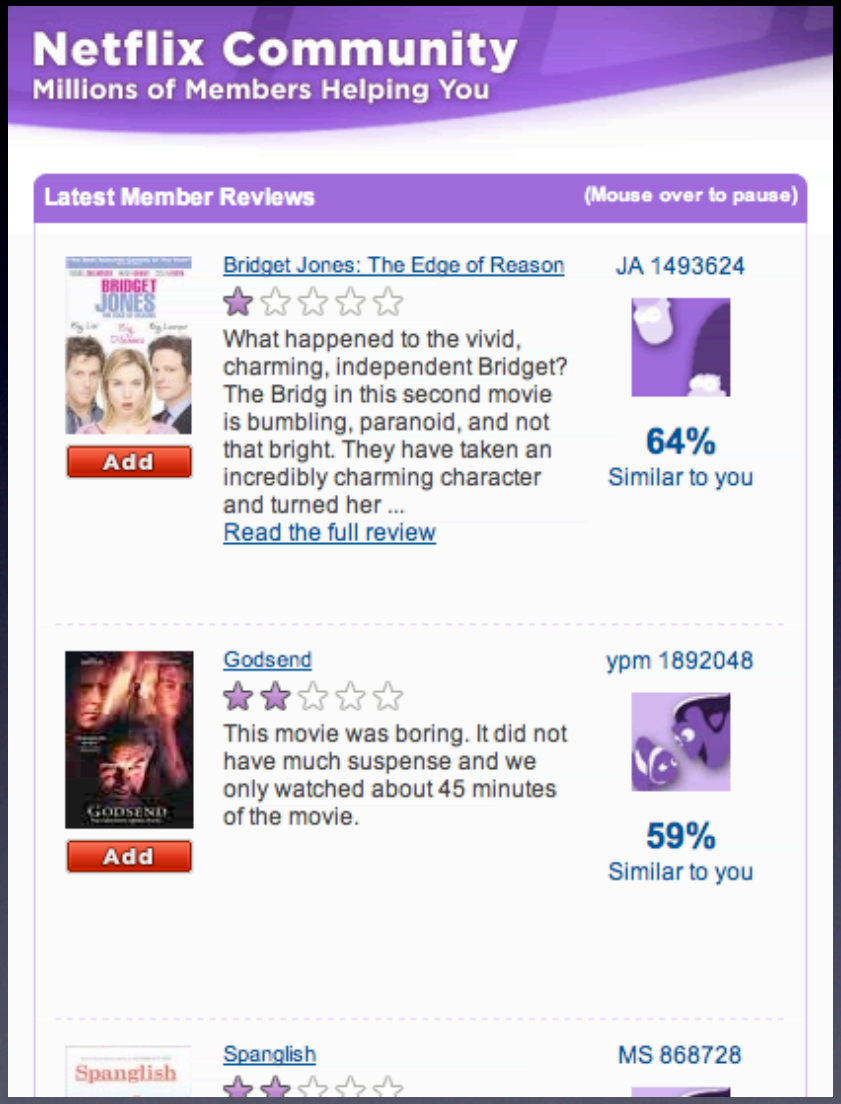




y!mail. **busy indicator**

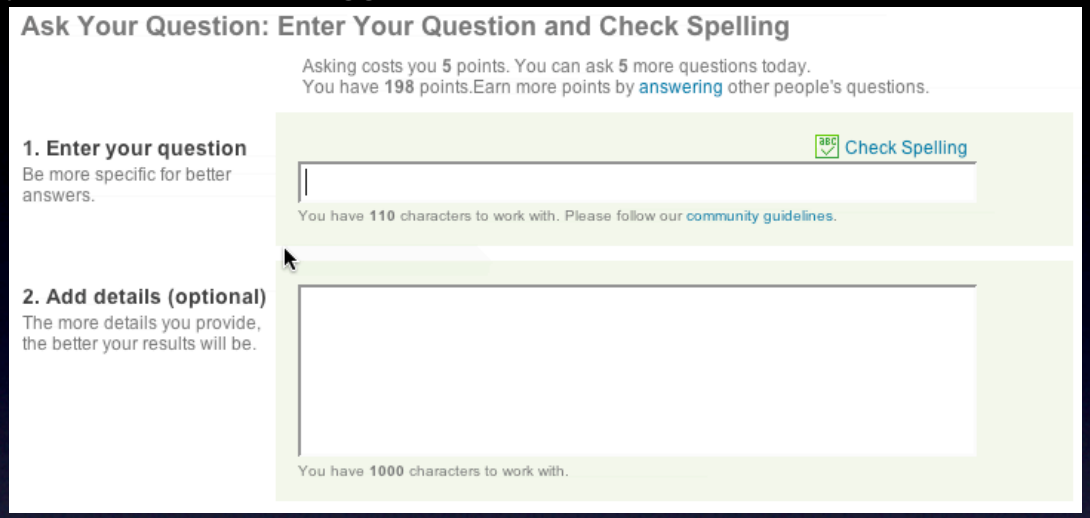


netflix. **periodic refresh**

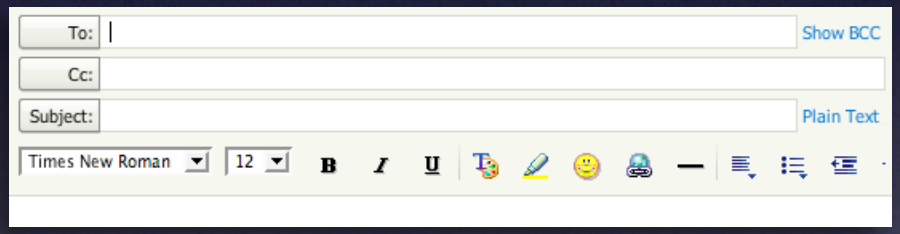


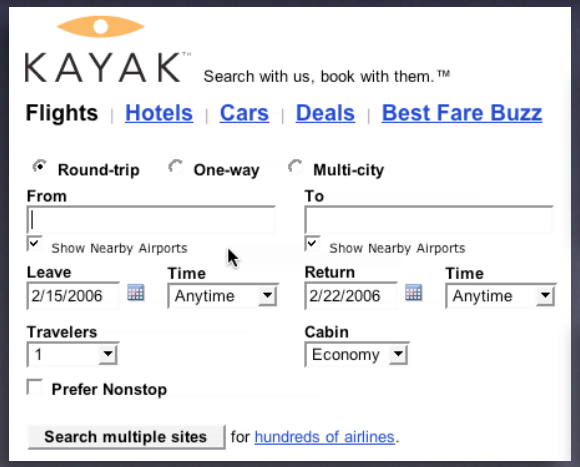
react immediately

y! answers. **live suggest**



y! mail, kayak. **auto complete**





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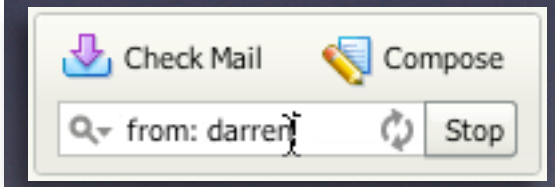
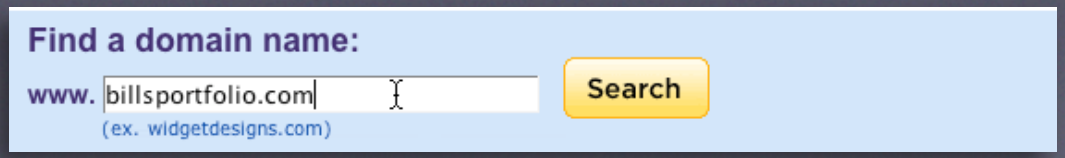
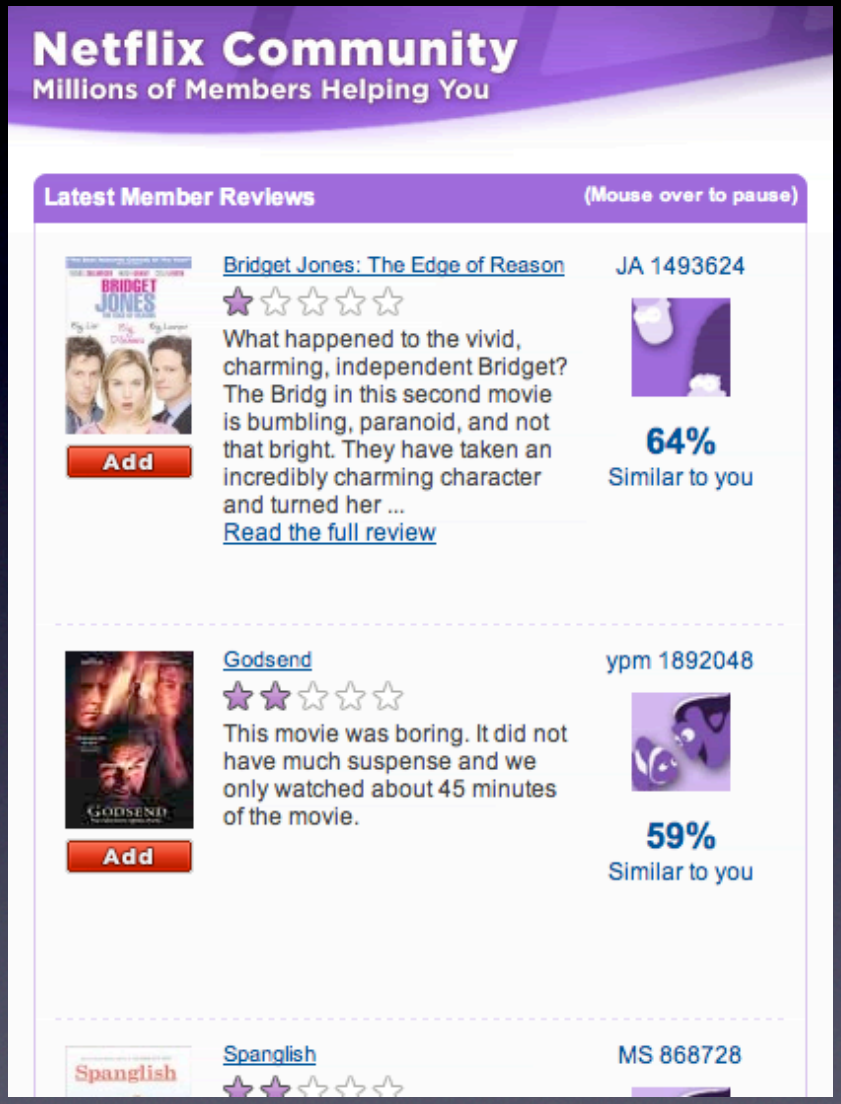


y! small biz. **live previews**



netflix. **periodic refresh**



react immediately

Keep the goal in mind

Design for relevancy

Is it narrowing or distracting

react immediately

Keep the goal in mind

Design for relevancy

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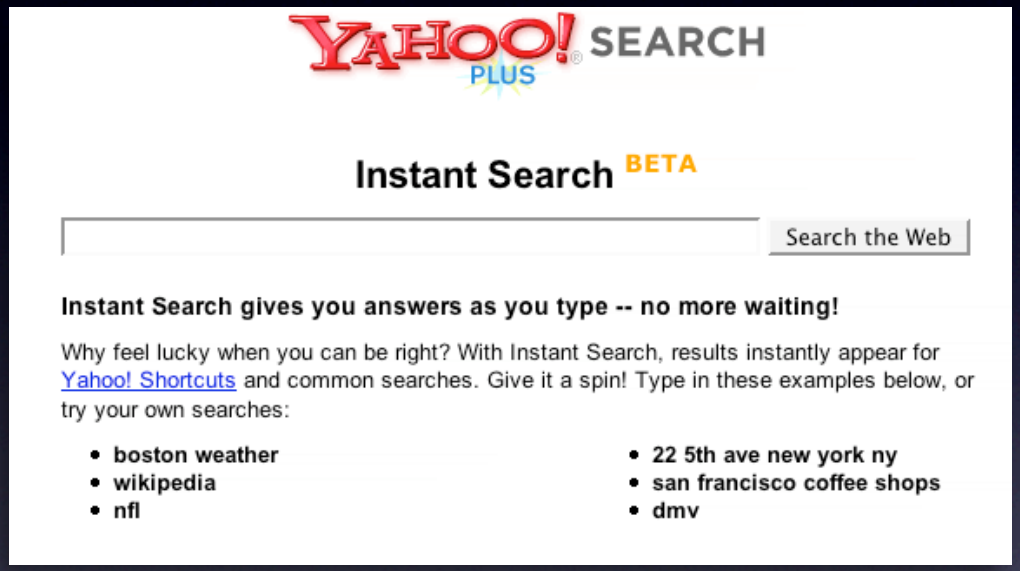
Design for relevancy

Is it narrowing or distracting



Keep the goal in mind

Design for relevancy

Is it narrowing or distracting?

Use feedback to boost confidence

Let the user iterate where possible

Keep the goal in mind

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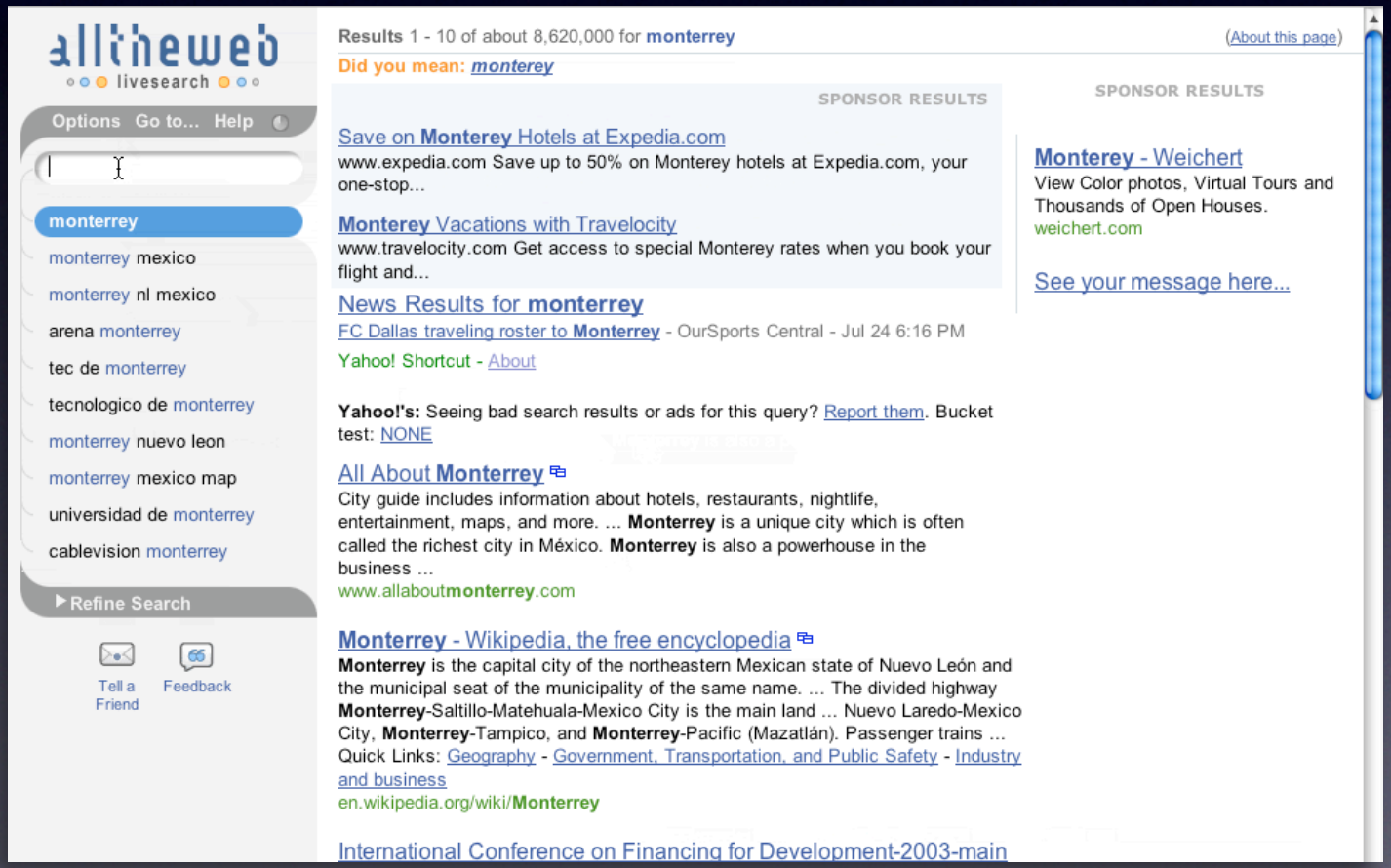

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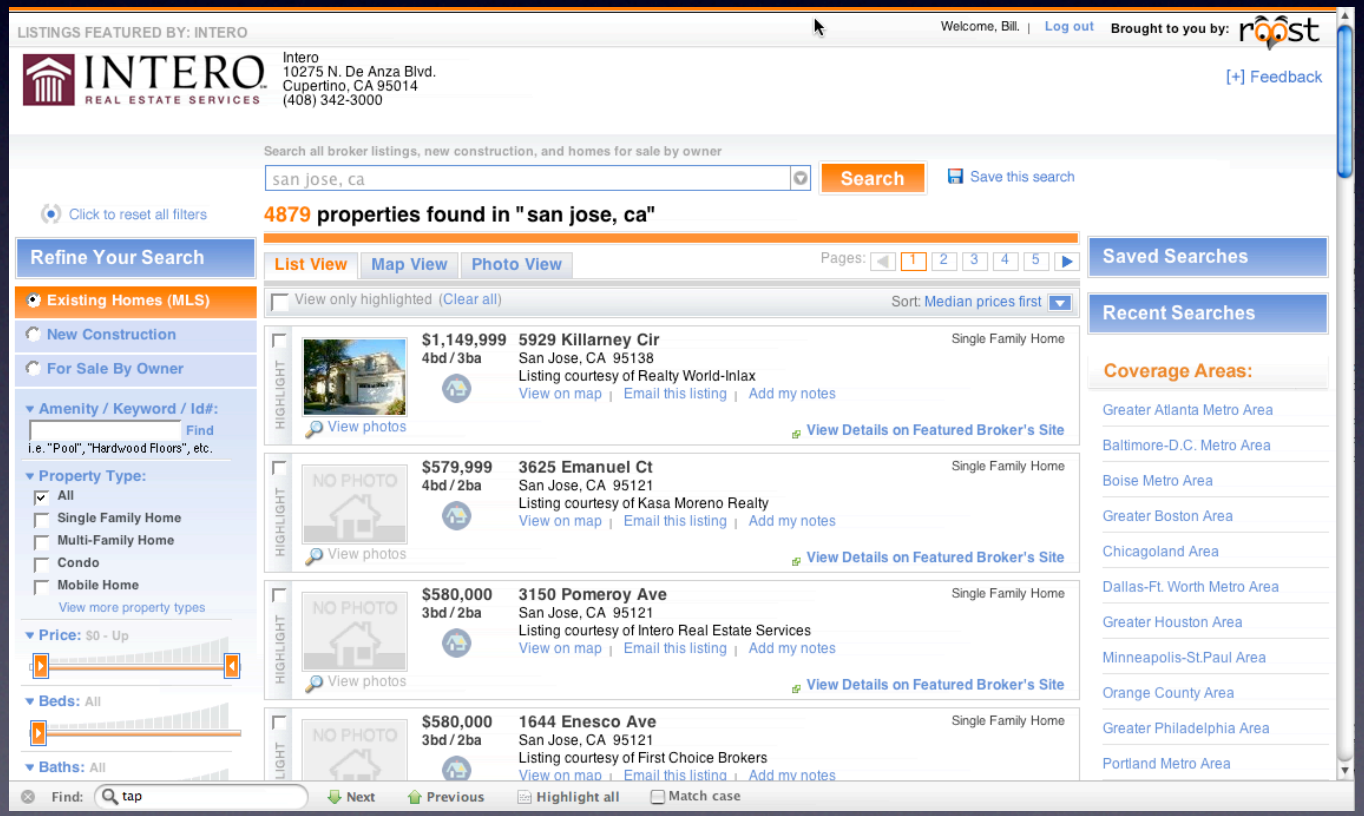

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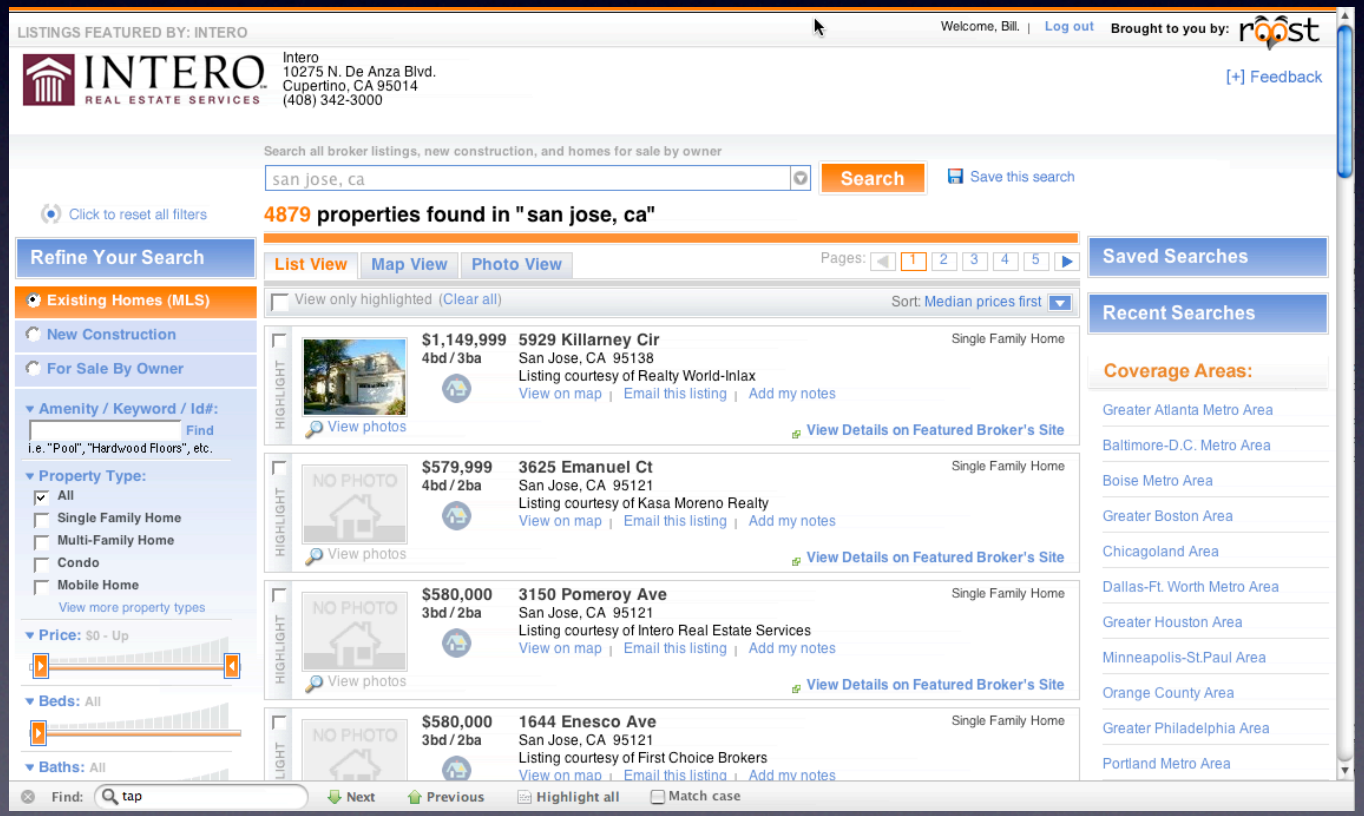


roost

Shape user perception

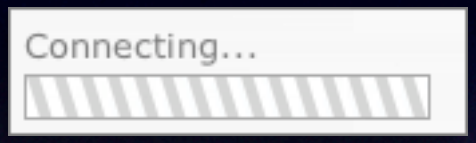
Make time pass faster

Make application feel more responsive

Shape user perception

Make time pass faster

Make application feel more responsive



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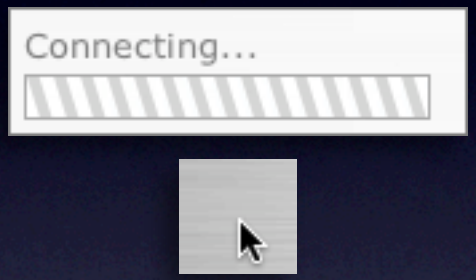


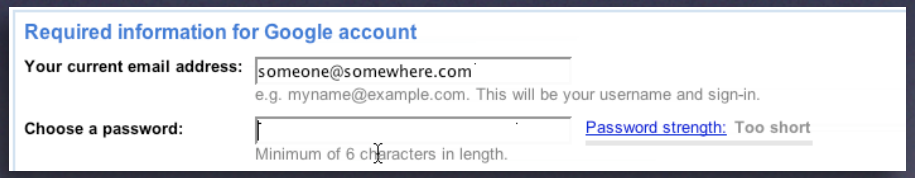
react immediately

Prevent errors before-hand

Ounce of preventive design worth pound of error-handling

Look before you leap

react immediately



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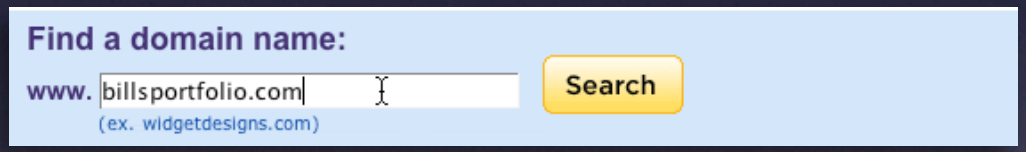

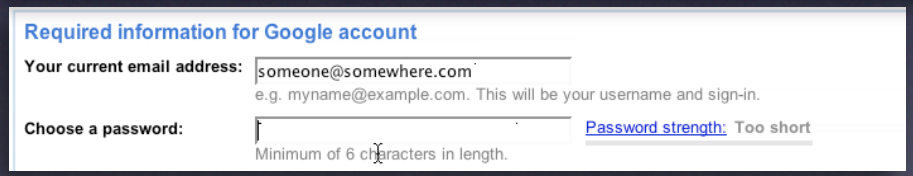

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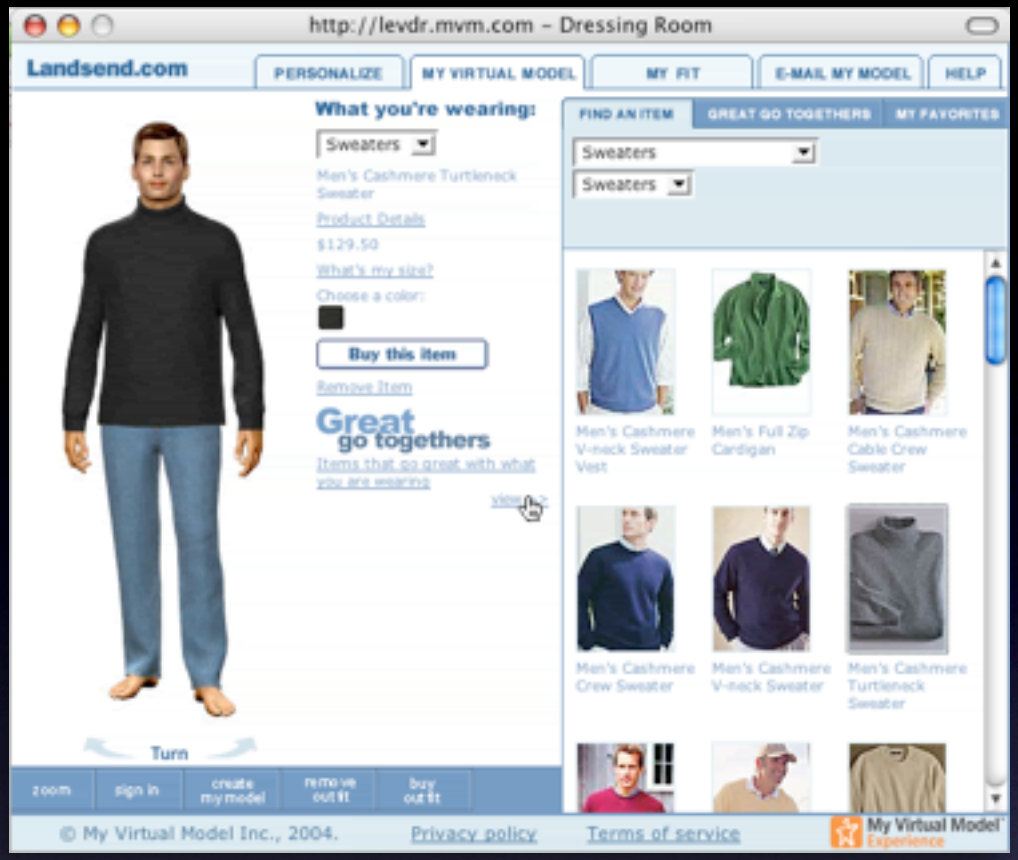

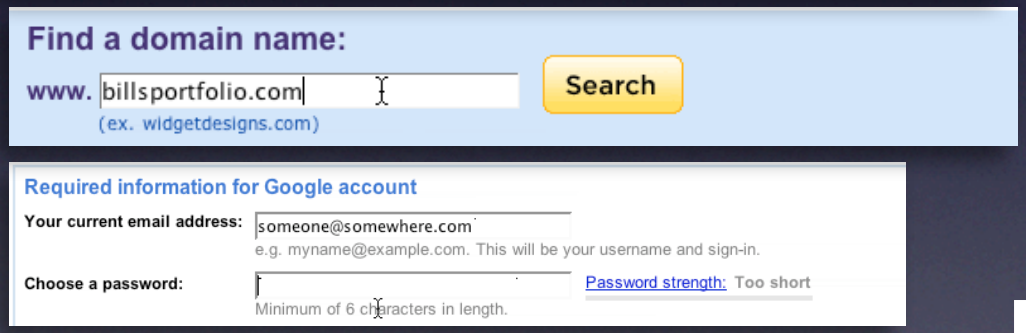

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Keep feedback focused

Avoid side-noise (peripheral distractions)

Use laws of proximity in context feedback

Respect feedback bandwidth

react immediately

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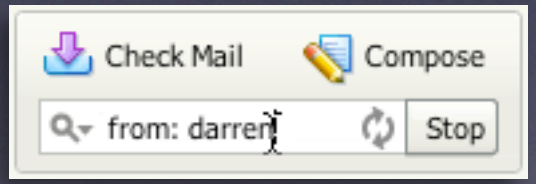

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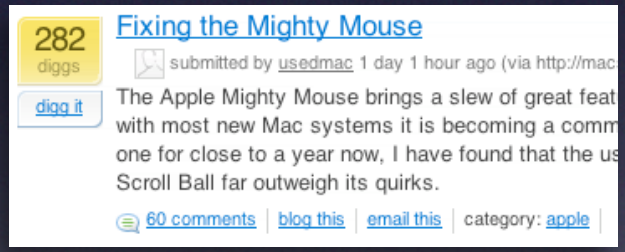

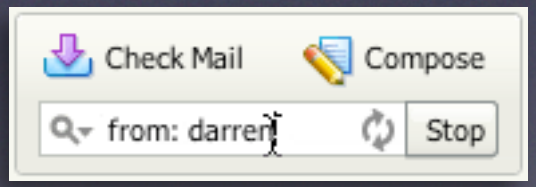

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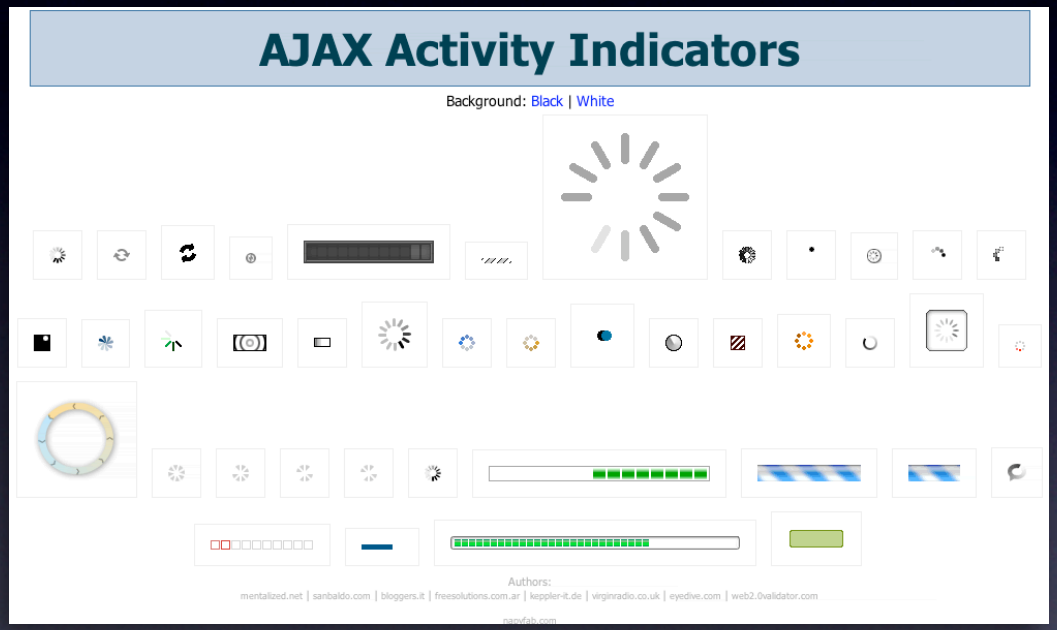

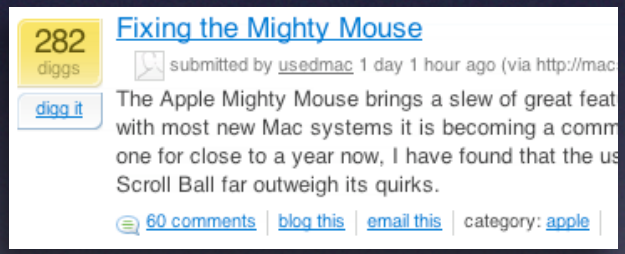

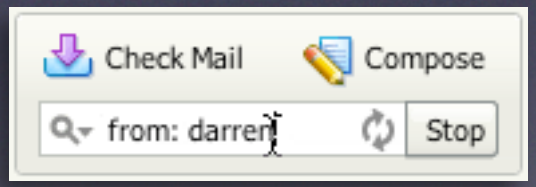

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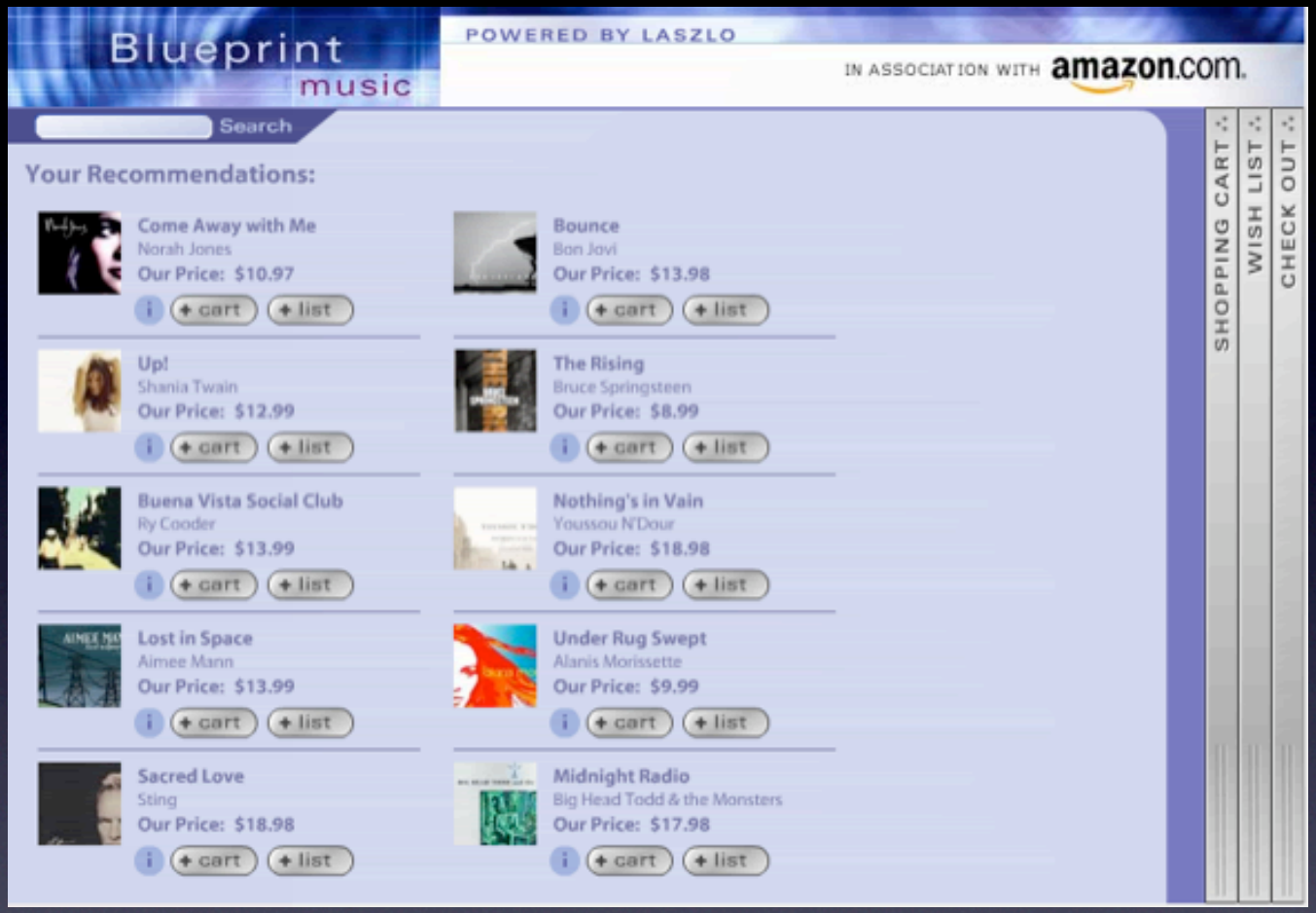

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Think “deeper interaction”

Multi-variate data

focus + context

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6 principles for Designing Web Interfaces

make it direct
keep it lightweight
stay on the page
provide invitations
use transitions
react immediately

Upcoming Book:
Designing Web Interfaces: Principles & Patterns for Rich Interfaces
O'Reilly

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