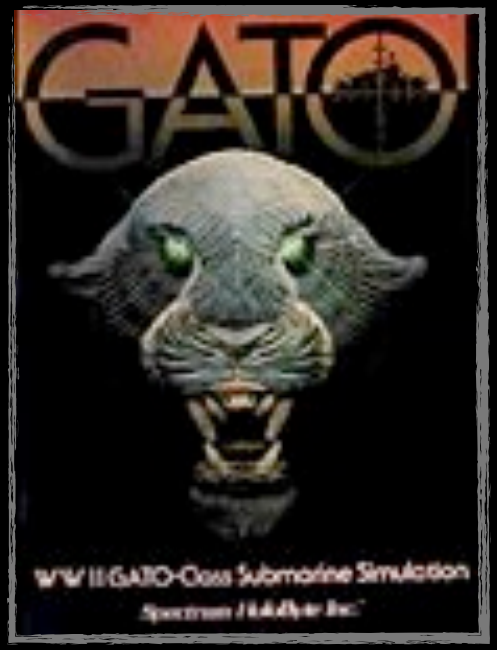
Designing Web Interfaces

Bill Scott
Director, UI Engineering
Netflix

Amazon.com Fishbowl Talk
Seattle, WA
January 15, 2010

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

Me


GATO
WWII GATO-Class Submarine Simulation

Rico
JavaScript for Rich Internet Applications
An open-source JavaScript library for creating rich internet applications. Rico provides full Ajax support, drag and drop management and a cinematic effects library.
BACKGROUND
OPEN SOURCE
BROWSER SUPPORT
AJAX SUPPORT
DRAG AND DROP
CINEMATIC EFFECTS
BEHAVIORS

YAHOO! DEVELOPER NETWORK
Design Pattern Library
Welcome
What's a Pattern?
Recent Patterns

NETFLIX
Because you enjoyed:
TV Sci-Fi & Fantasy
TV Dramas

author?

HARRY POTTER
and the Deathly Hallows
J.K.ROWLING
BLOOMSBURY
HARRY POTTER
and the Half-Blood Prince
J.K.ROWLING
BLOOMSBURY
HARRY POTTER
and the Order of the Phoenix
J.K.ROWLING
BLOOMSBURY
HARRY POTTER
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HARRY POTTER
and the Chamber of Secrets
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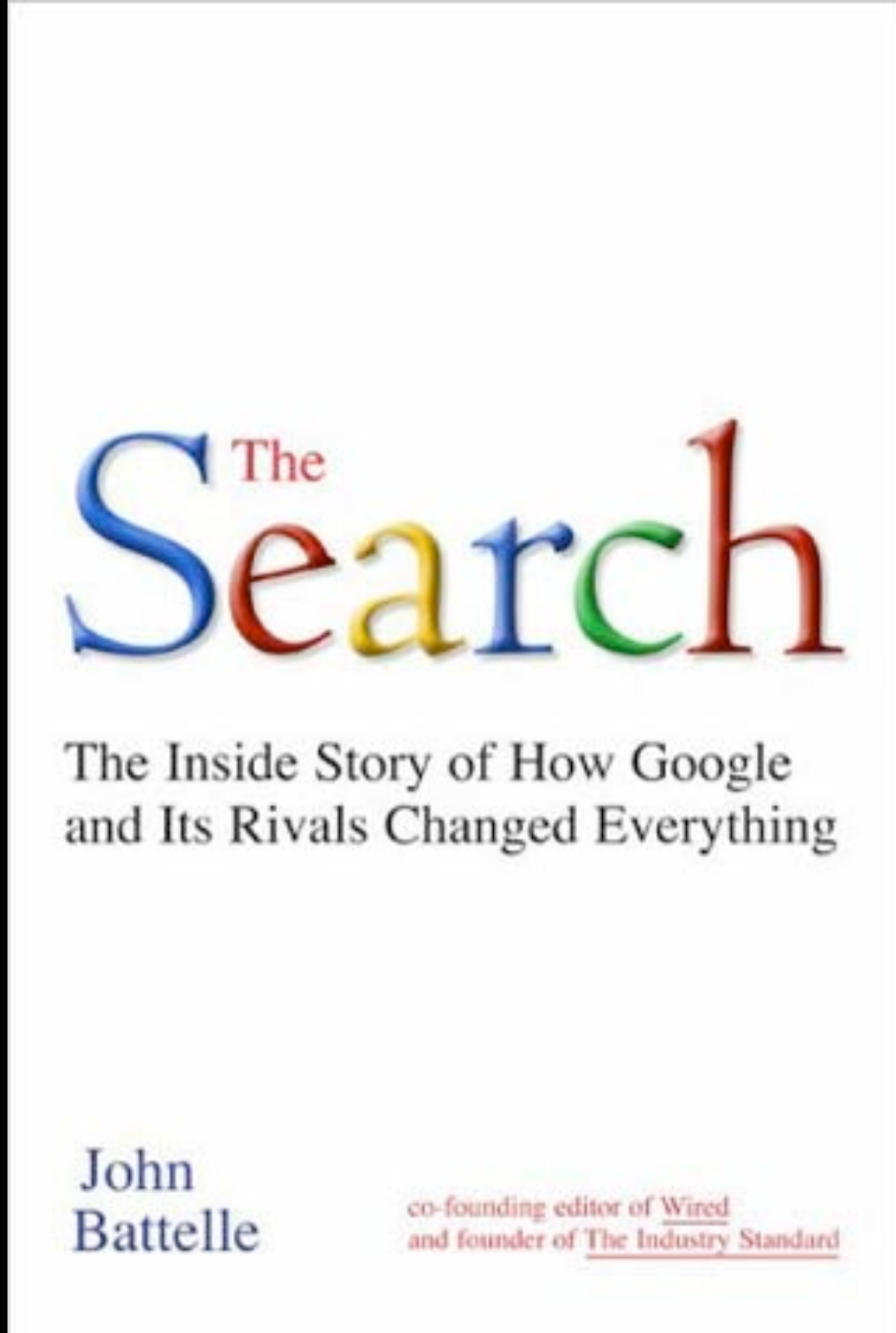
elation

dread

death

jon batelle


The
Search
The Inside Story of How Google
and Its Rivals Changed Everything
John
Battelle
co-founding editor of Wired
and founder of The Industry Standard

scrapped

elation

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**

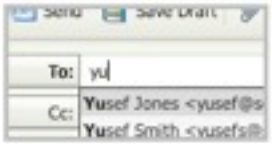
Welcome

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?

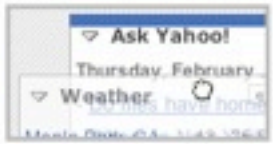
A pattern describes an optimal solution to a common problem within a specific context. more...

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.

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.

Writing a Review
User wants to share her opinion with others about an object (place, person, thing) in greater detail than a simple rating.

patterns

sideways

SATURDAY, JANUARY 07, 2006

Nine Tips for Designing Rich Internet Applications

Recently I was asked to provide input into a presentation. The question was asked, if you were going to provide some quick basic guidelines for designing rich applications what would they be.

Here were the nine thoughts as they originally came to my head.

1) **Make it directly interactive**
Instead of page to page interactions think direct interaction. Use in context editing as much as possible. Use drag and drop only where it makes sense. Barring a selection model, put tools as close to the objects being edited as possible. Cooper states it as "Where there is output, let there be input."

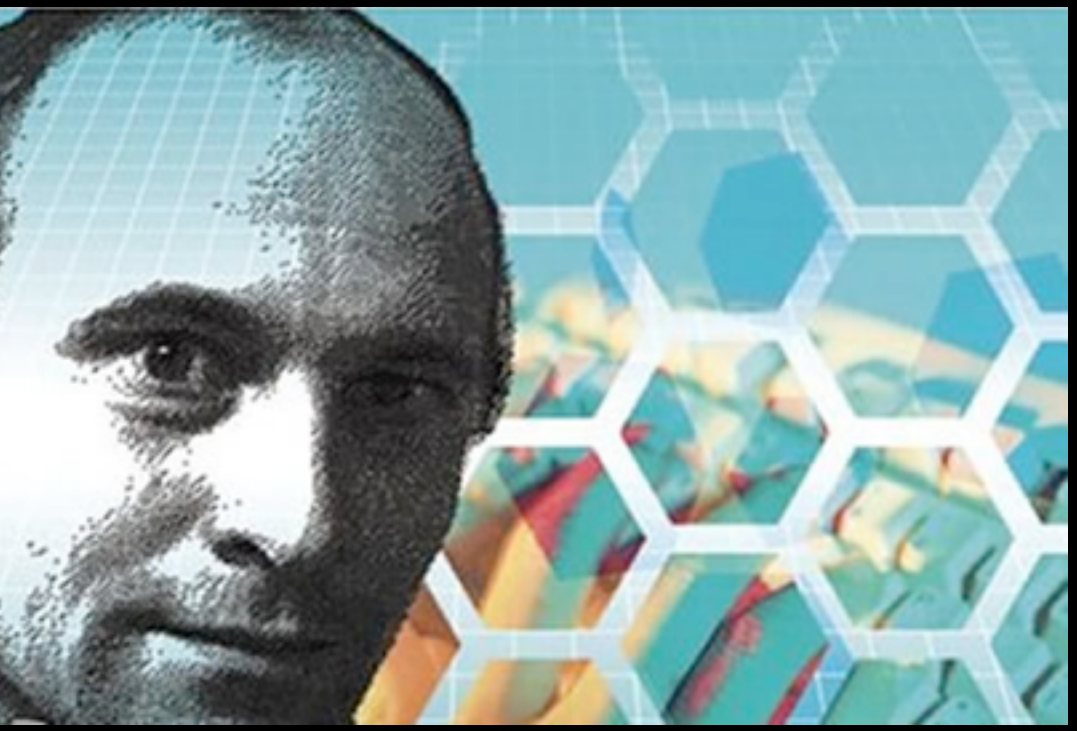
2) **Make it inviting**
Use hover to invite users to the next level of interaction. If the interface responds well to light events (like hover) it can be used to entice the user to interact.

3) **Use lightweight, in-context popups instead of page**

speaker?

resonate

audience



interactivity.
cyclic process
between two or
more active agents
in which each agent
alternatively
listens, thinks, and
speaks.

Chris Crawford
Interactive Storytelling

Current Moon Phase

youtube :: top rated

- DEADLINE post-it stop motion
- Summer and Ending Hunger (Ep.11)
- Unite Against WMG

National Geographic POD

POD -

Google Webmaster Tools

Stock Market

HowStuffWorks.com Daily Feed

- Top 5 Energy-efficient Computers
- Fact or Fiction: Fight it Out!
- Today's Video- CNN s First Broadcast

Slashdot

- Publishers Pressuring MS To Push Indies From Xbox Live?
- Online Forum Leads To Hostile Workplace Lawsuit
- Red Hat Is Now Part of the S&P 500

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Wired Top Stories

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NYT > Home Page

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Bombings, business and the future of Indonesia
Los Angeles Times - all 5951 related »

RIP, Uncle Walter
msnbc.com - all 3415 related »

Obama Reaches Out to Republicans on Health Care, but Bipartisan ...
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Simple Interactivity?

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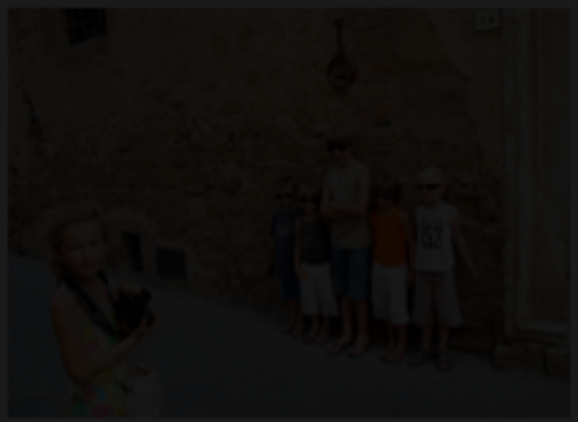

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Simple Interaction? Events...

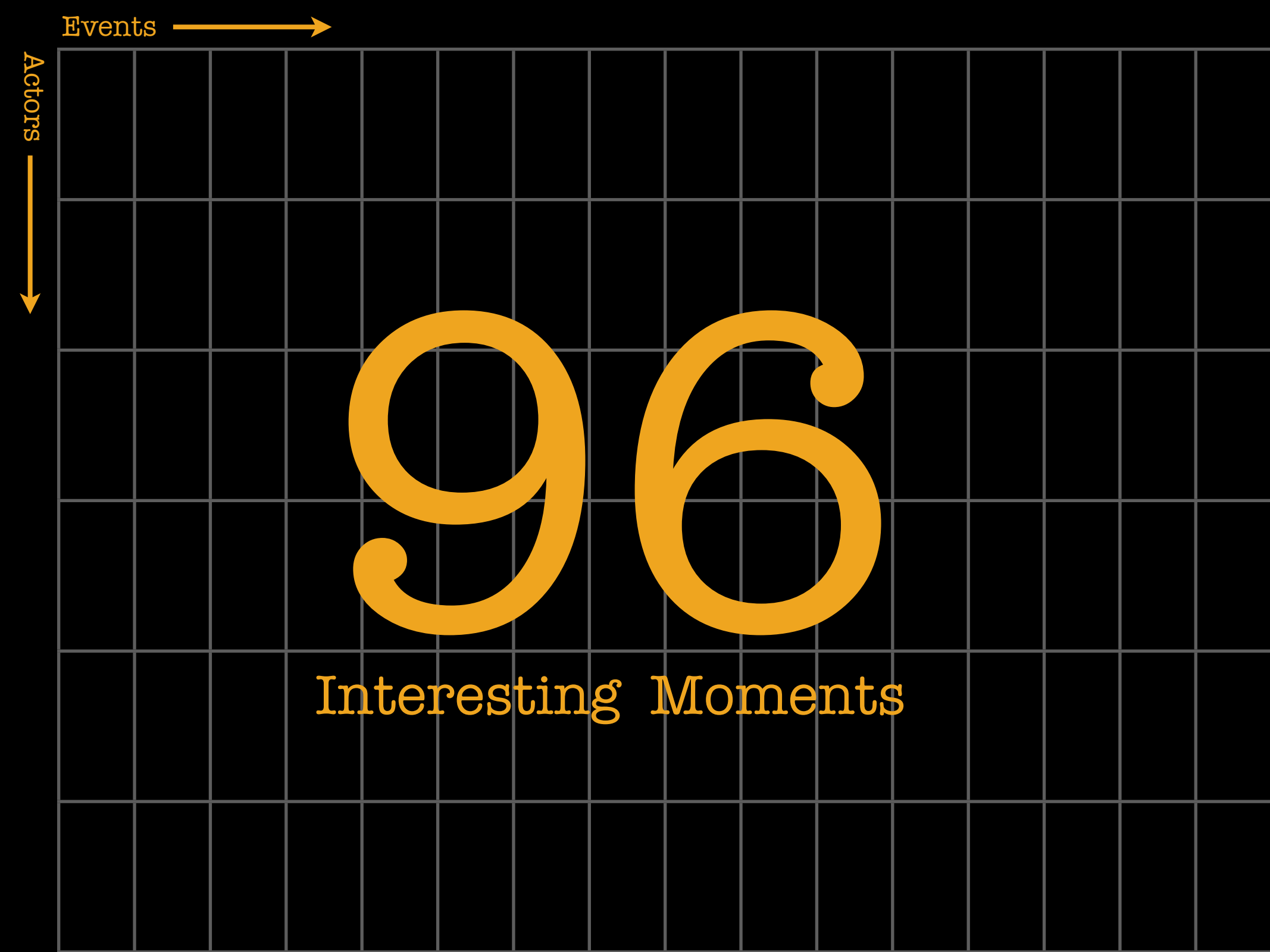
Page load. Mouse hover. Mouse down. Drag initiated. Drag leaves original location. Drag re-enters original location. Drag re-enters original location. Drag enters valid target. Drag exits valid target. Drag enters specific invalid target. Drag is over no specific target. Drag hovers over valid target. Drag hovers over invalid target. Drop accepted. Drop rejected. Drop on parent container.

16+

Simple Interaction? Actors...

Page. Cursor. Tool Tip. Drag Object. Drag Object's Parent Container. Drop Target.

6+


Events
Actors
96
Interesting Moments

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.

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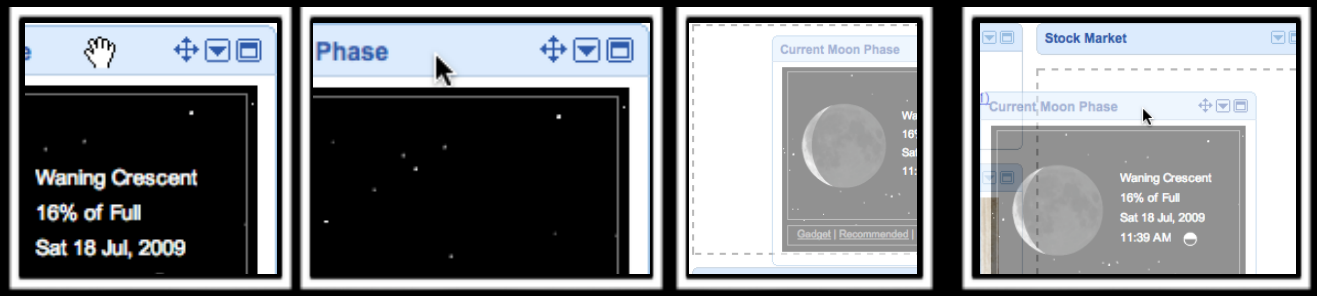

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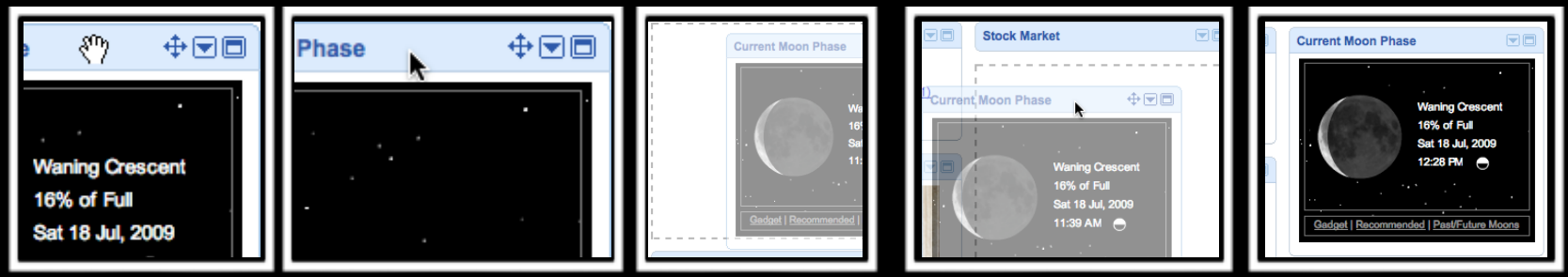

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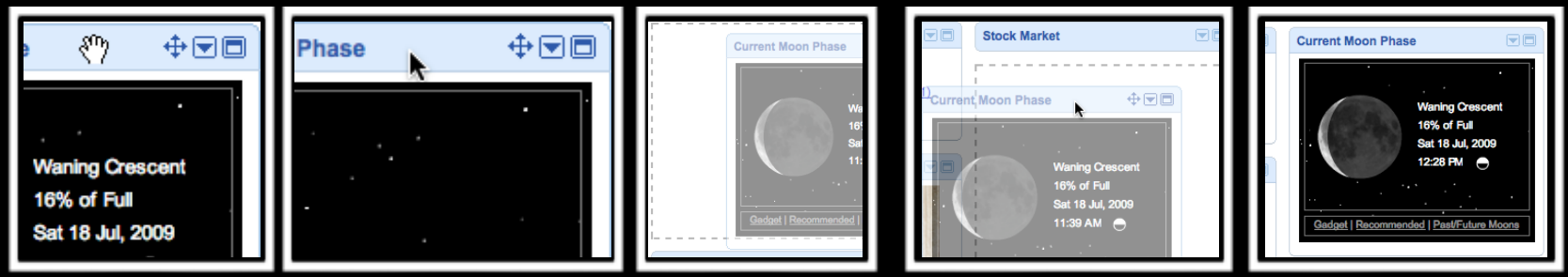

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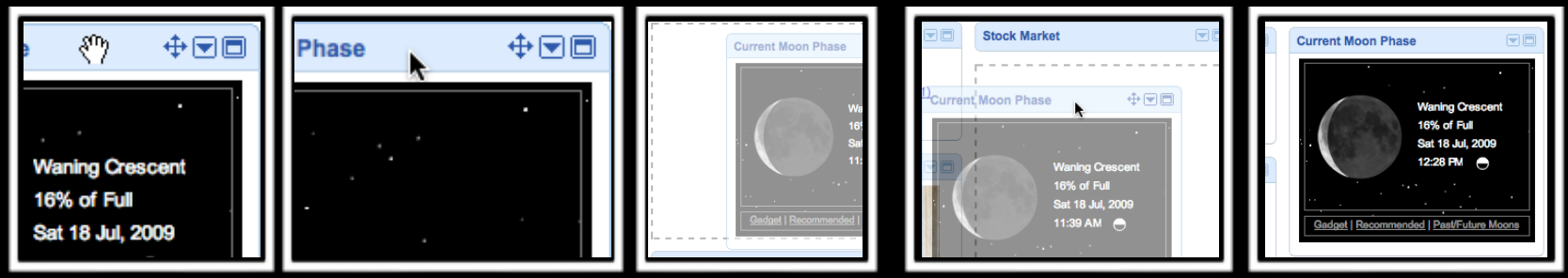
Explicit engagment

Interesting Moments



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Explicit engagment

Implicit rests

6 principles

6 principles

for designing interesting moments

Input where you output.

Keep it Lightweight

Show transitions.

Maintain flow

Be reactive.

Invite interaction.

Many Patterns

In Page Editing. Direct Selection. Drag and Drop. Complex Inline Editing. Alternate Edit Path. Symmetry of Interaction. In Page Action. Remembered Collections. Rating an Object. Contextual Tools. Vote to Promote. On Demand Scrolling. In Context Expand. Inline Assistant. Hover Details. Lightweight Popup. Lightbox. In Context Configuration. Accordion. In Context Insight. Inlay. Overlay. Pagination. Carousel. Paged Scrolling. On Demand Scrolling. Seamless Paging. ZUI. Inline Checkout. Inline Assistant. One Page Checkout. Step by Step. Single Page Flow. Page in a Menu. Invitation. Tooltip Invitation. Cursor Invitation. Hover Invitation. Drop Invitation. Tour Invitation. Blank Slots. Blank Slate Invitation. Something Askew Invitation. 1-2-3 Call to Action. Sneak Peek. Question Invitation. Familiar Invitation. Button Invitation. Navigation Invitation. Fade. Self-Healing. Zoom Box. Slide. Animate. Spotlight. Auto Complete. Busy Indicator. Live Previews. Periodic Refresh. Focus+Context. In Place Drill Down. Tickler Menu. You are Here.

And Anti-Patterns

Non-Symmetrical Interaction. Artificial Construct. Tiny Target. One at a Time. Hover & Cover. Double Duty. Mystery Meat. Stalker. Pogo Stick Navigation. Idiot Boxes. Mouse Trap. Animation Gone Wild. Needless Fanfare. Missed Moments.

Maintain flow

Exploratorium Exhibit

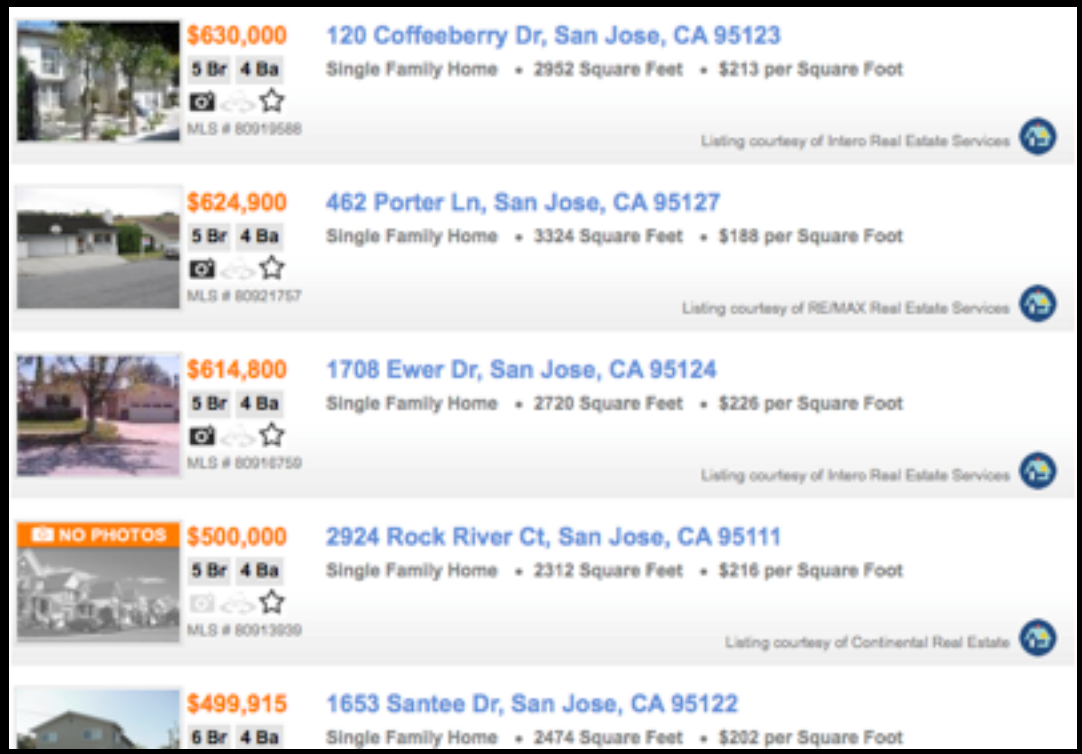
Spot the differences

Spot the differences

Now try again...

Now try again...

“Stay in the Flow” Patterns



click activated inlay. roost.com

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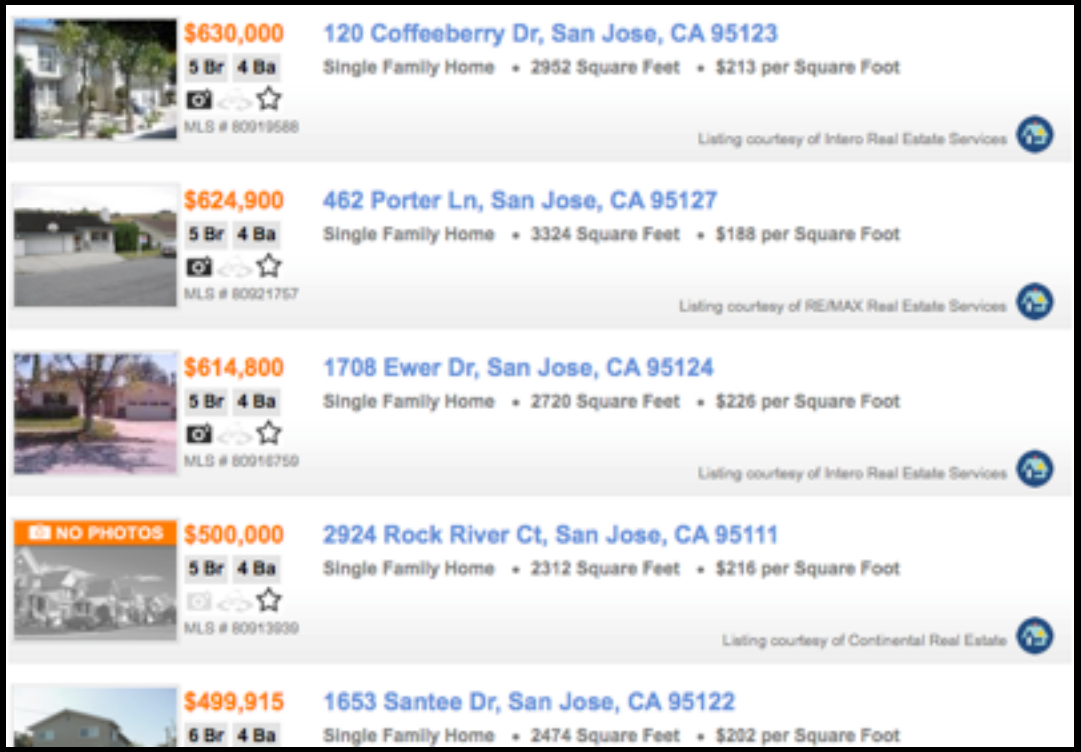

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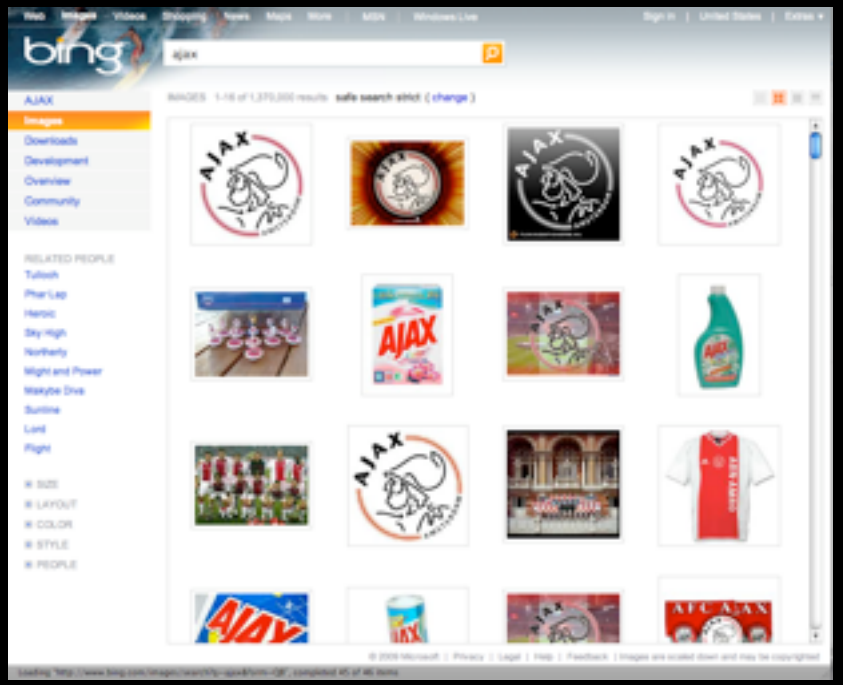

endless scrolling. bing.com

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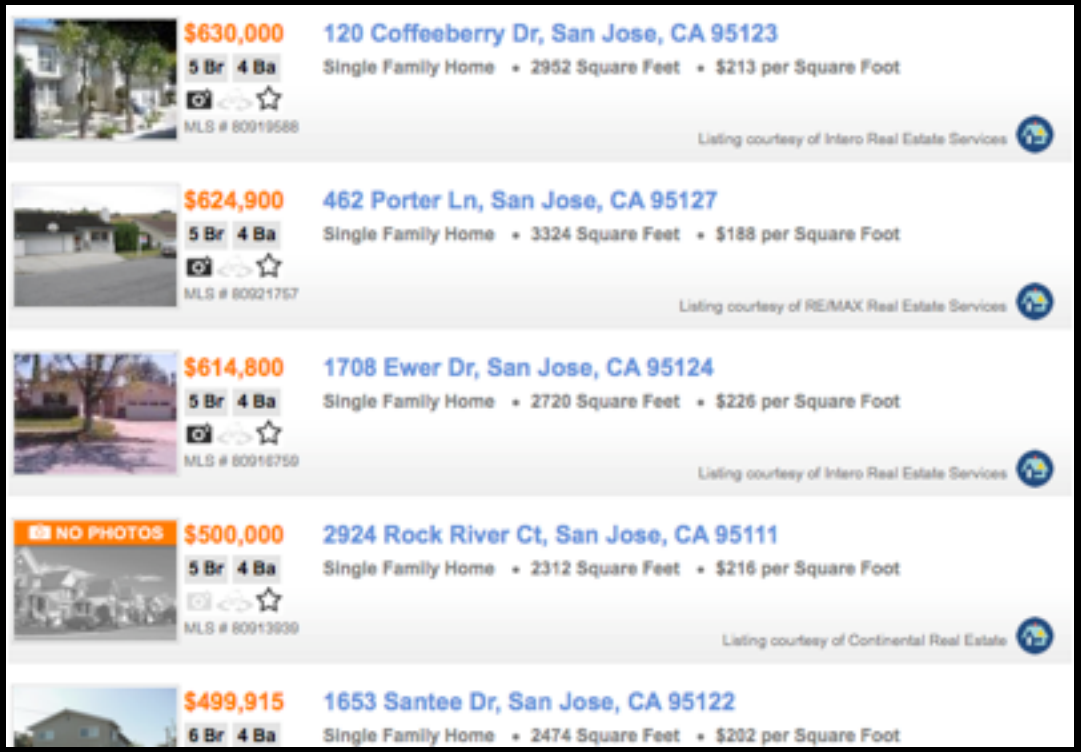

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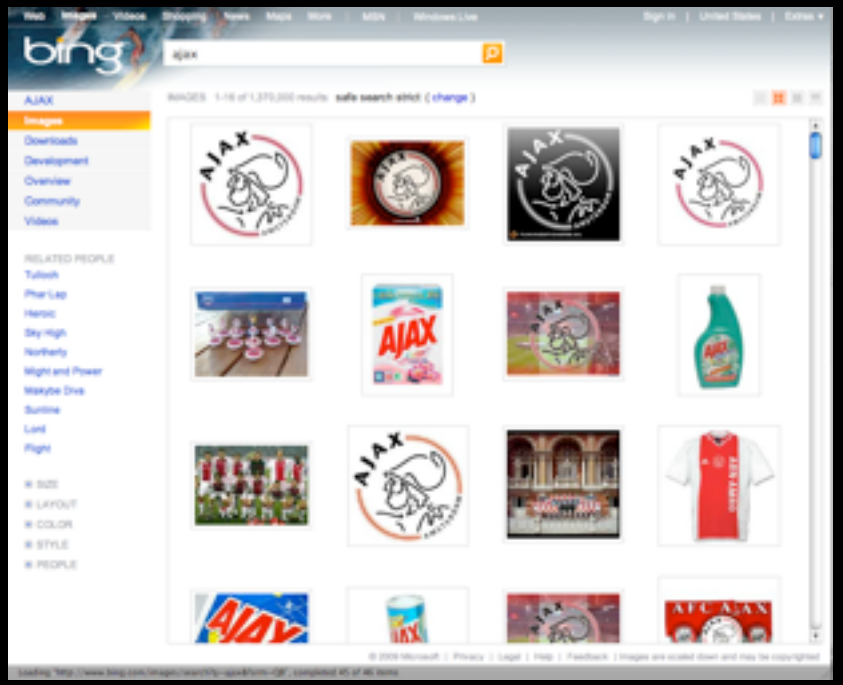

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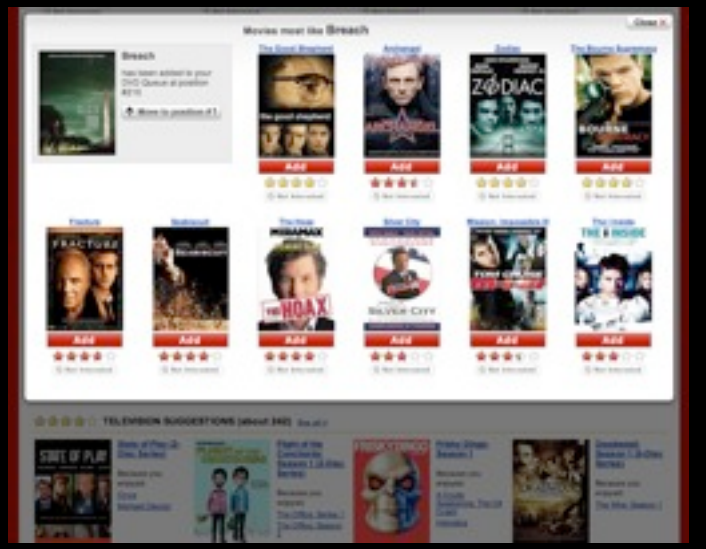

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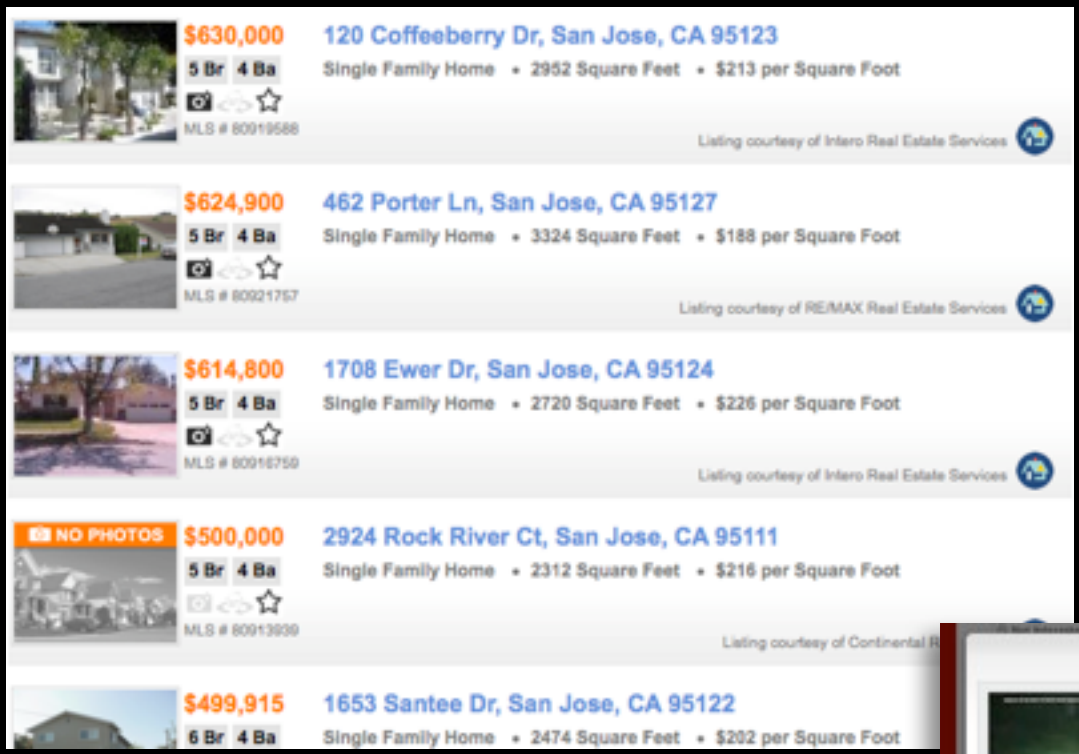

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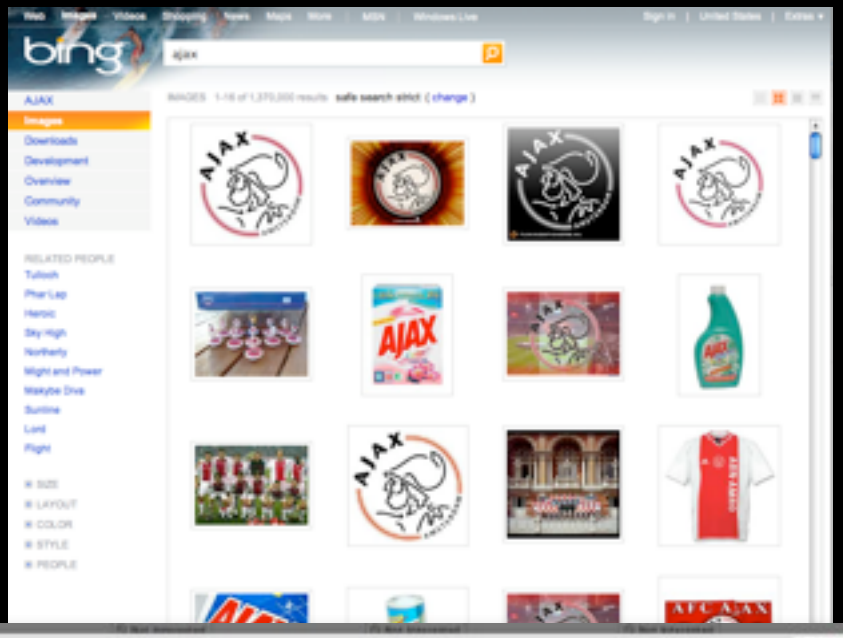

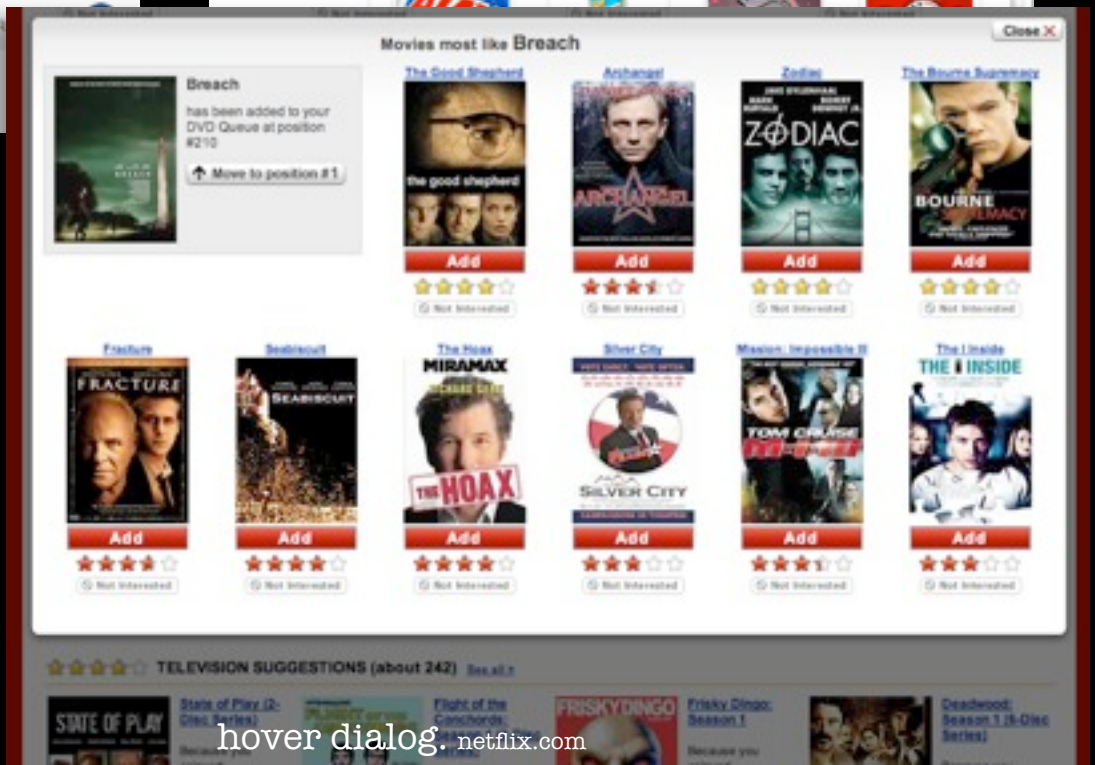

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Anti-Pattern: Idiot Boxes

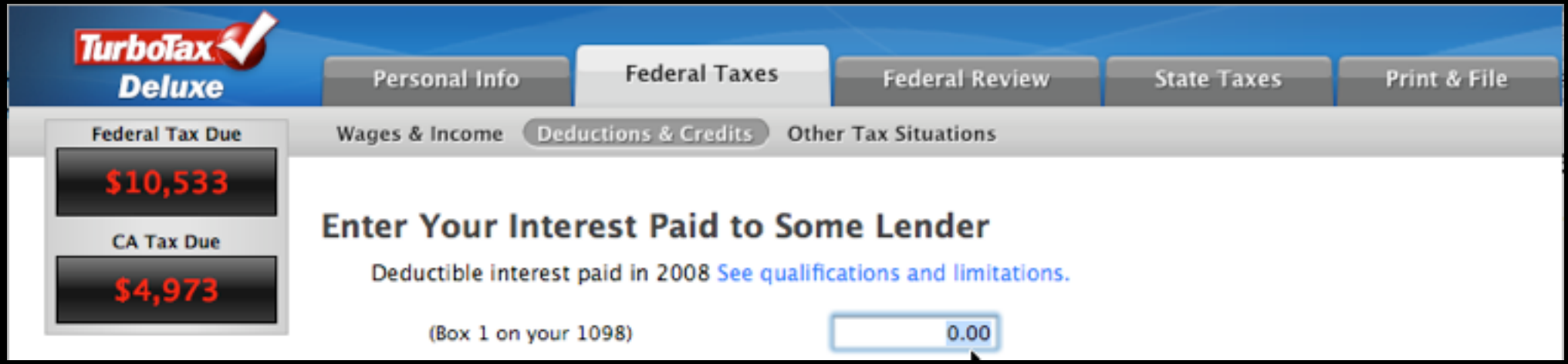
anti-pattern. idiot box. yahoo! photos

Anti-Pattern: Idiot Boxes

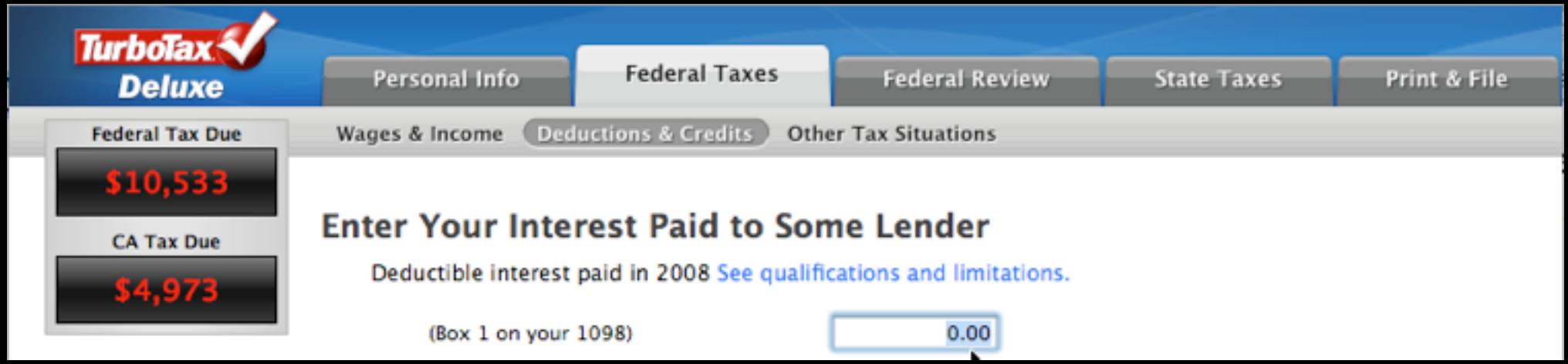
anti-pattern. idiot box. yahoo! photos

Show transitions.

April
S M T W T
1 2 3
4 5 6 7 8 9 10
11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30



anti-pattern. needless fanfare. macintosh turbo tax



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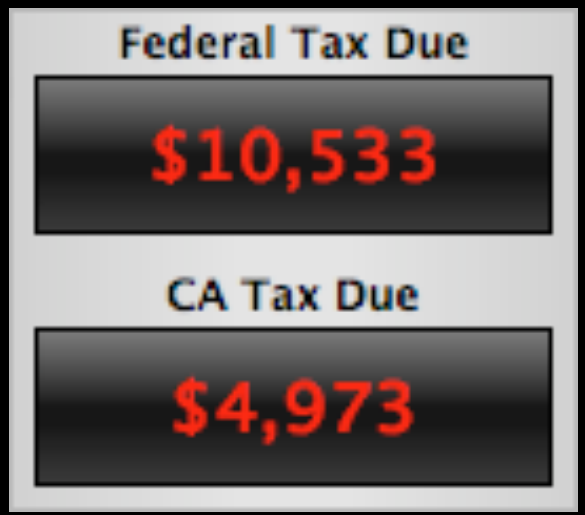
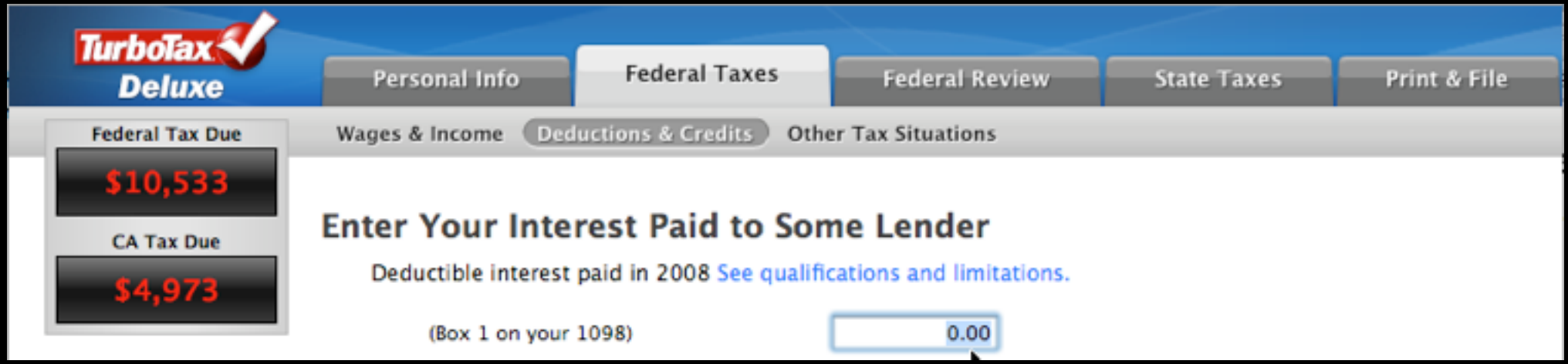


again in slow-motion...



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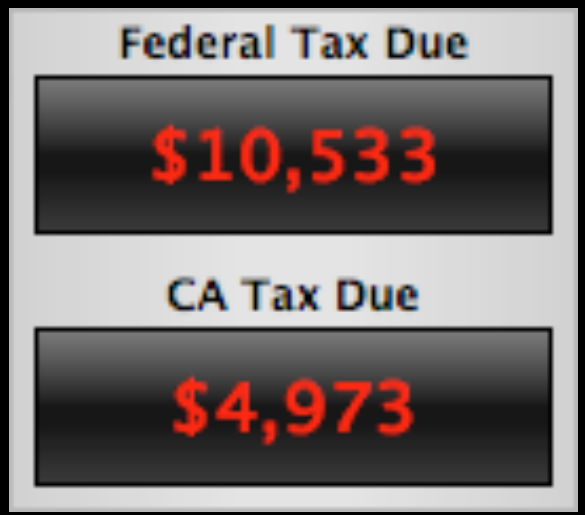

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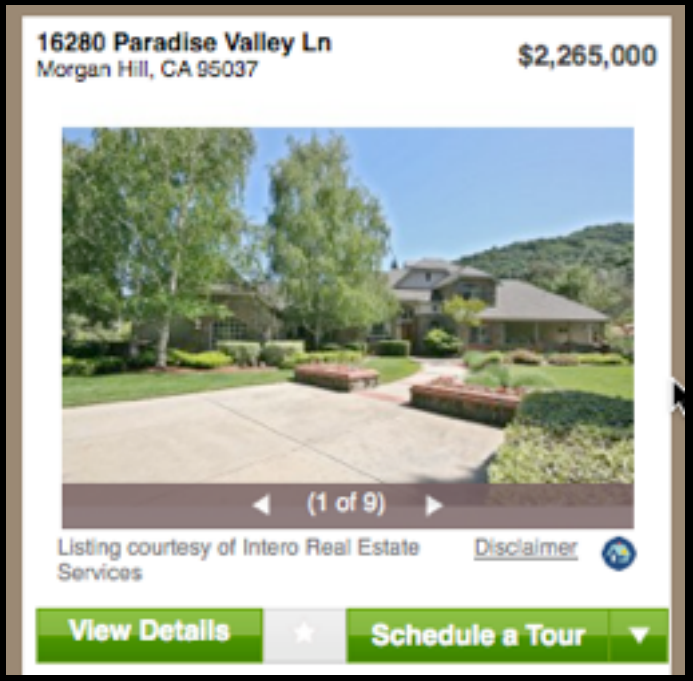
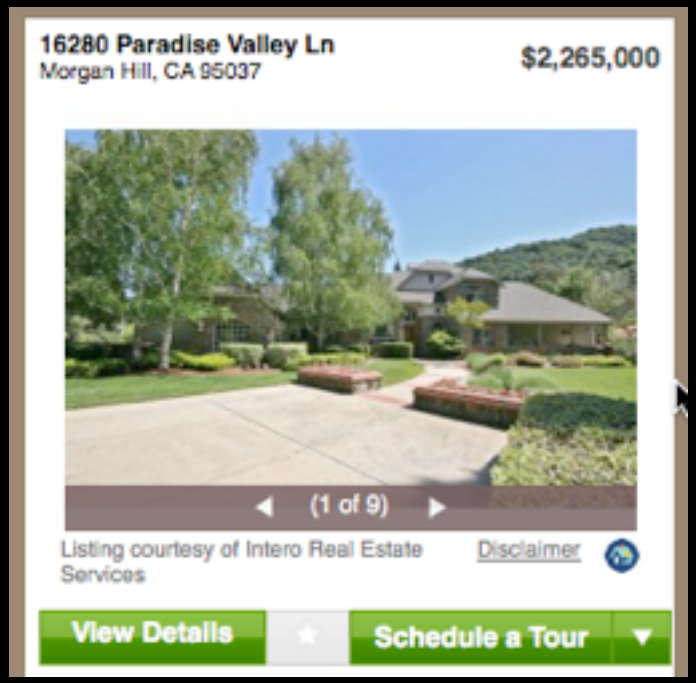


anti-pattern. needless fanfare. roost.com



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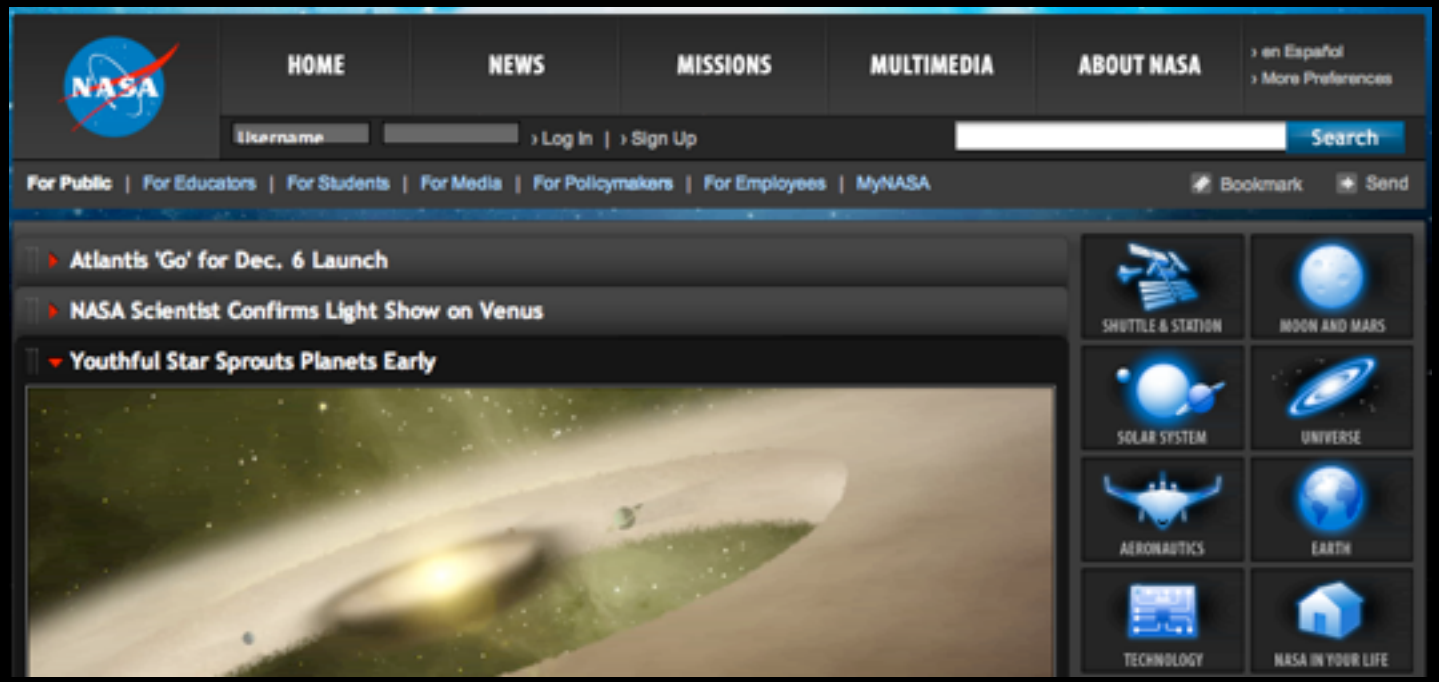

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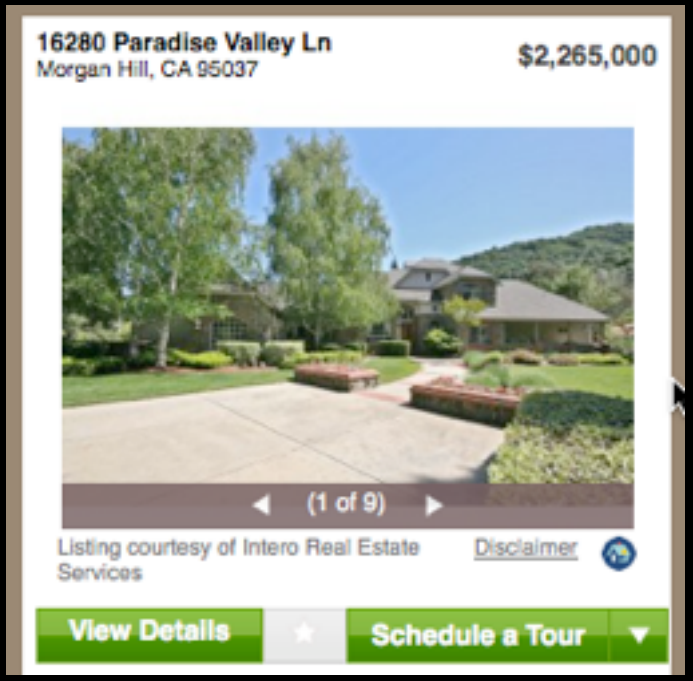

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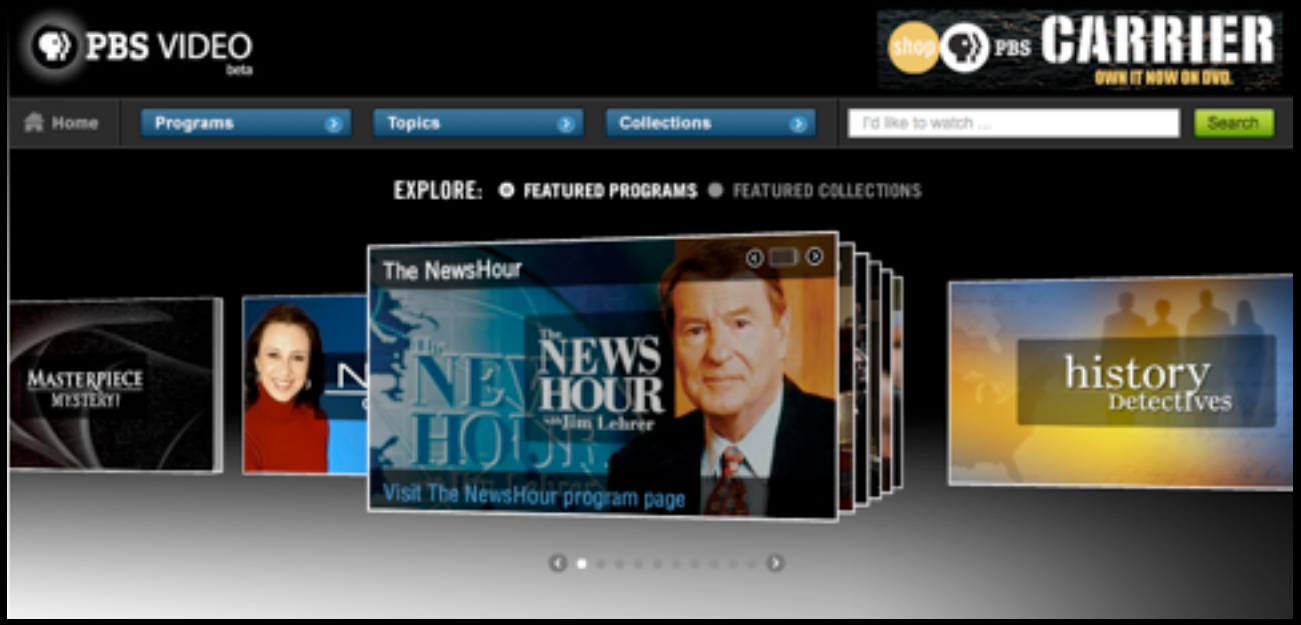

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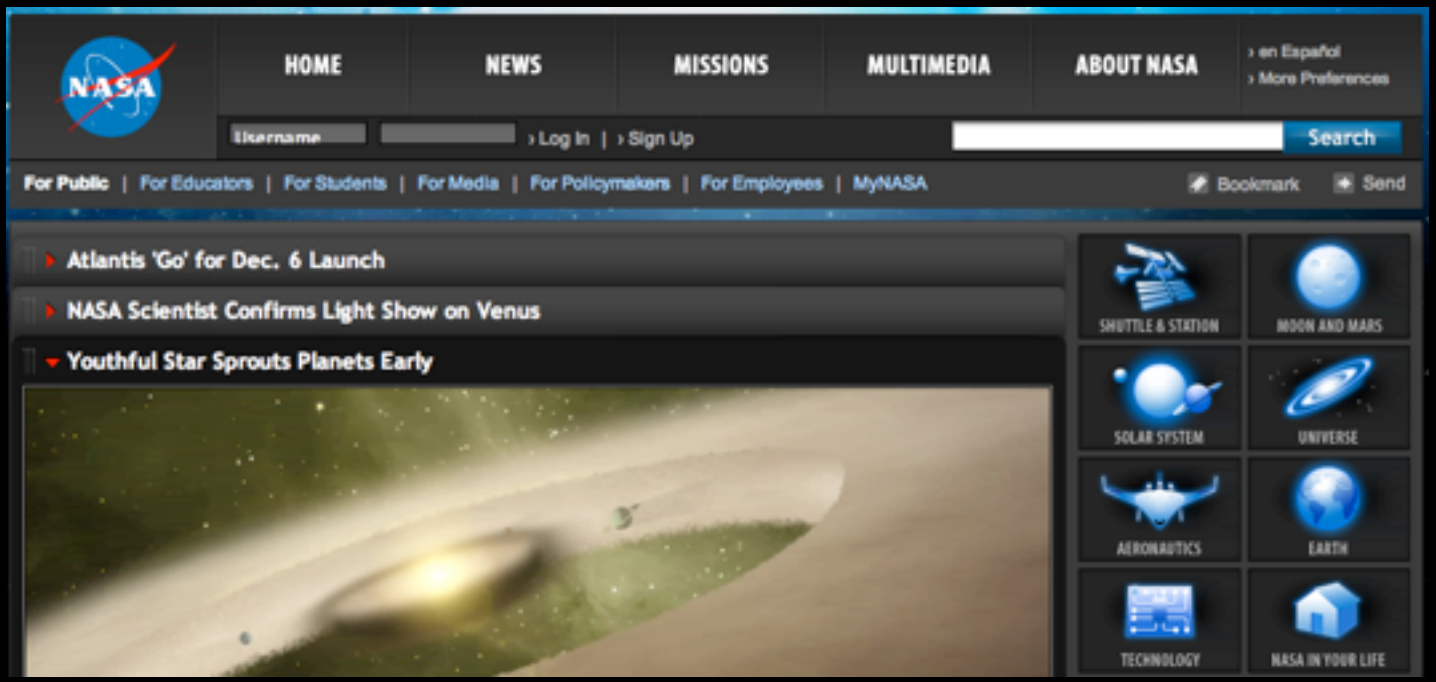
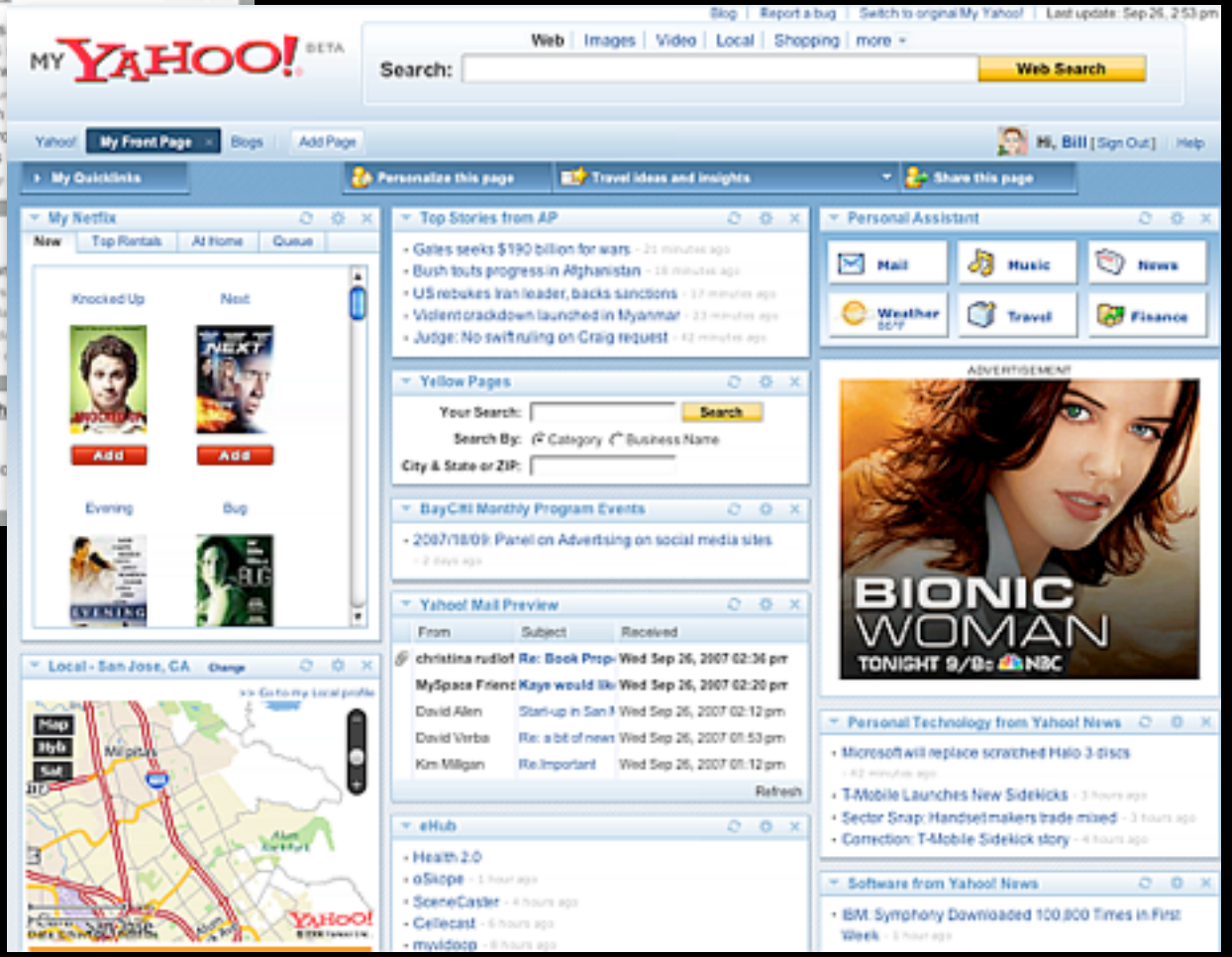


anti-pattern. needless fanfare. nasa.gov

original. animation on drop. my yahoo!

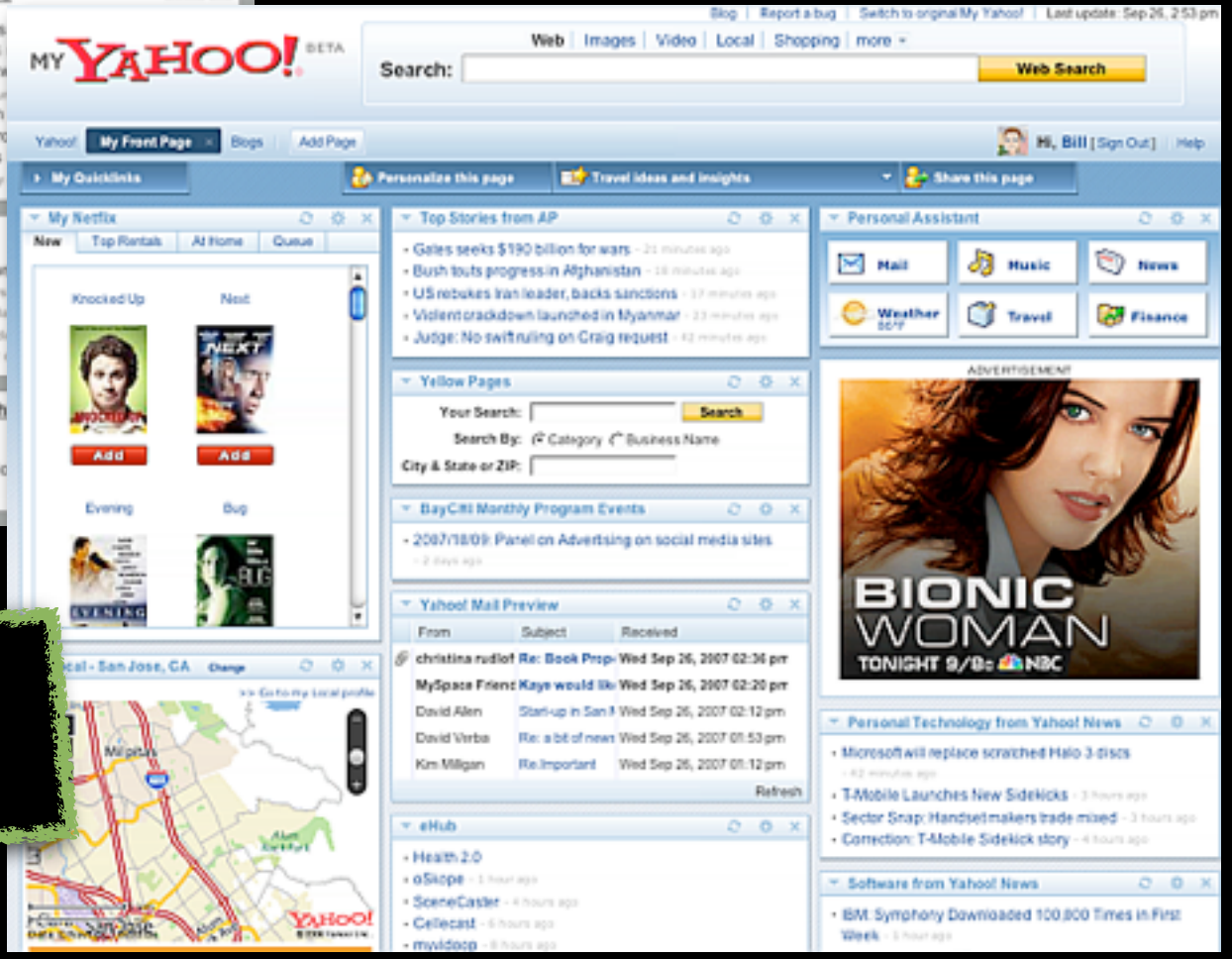
original. animation on drop. my yahoo!



current. no animation on drop. my yahoo!

original. animation on drop. my yahoo!

Use the "cut it in-half" rule of thumb.



current. no animation on drop. my yahoo!

Moments Communicate

Moments Communicate

progress indicator

Moments Communicate

progress indicator

Moments Communicate

progress indicator

earlier version of my yahoo!

Moments Communicate

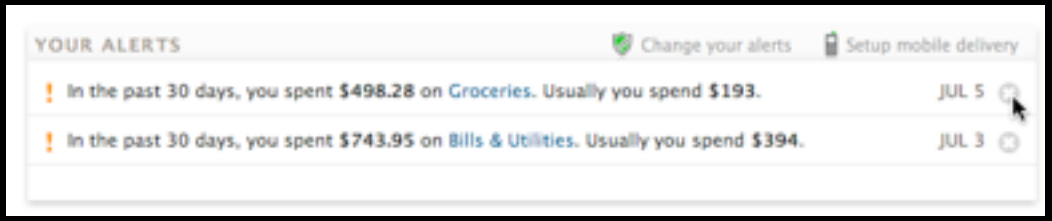
Speed up time.

progress indicator

Slow down time.

earlier version of my yahoo!

Moments Communicate



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progress indicator

earlier version of my yahoo!

Moments Communicate

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progress indicator

earlier version of my yahoo!

Moments Communicate

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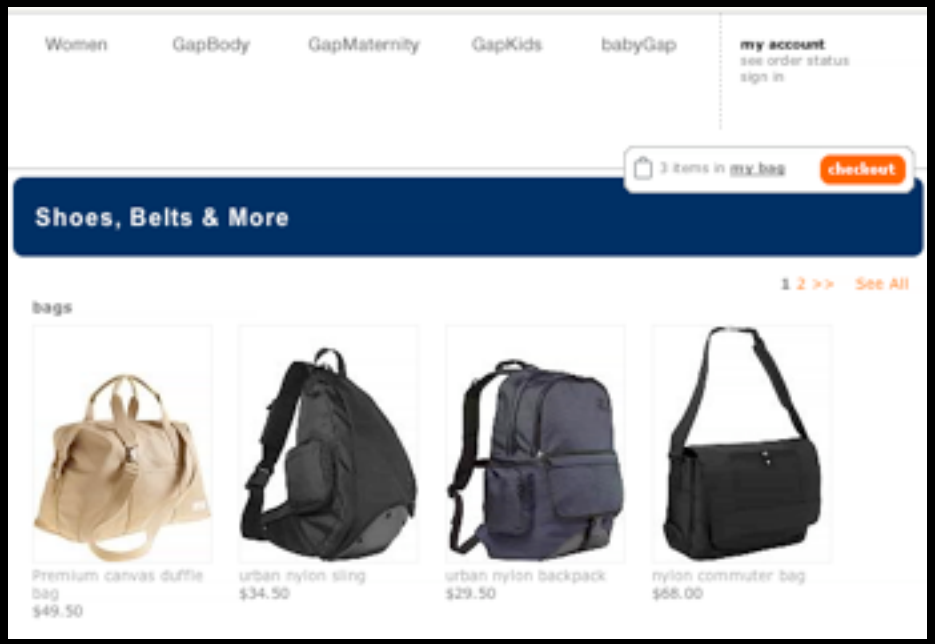

the gap

progress indicator

earlier version of my yahoo!

Moments Communicate

Show state change.

mint.com

Show relationships.

the gap

Speed up time.

progress indicator

Slow down time.

earlier version of my yahoo!

Moments Communicate

Show state change.

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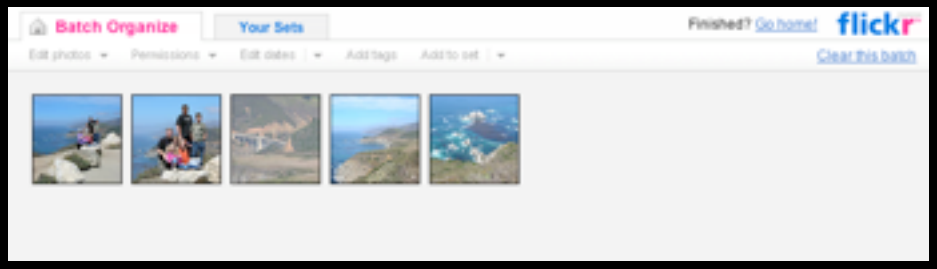
Show relationships.

the gap



flickr organizr

Speed up time.

progress indicator

Slow down time.

earlier version of my yahoo!

Moments Communicate

Show state change.

mint.com

Show relationships.

the gap

Focus attention.

flickr organizr

Speed up time.

progress indicator

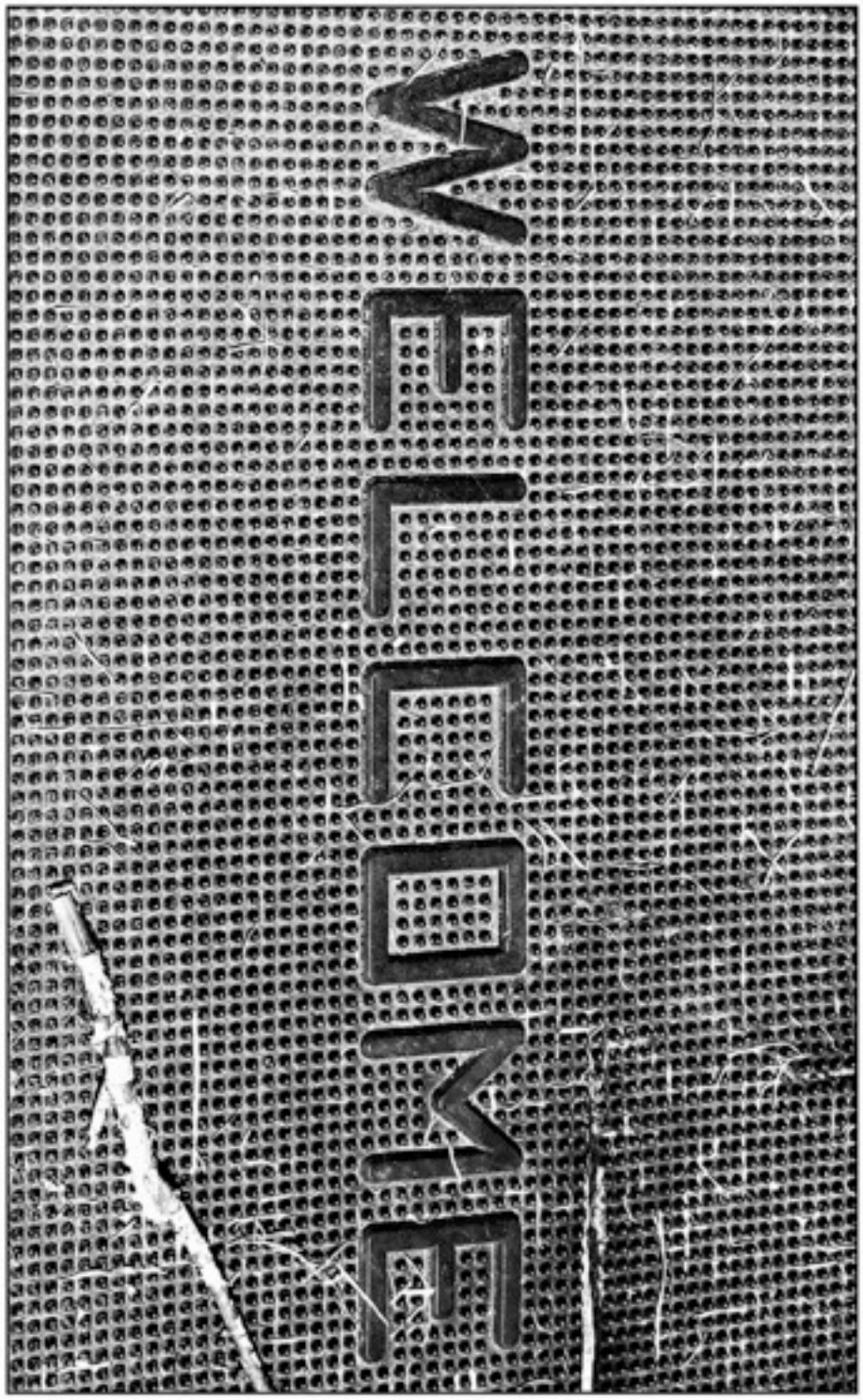
Slow down time.

earlier version of my yahoo!

Input where you output.

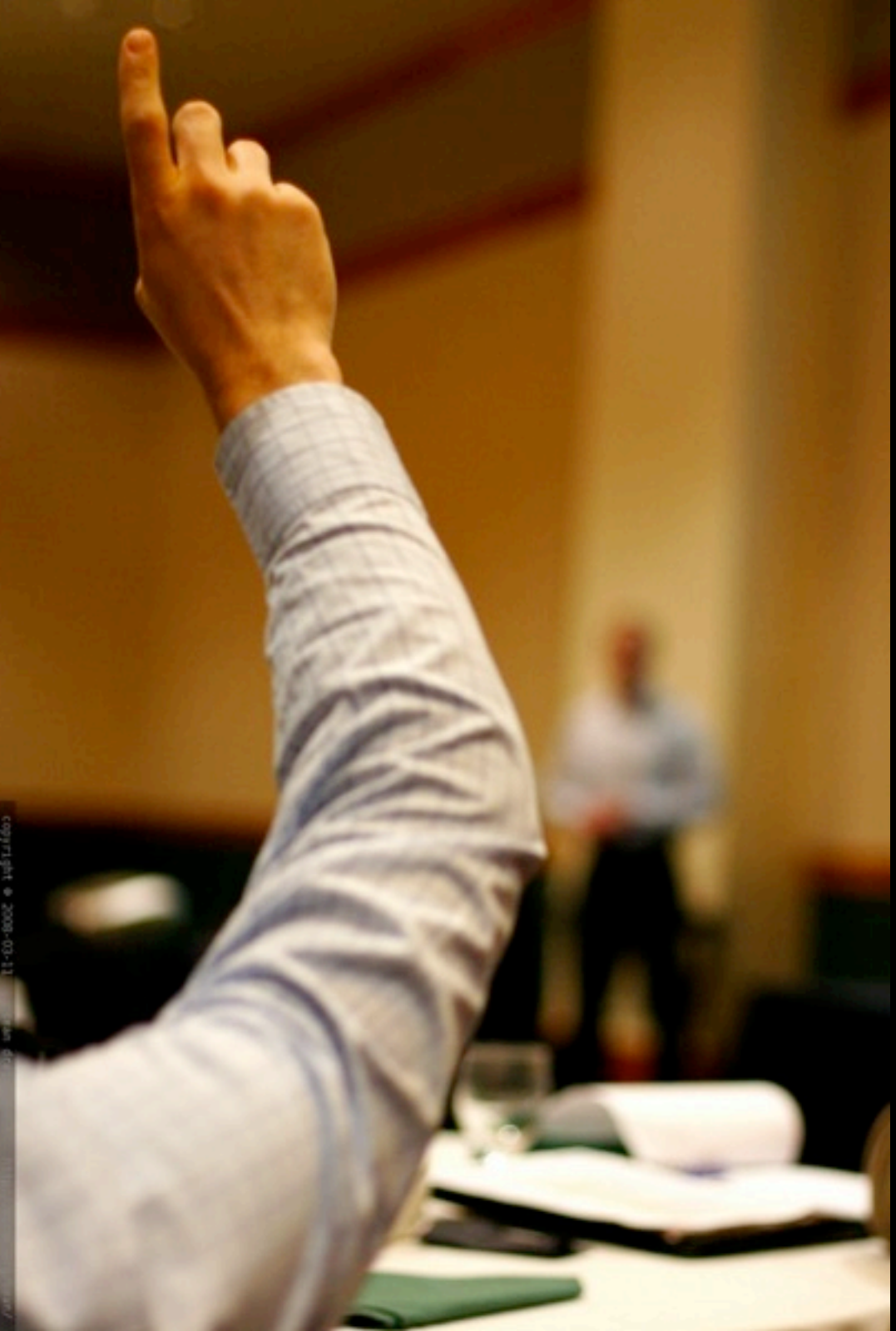
- Alan Cooper

Keep it Lightweight



Invite interaction.

Be reactive.



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