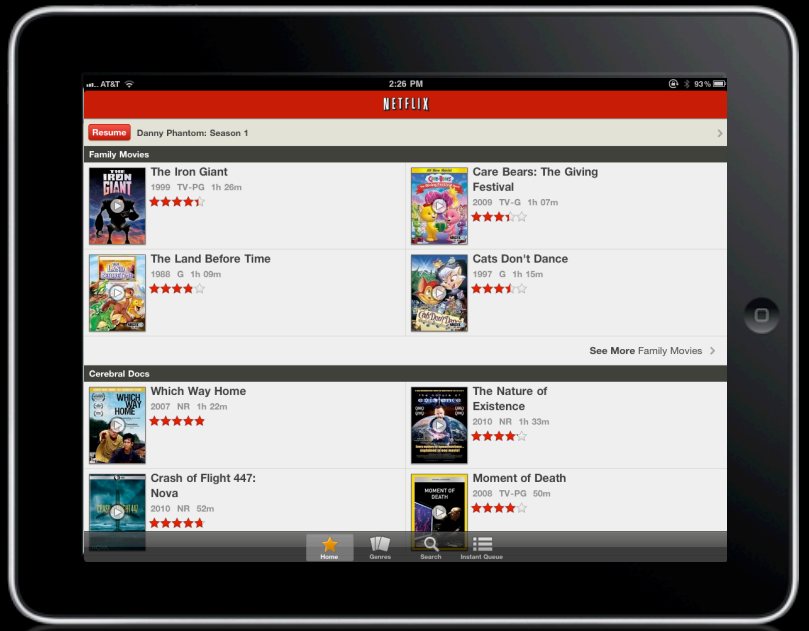
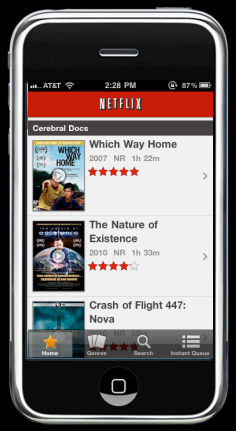
Designing for Mice & Men

Bill Scott, Netflix

Netflix Across Devices (in-house products)





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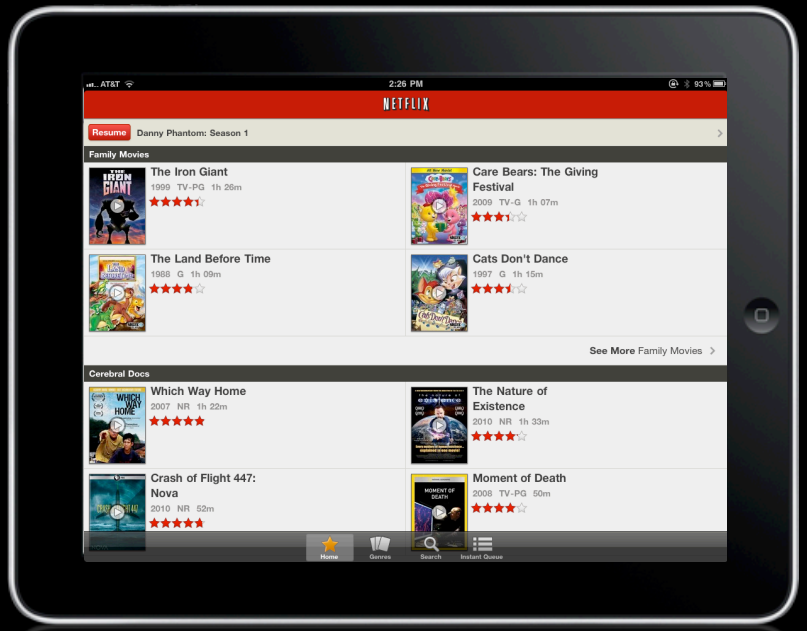
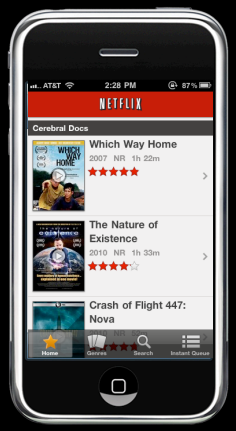
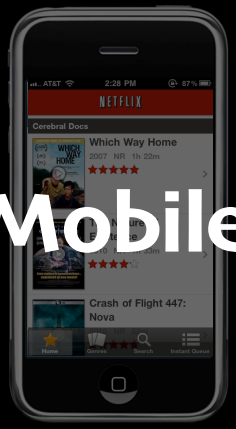




Netflix Across Devices (in-house products)

Web

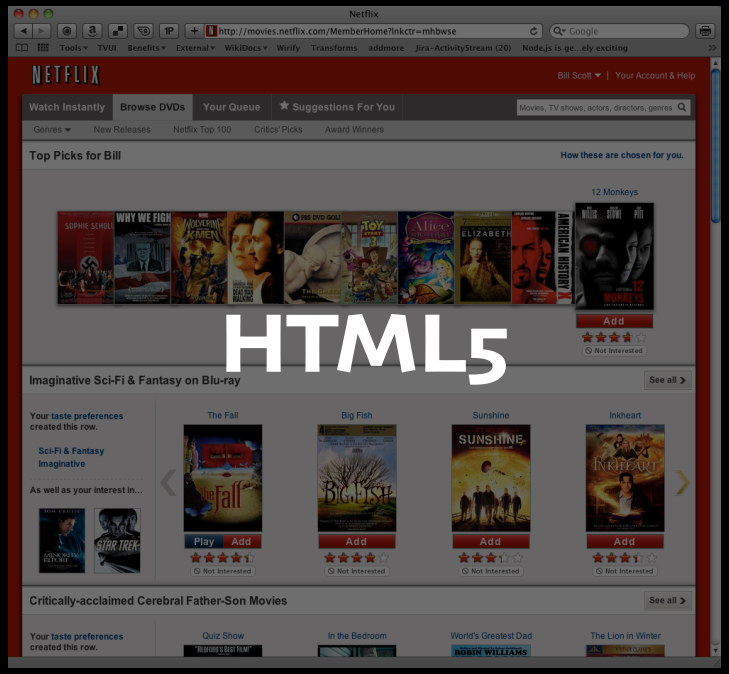
Tablet



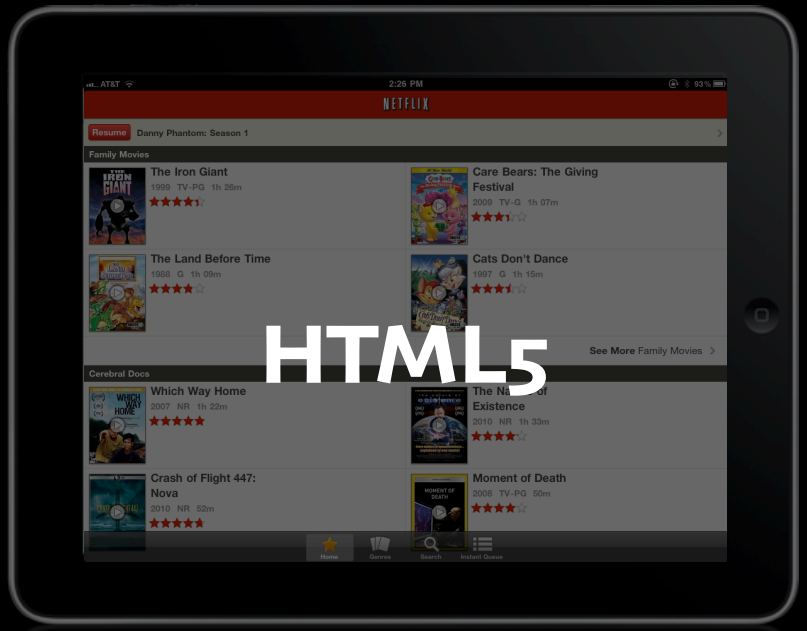
Mobile

TV

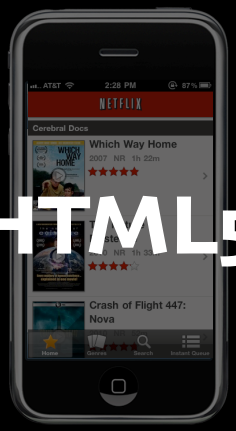
Netflix Across Devices (in-house products)



HTML5



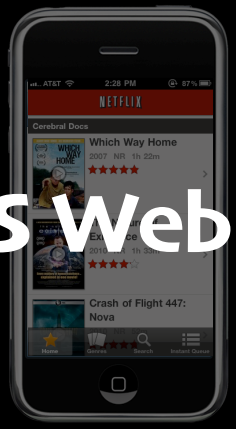
HTML5



HTML5

HTML5

Common Platform Across Devices



Why?

Why?

Server-driven dynamic UI

Why?

Server-driven dynamic UI

Why?

Server-driven dynamic UI

Web-style release vs CE firmware updates

Why?

Server-driven dynamic UI

Web-style release vs CE firmware updates

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Web-style release vs CE firmware updates

Support A/B Testing

Why?

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Why?

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Support A/B Testing

Learn Fast/Fail Quickly

Why?

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Support A/B Testing

Learn Fast/Fail Quickly

Why?

Server-driven dynamic UI

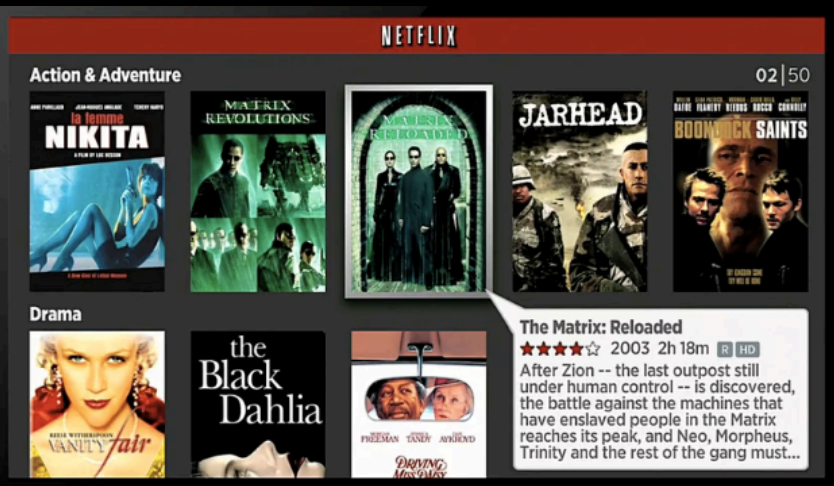
Web-style release vs CE firmware updates

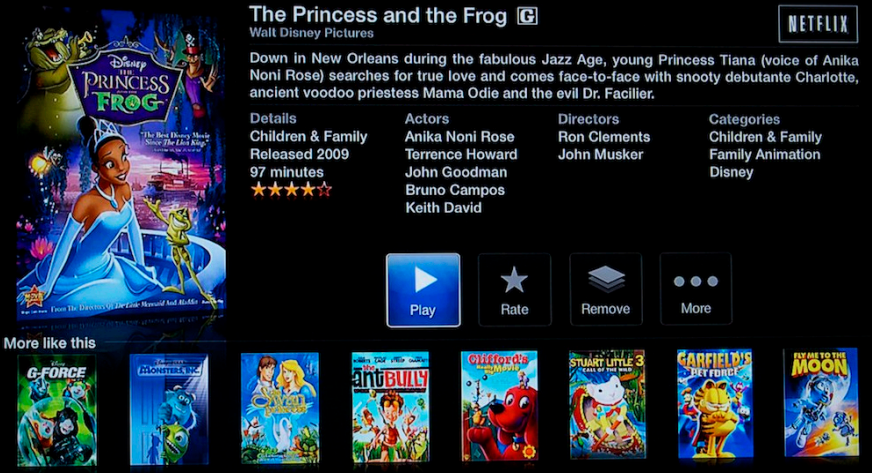
Support A/B Testing

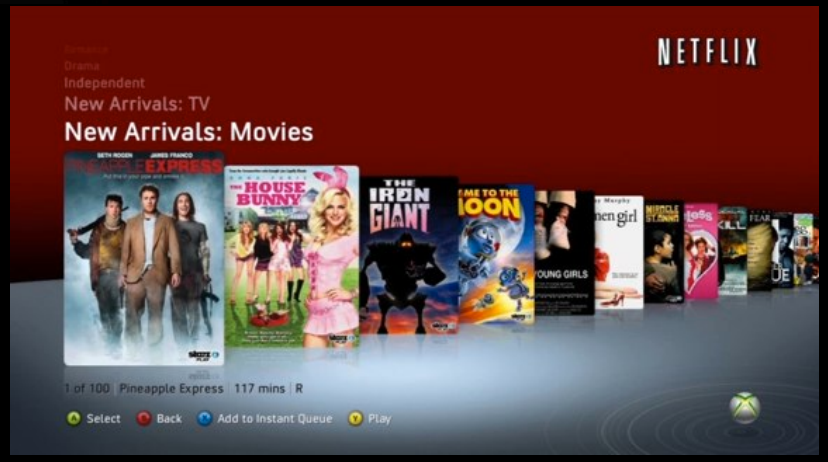
Learn Fast/Fail Quickly

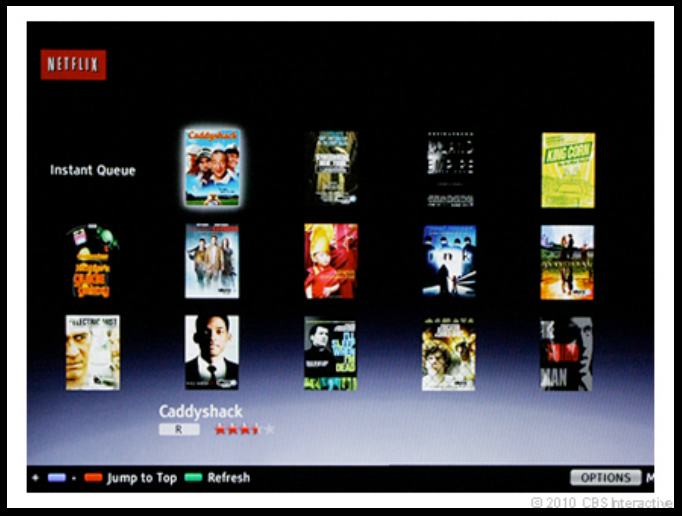
Chaos Otherwise

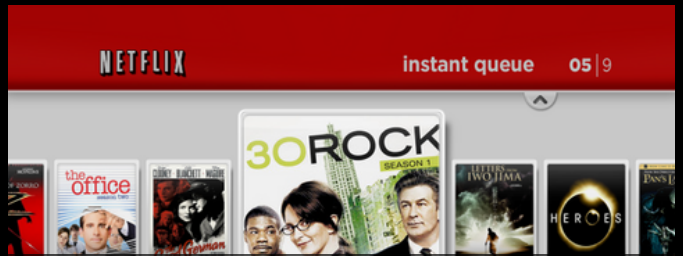
Chaos (400 SKUs)

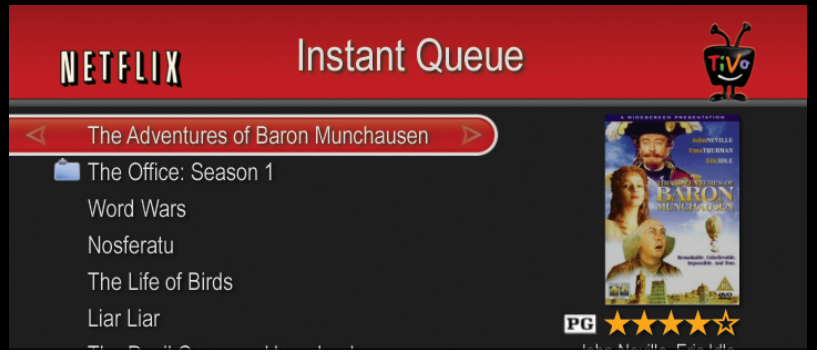




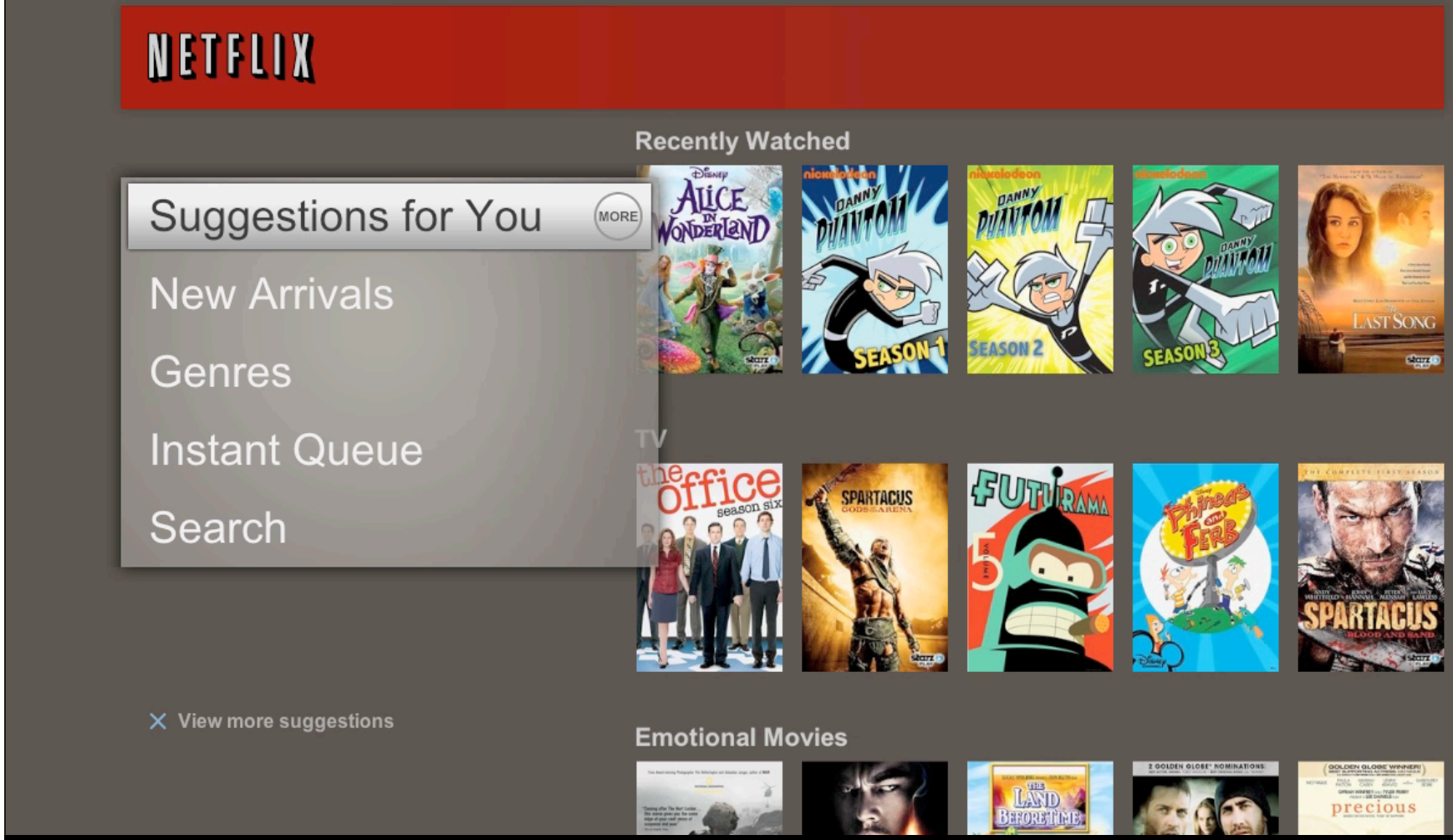








Controlled Variances



Controlled Variances

NETFLIX 2 / 332 △ Search

Instant Queue

Recently Watched

Emotional Dramas

Bella

2006 PG-13 1h 31m

★★★★☆

Two lost souls -- Nina, a pregnant, unmarried waitress, and Jose, an introspective cook with a tragic past -- find solace in each other as their lives become unpredictably linked throughout the course of one incredible day.

Cast: Eduardo Verástegui, Tammy Blanchard...

Categories: Drama, Indie Dramas

Director: Alejandro Gomez Monteverde

Managing Across Platforms

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We chose a portability layer (html5)

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However, we vary the user experience across platforms (web, tv, mobile, tablet)

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We chose a portability layer (html5)

However, we vary the user experience across platforms (web, tv, mobile, tablet)

We design for user posture, input capabilities, navigation styles and display capabilities

Try to embrace the constraints (design for mobile first!)

Designing for Mice & Men

Designing for Mice & Men

Web

Input

Indirect. Pointer/keyboard

Navigation

Controls & windows

Posture

Stationary

Display

Hi-Rez, large, near

Designing for Mice & Men

Web

Input
Indirect. Pointer/keyboard
Navigation
Controls & windows
Posture
Stationary
Display
Hi-Rez, large, near

TV

Input
Indirect. LRUD/OSK
Navigation
Panes
Posture
Lean Back
Display
Hi-Rez, far-away

Designing for Mice & Men

Web

Input
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Display
Hi-Rez, large, near

TV

Input
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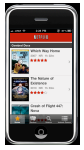
Hi-Rez, far-away



Mobile

Input
Direct. Gesture/OSK
Navigation
Panes
Posture
On-the-go
Display
Hi-Rez, small, near

Designing for Mice & Men

Web

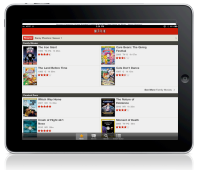
Input
Indirect. Pointer/keyboard
Navigation
Controls & windows
Posture
Stationary
Display
Hi-Rez, large, near

TV

Input
Indirect. LRUD/OSK
Navigation
Panes
Posture
Lean Back
Display
Hi-Rez, far-away

Mobile

Input
Direct. Gesture/OSK
Navigation
Panes
Posture
On-the-go
Display
Hi-Rez, small, near



Tablet

Input
Direct. Gesture/OSK
Navigation
Panes
Posture
On-the-go, lean back shared
Display
Hi-Rez, medium, near

So what's common?

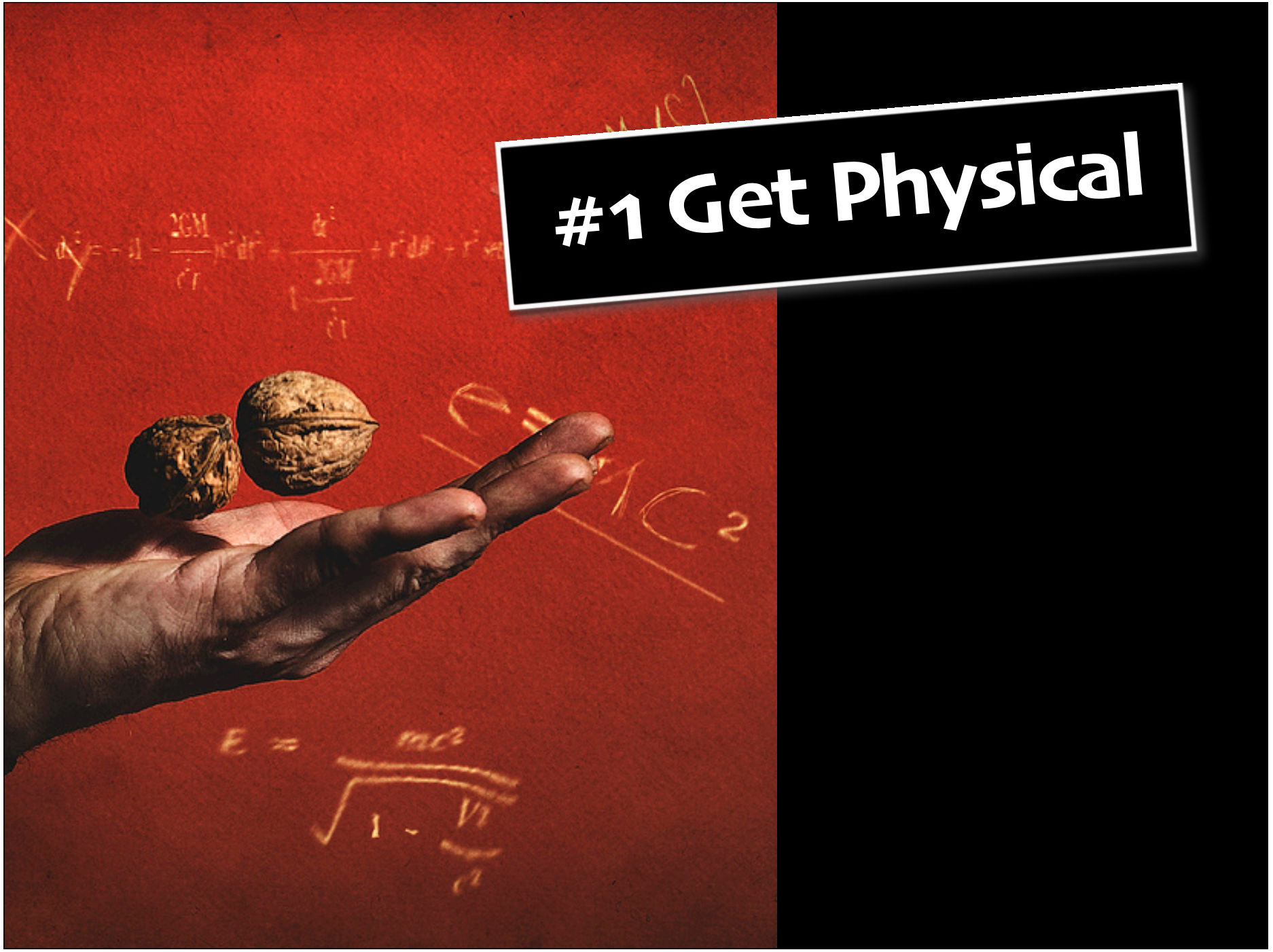
design principles
fundamental, universal ideas that underpin good design across different input methods, display capabilities and user posture

but the application of principles varies across **input, posture, navigation & display**

Three Principles

Three Principles

common design principles for
multiple platform design


#1 Get Physical

The Illusion of Physicality

The Illusion of Physicality

+

The Illusion of Physicality

+

"Finger painting" "Paint on Paper"

"My finger is out of Purple!?"

Design for Physicality

Design for Physicality

Whenever possible, add a realistic, physical dimension to your application.

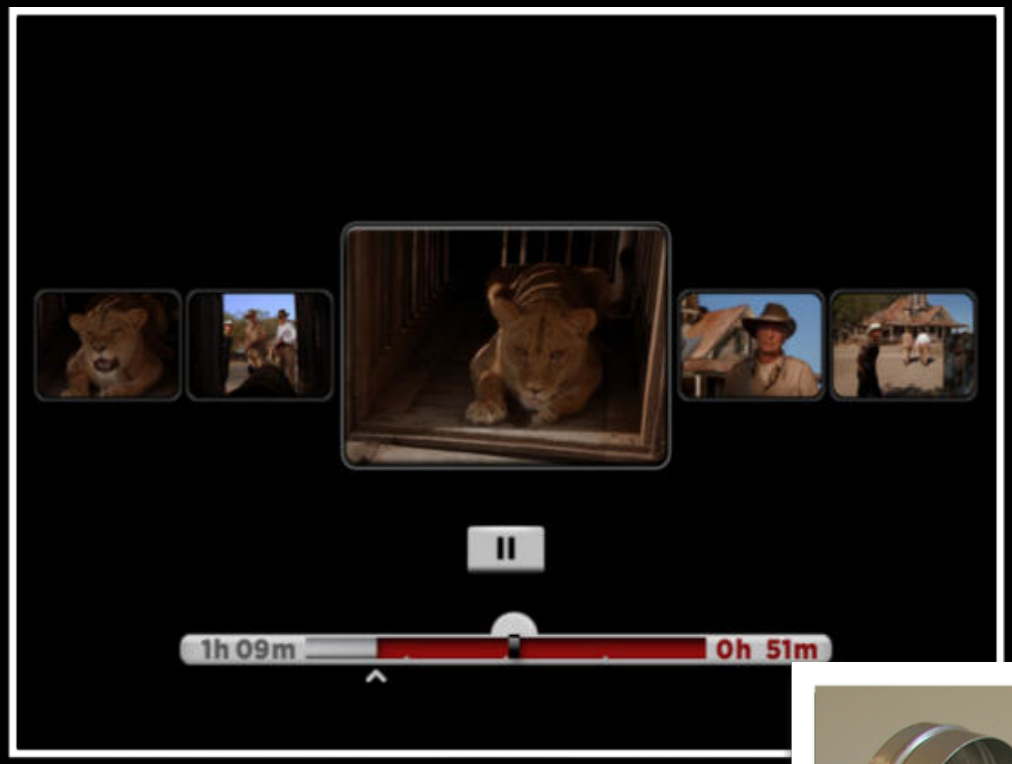
The more true to life your application looks and behaves, the easier it is for people to understand how it works and the more they enjoy using it.

- Apple HIG

Use Metaphors to Embody Physicality

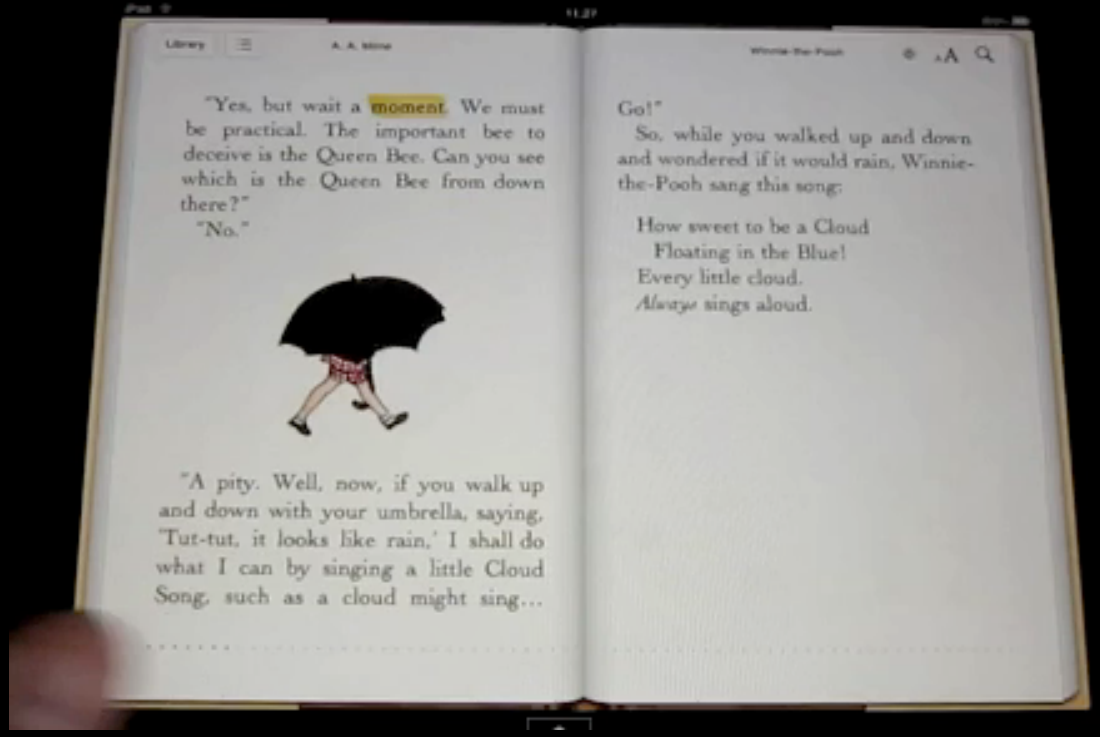
Physicality as Metaphor

Physicality as Metaphor



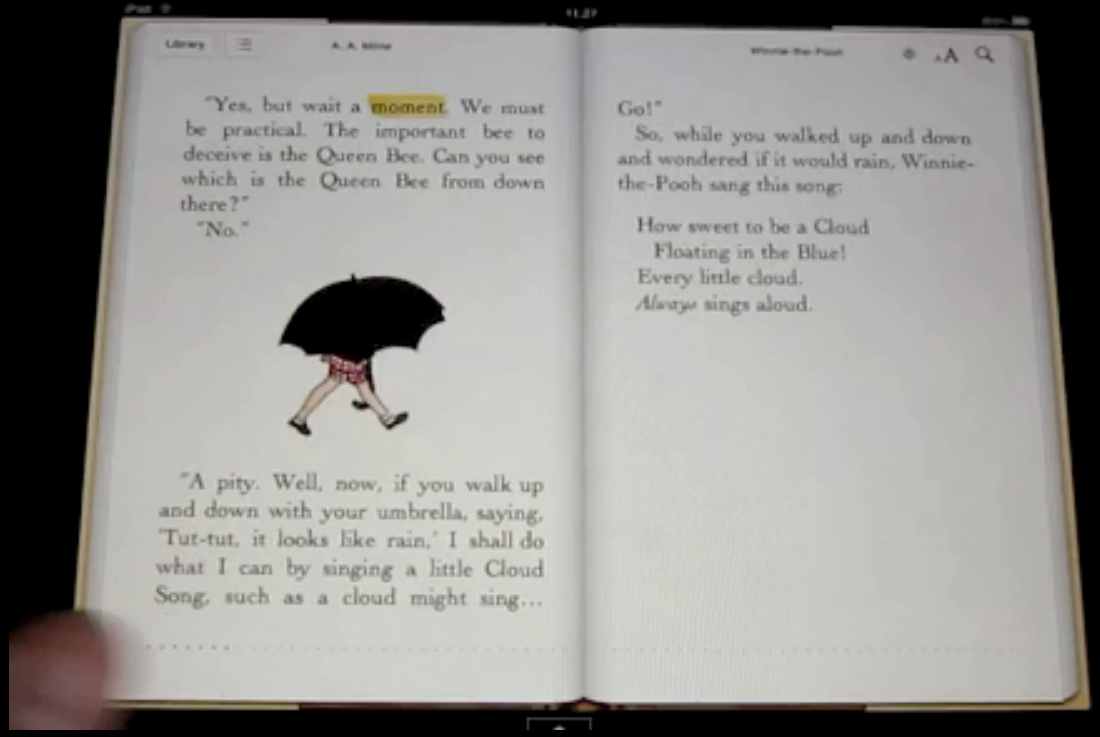
Film Strip

Physicality as Metaphor



Book

Physicality as Metaphor

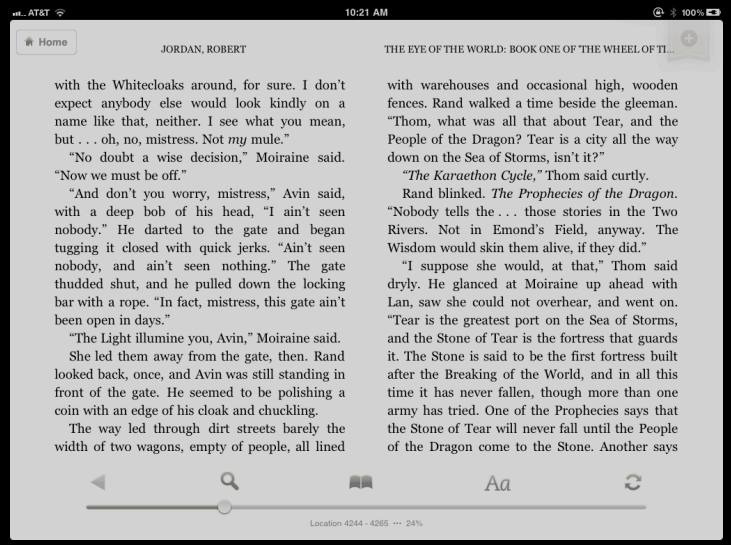


Book

"Books have pages"

"Pages turn"

Anti-Pattern: Broken Metaphor



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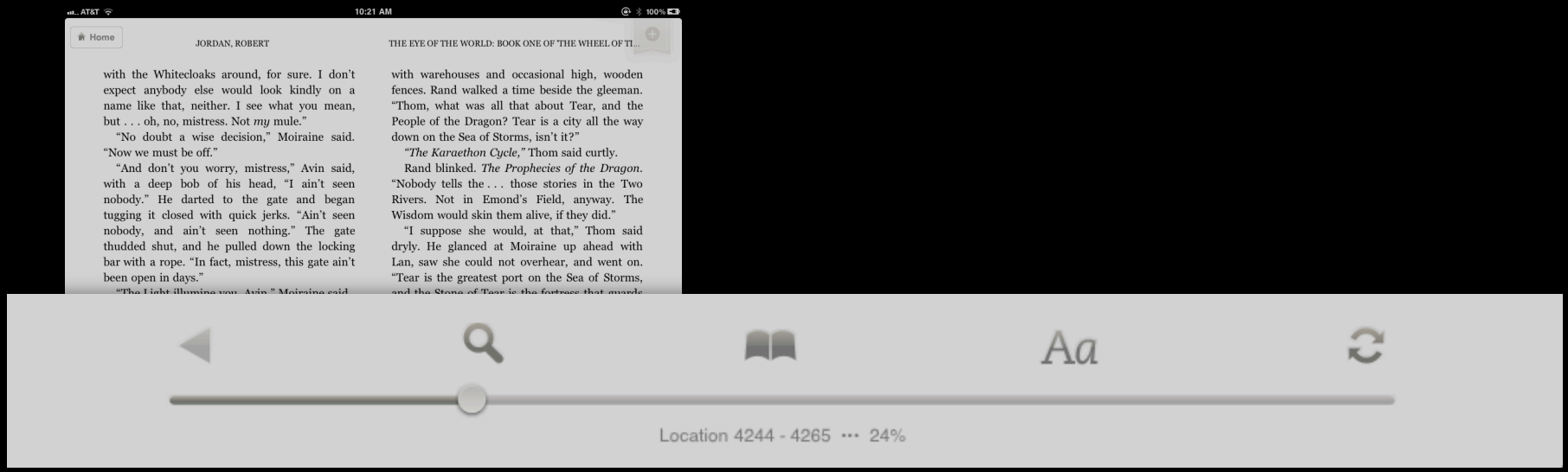
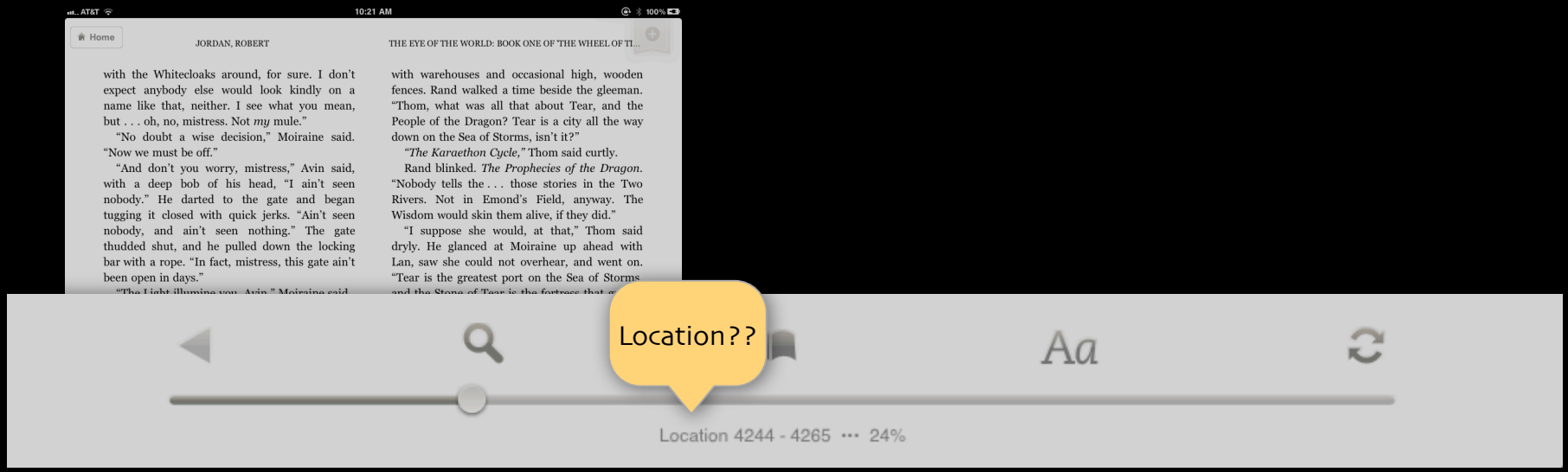


Anti-Pattern: Broken Metaphor



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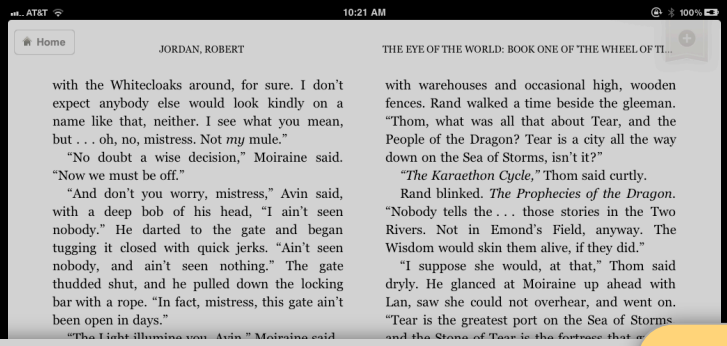

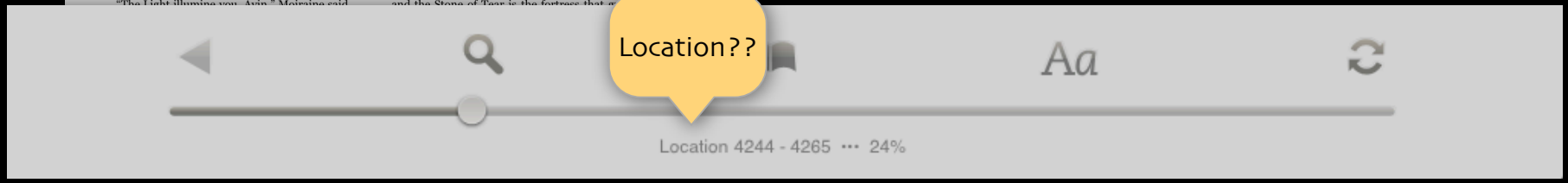

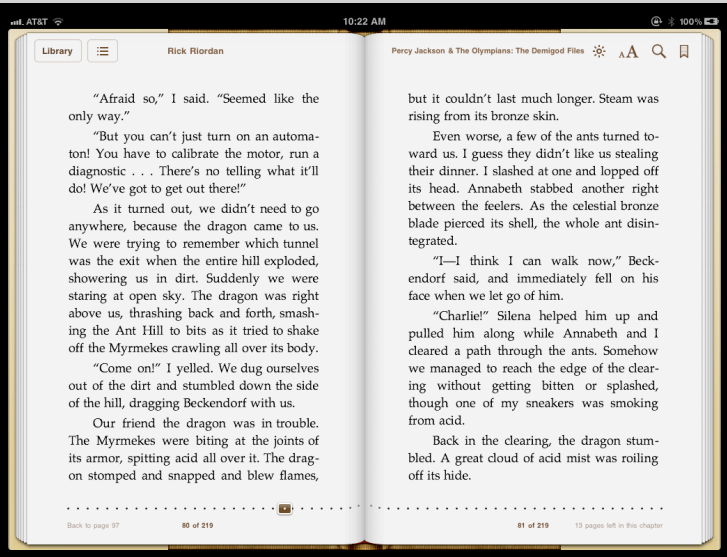

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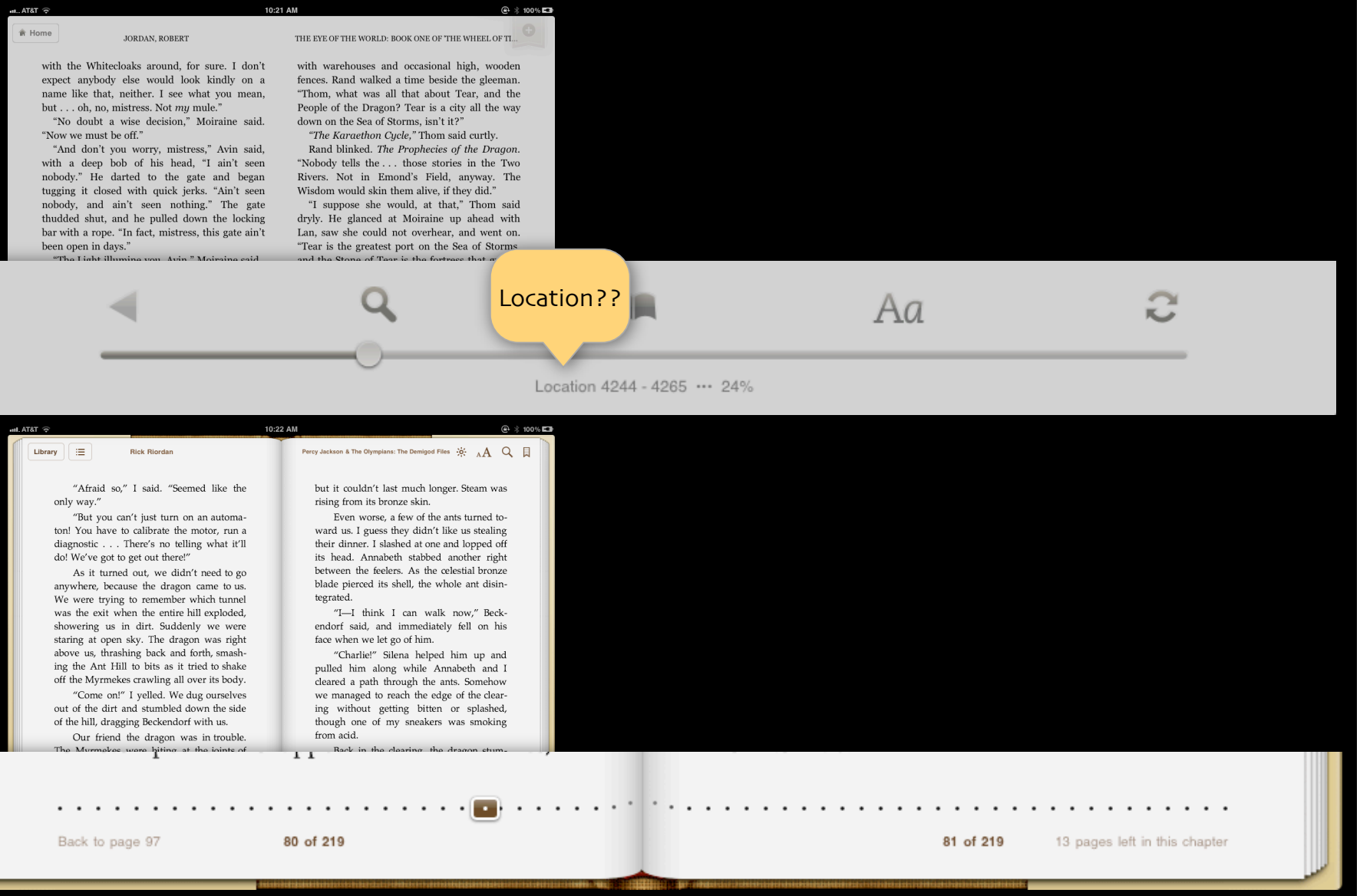

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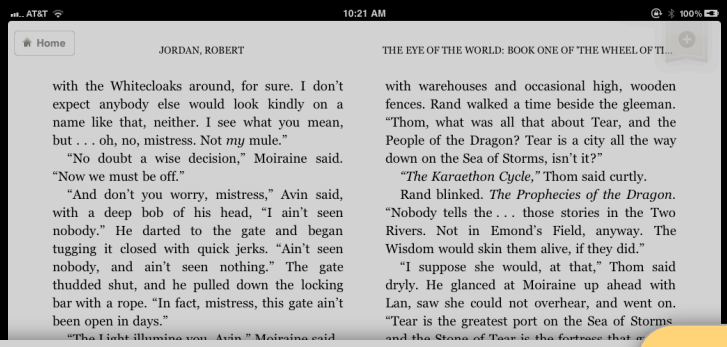
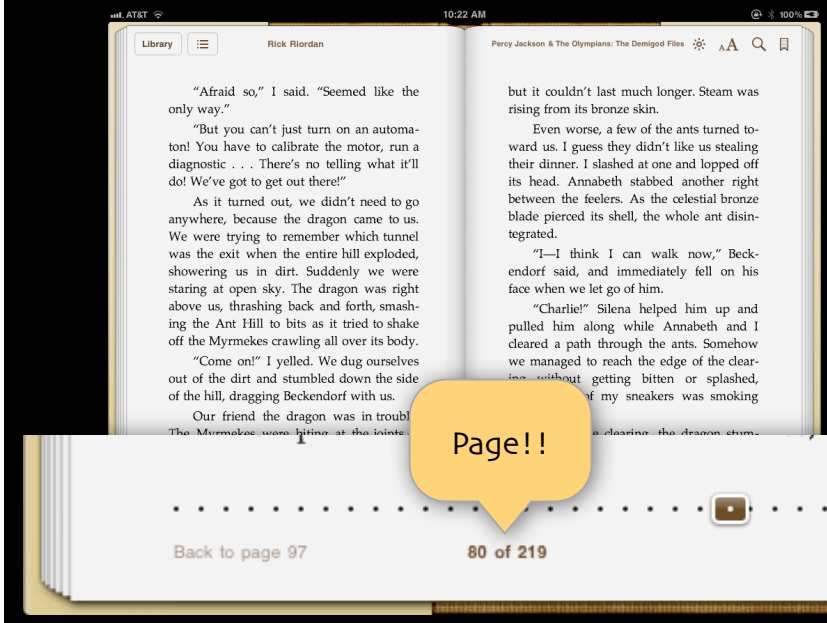
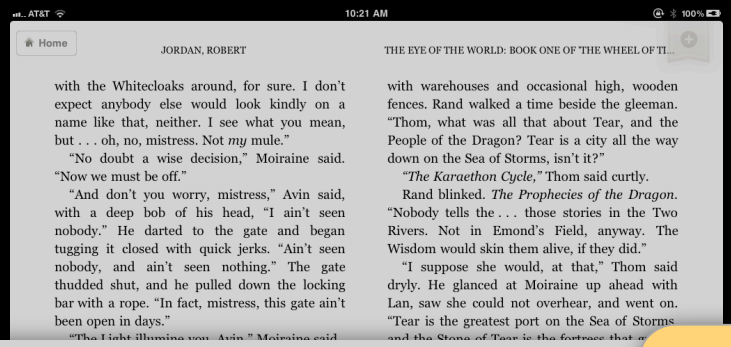
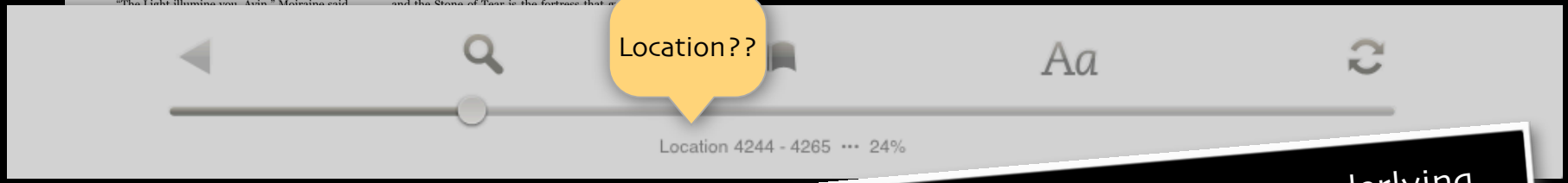


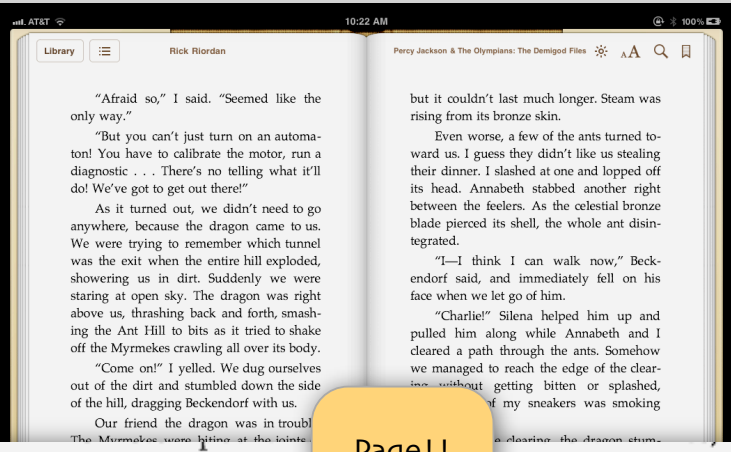


"Books have pages"

Anti-Pattern: Broken Metaphor

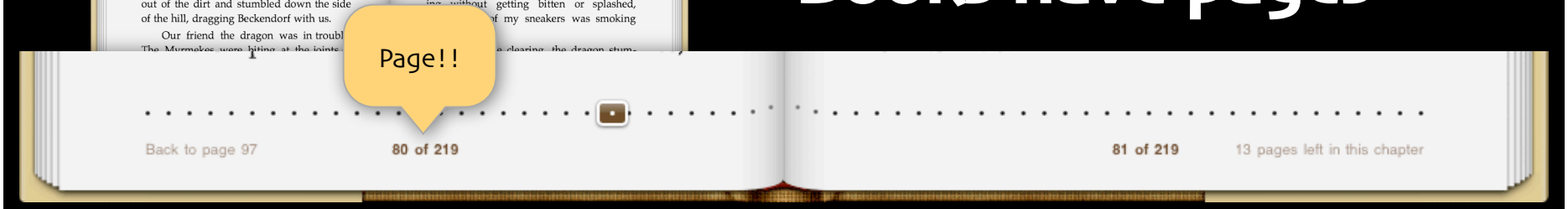






Don't break the metaphor for the underlying implementation model. **The user's mental model is the experience cushion.**

"Books have pages"



Break the Metaphor with Magic

Break the Metaphor with Magic

Break the Metaphor with Magic

Back to orig page

Break the Metaphor with Magic

Back to orig page

You are this far

Break the Metaphor with Magic

Break the Metaphor with Magic

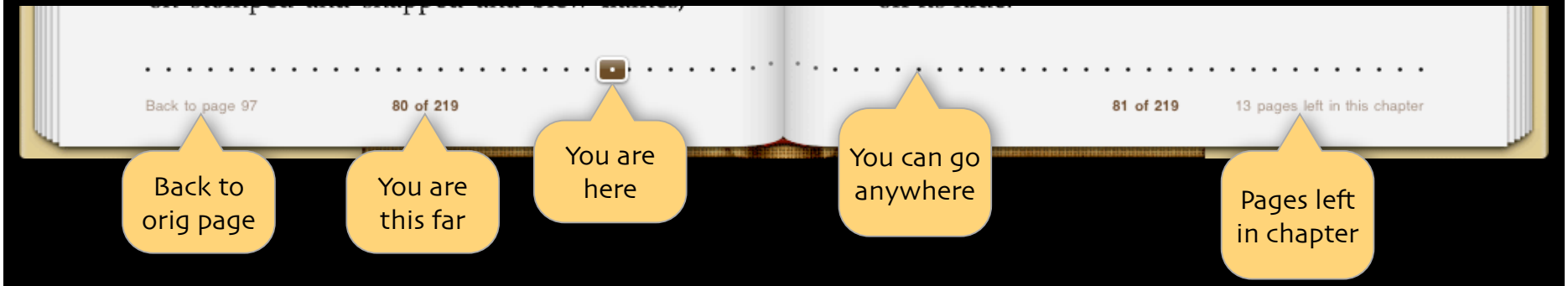
Back to orig page

You are this far

You are here

You can go anywhere

Break the Metaphor with Magic



Break the Metaphor with Magic

Tap to change page

Back to orig page

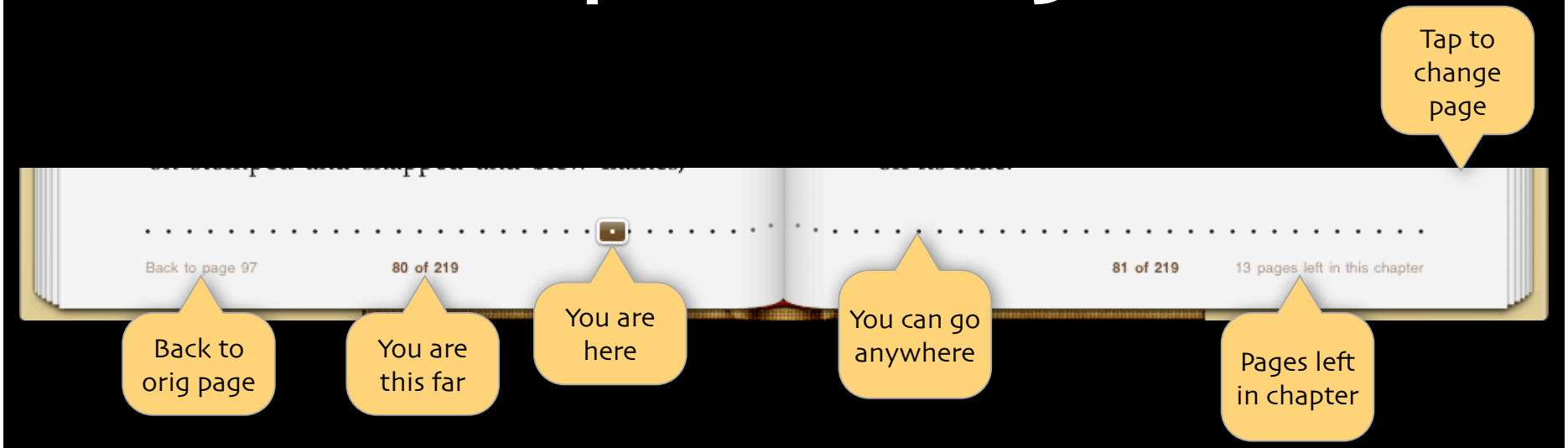
You are this far

You are here

You can go anywhere

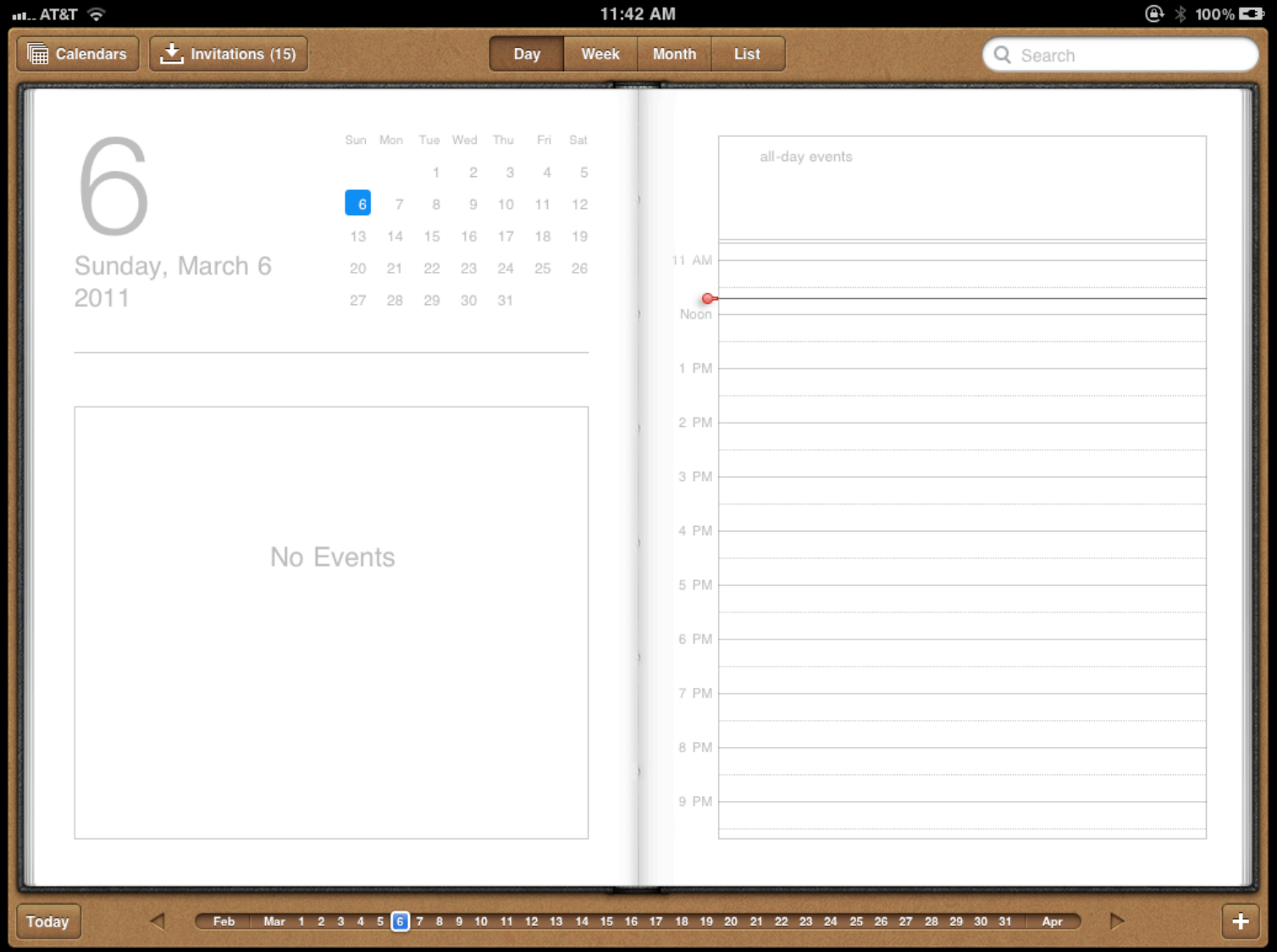
Pages left in chapter

Break the Metaphor with Magic

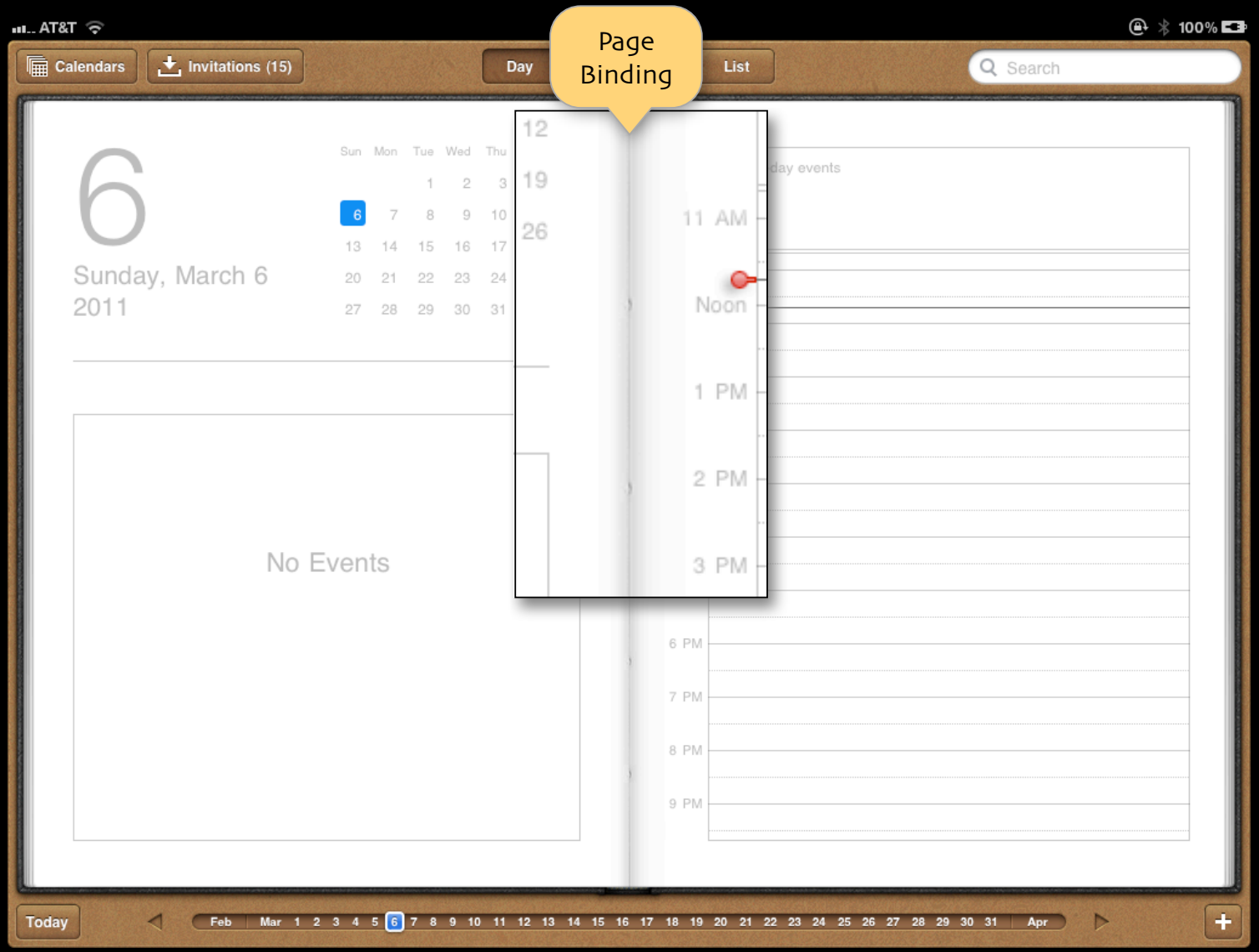


Strict physicality is hard work. Use magic to simplify the real world.

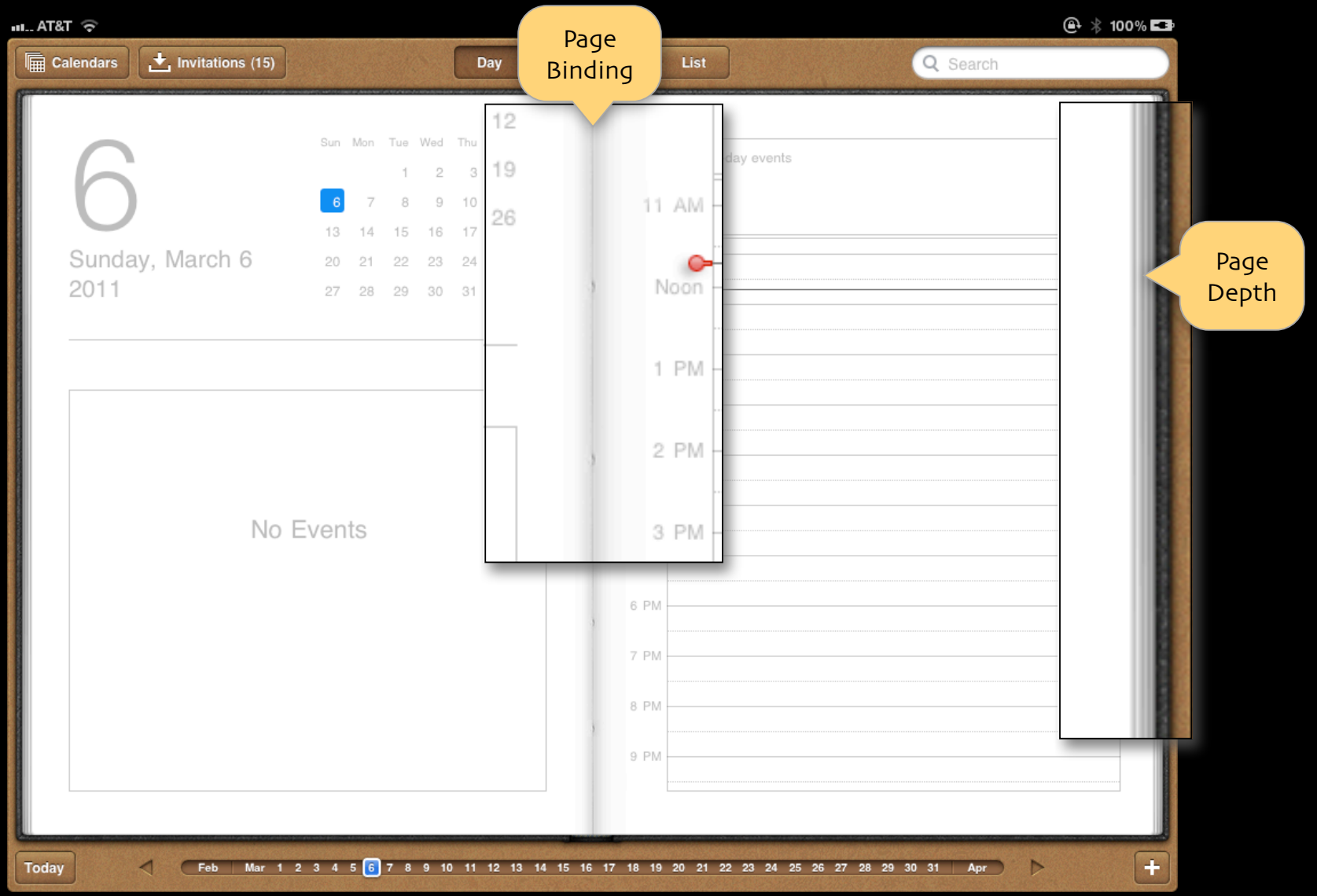
To Flick or not to Flick



To Flick or not to Flick



To Flick or not to Flick



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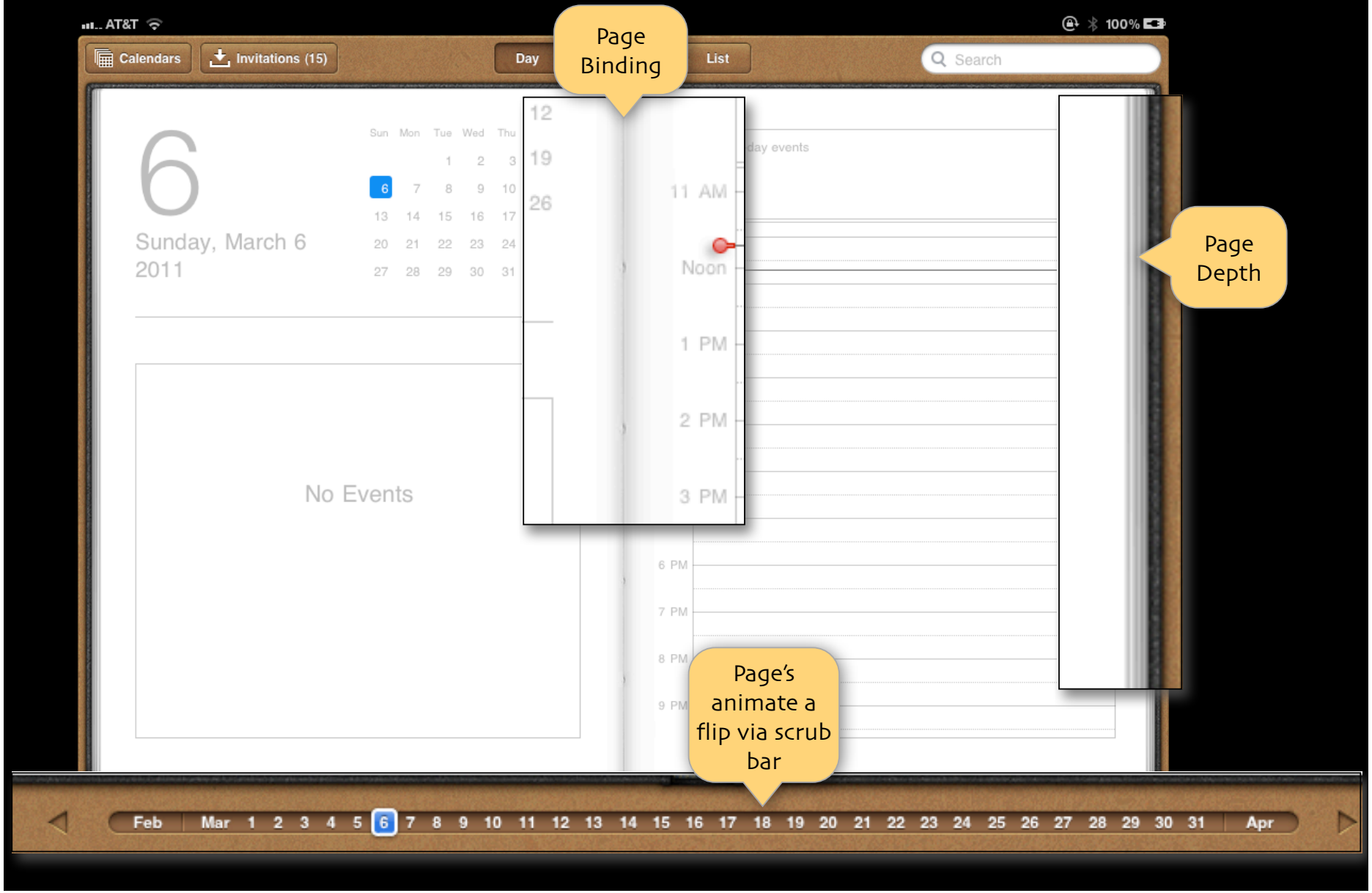

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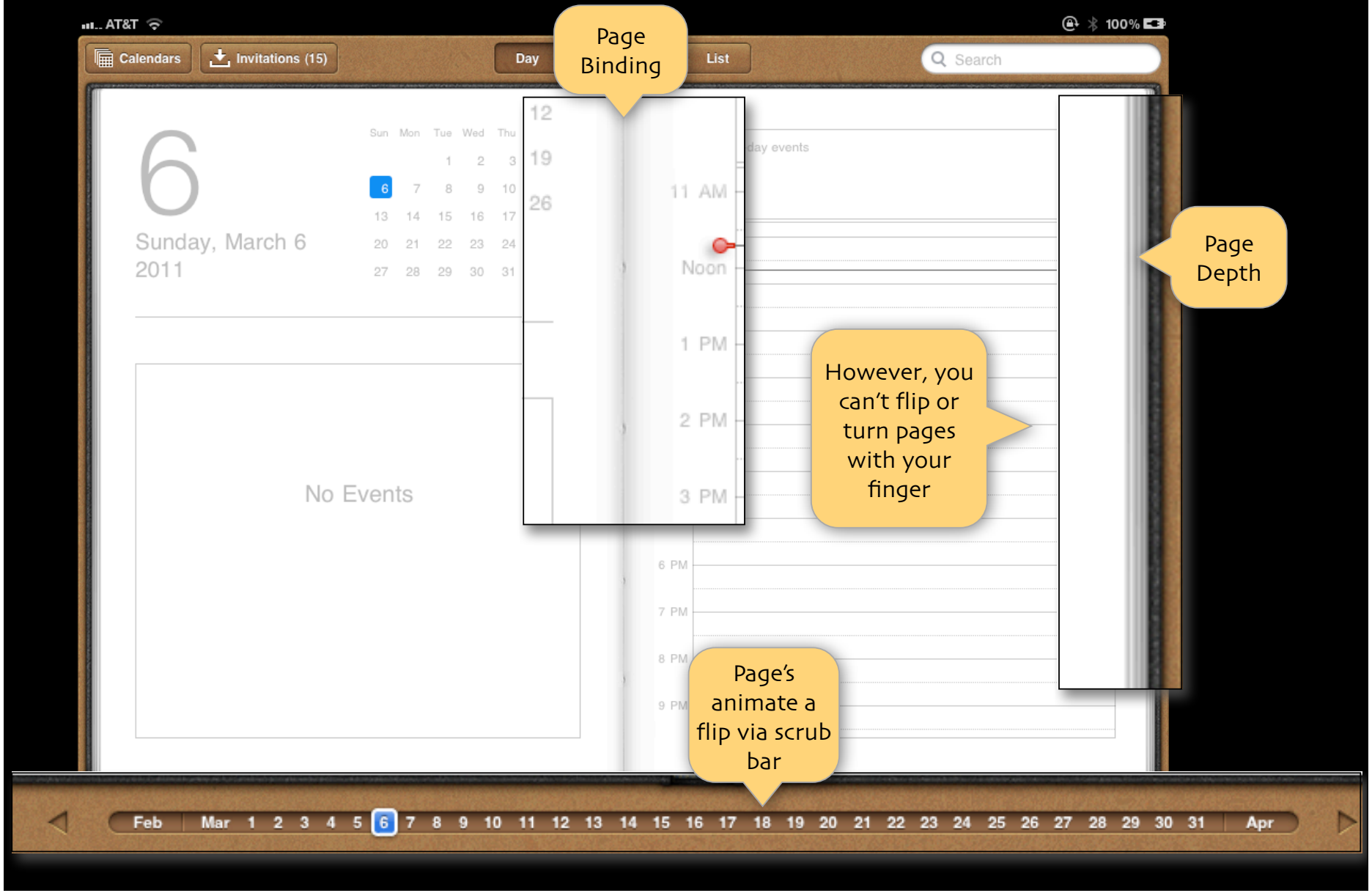

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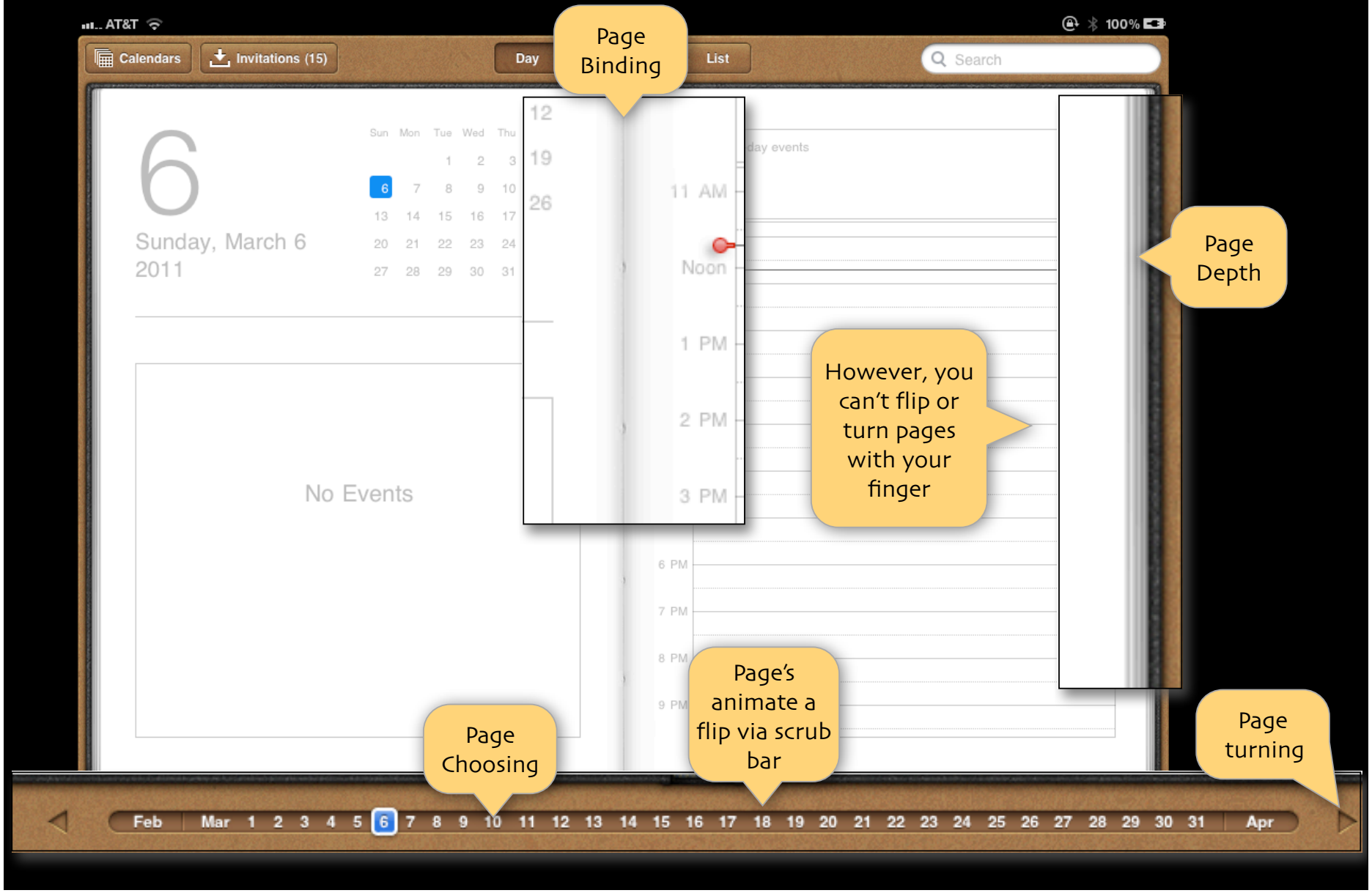
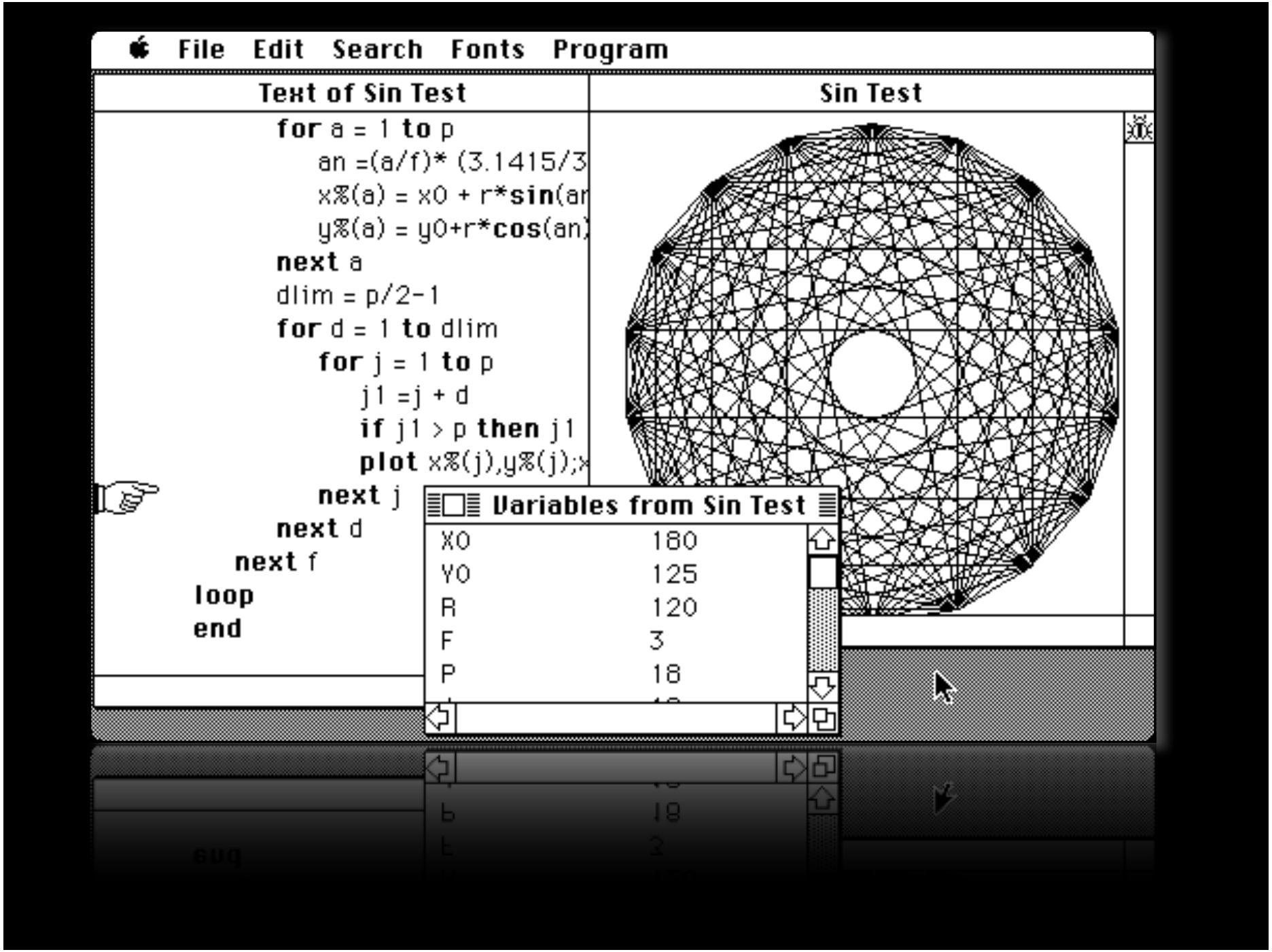
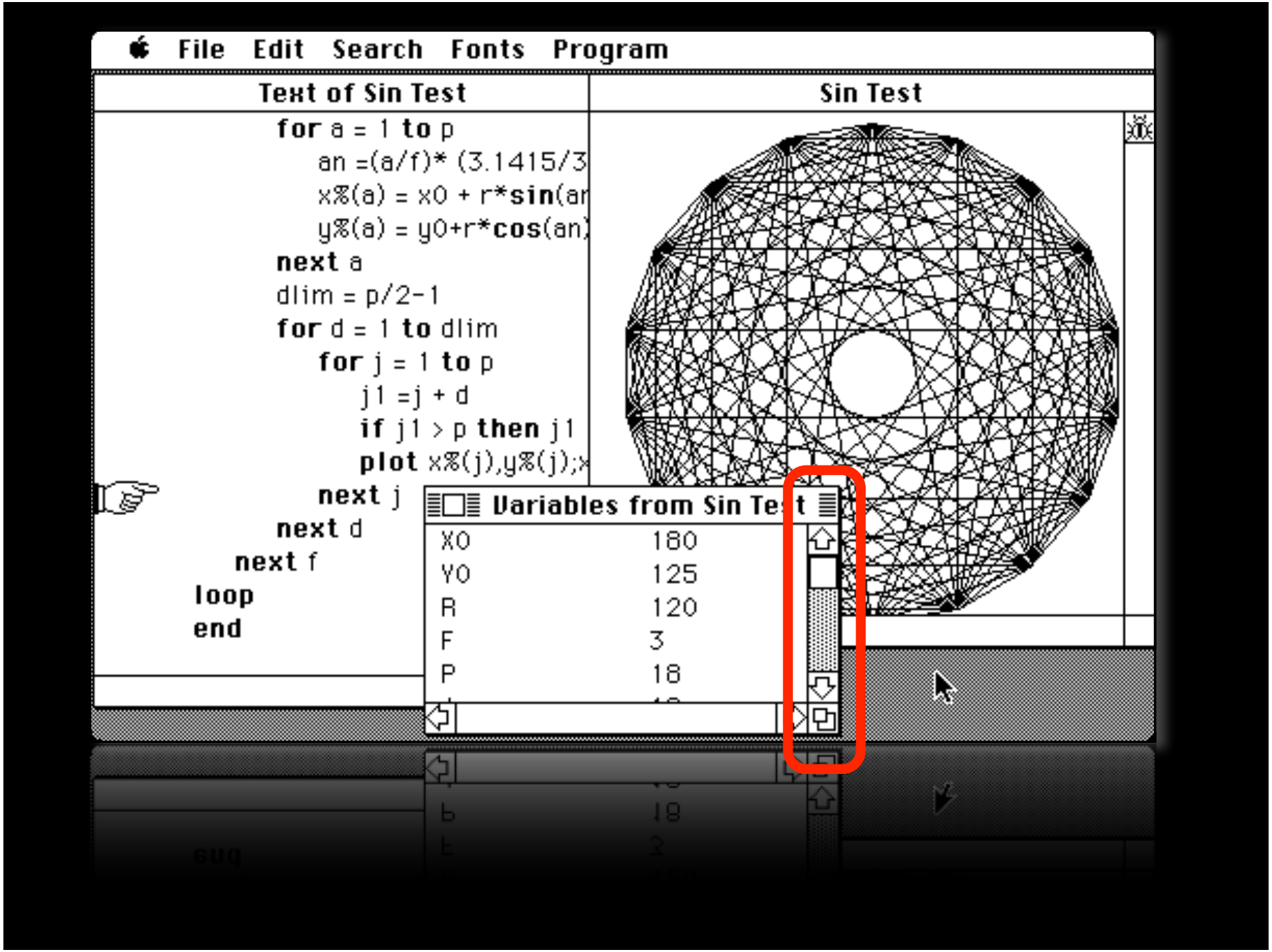


Use Directness to Simulate Physicality


File Edit Search Fonts Program
Text of Sin Test
Sin Test
for a = 1 to p
an =(a/f)* (3.1415/3
x%(a) = x0 + r*sin(ar
y%(a) = y0+r*cos(an)
next a
dlim = p/2-1
for d = 1 to dlim
for j = 1 to p
j1 =j + d
if j1 > p then j1
plot x%(j),y%(j);x
next j
next d
next f
loop
end
Variables from Sin Test
X0 180
Y0 125
R 120
F 3
P 18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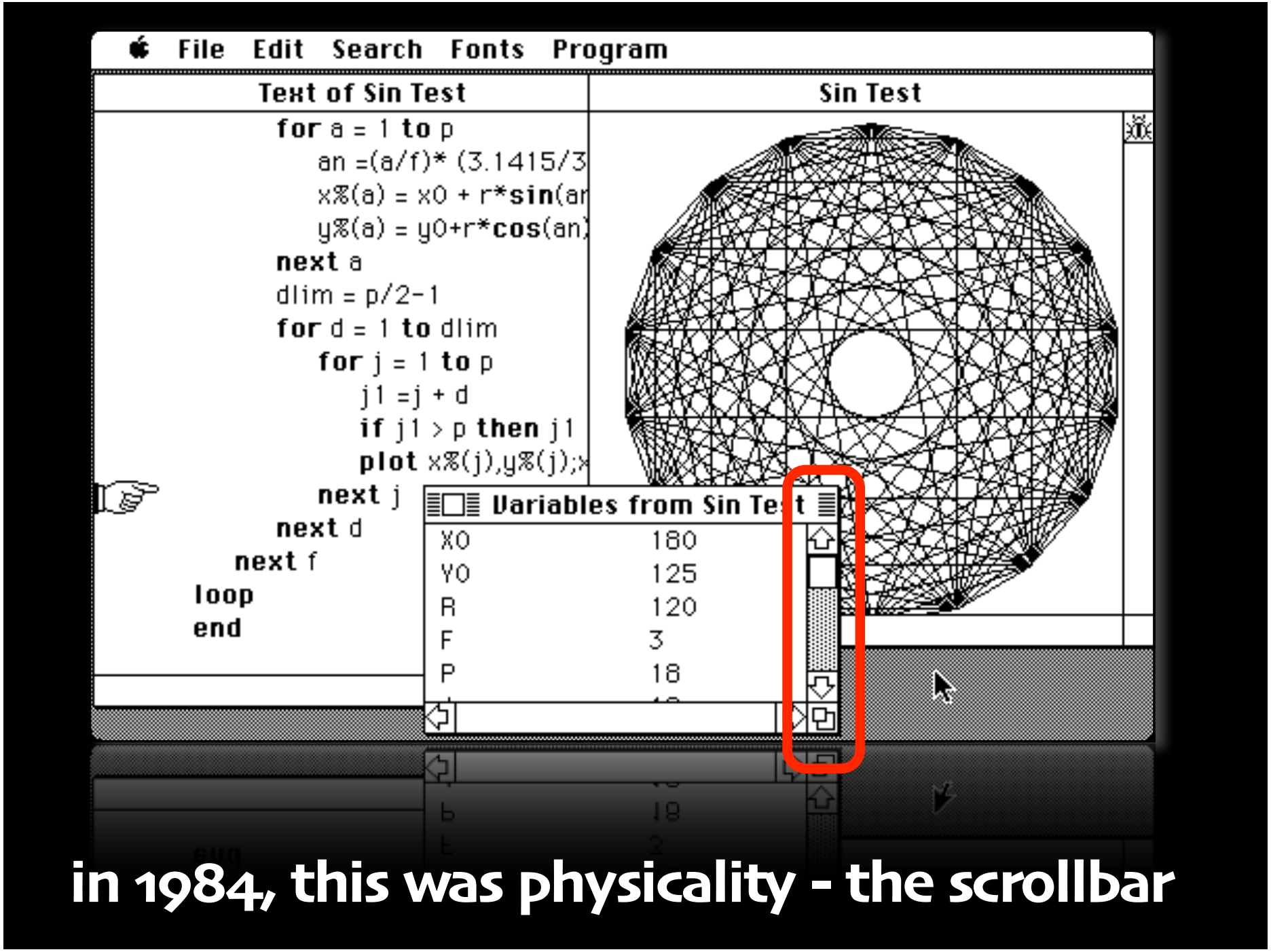
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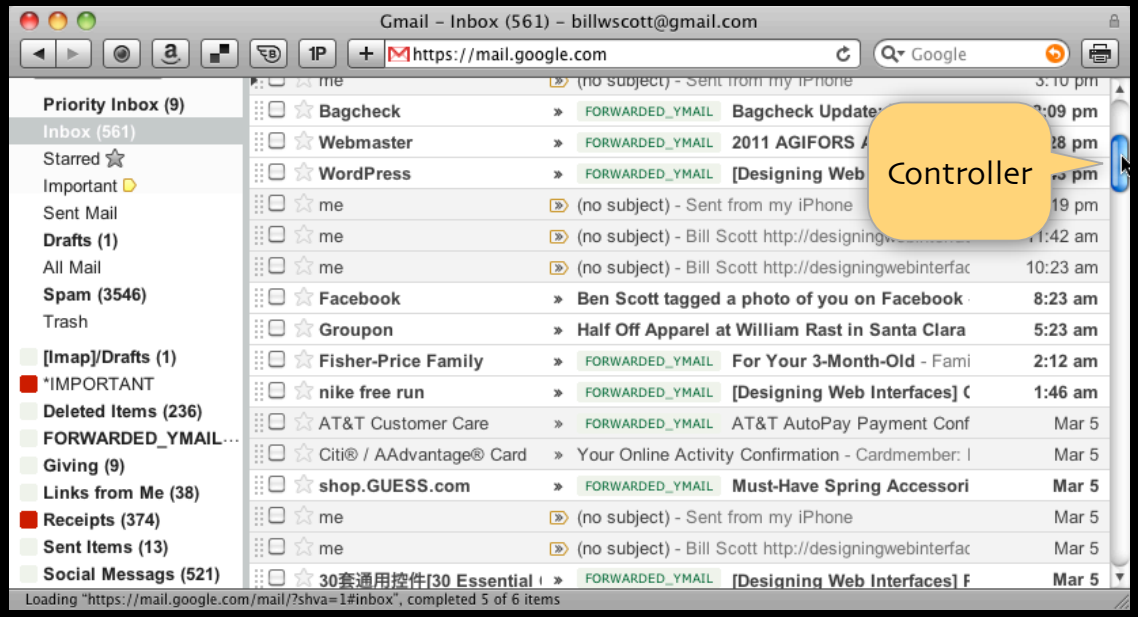
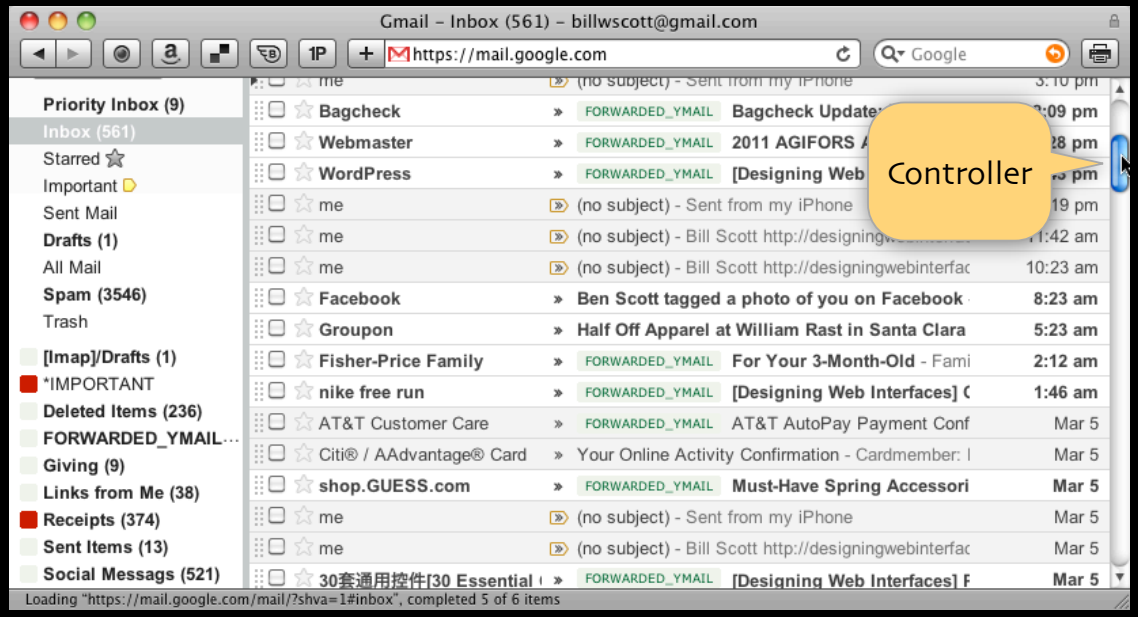
next j
next d
next f
loop
end
Variables from Sin Test
X0 180
Y0 125
R 120
F 3
P 18
in 1984, this was physicality - the scrollbar

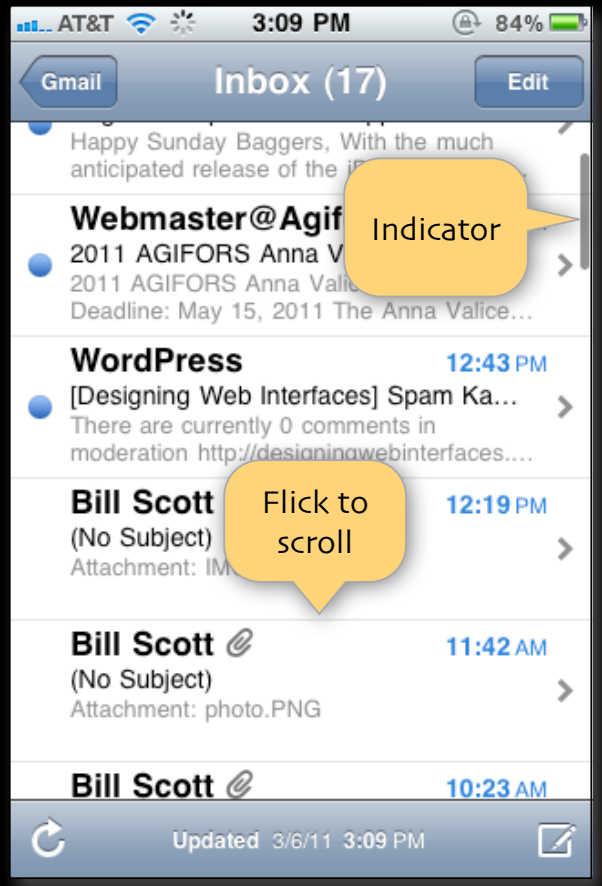
Scrollbar Evolution



Scrollbar Evolution

From Controller to Indicator
Content is scrolled instead of scrollbar





Thumbwheel is an evolution as well

It must feel real

It must feel real

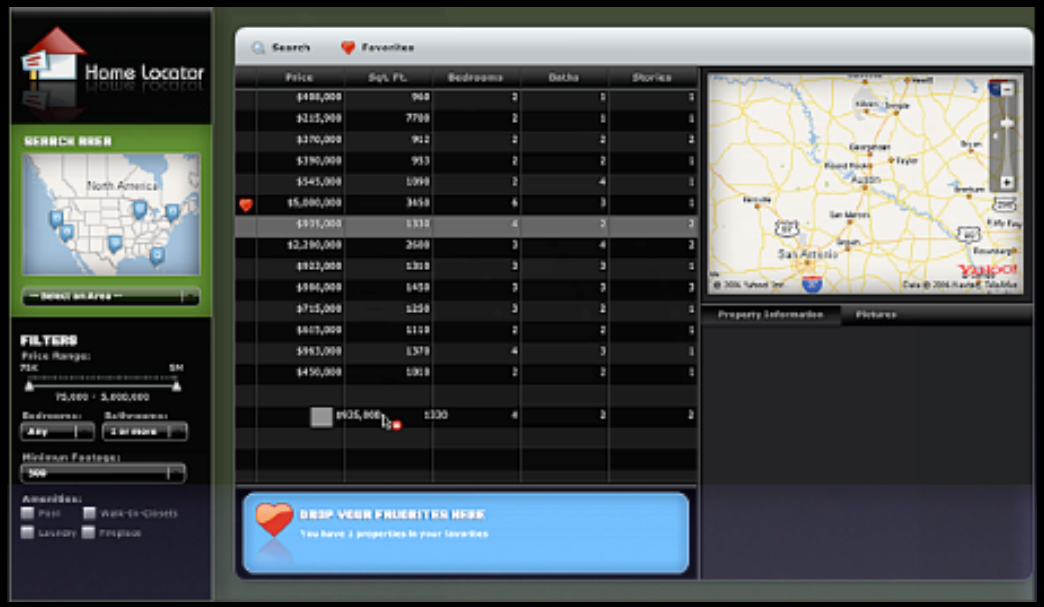
Make sure event handling is consistent

It must feel real

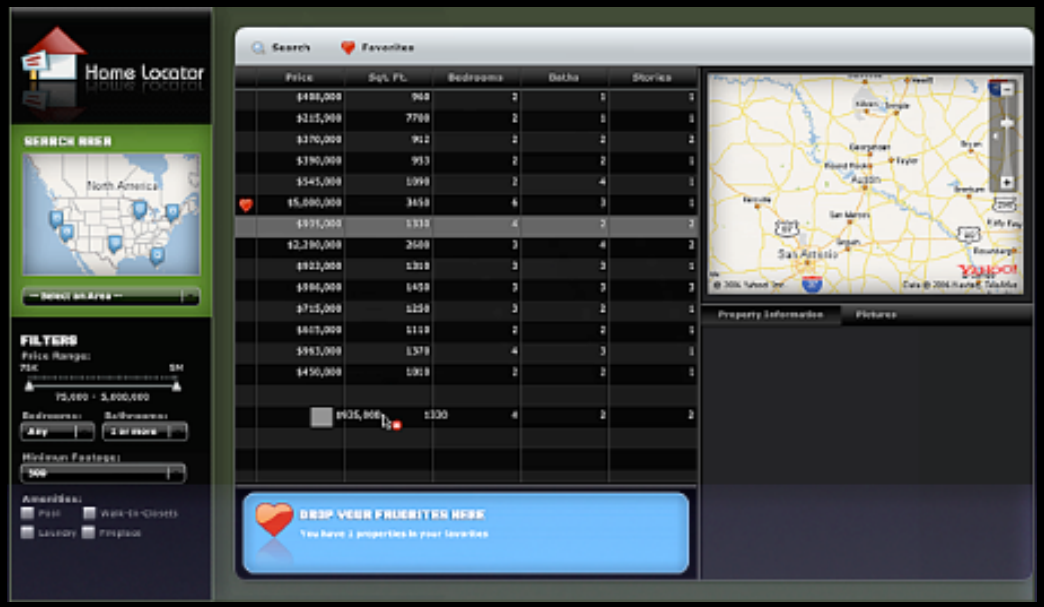
Make sure event handling is consistent

Remember fingers are fat. Real estate is limited

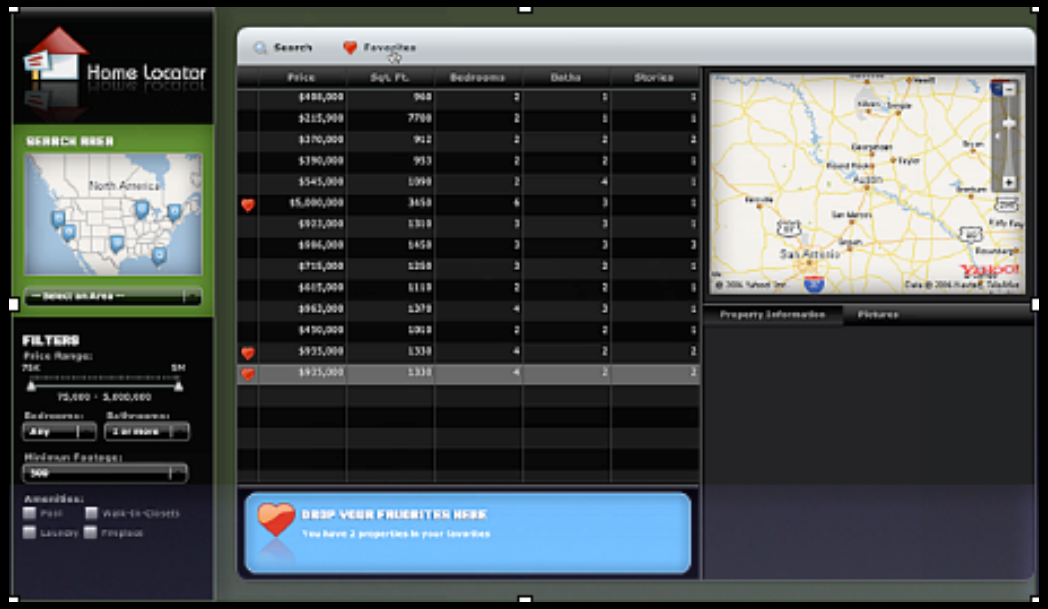
Anti-Pattern: Mismatched Metaphor



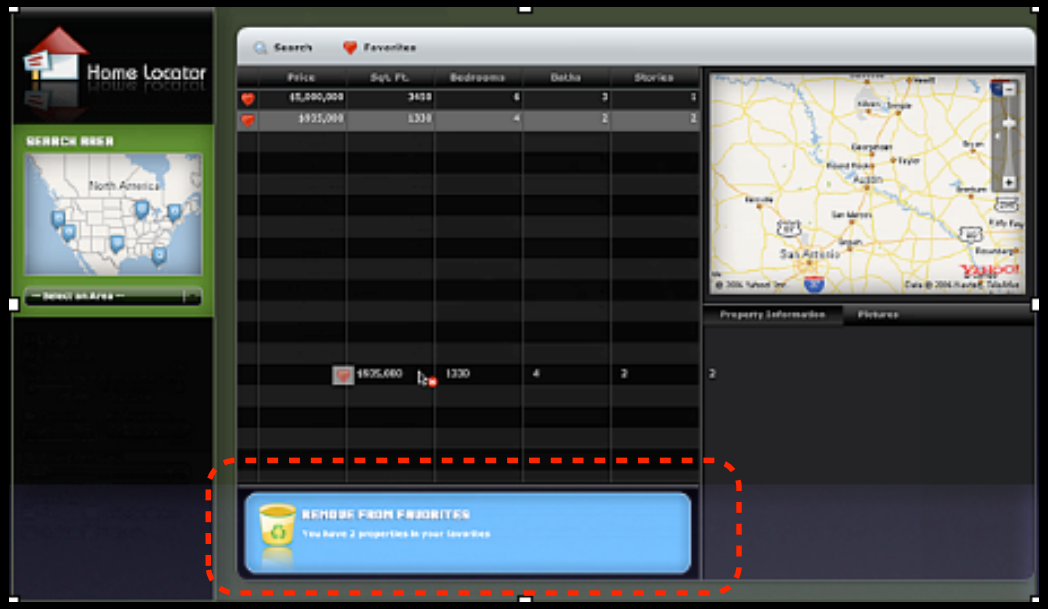
Anti-Pattern: Mismatched Metaphor



Anti-Pattern: Mismatched Metaphor

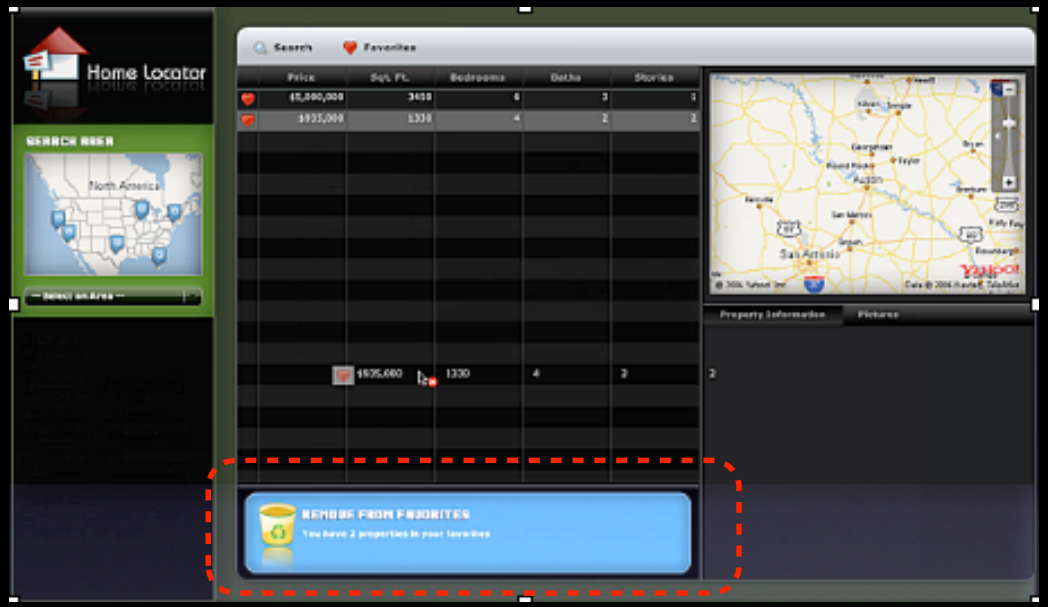


Anti-Pattern: Mismatched Metaphor

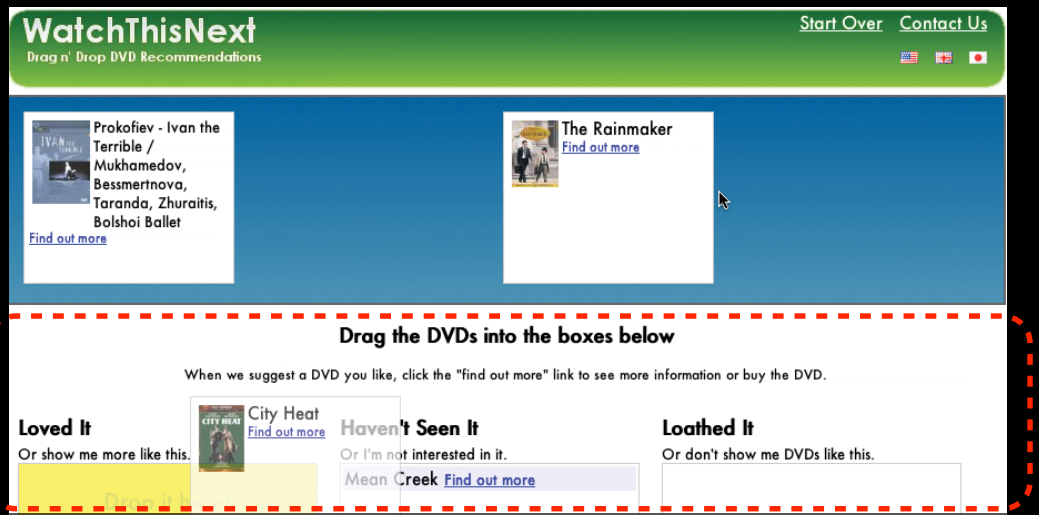


anti-pattern: artificial construct

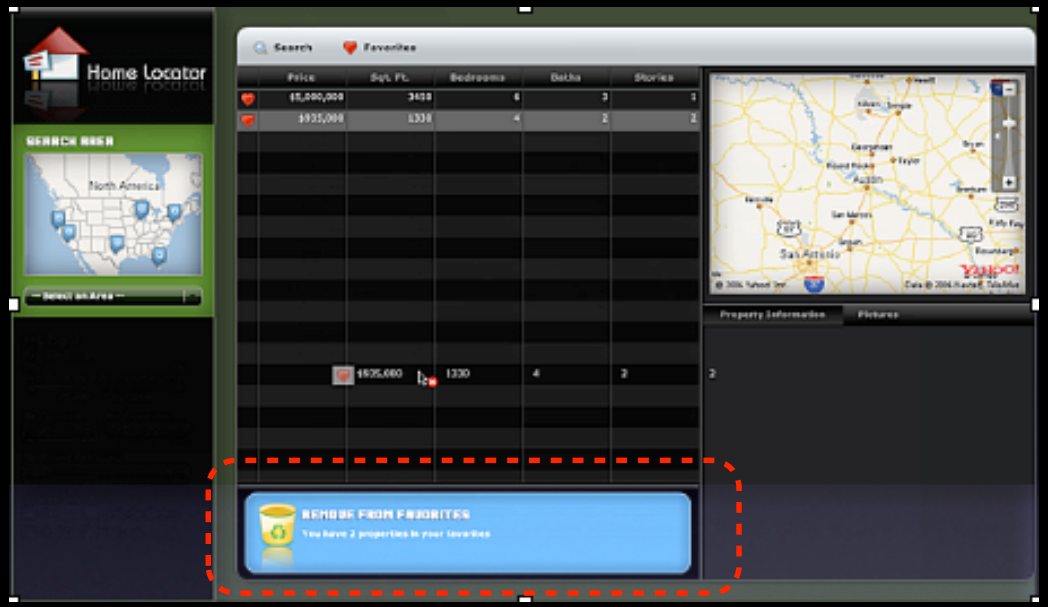
Anti-Pattern: Mismatched Metaphor



anti-pattern: artificial construct



Anti-Pattern: Mismatched Metaphor



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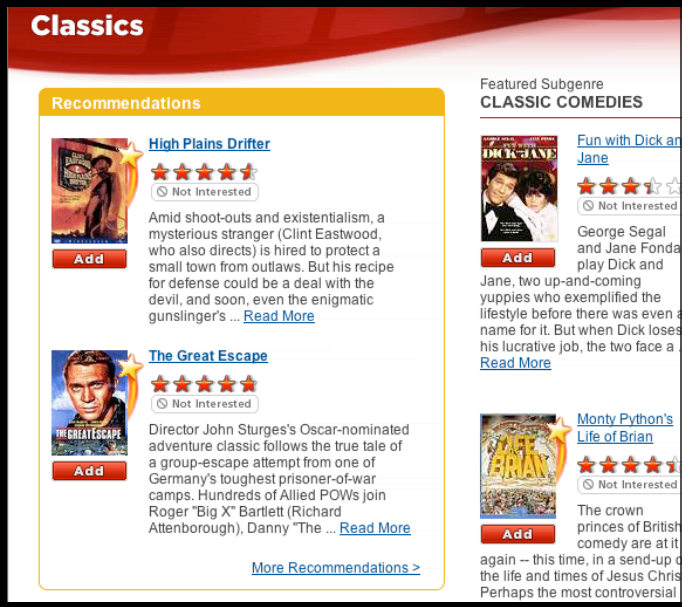
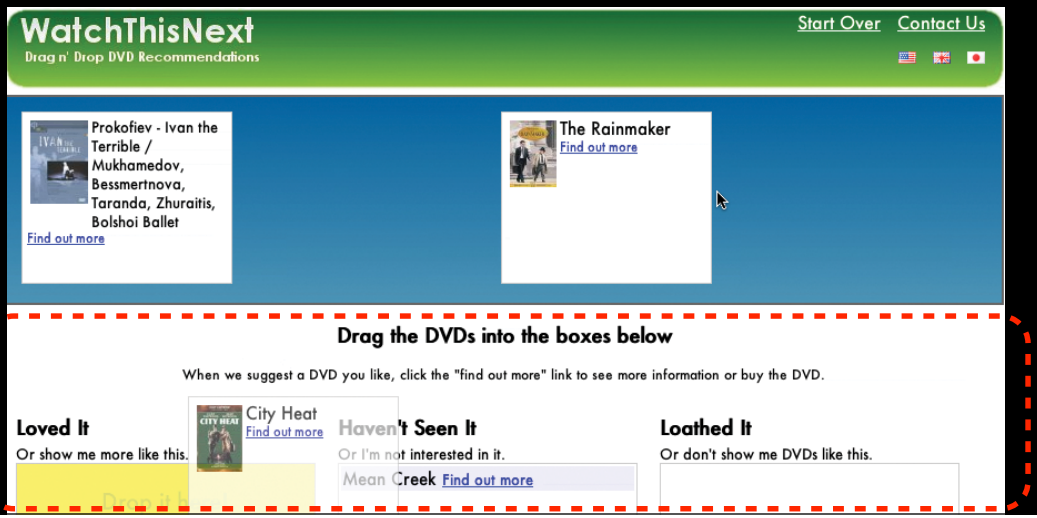


netflix. rate an object. KISS.



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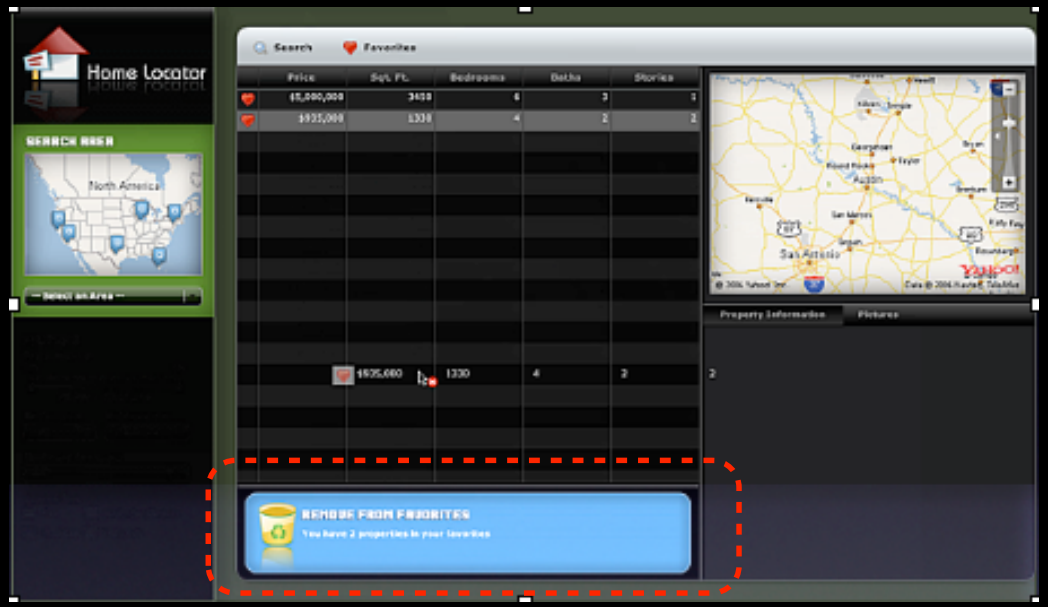

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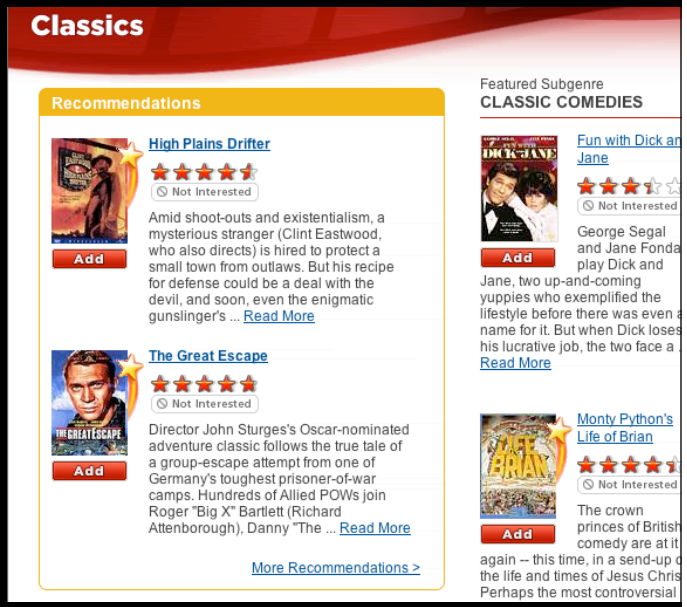

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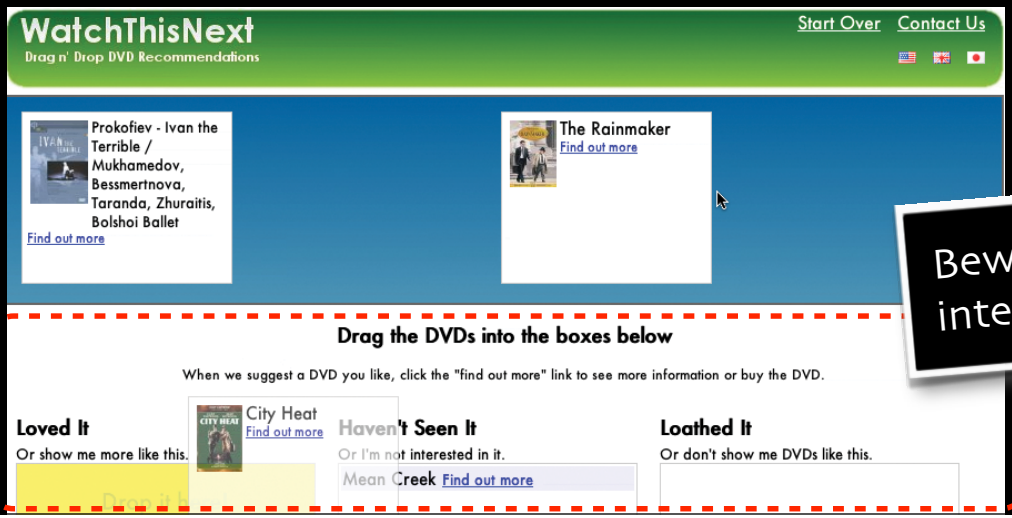


Beware of constructing artificial visual interfaces to support drag and drop

How Fat is Your Input?

	Targeting Size
Web (Pointer)	16 pixels (but accurate as 1 pixel)
Mobile/Tablet (Finger)	44 pixels*
Remote (LRUD)	44 pixels
Remote (Pointer)	44 pixels

* Joe Clark's recommendation - Tapworthy

Physicality Across Platforms

	Input
Web	Pointer Indirect Fine-grained (pixel)
Tablet	Finger Direct Course-grained (finger)
Mobile	Finger Direct Course-grained (finger)
TV	Remote Control Indirect Course-grained (1 object at a time)

Physicality Across Platforms

	Input	Posture
Web	Pointer Indirect Fine-grained (pixel)	Stationary (can support sovereign apps)
Tablet	Finger Direct Course-grained (finger)	On-the-go (Single Purpose Apps)
Mobile	Finger Direct Course-grained (finger)	On-the-go (Single Purpose Apps)
TV	Remote Control Indirect Course-grained (1 object at a time)	Leisure (supports consumption, media apps)

Physicality Across Platforms

	Input	Posture	Navigation
Web	Pointer Indirect Fine-grained (pixel)	Stationary (can support sovereign apps)	Windows Menus, Tabs & Links
Tablet	Finger Direct Course-grained (finger)	On-the-go (Single Purpose Apps)	Panes Buttons & Gestures
Mobile	Finger Direct Course-grained (finger)	On-the-go (Single Purpose Apps)	Panes & Buttons
TV	Remote Control Indirect Course-grained (1 object at a time)	Leisure (supports consumption, media apps)	Panes & Content

Physicality Across Platforms

	Input	Posture	Navigation	Display
Web	Pointer Indirect Fine-grained (pixel)	Stationary (can support sovereign apps)	Windows Menus, Tabs & Links	Large size High resolution Near
Tablet	Finger Direct Course-grained (finger)	On-the-go (Single Purpose Apps)	Panes Buttons & Gestures	Medium size High resolution Near
Mobile	Finger Direct Course-grained (finger)	On-the-go (Single Purpose Apps)	Panes & Buttons	Small size High resolution Near
TV	Remote Control Indirect Course-grained (1 object at a time)	Leisure (supports consumption, media apps)	Panes & Content	Large size High resolution Far away

#2 Maintain Flow

Exploratorium Exhibit

Spot the differences

Spot the differences

Now try again...

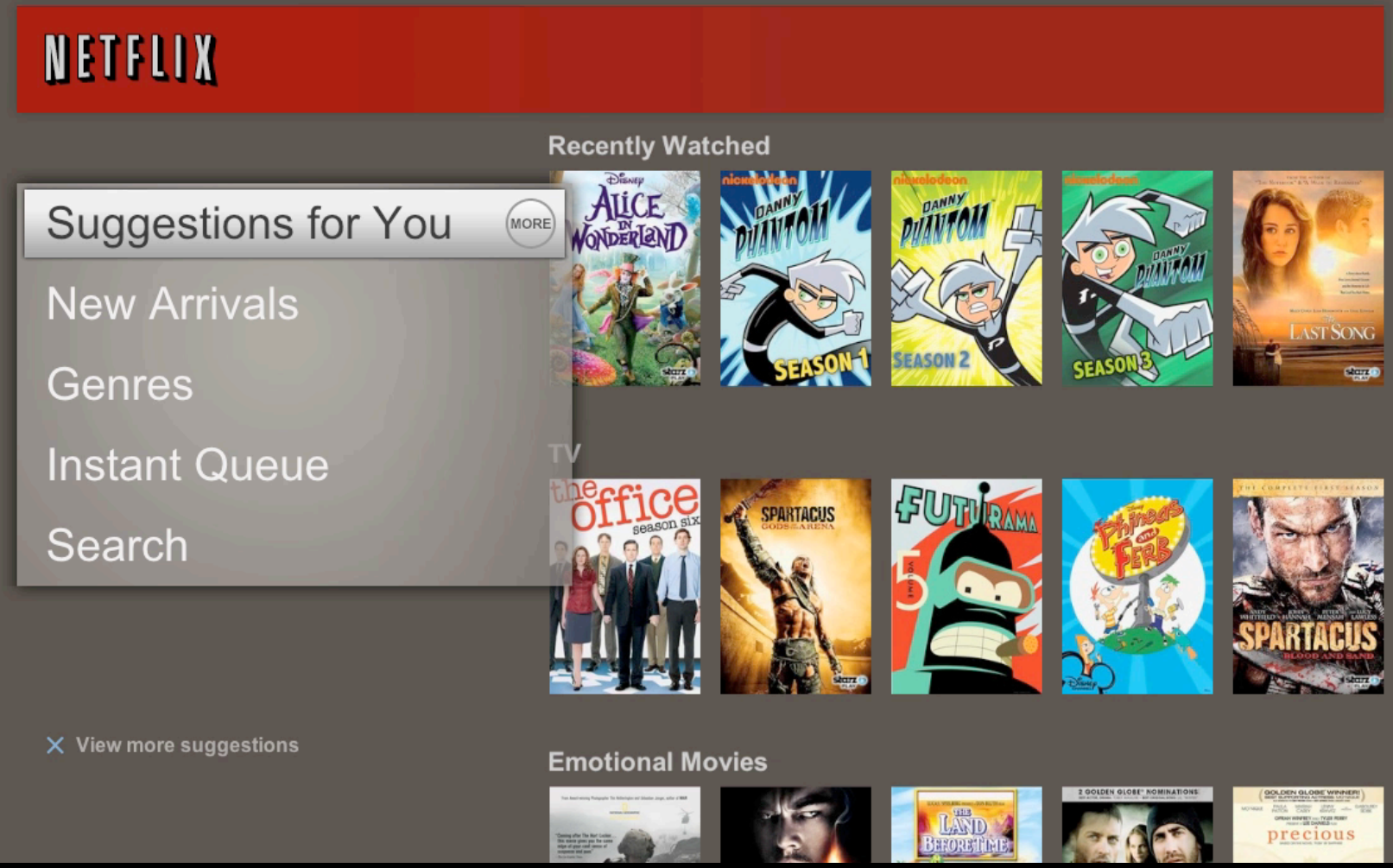
Now try again...

Now try again...

Change blindness

Reduce Page Switching to Maintain Flow

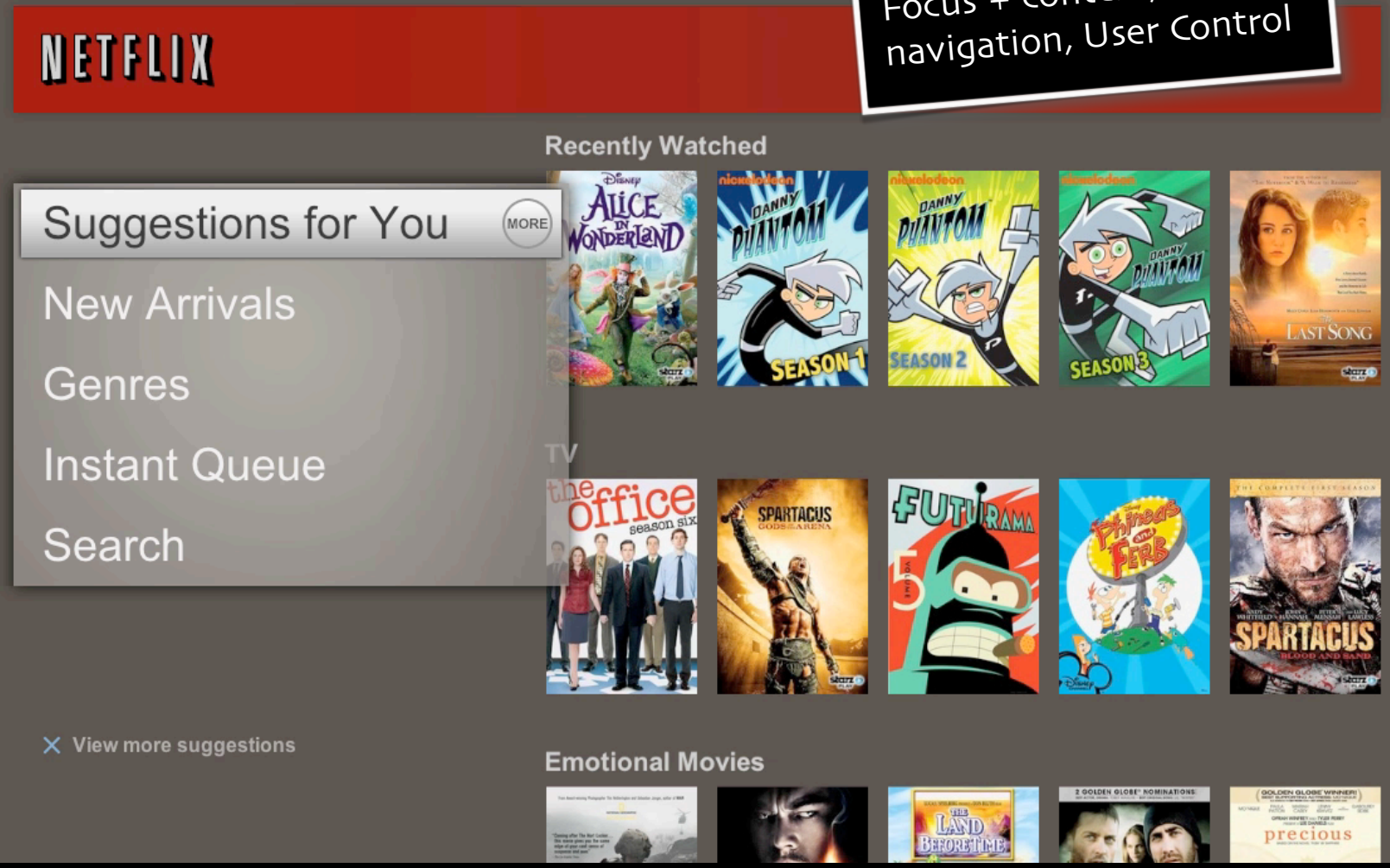
"Special" Experience



"Special" Experience

Principles followed:

Focus + context, Simple navigation, User Control



"Plus" Experience

NETFLIX

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Emotional Dramas

Bella

2006 PG-13 1h 31m

★★★★☆

Two lost souls -- Nina, a pregnant, unmarried waitress, and Jose, an introspective cook with a tragic past -- find solace in each other as their lives become unpredictably linked throughout the course of one incredible day.

Cast: Eduardo Verástegui, Tammy Blanchard...

Categories: Drama, Indie Dramas

Director: Alejandro Gomez Monteverde

"Plus" Experience

Principles followed:

Content is the flow.
Information in Context.
Only 1 experience.

NETFLIX

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Emotional Dramas

2006 PG-13 1h 31m

★★★★☆

Two lost souls -- Nina, a pregnant, unmarried waitress, and Jose, an introspective cook with a tragic past -- find solace in each other as their lives become unpredictably linked throughout the course of one incredible day.

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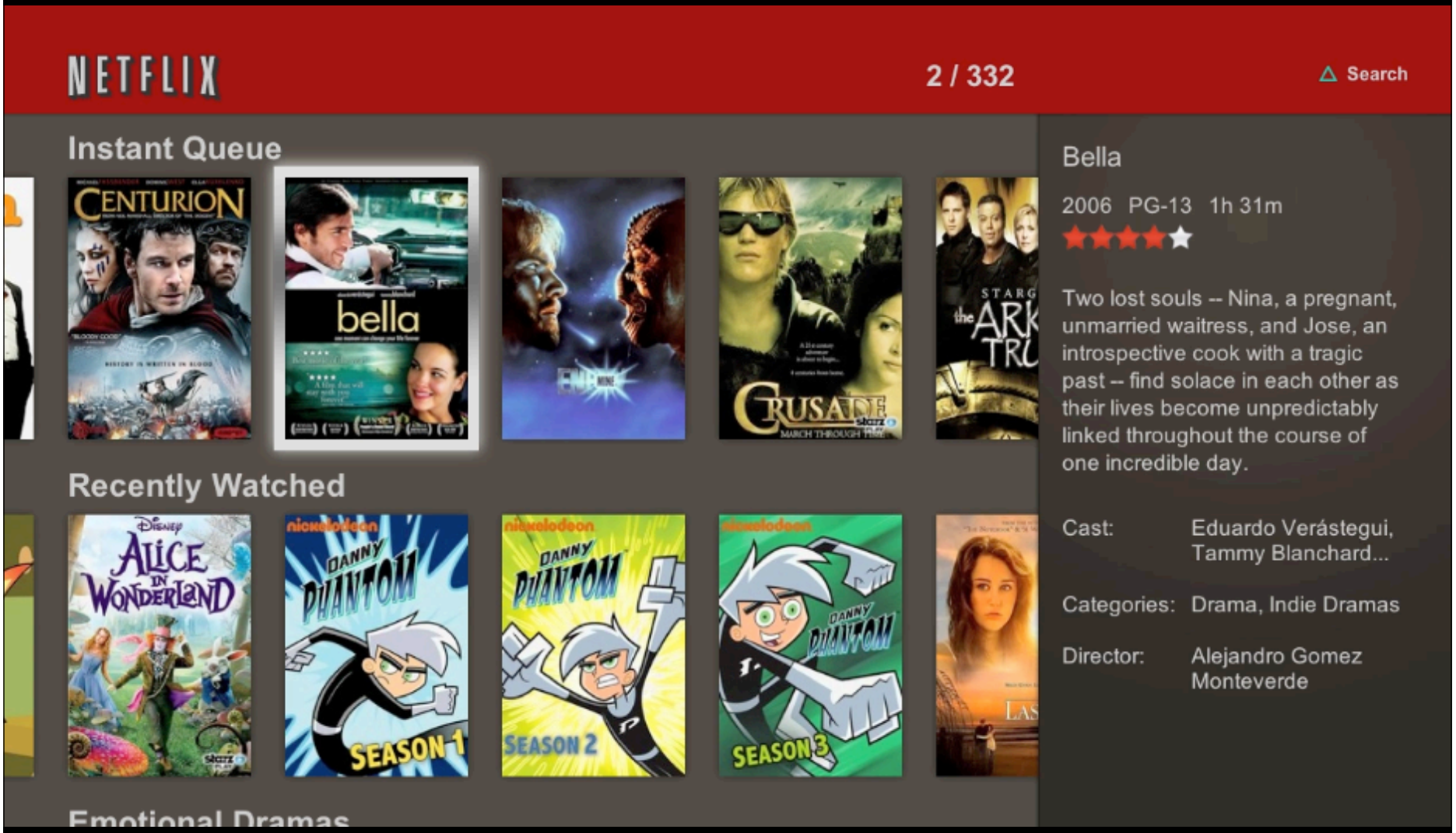
Which Won?

Which Won?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Emotional Dramas
Bella
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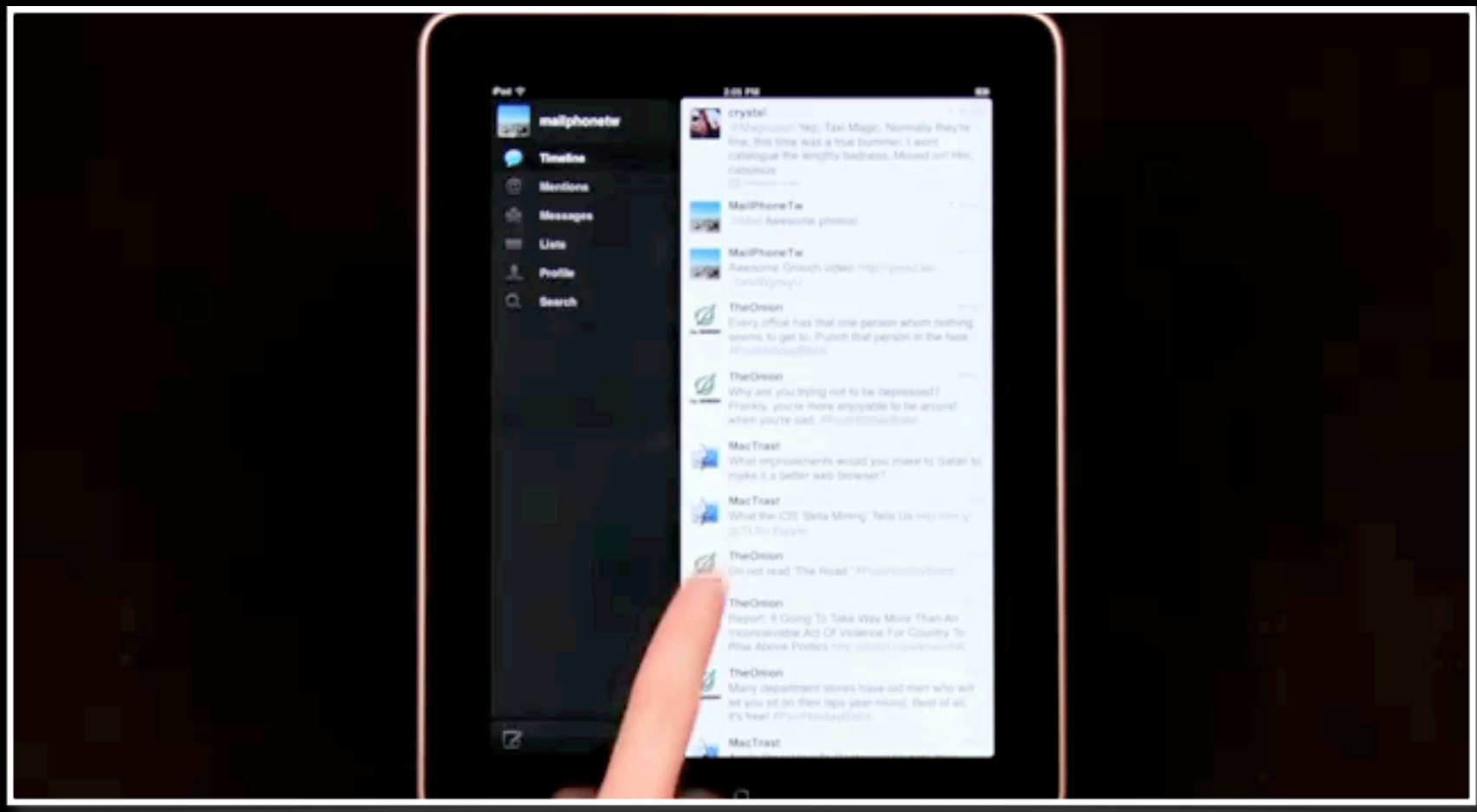
Which Won?

"Plus" experience.

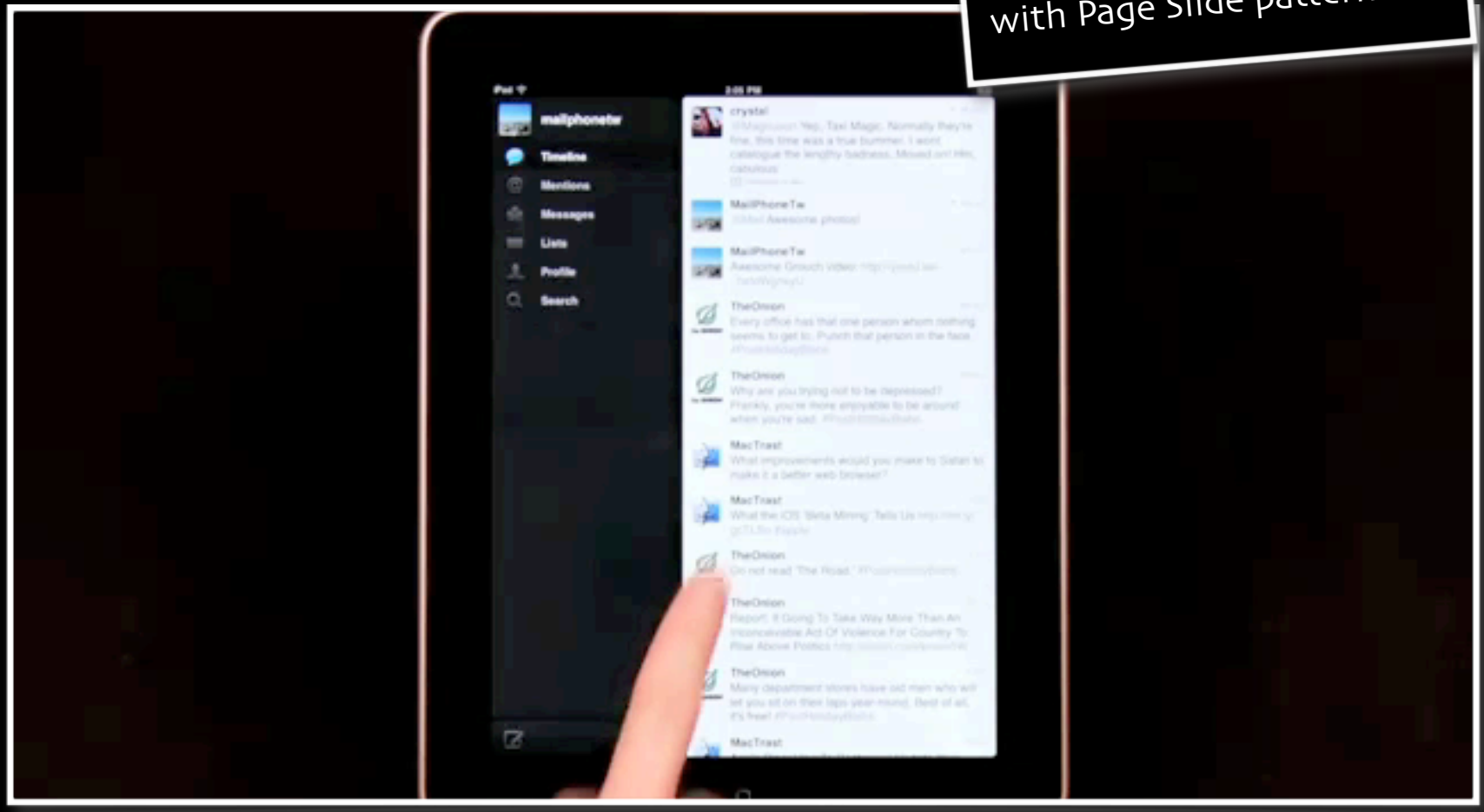
Maintains Flow

Twitter as iPad App

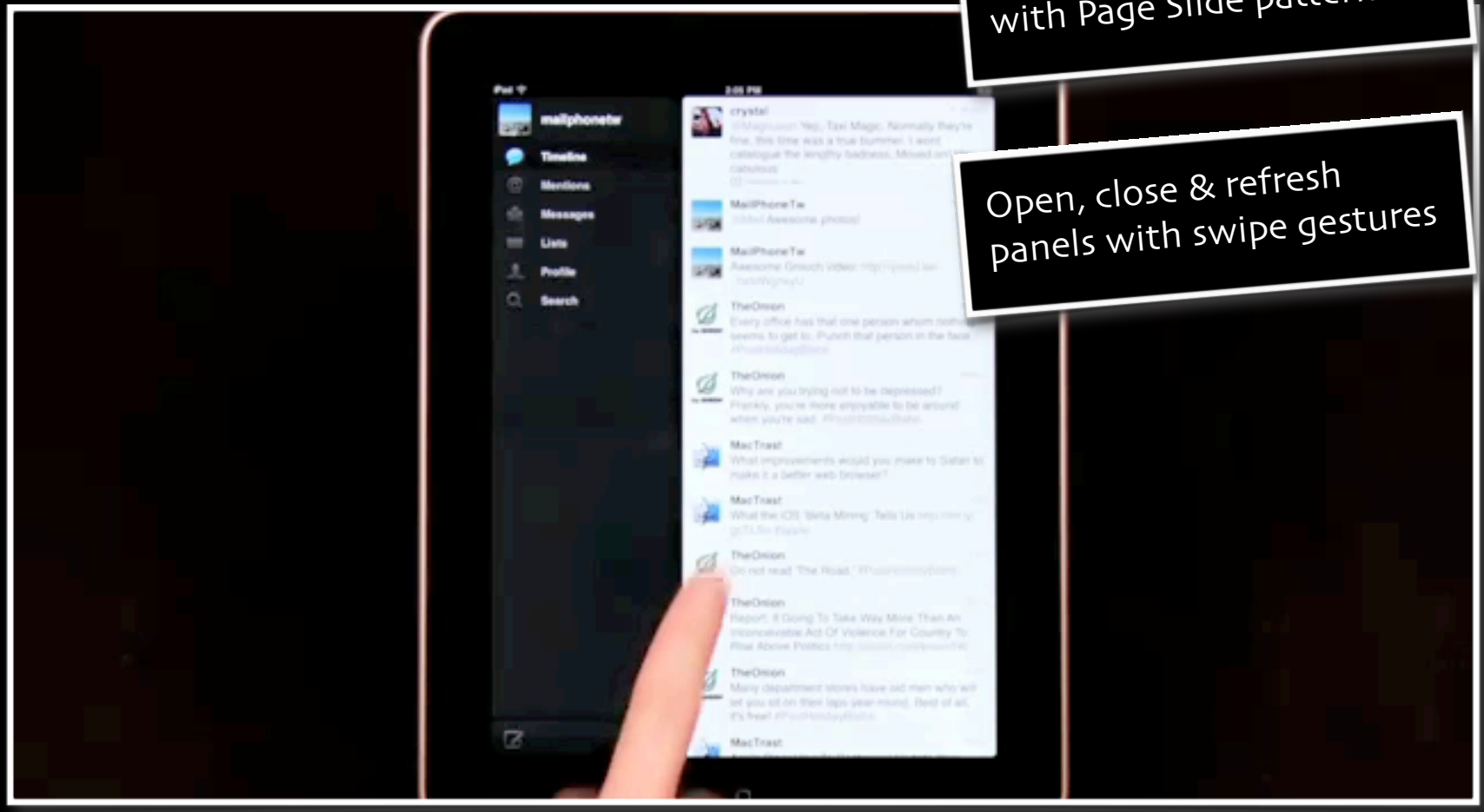


Twitter as iPad App

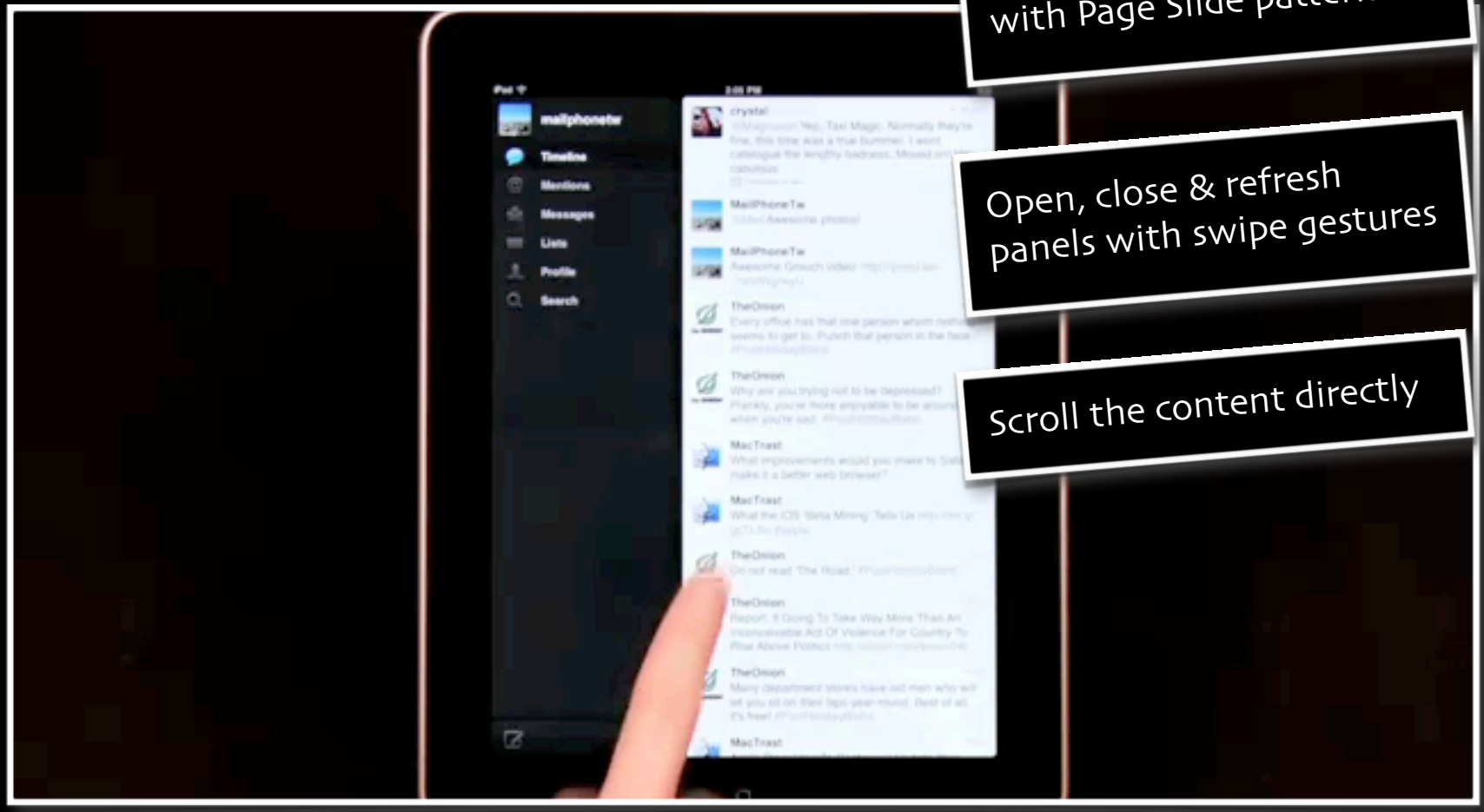
Minimize page transitions with Page Slide pattern



Twitter as iPad App



Twitter as iPad App

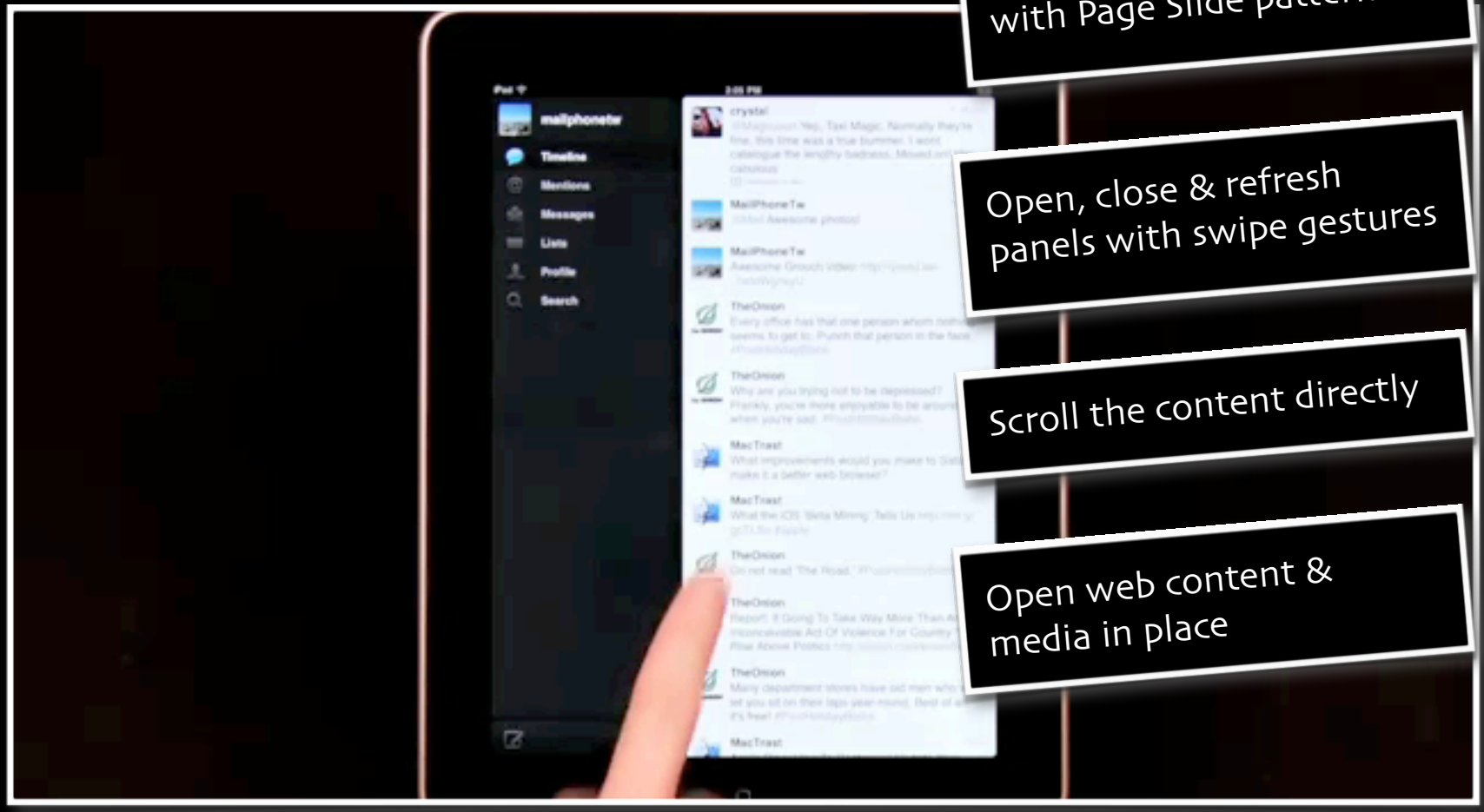


Minimize page transitions with Page Slide pattern

Open, close & refresh panels with swipe gestures

Scroll the content directly

Twitter as iPad App



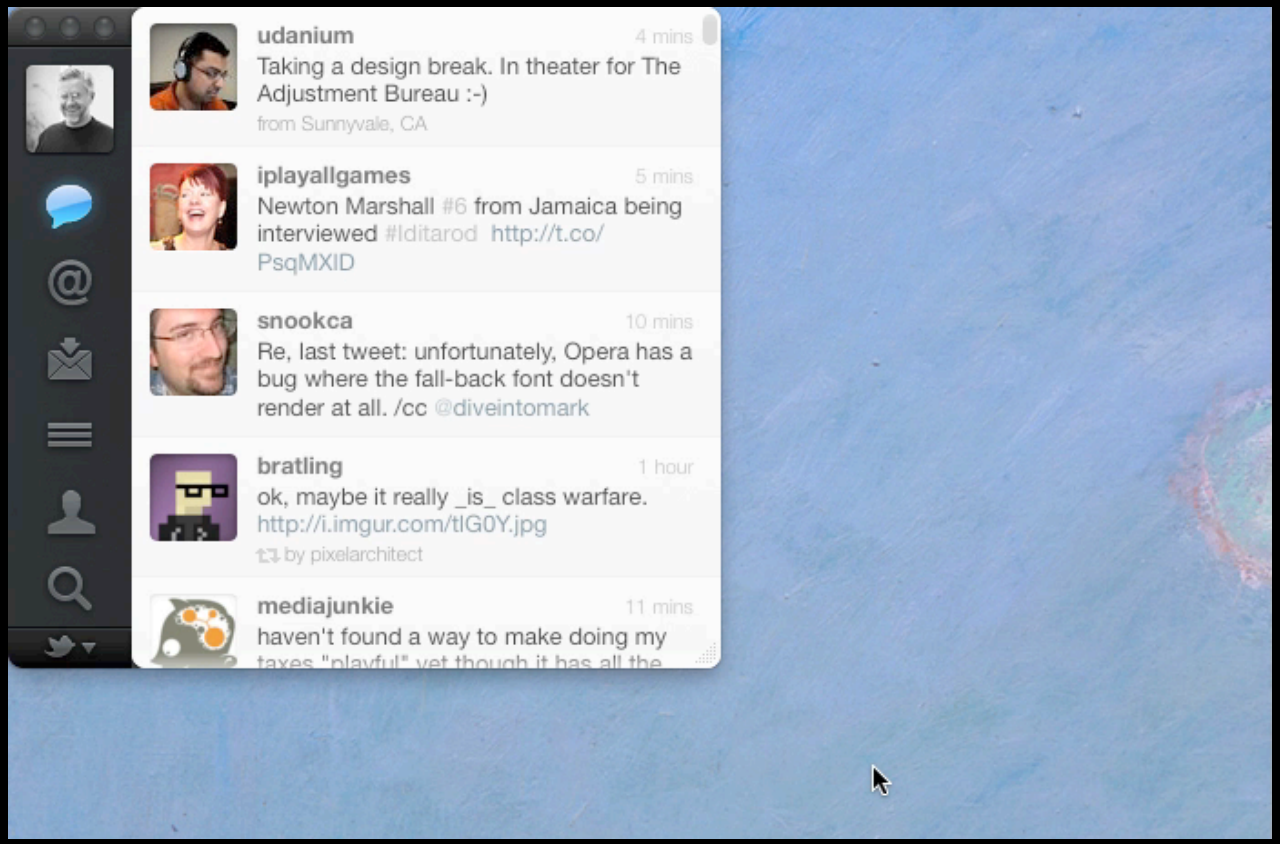
Minimize page transitions with Page Slide pattern

Open, close & refresh panels with swipe gestures

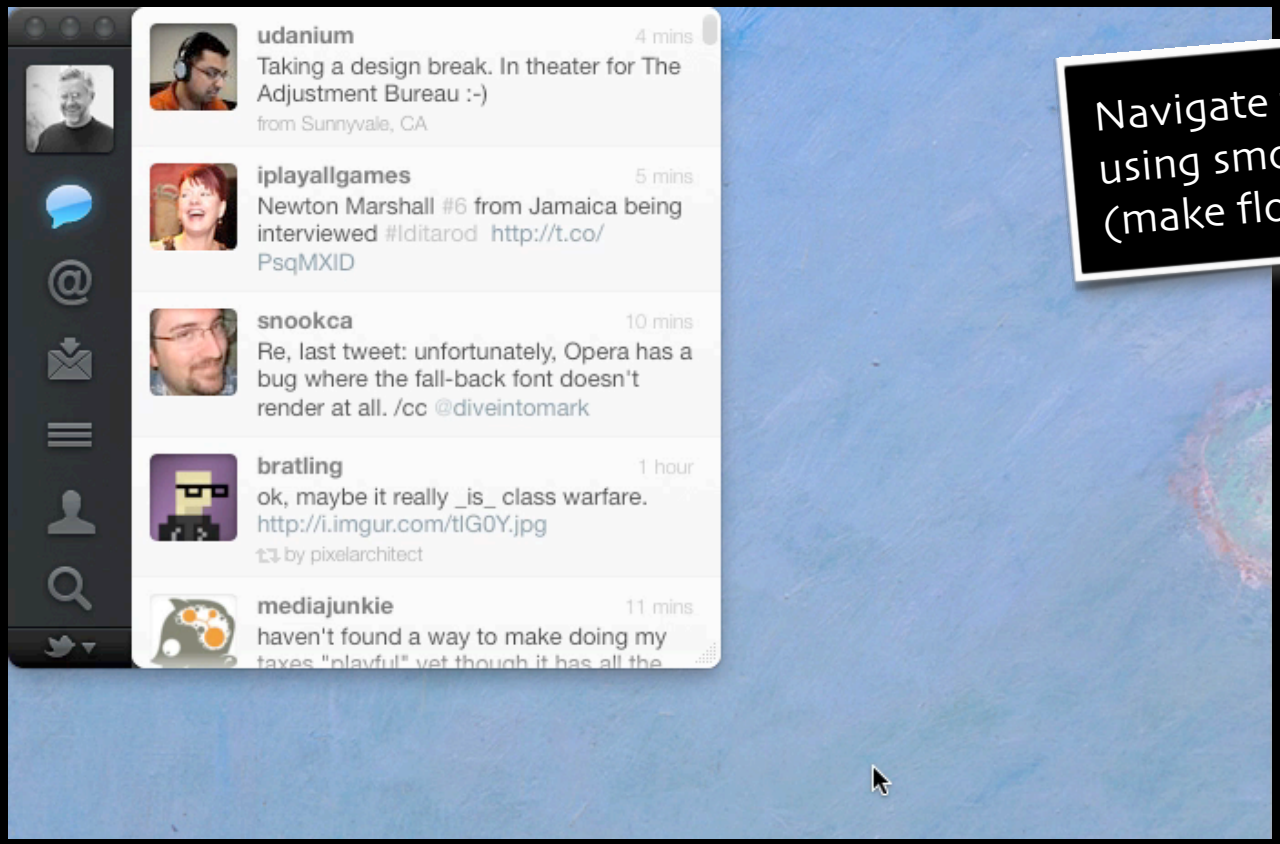
Scroll the content directly

Open web content & media in place

Twitter as Mac App

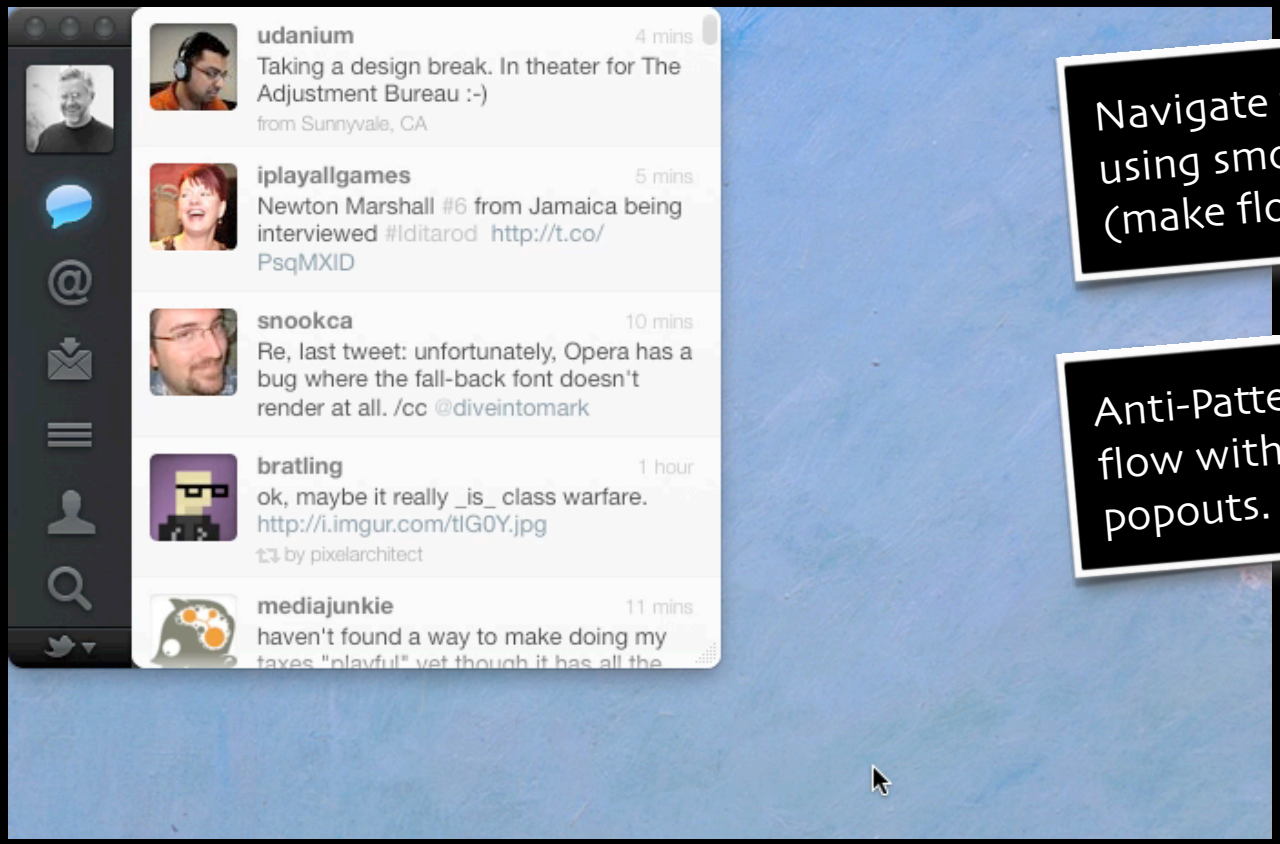


Twitter as Mac App



Navigate to other areas using smooth transitions (make flow visible)

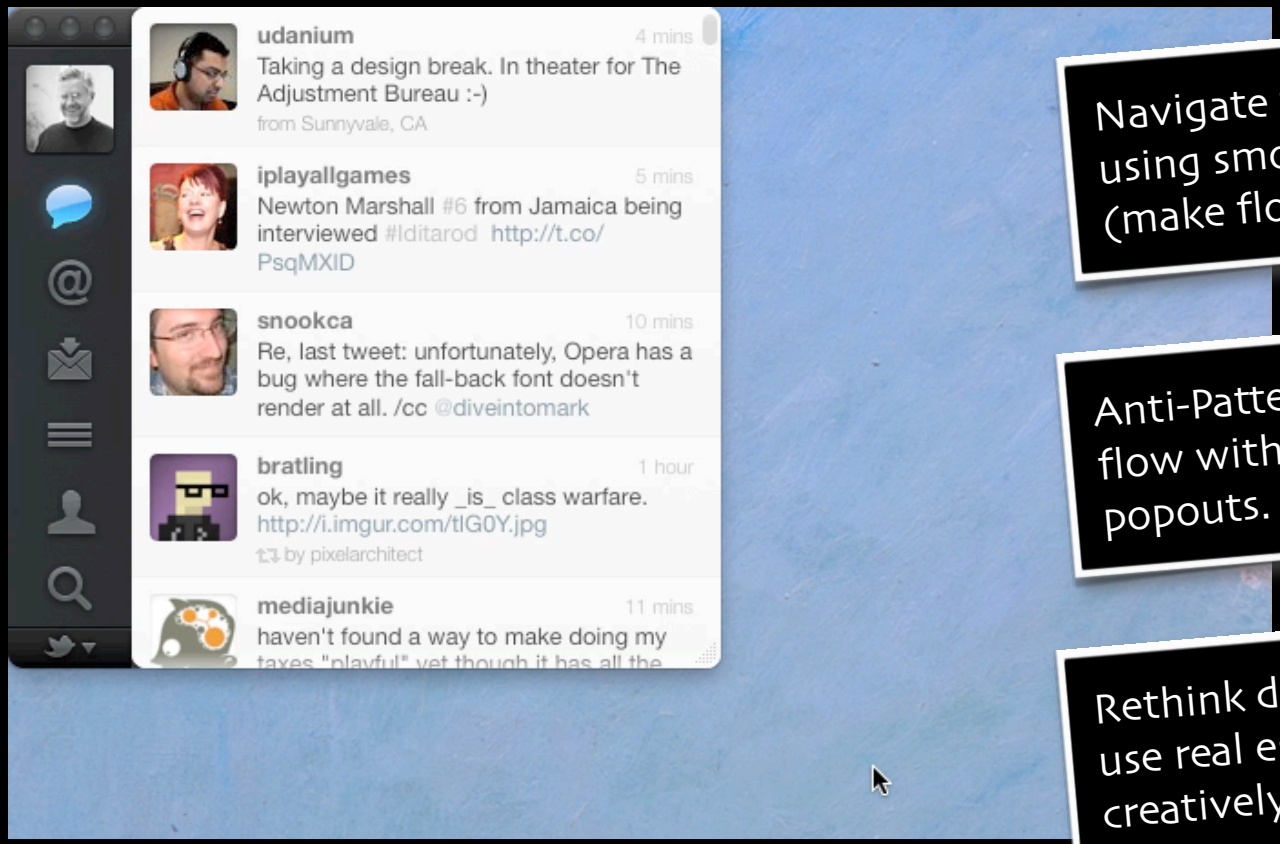
Twitter as Mac App



Navigate to other areas using smooth transitions (make flow visible)

Anti-Pattern: breaking the flow with menus & popouts.

Twitter as Mac App

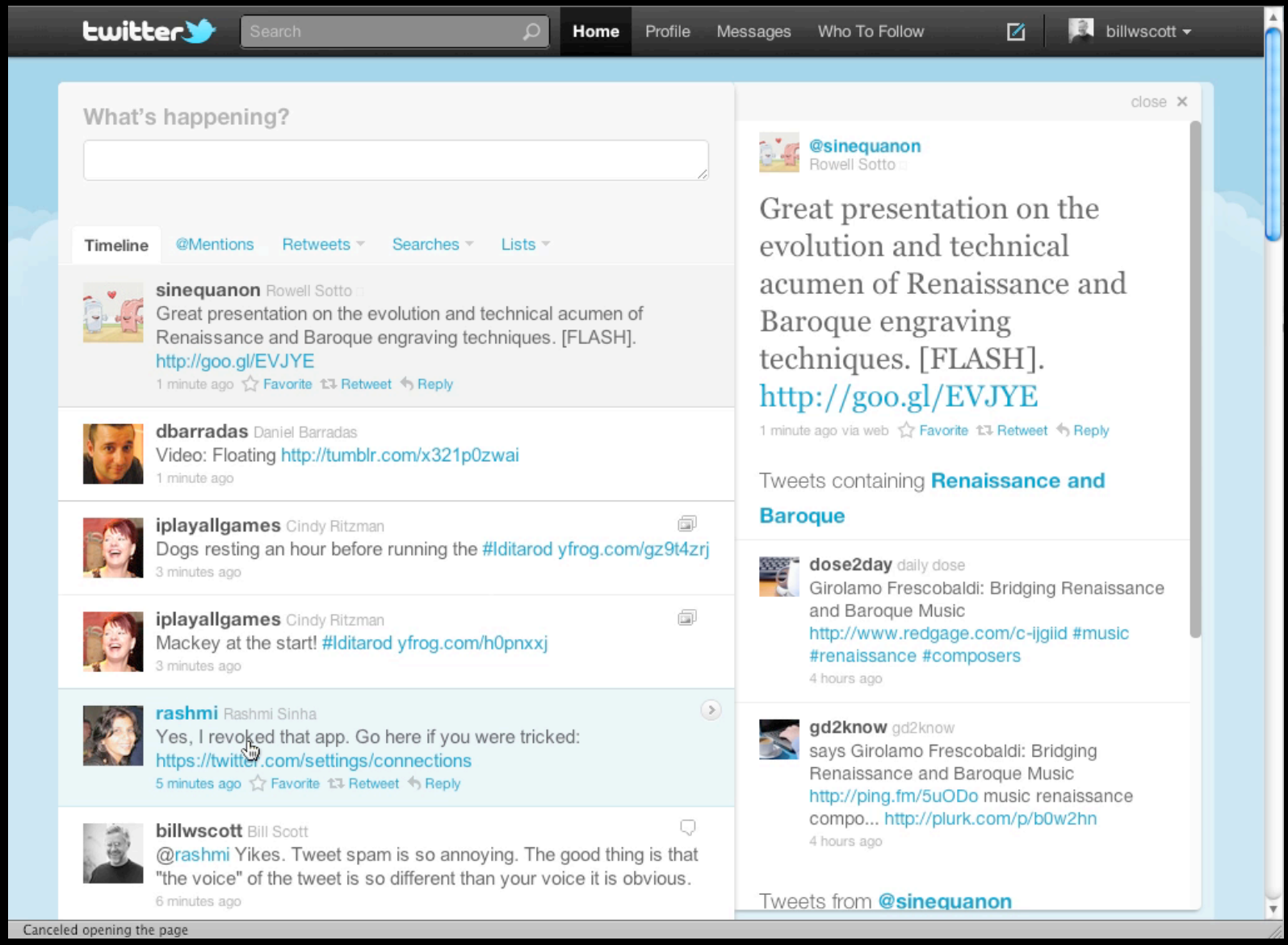


Navigate to other areas using smooth transitions (make flow visible)

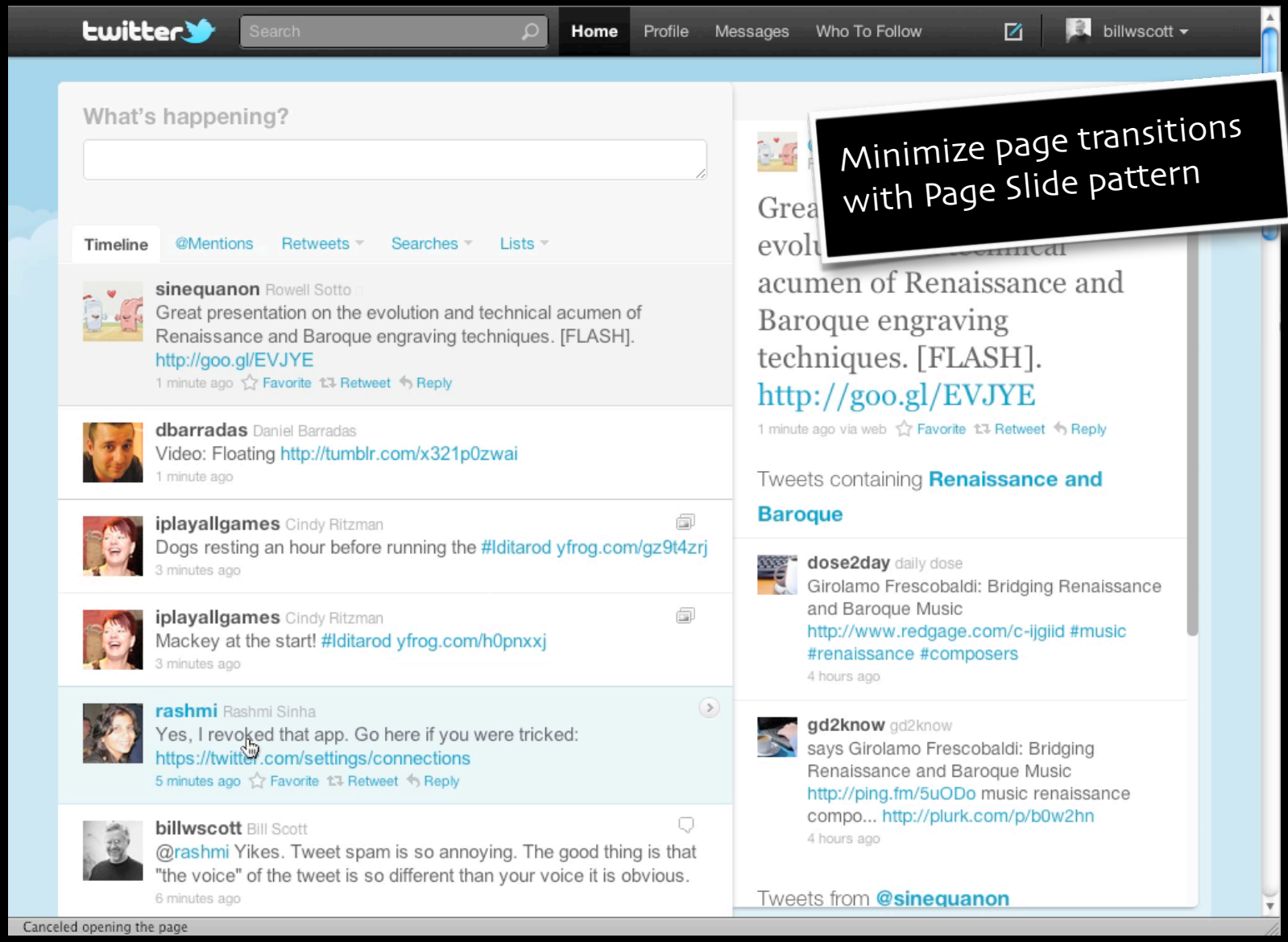
Anti-Pattern: breaking the flow with menus & popouts.

Rethink desktop apps to use real estate more creatively

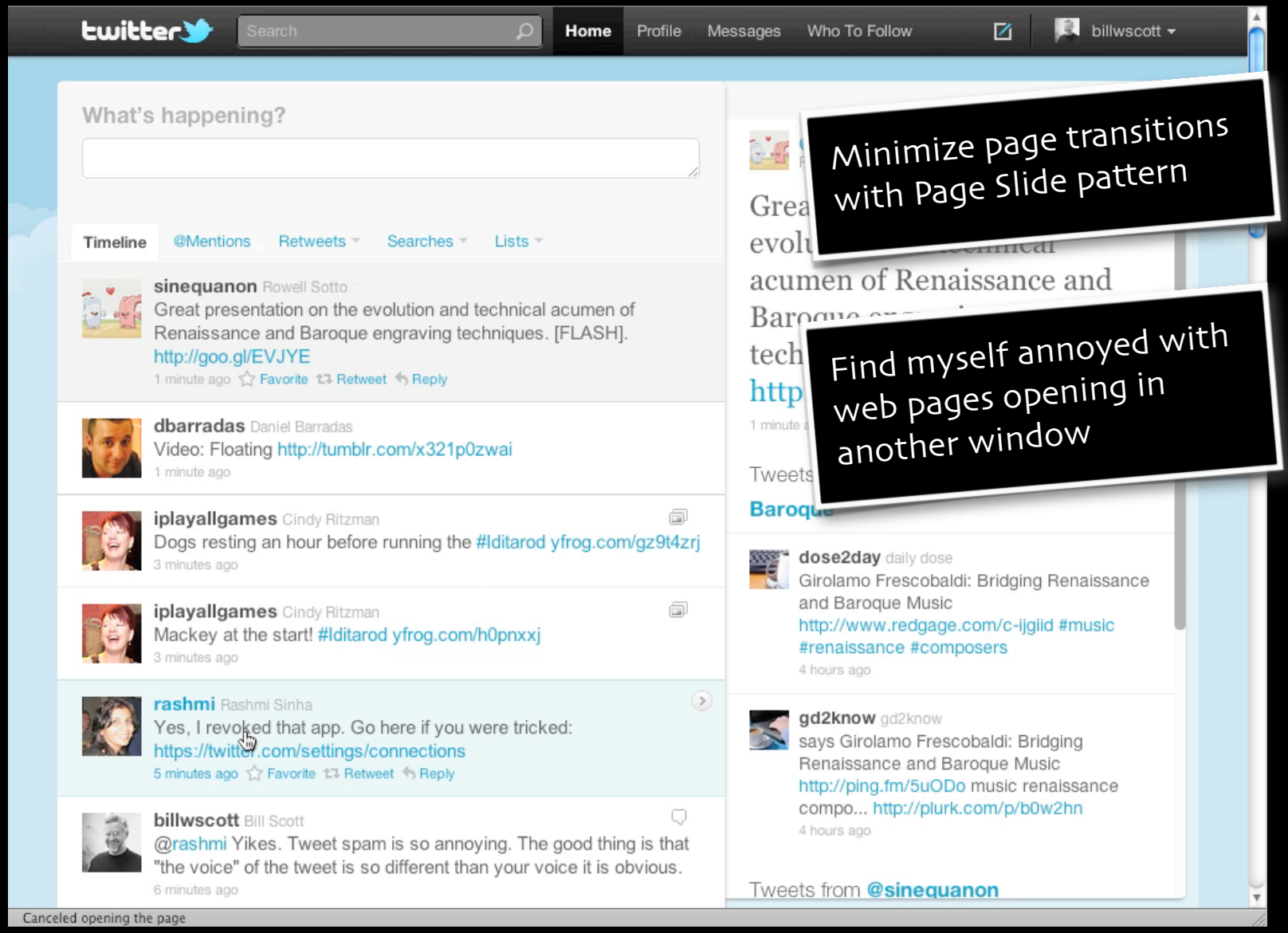
Twitter as Web App



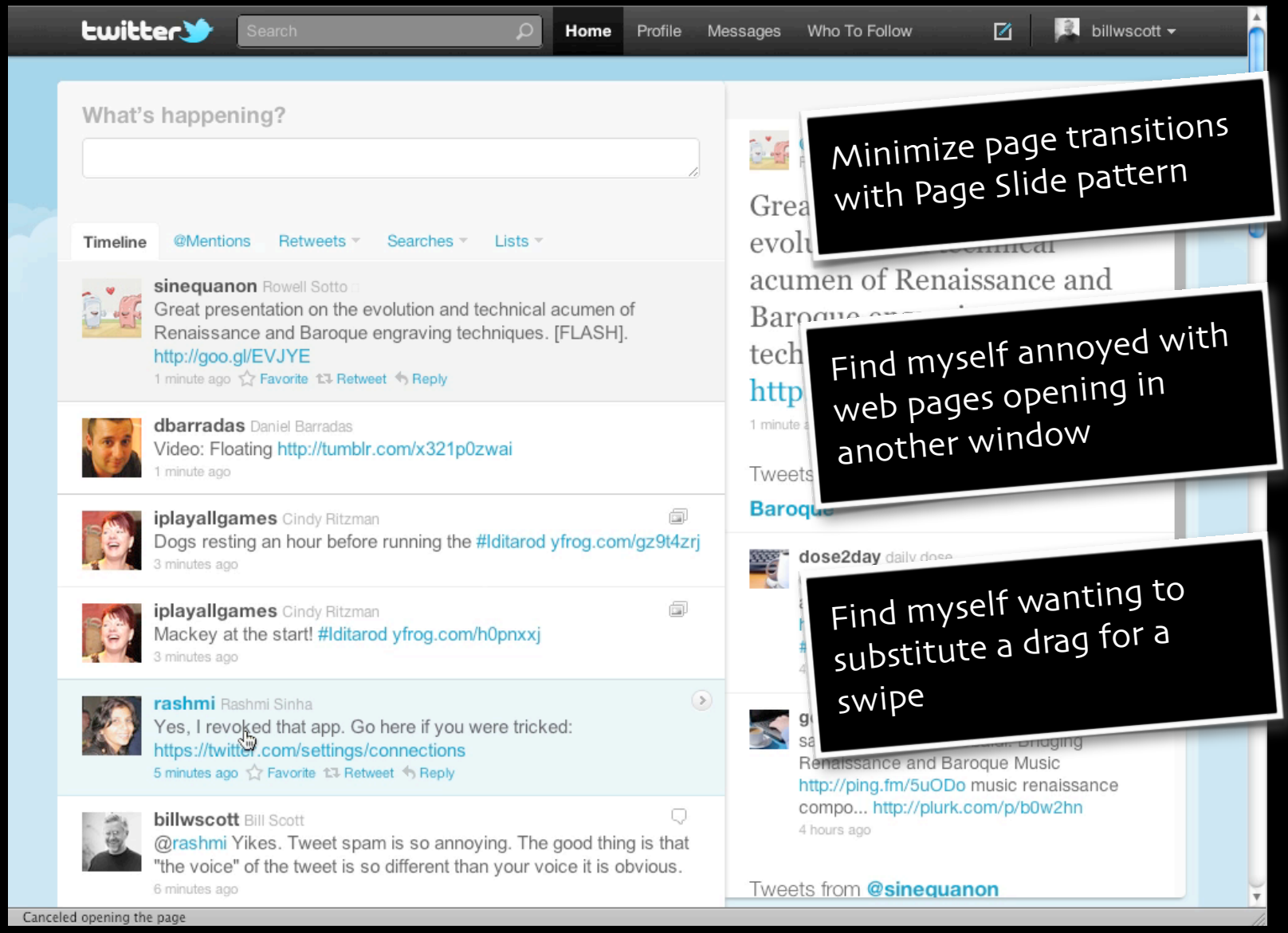
Twitter as Web App



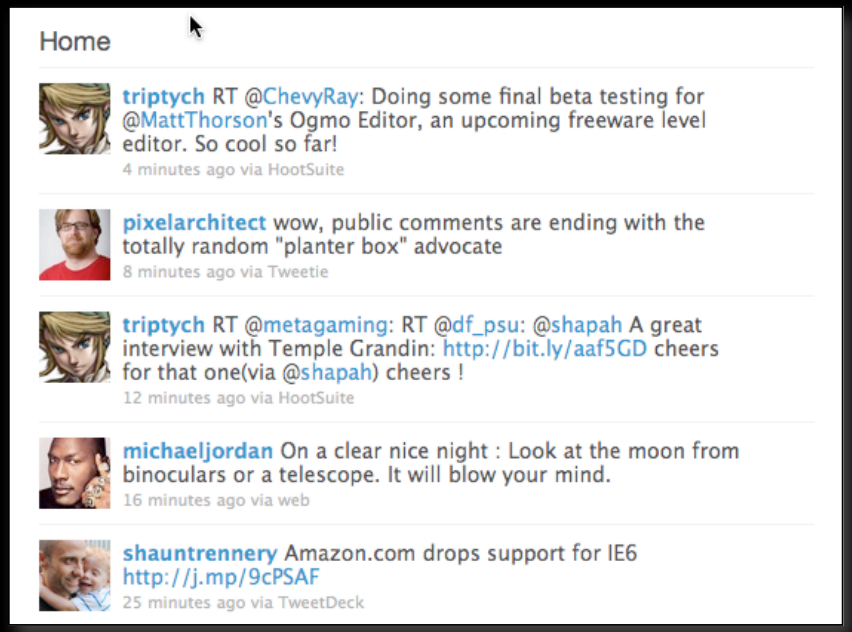
Twitter as Web App



Twitter as Web App



Vs Hover & Cover



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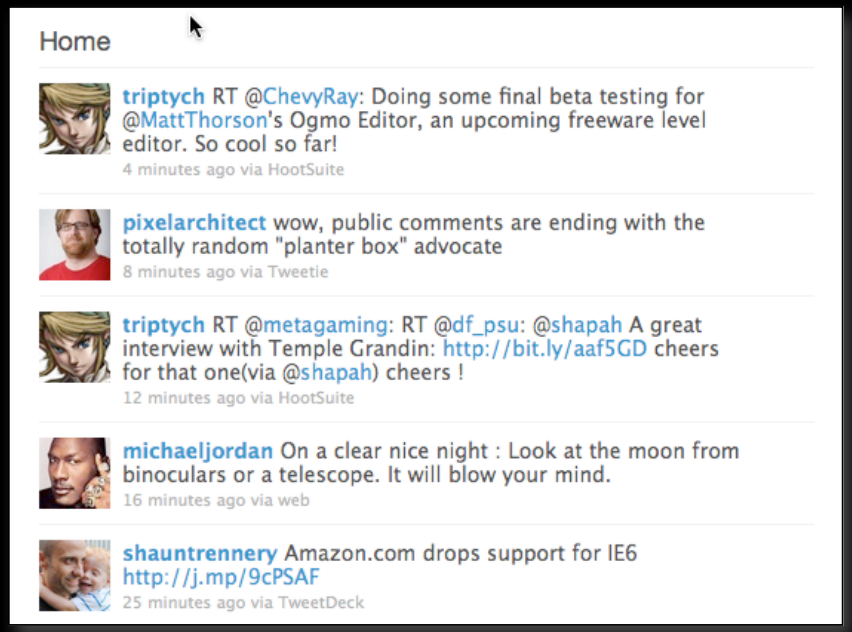
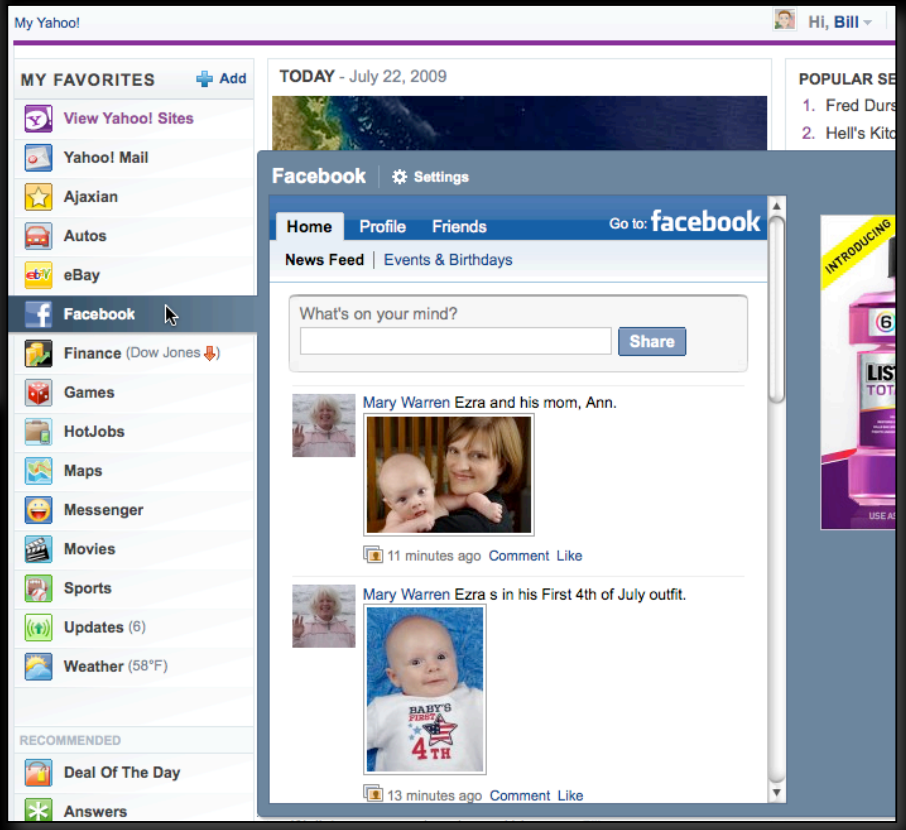
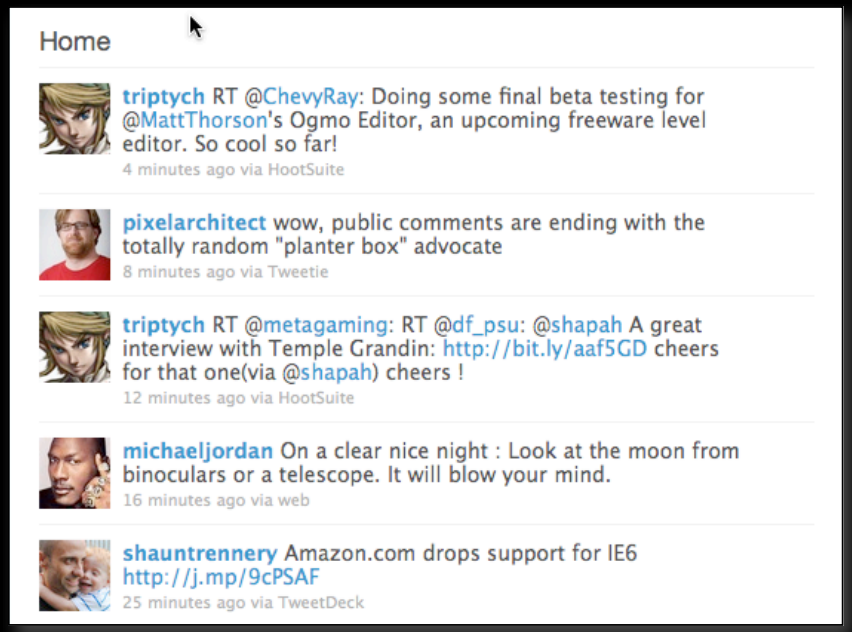
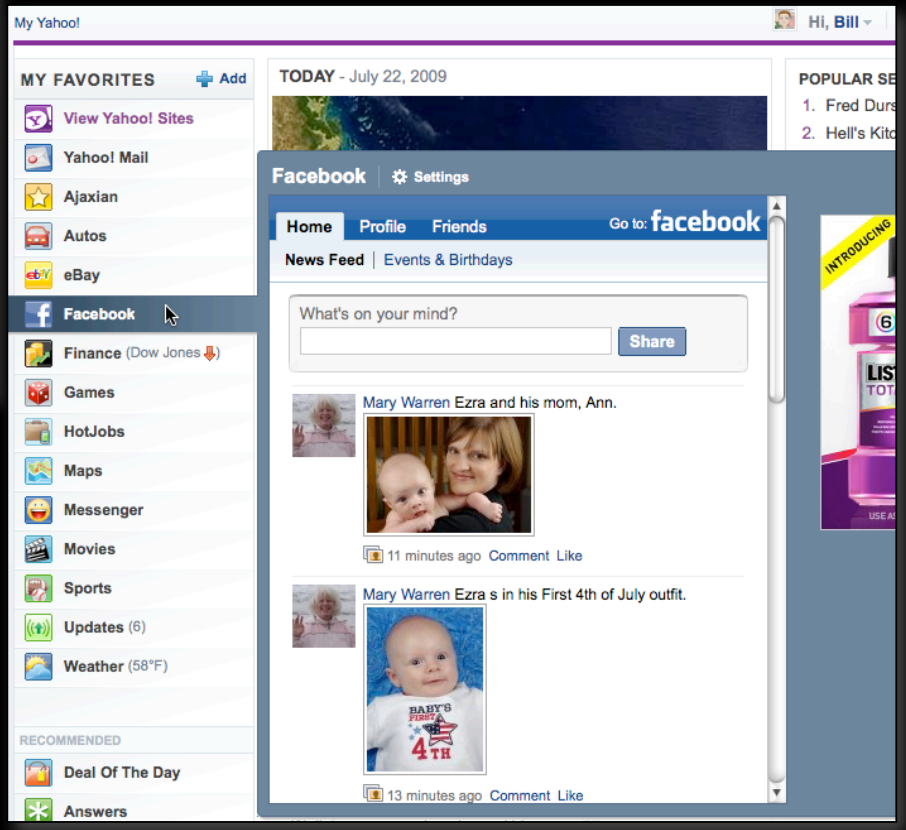




Vs Hover & Cover

Where possible replace annoying hover details with dedicated detail panes





Keep Navigation Simple to Maintain Flow

Mobile Navigation

Mobile Navigation

Mobile Navigation

Three types of iPhone navigation: Flat, Tab, Tree

- Jeff Clark (Tapworthy)

Mobile Navigation

Three types of iPhone navigation: Flat, Tab, Tree

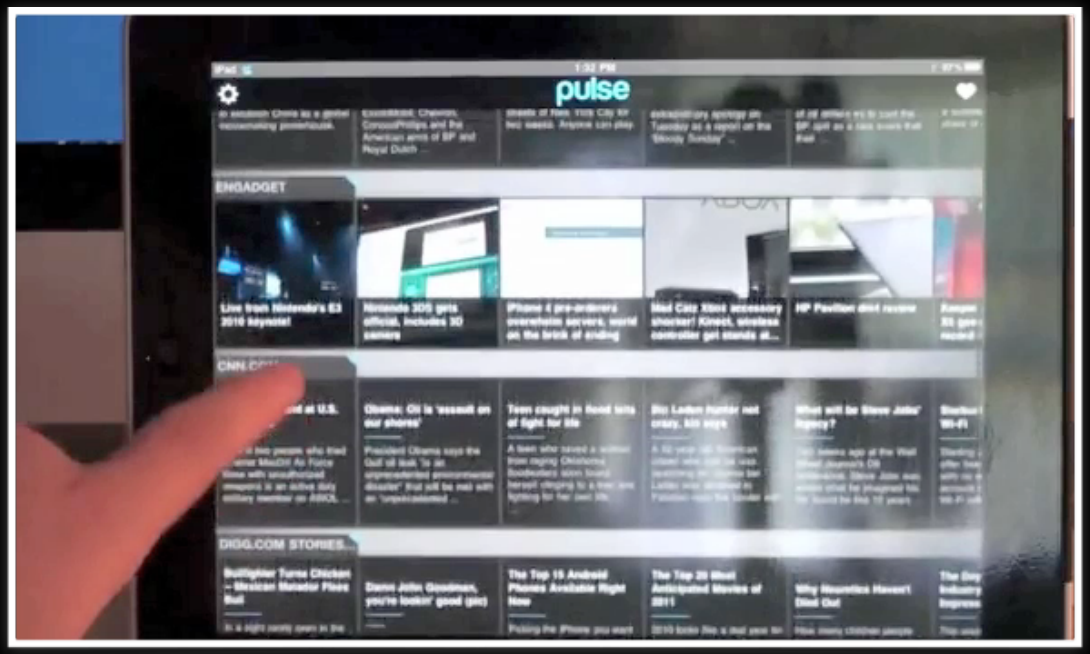
- Jeff Clark (Tapworthy)

Gowalla: Tab + Flat

- Jeff Clark (Tapworthy)

Source: Tapworthy by Josh Clark

Pulse & Flipboard iPad Apps



Pulse & Flipboard iPad Apps

Maintaining Flow Across Platforms

	Navigation
Web	Page, Tab, Back Button
Mobile	Flat, Tab & Tree. 1 level back.
Tablet	Flat, Tab, Master/Detail. 1 level-back
TV	Flat, Tab, Tree, Master/Detail

Maintaining Flow Across Platforms

	Navigation	Paging
Web	Page, Tab, Back Button	When page content changes or step by step flow Avoid too many page changes
Mobile	Flat, Tab & Tree. 1 level back.	For content, steps in flow
Tablet	Flat, Tab, Master/Detail. 1 level-back	Swiping through pages Avoid too many page changes
TV	Flat, Tab, Tree, Master/Detail	When page content changes or step by step flow

Maintaining Flow Across Platforms

	Navigation	Paging	Scrolling
Web	Page, Tab, Back Button	When page content changes or step by step flow Avoid too many page changes	Better than paging (easier on web than on touch)
Mobile	Flat, Tab & Tree. 1 level back.	For content, steps in flow	Question scrolling, prefer Flat
Tablet	Flat, Tab, Master/Detail. 1 level-back	Swiping through pages Avoid too many page changes	Short scrolling or for Sliding content
TV	Flat, Tab, Tree, Master/Detail	When page content changes or step by step flow	Avoid

Maintaining Flow Across Platforms

	Navigation	Paging	Scrolling	Content Slide
Web	Page, Tab, Back Button	When page content changes or step by step flow Avoid too many page changes	Better than paging (easier on web than on touch)	Carousels for media or short relevancy lists
Mobile	Flat, Tab & Tree. 1 level back.	For content, steps in flow	Question scrolling, prefer Flat	Limit use of in-page sliding content
Tablet	Flat, Tab, Master/Detail. 1 level-back	Swiping through pages Avoid too many page changes	Short scrolling or for Sliding content	Nice way to bring in more in-page content
TV	Flat, Tab, Tree, Master/Detail	When page content changes or step by step flow	Avoid	Avoid

Maintaining Flow Across Platforms

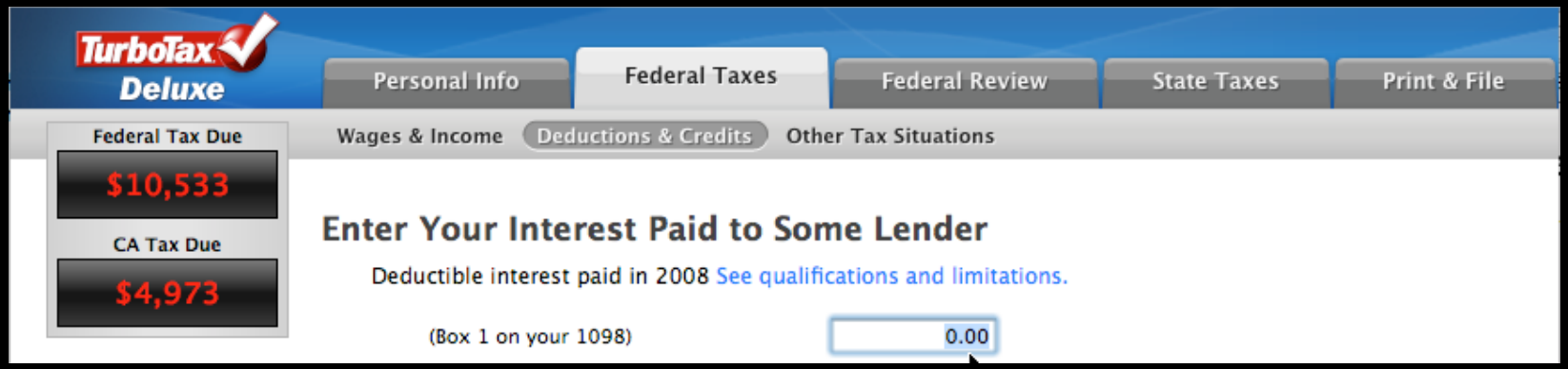
	Navigation	Paging	Scrolling	Content Slide	Panel Slide
Web	Page, Tab, Back Button	When page content changes or step by step flow Avoid too many page changes	Better than paging (easier on web than on touch)	Carousels for media or short relevancy lists	Nice way to extend real estate
Mobile	Flat, Tab & Tree. 1 level back.	For content, steps in flow	Question scrolling, prefer Flat	Limit use of in-page sliding content	Avoid (except as transition to replace page)
Tablet	Flat, Tab, Master/Detail. 1 level-back	Swiping through pages Avoid too many page changes	Short scrolling or for Sliding content	Nice way to bring in more in-page content	Nice way to extend real estate
TV	Flat, Tab, Tree, Master/Detail	When page content changes or step by step flow	Avoid	Avoid	Nice way to extend real estate

#3 Be Responsive

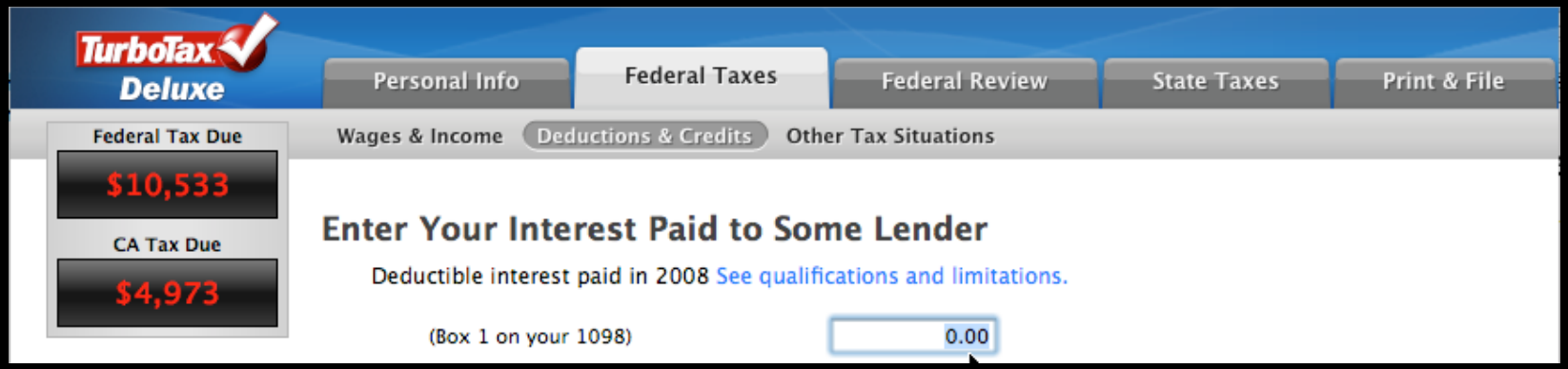
Use Transitions/ Animations to Create Responsiveness

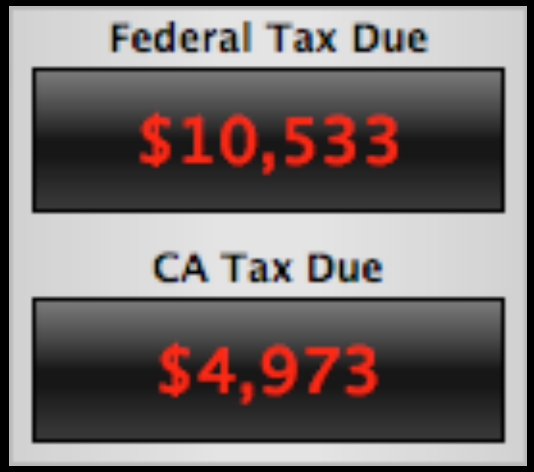
Animation Can...

Animation Can...

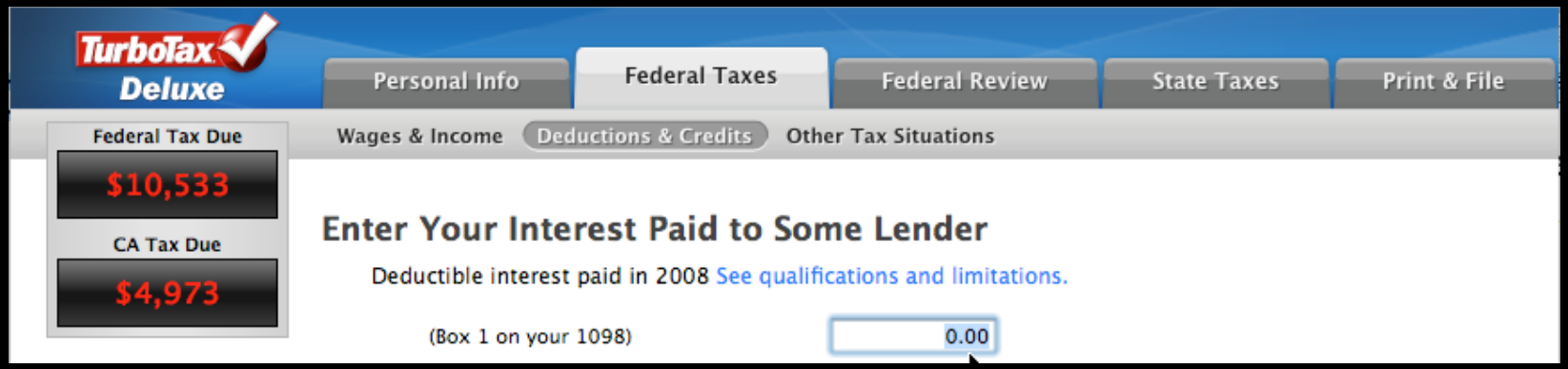


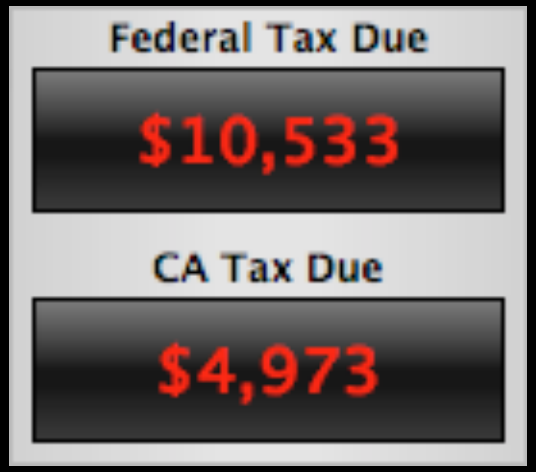
Animation Can...





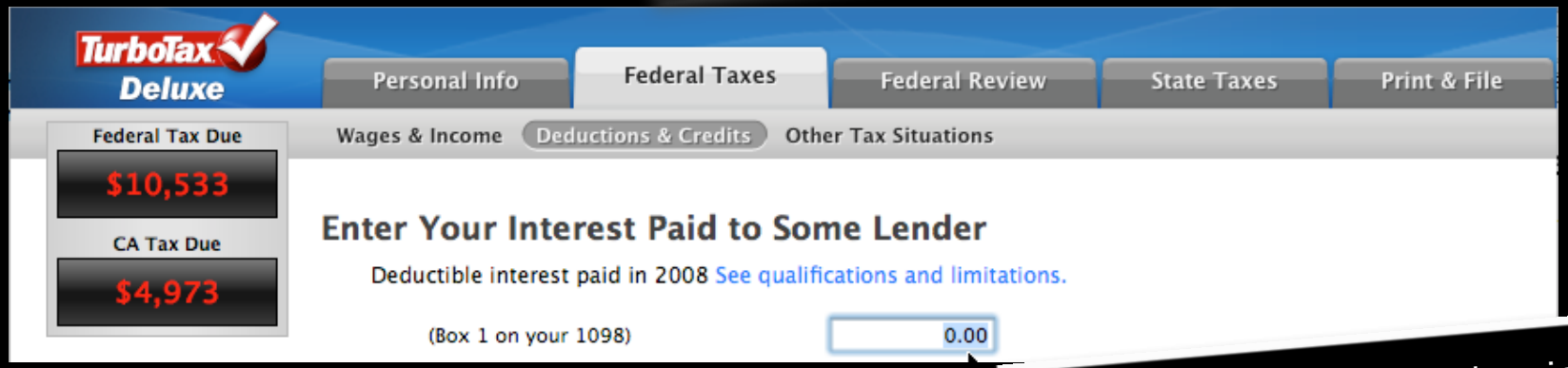
Animation Can...





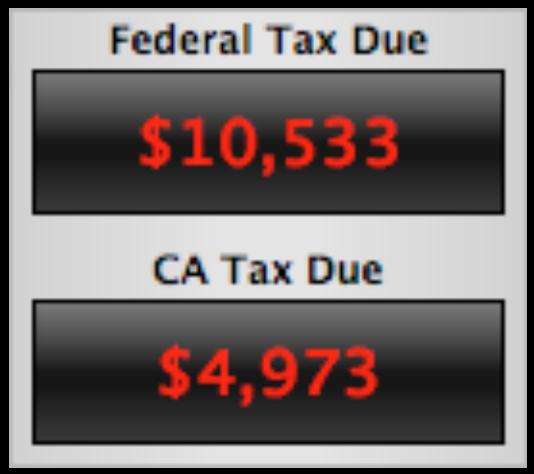
Animation Can...

Be really, really annoying



What can be done with less is done in vain with more.

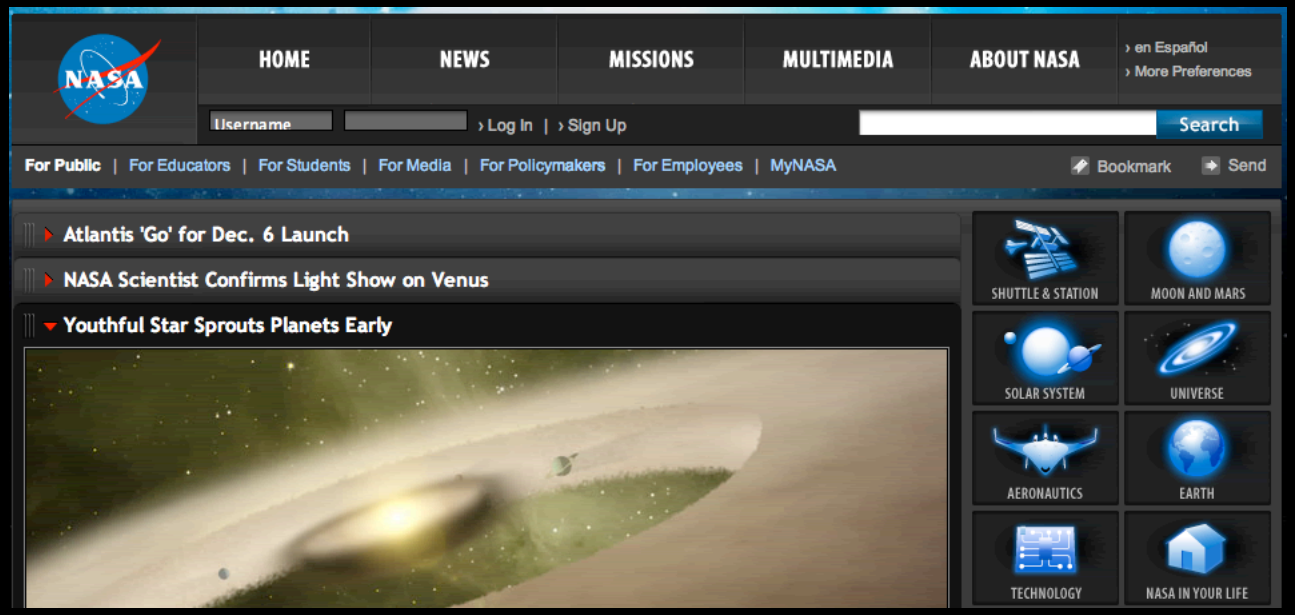
- Occam



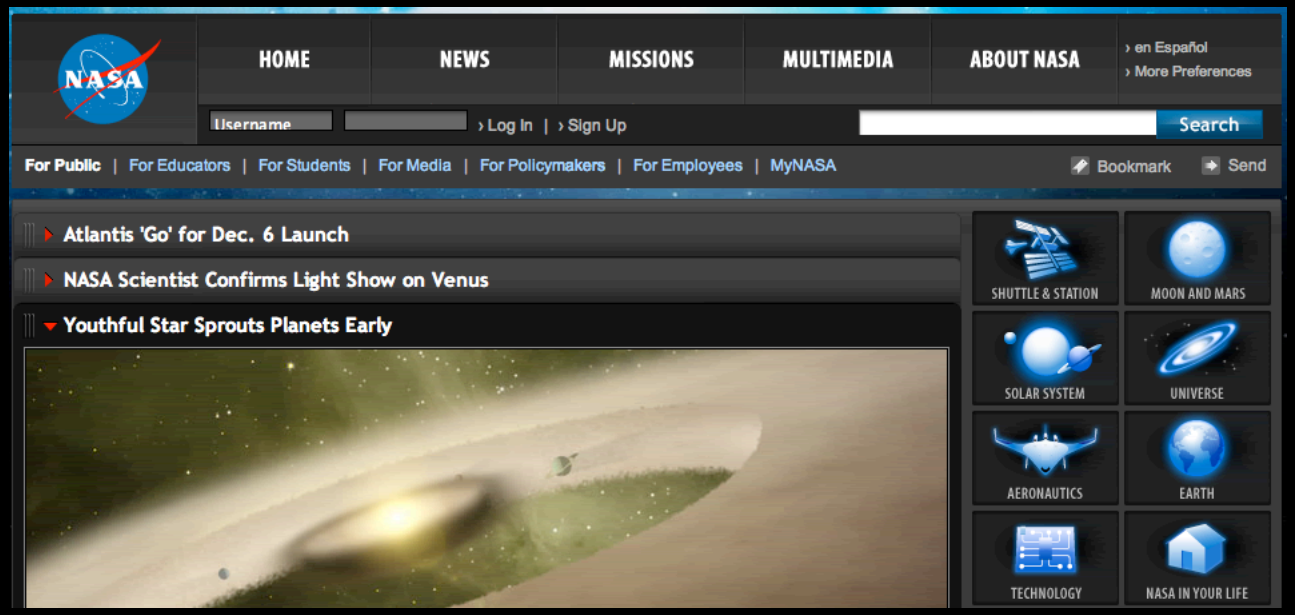
Make all visual distinctions as subtle as possible, but still clear and effective.

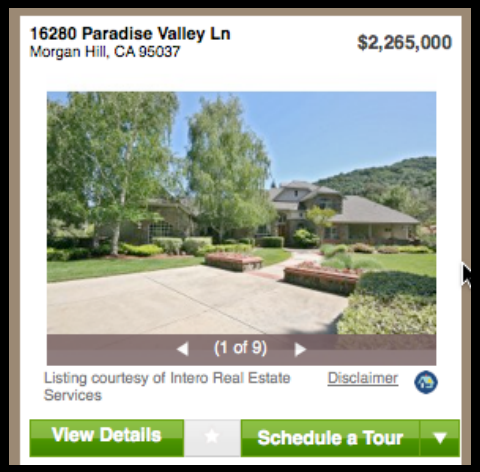
- Tufte "Smallest Effective Difference"

Web Apps Seem Prone to This



Web Apps Seem Prone to This





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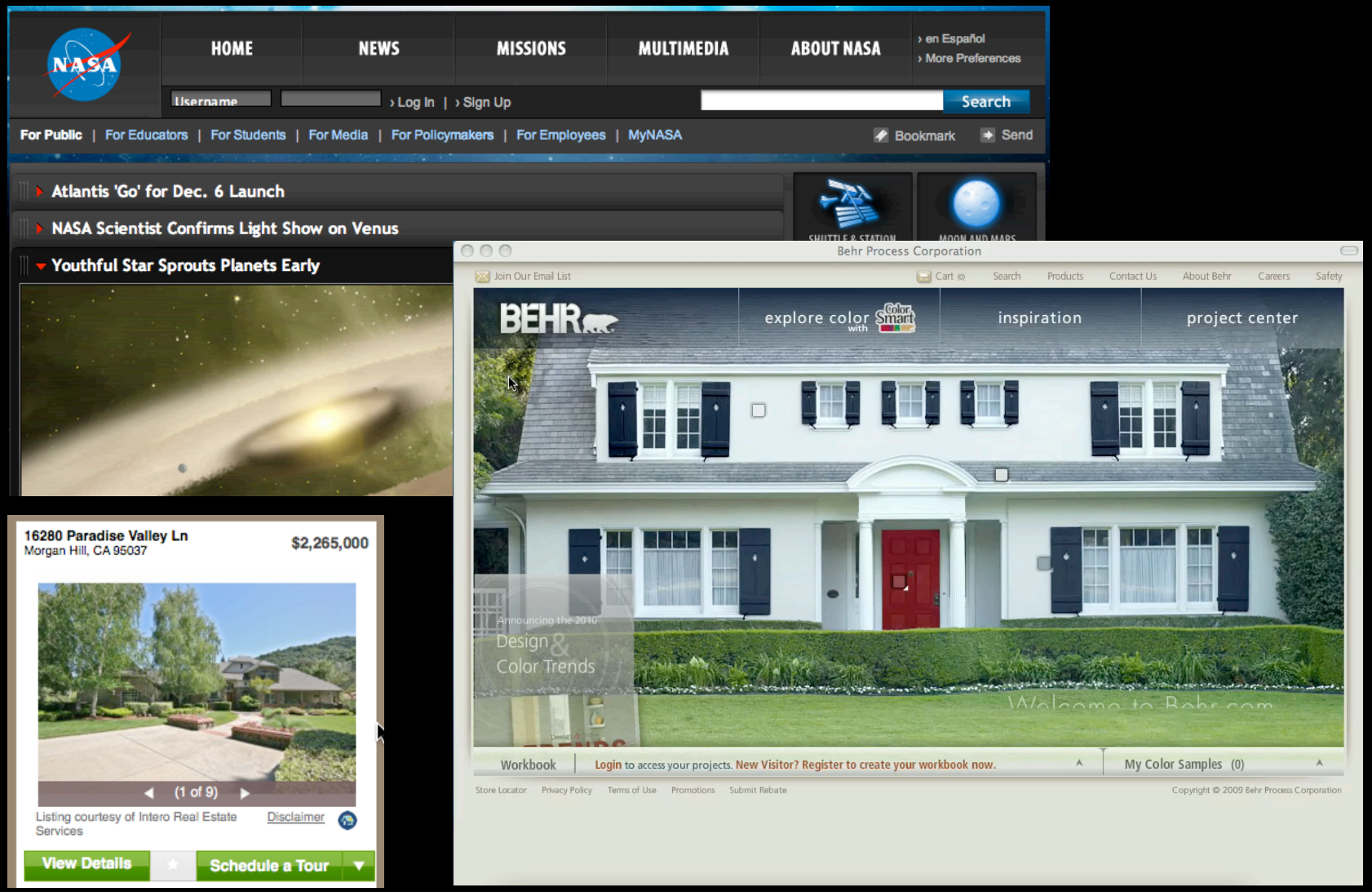
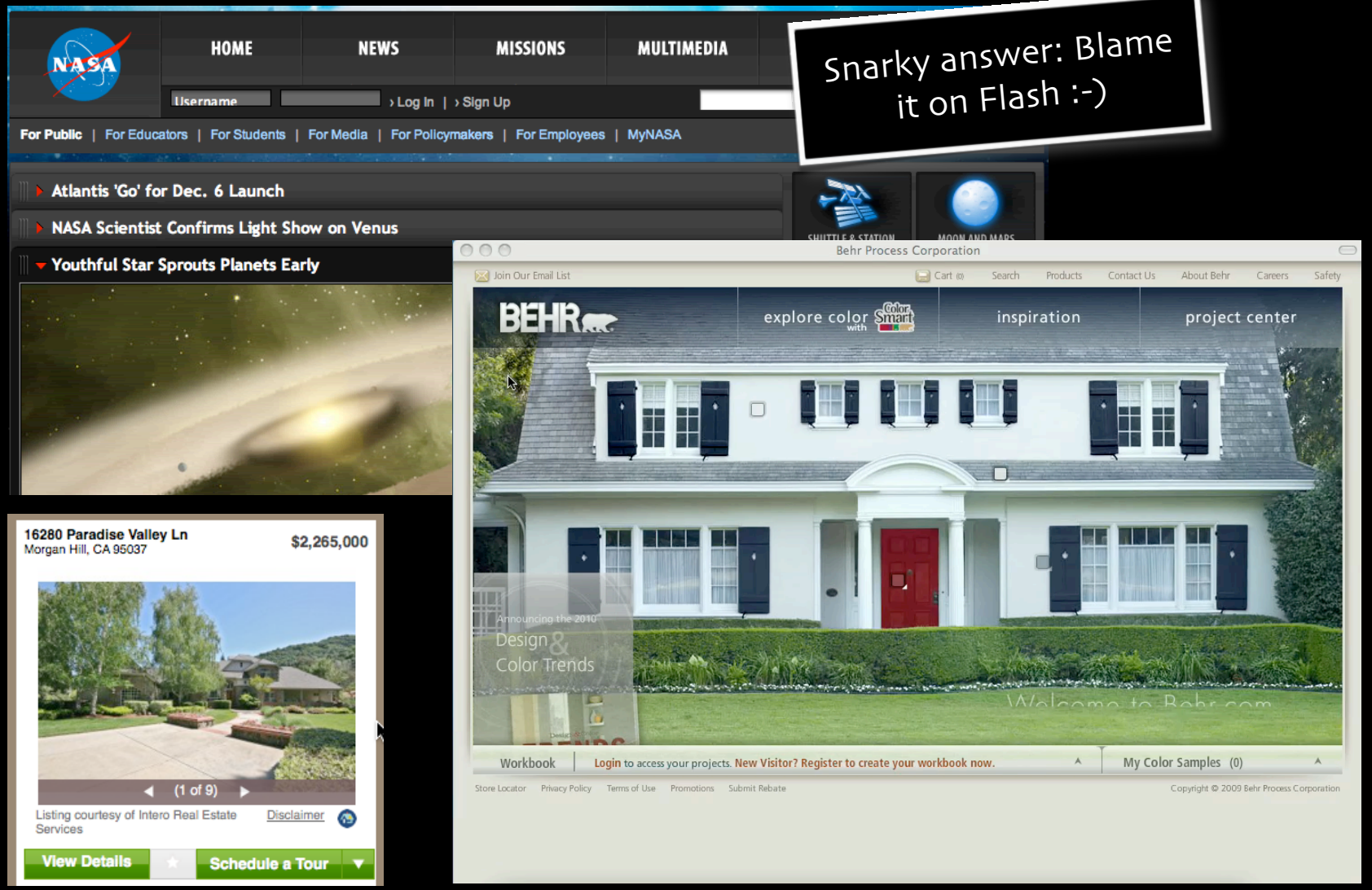
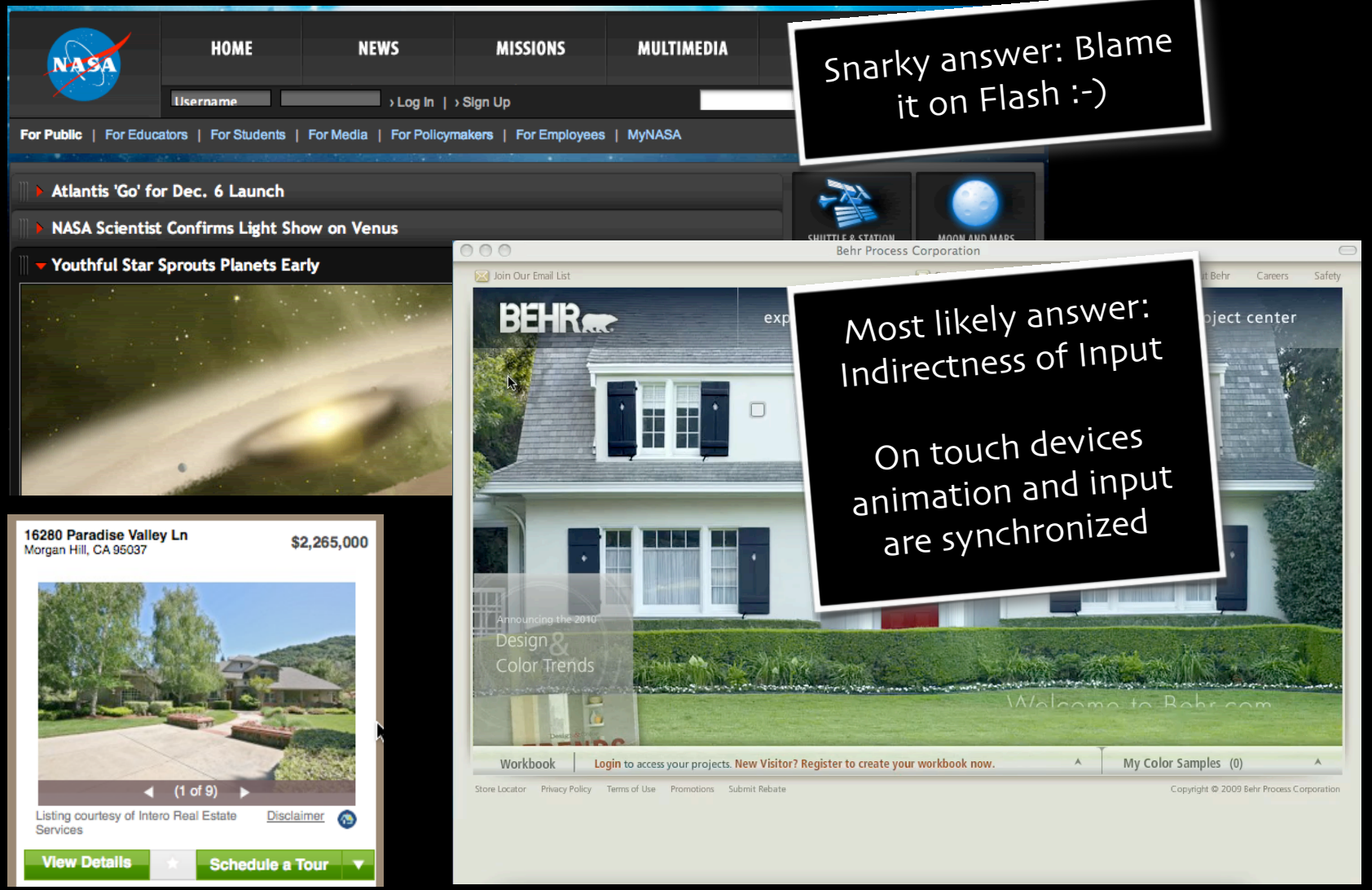


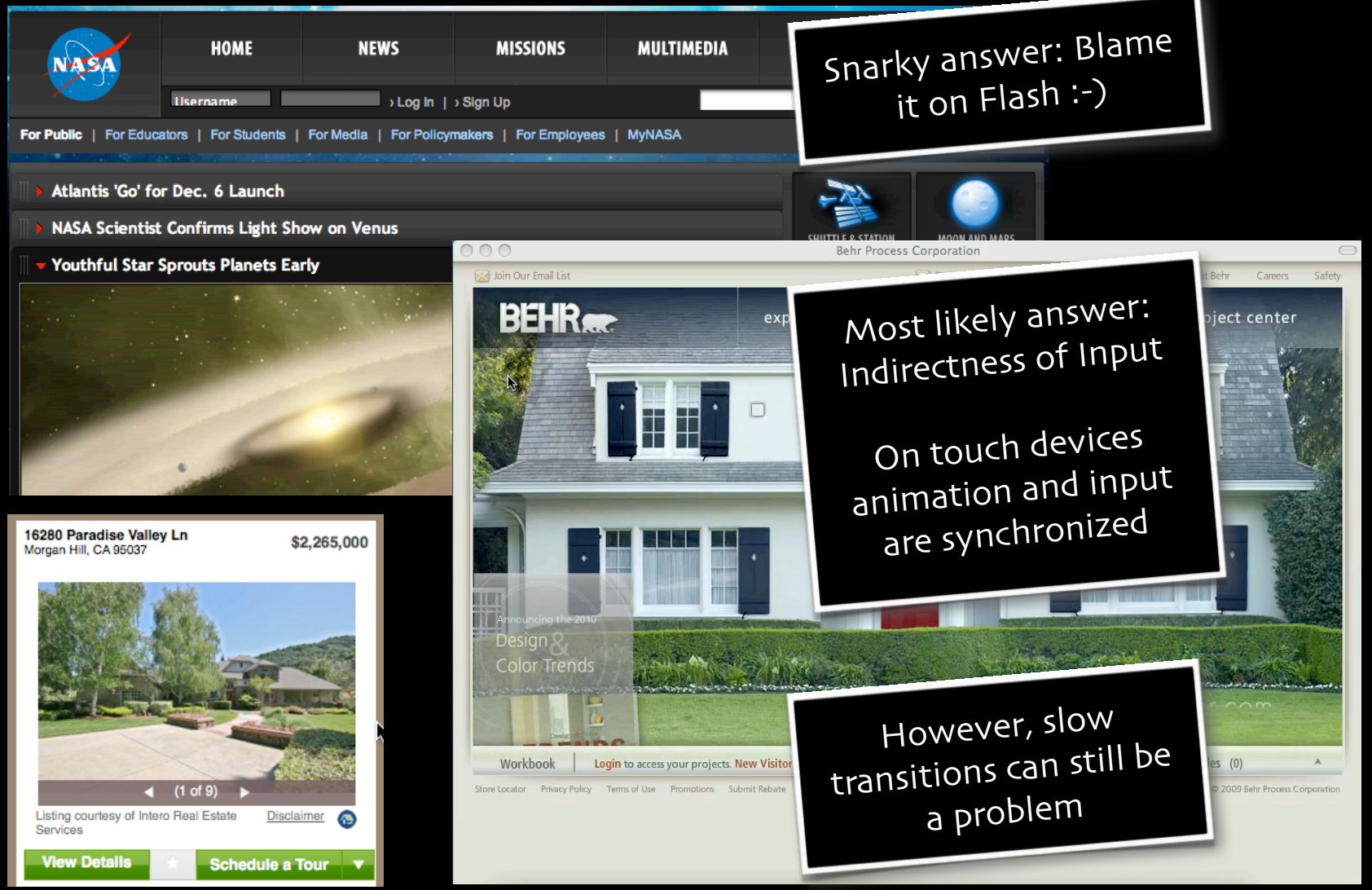
Web Apps Seem Prone to This



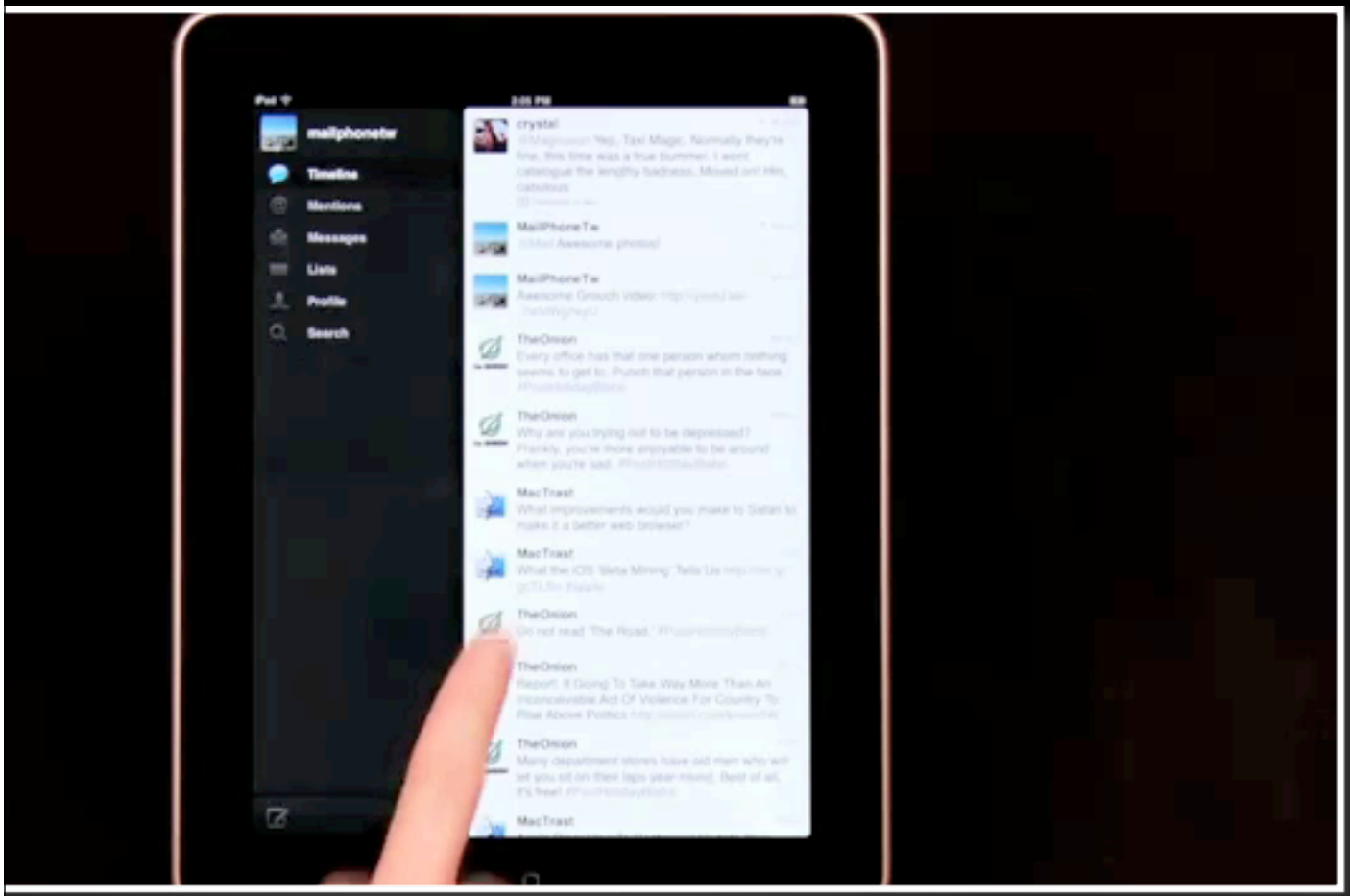
Web Apps Seem Prone to This



Web Apps Seem Prone to This

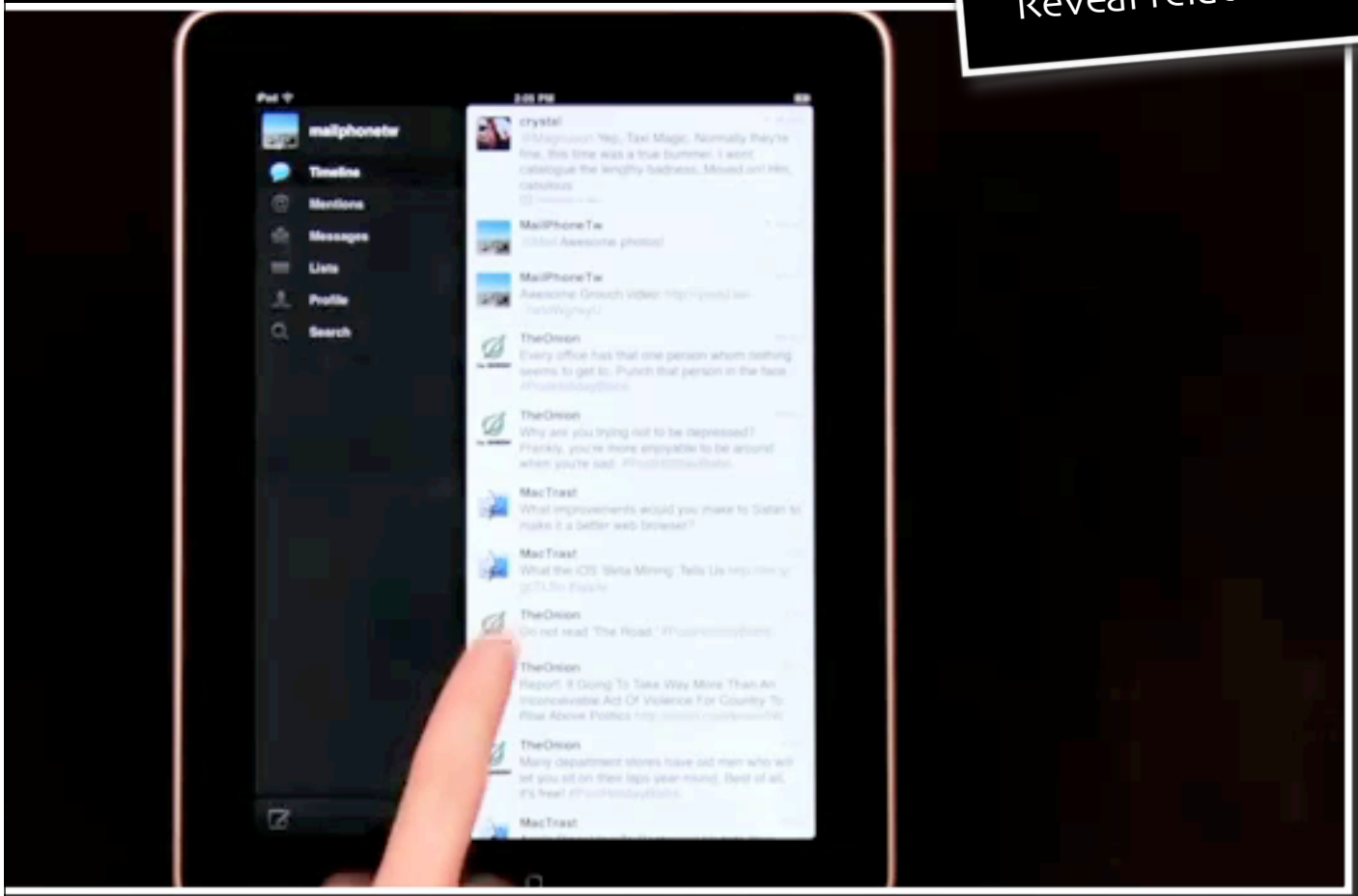


Animation Can...

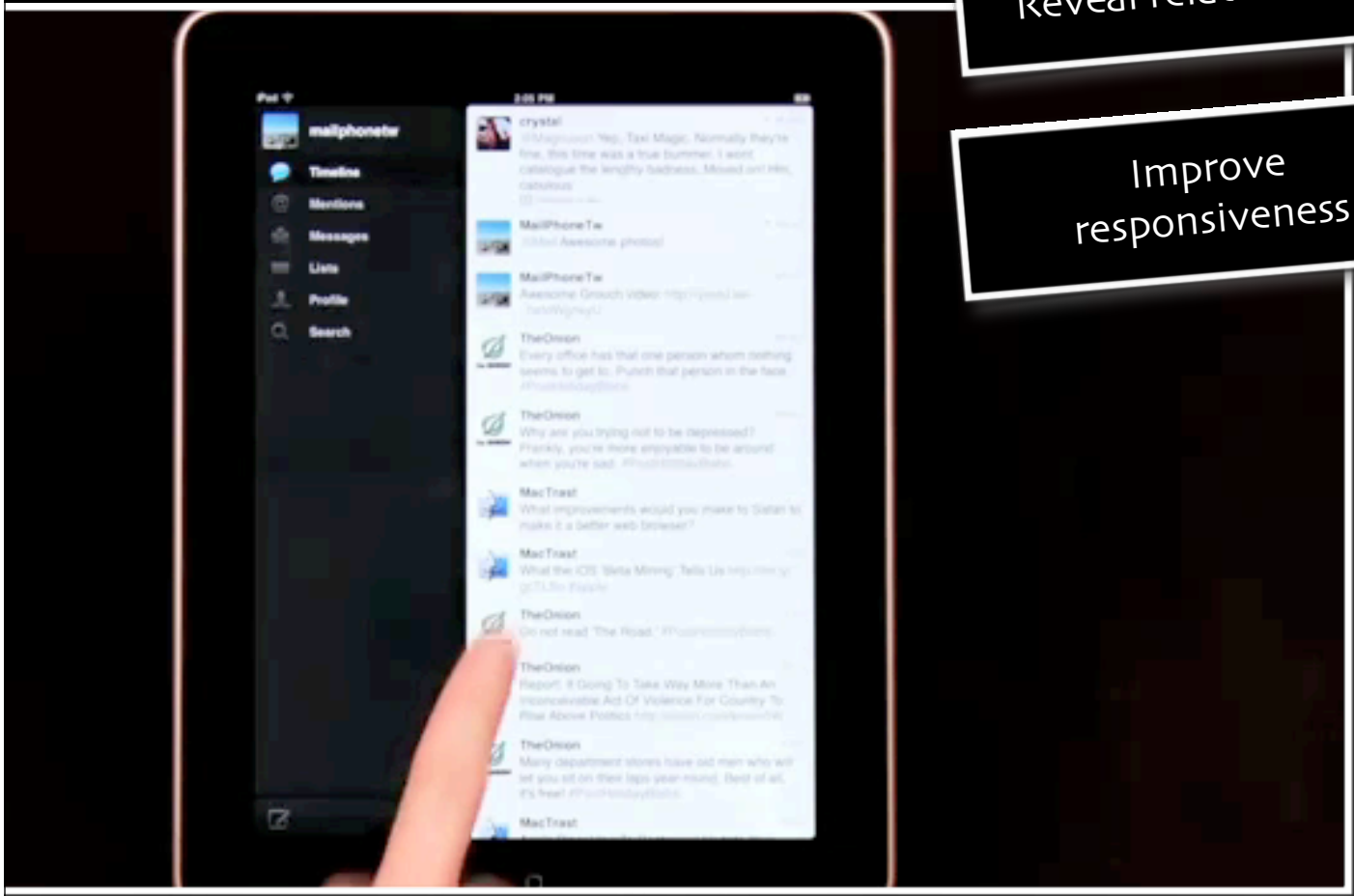


Animation Can...

Reveal relationships



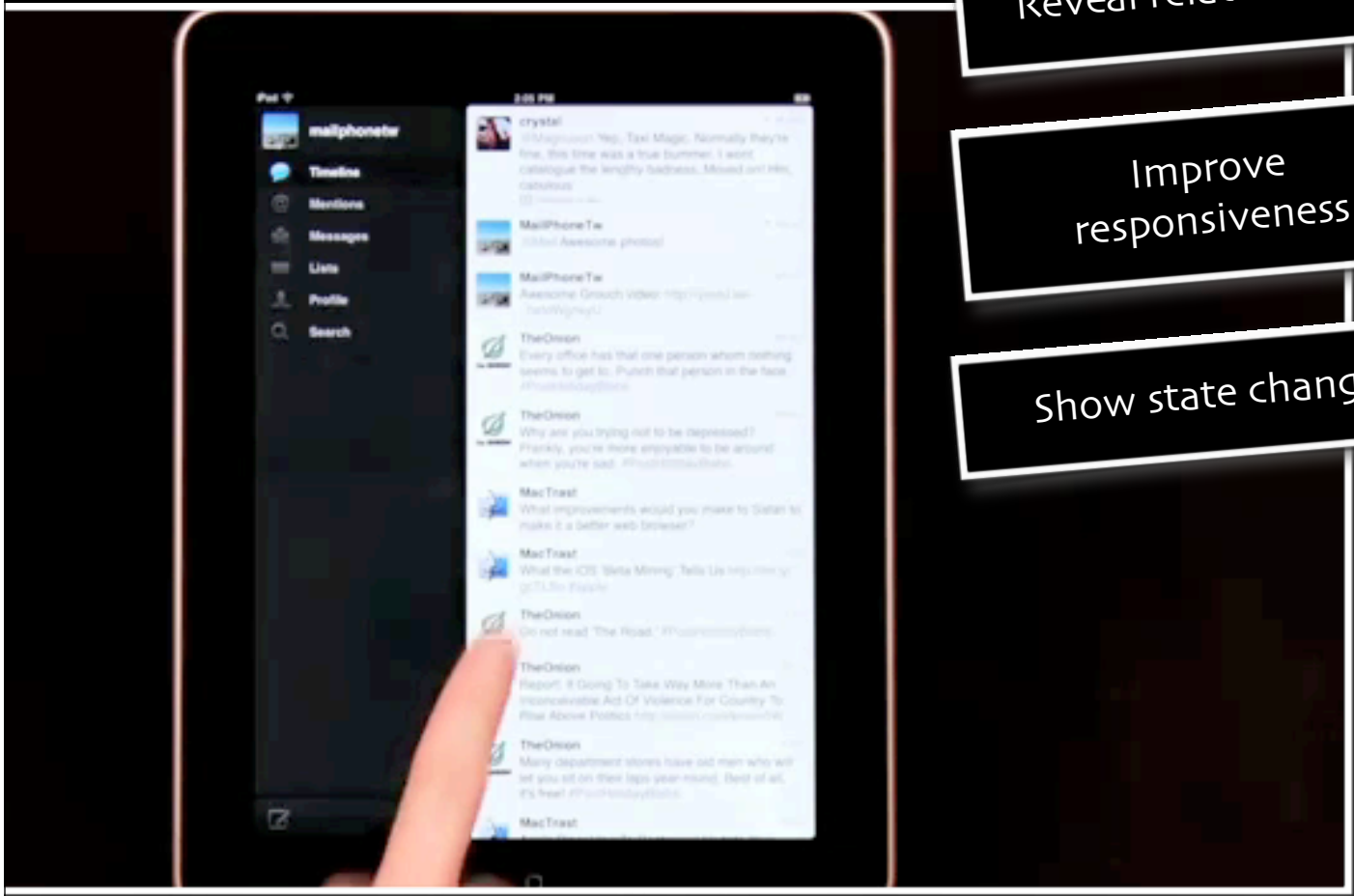
Animation Can...



Reveal relationships

Improve responsiveness

Animation Can...

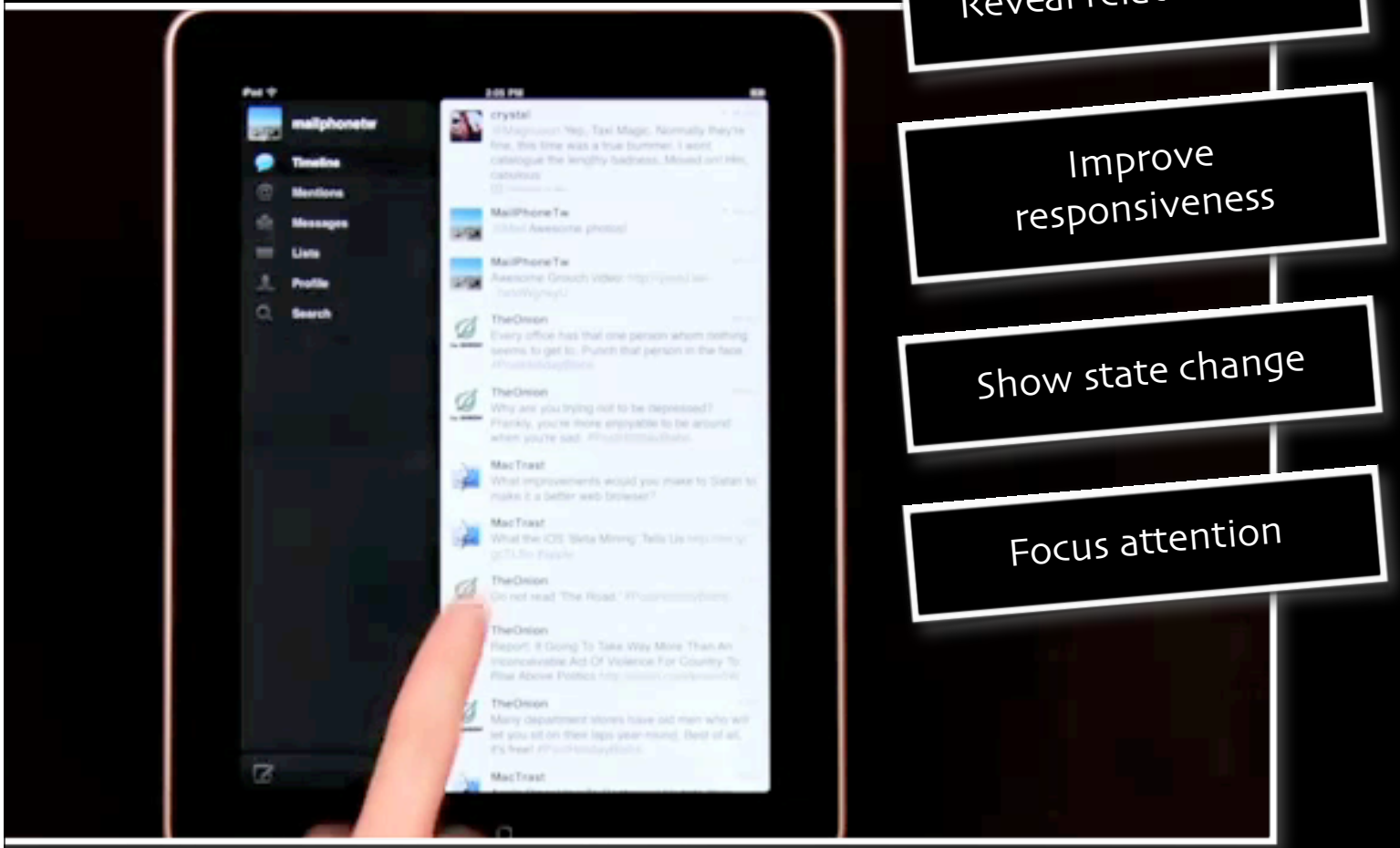


Reveal relationships

Improve responsiveness

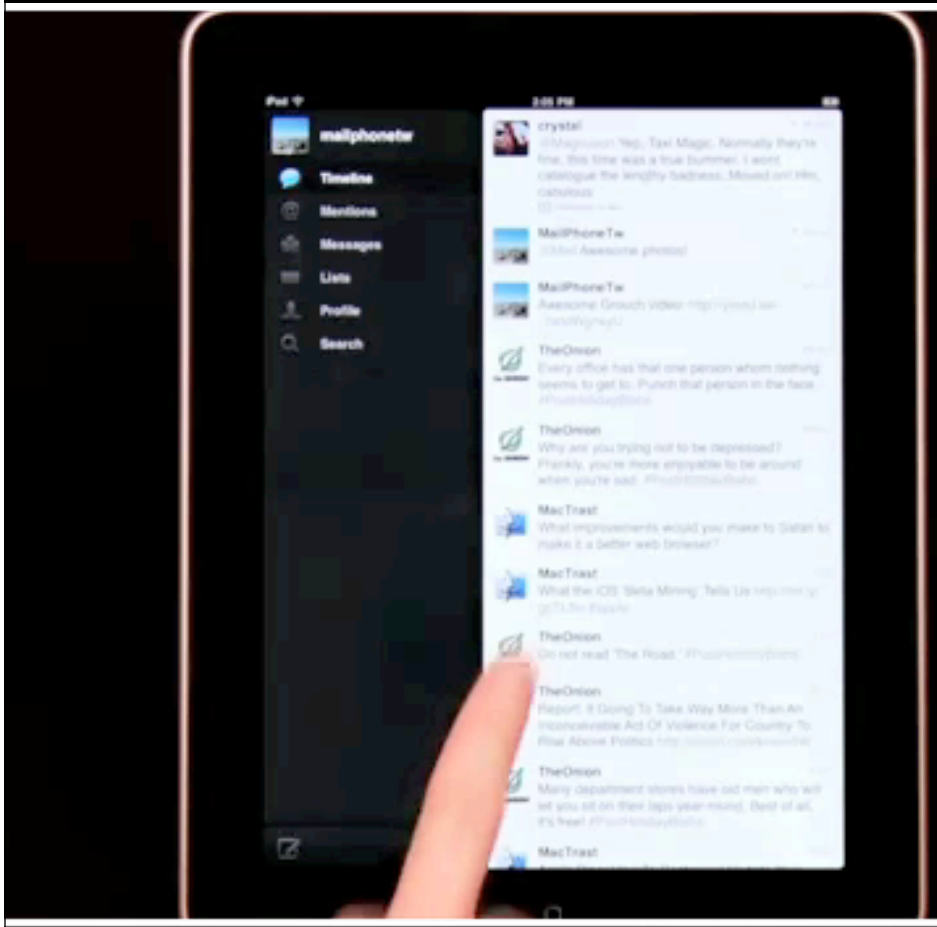
Show state change

Animation Can...



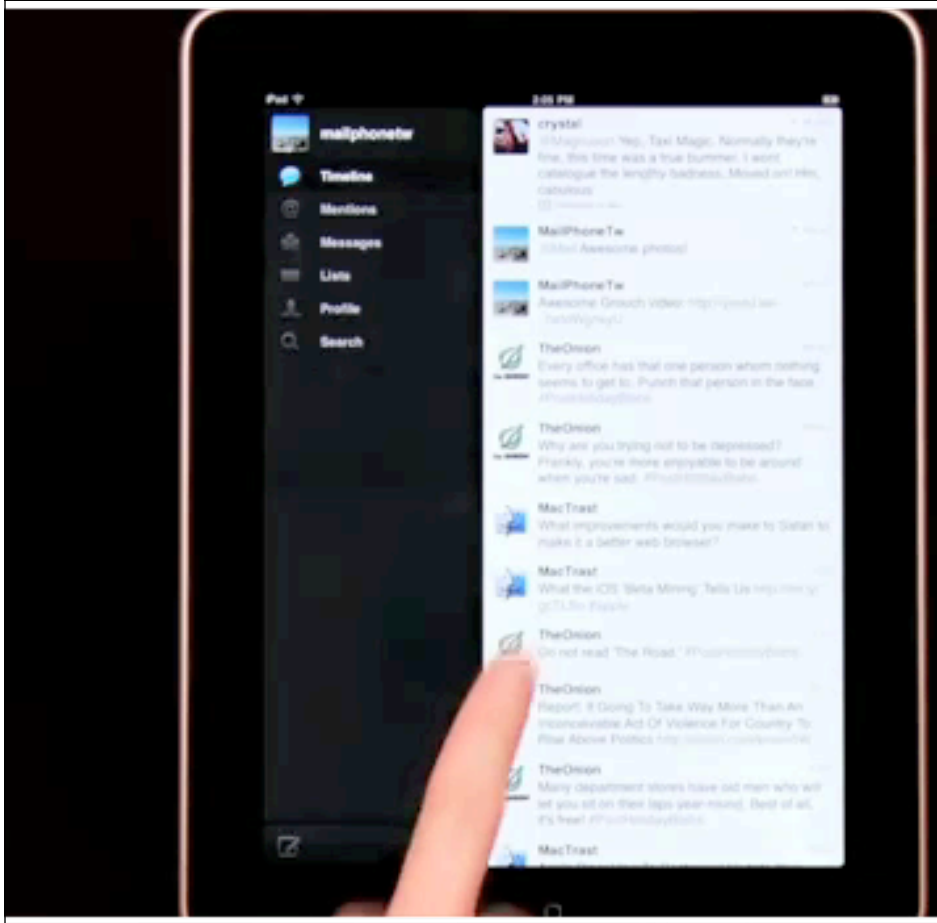
- Reveal relationships
- Improve responsiveness
- Show state change
- Focus attention

Animation Can...



- Reveal relationships
- Improve responsiveness
- Show state change
- Focus attention
- Create delight

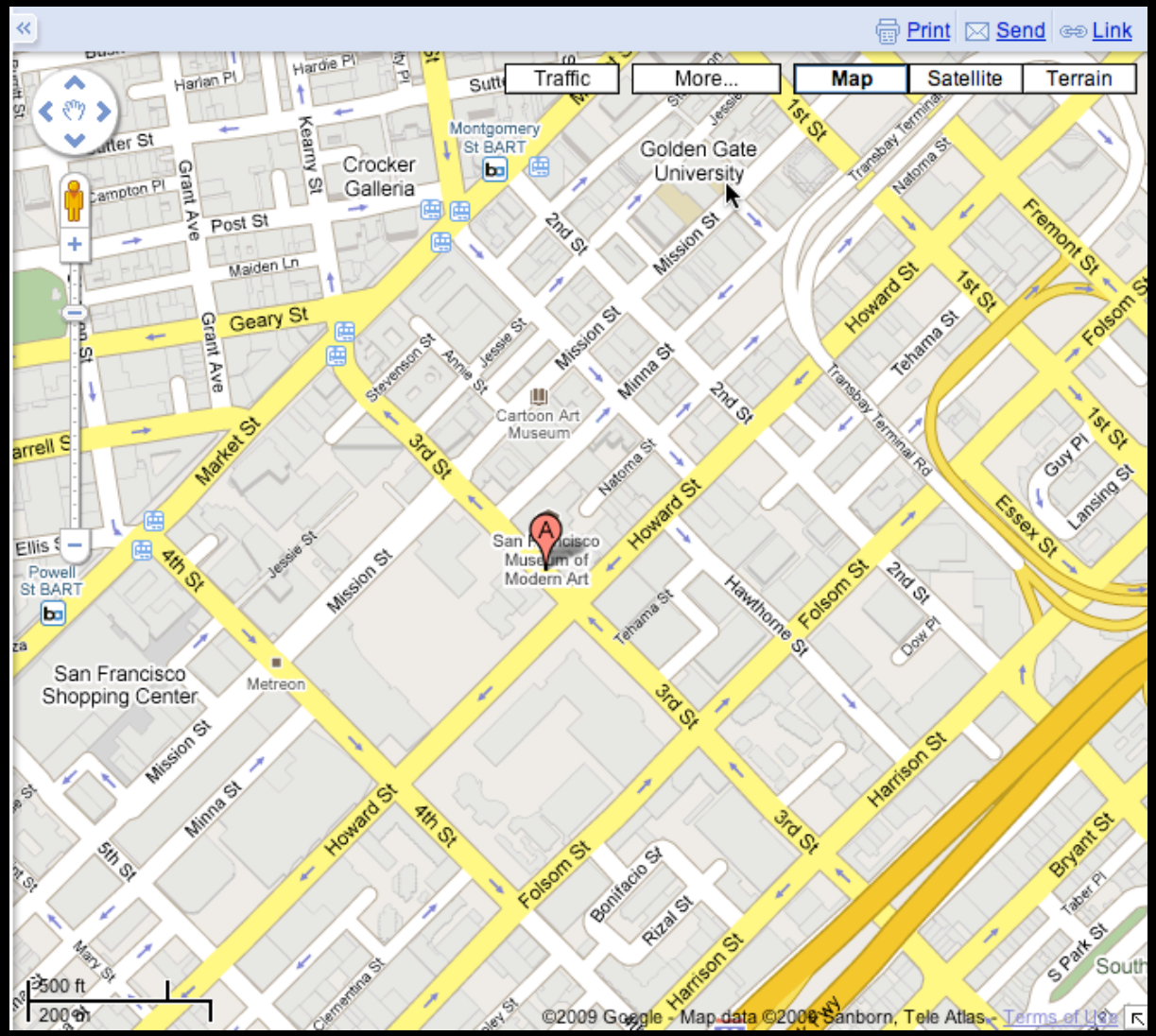
Animation Can...



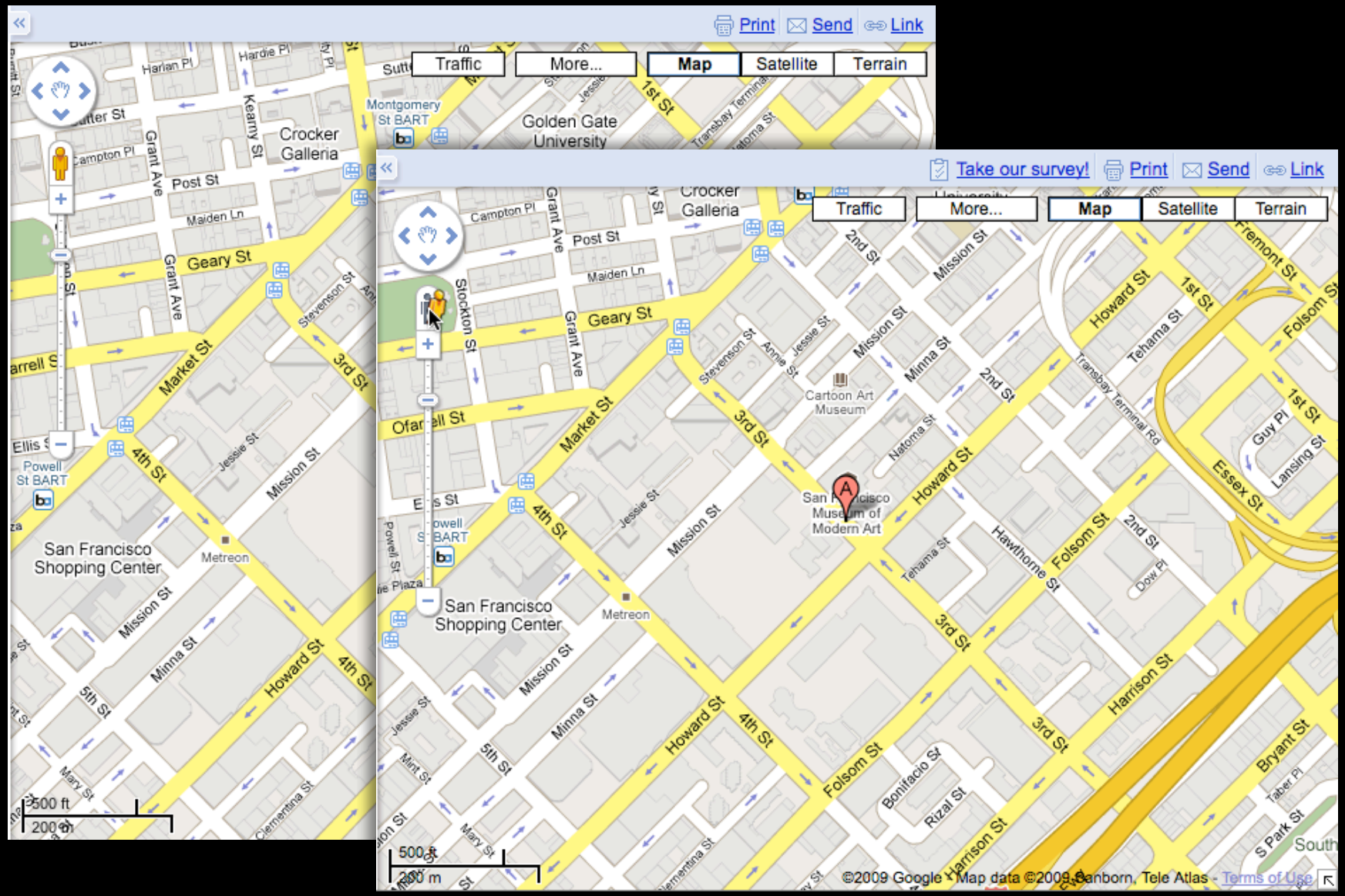
- Reveal relationships
- Improve responsiveness
- Show state change
- Focus attention
- Create delight
- Simulate physicality

Use Invitations to Create Responsiveness

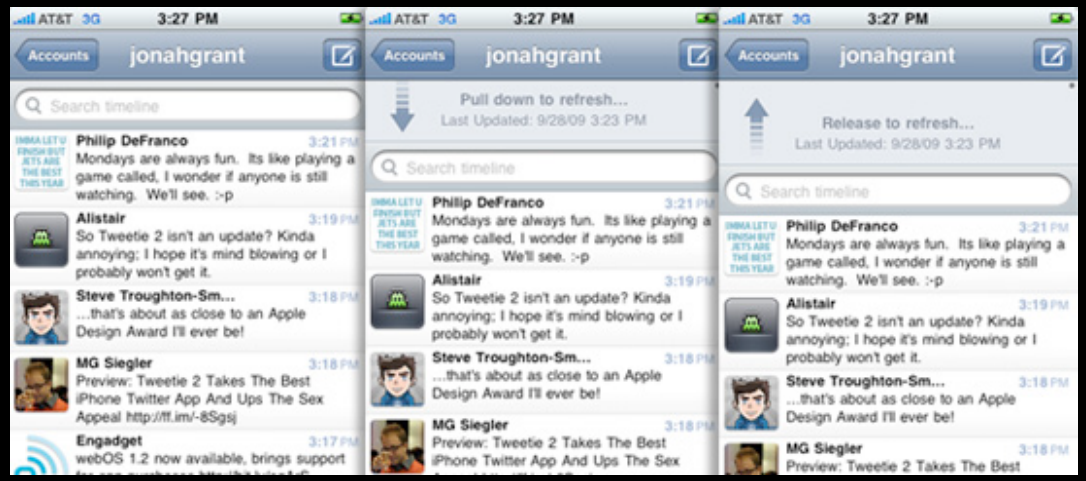
Just in Time Invitations at Drag Moments



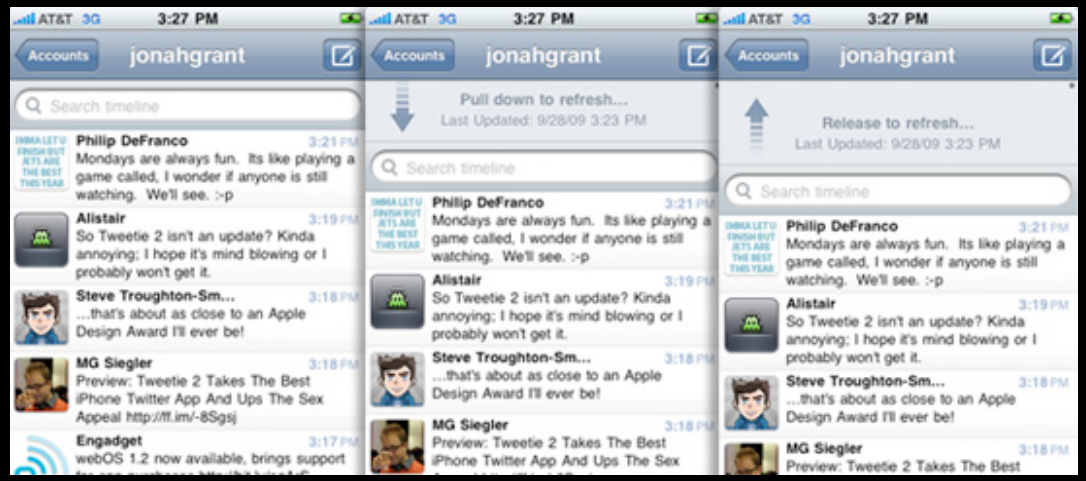
Just in Time Invitations at Drag Moments

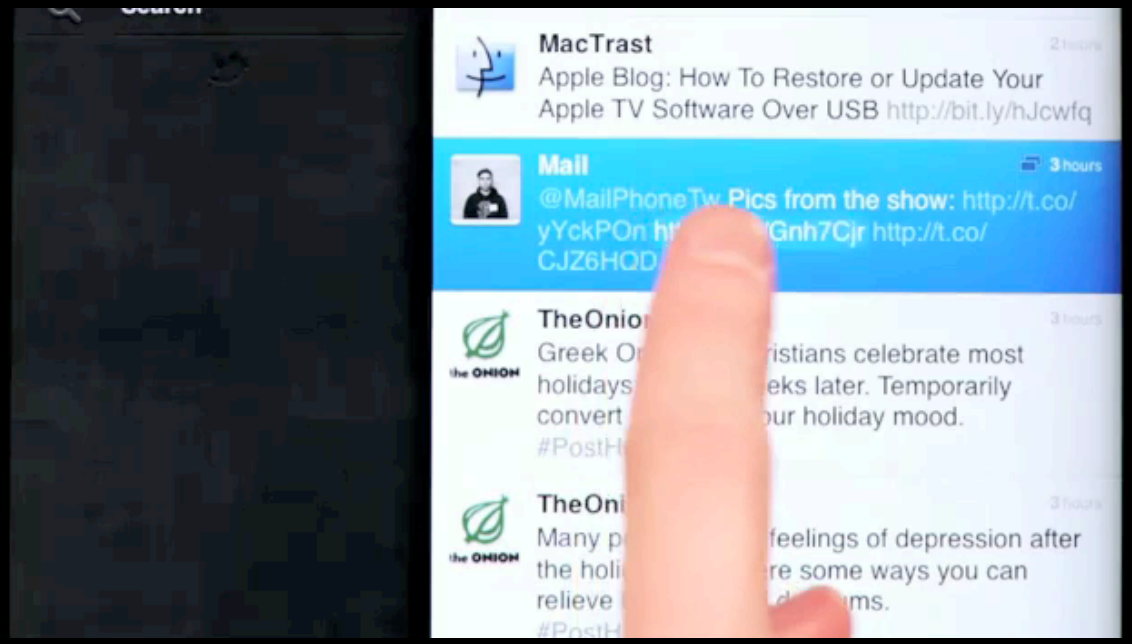


Invitations at Touch-Hold Moments



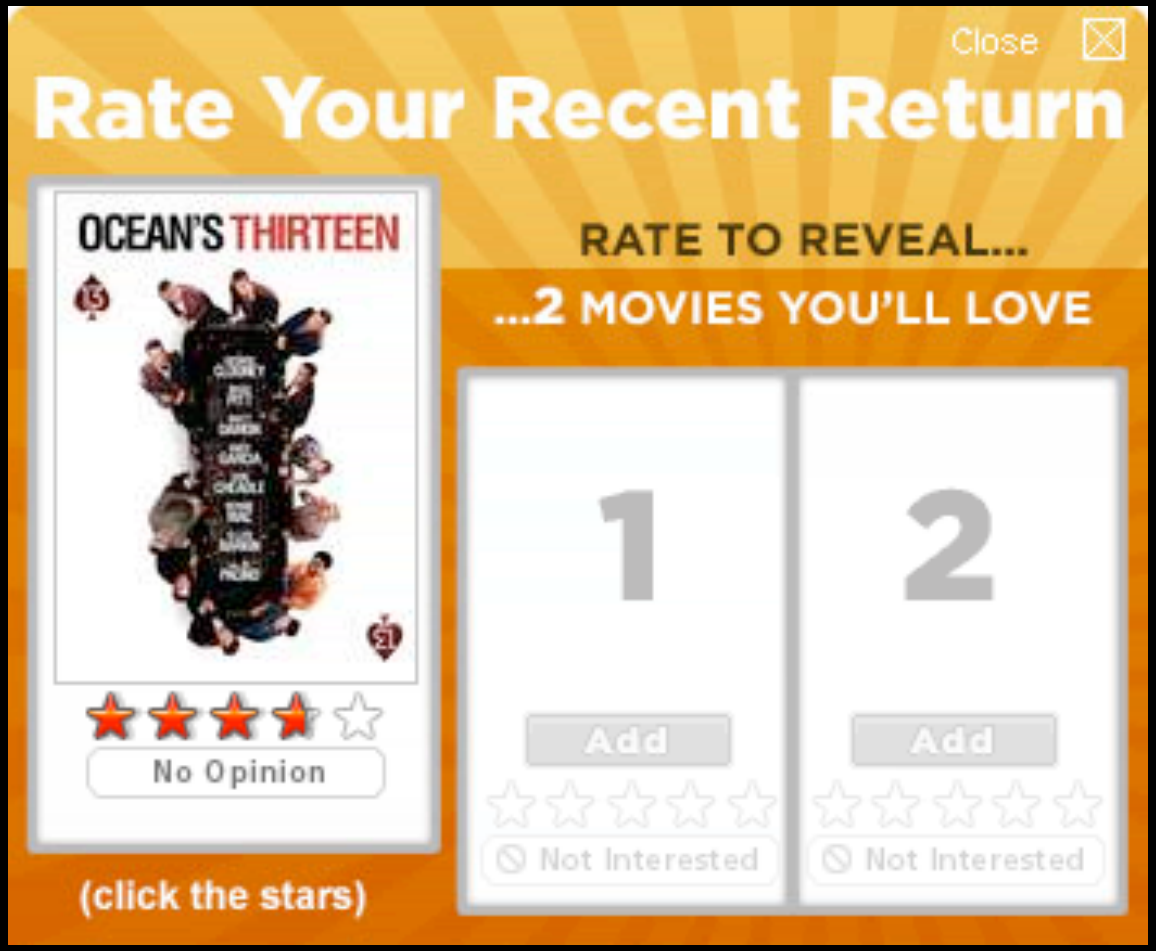
Invitations at Touch-Hold Moments



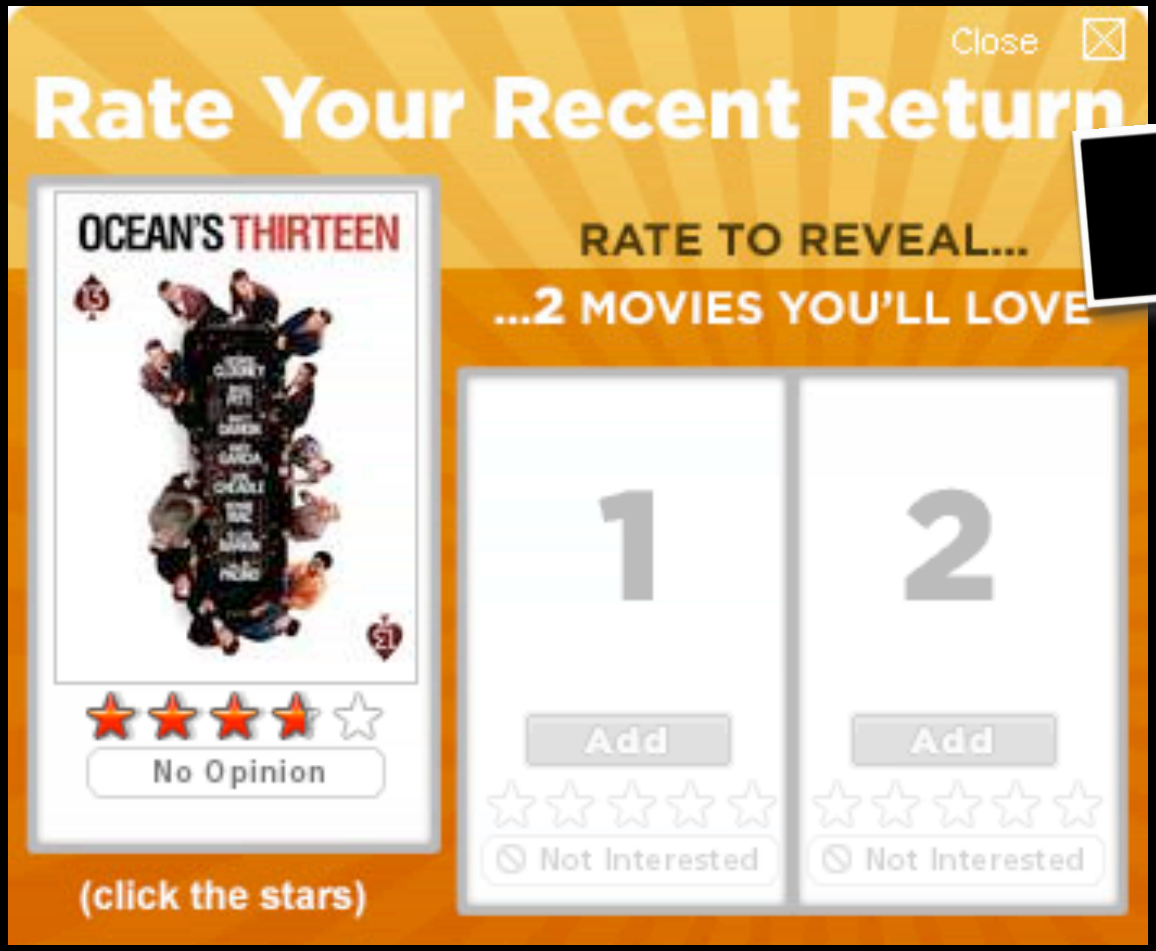


Invitations at Reward Moments

Invitations at Reward Moments



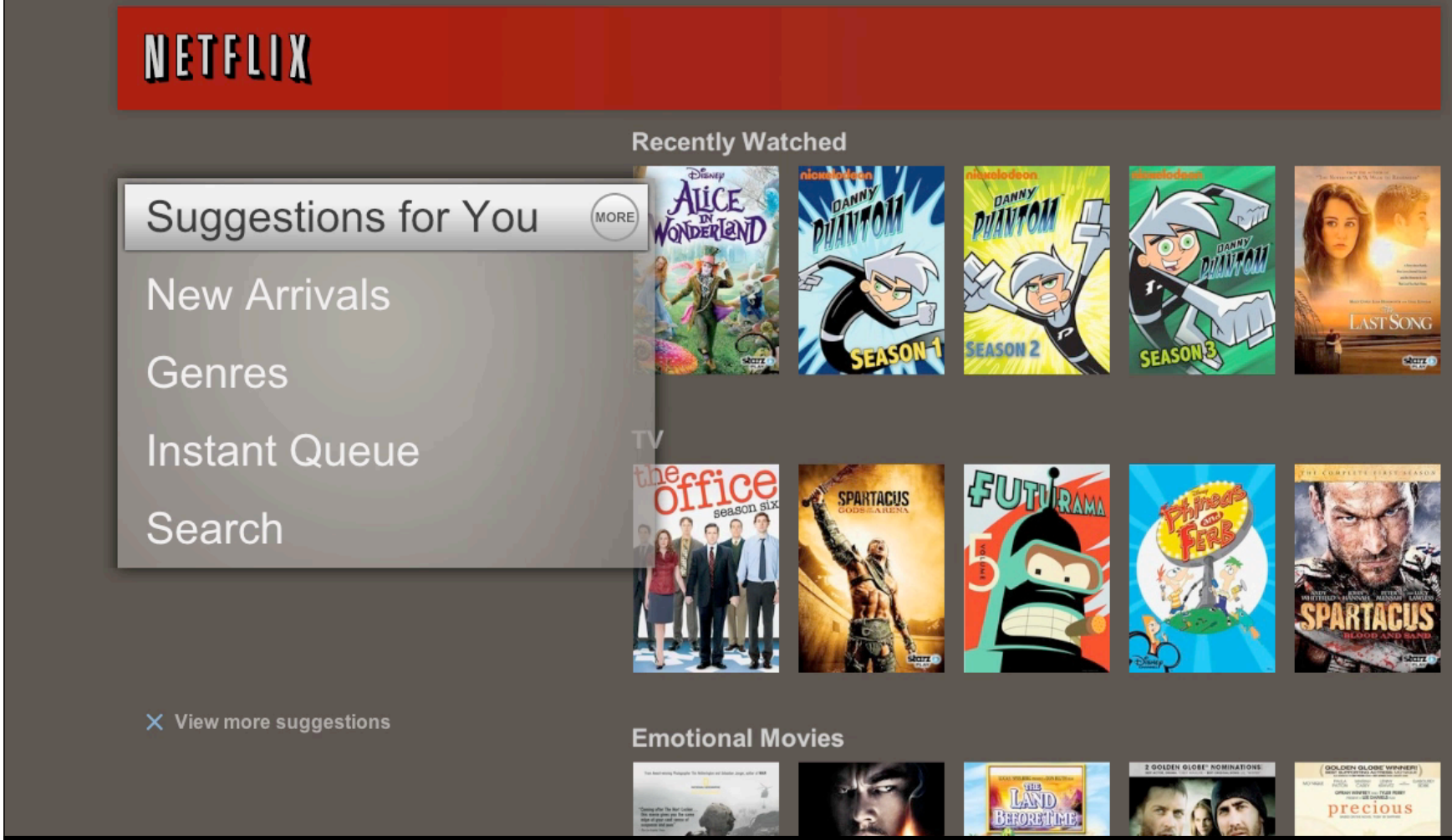
Invitations at Reward Moments



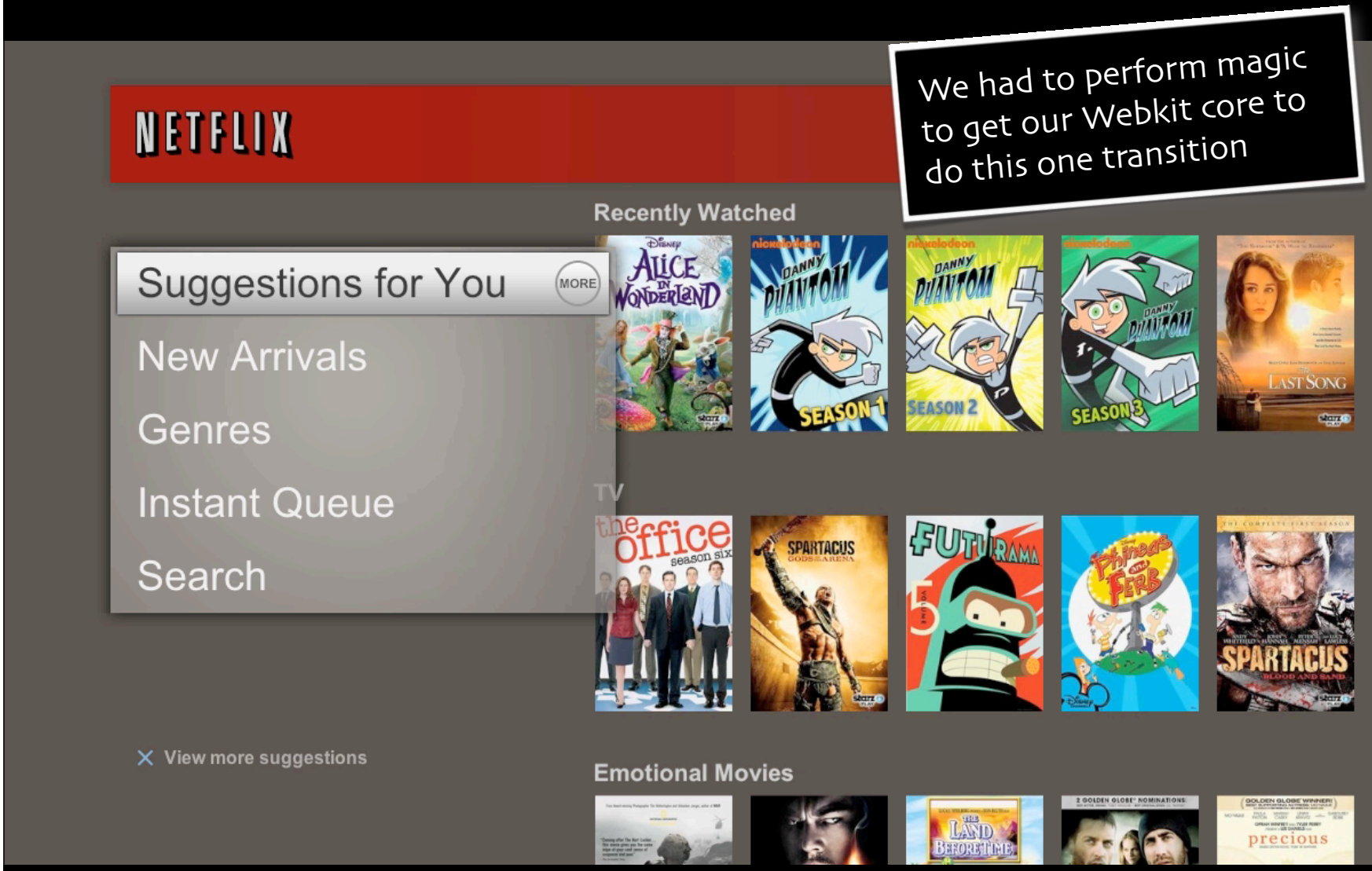
Major source of obtaining ratings

Be Snappy
to
Be Responsive

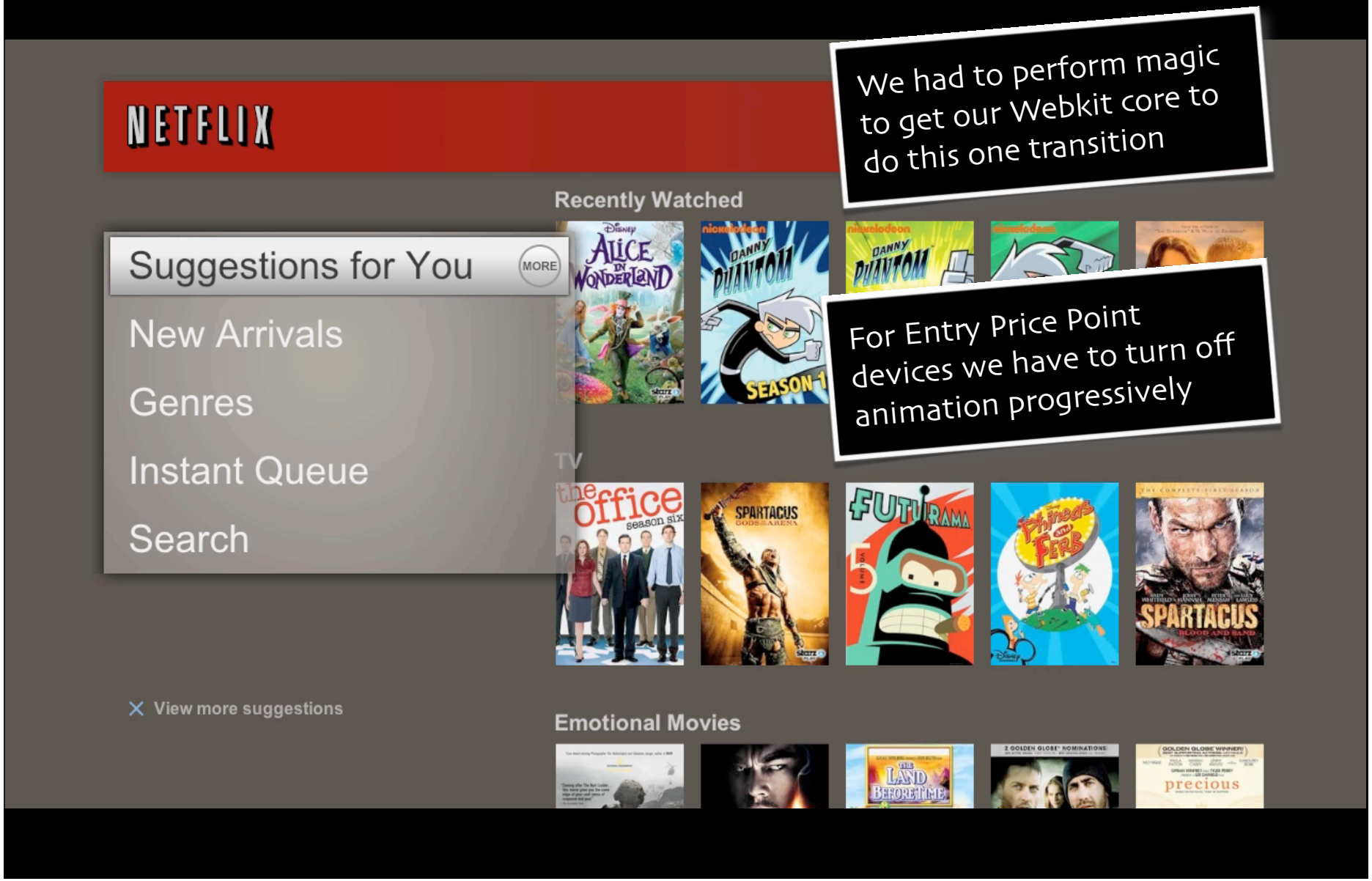
Performance is Not Always a Given



Performance is Not Always a Given



Performance is Not Always a Given



Responsiveness Across platforms

	Input
Web	Pointer Indirect
Tablet/ Mobile	Fingers Direct
TV	Remote Indirect

Responsiveness Across platforms

	Input	Animation
Web	Pointer Indirect	Make Indirect Input Feel More Direct
Tablet/ Mobile	Fingers Direct	Make Direct Input Feel Real
TV	Remote Indirect	Make Indirect Input Feel More Direct Reinforce the Cinematic

Responsiveness Across platforms

	Input	Animation	Invitations
Web	Pointer Indirect	Make Indirect Input Feel More Direct	On hover
Tablet/ Mobile	Fingers Direct	Make Direct Input Feel Real	At touch/hold endpoints
TV	Remote Indirect	Make Indirect Input Feel More Direct Reinforce the Cinematic	Static hints (usually once an item is selected)

Responsiveness Across platforms

	Input	Animation	Invitations	Performance
Web	Pointer Indirect	Make Indirect Input Feel More Direct	On hover	Less of a consideration
Tablet/ Mobile	Fingers Direct	Make Direct Input Feel Real	At touch/hold endpoints	Can be a consideration
TV	Remote Indirect	Make Indirect Input Feel More Direct Reinforce the Cinematic	Static hints (usually once an item is selected)	Definitely an issue on some low-end devices

TV Experiences...

TV Experiences...

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Emotional Dramas

Bella

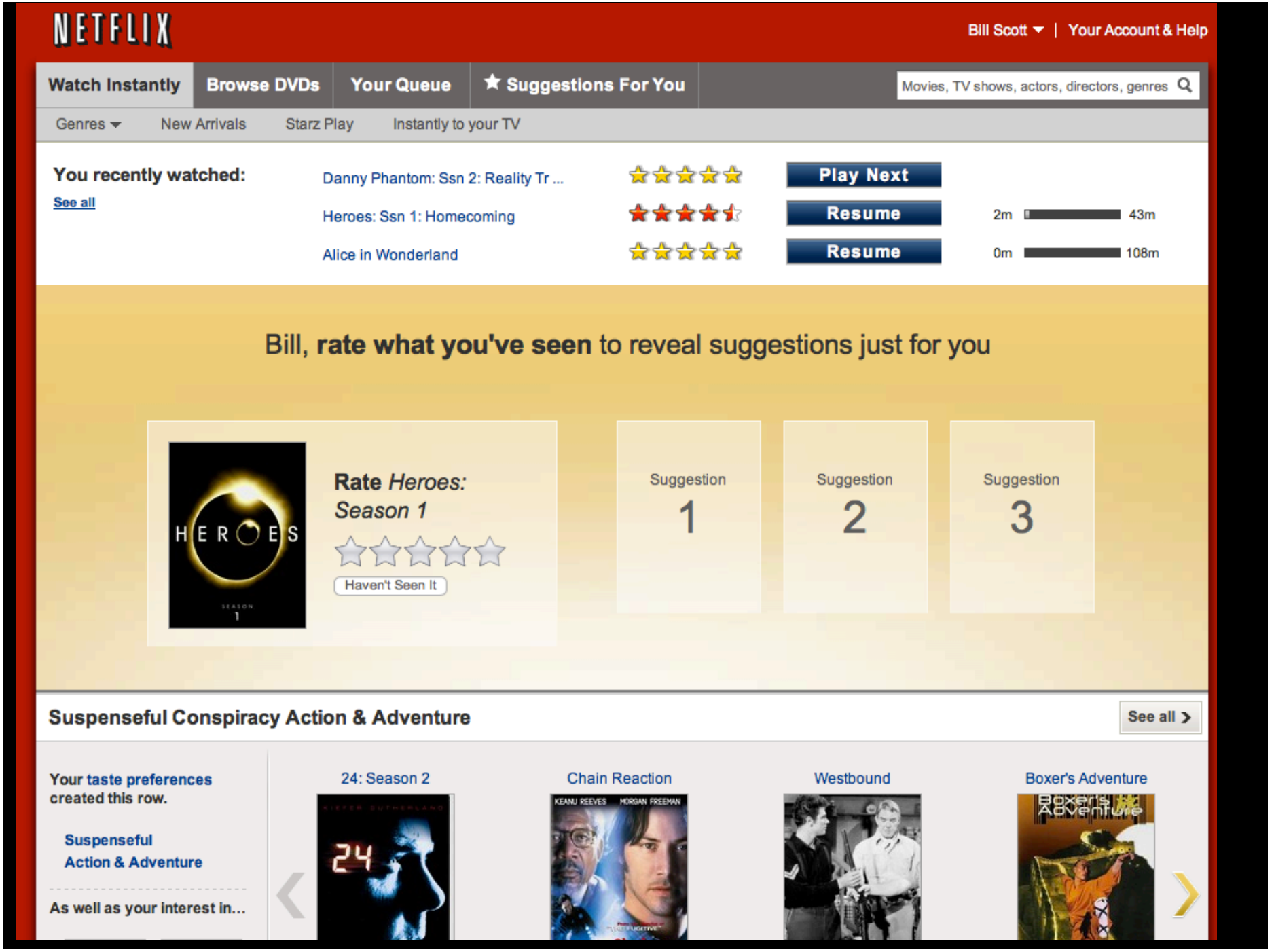
2006 PG-13 1h 31m

Two lost souls -- Nina, a pregnant, unmarried waitress, and Jose, an introspective cook with a tragic past -- find solace in each other as their lives become unpredictably linked throughout the course of one incredible day.

Cast: Eduardo Verástegui, Tammy Blanchard...

Categories: Drama, Indie Dramas

Director: Alejandro Gomez Monteverde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Suggestion 2
Suggestion 3
Suspenseful Conspiracy Action & Adventure
See all
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As well as your interest in...
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Chain Reaction
KEANU REEVES
MORGAN FREEMAN
Westbound
Boxer's Adventure

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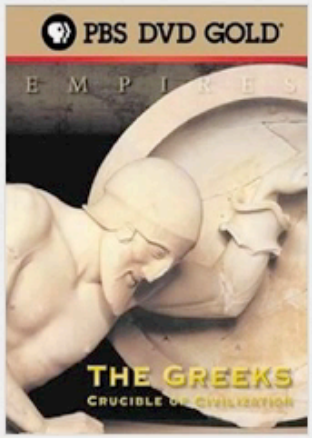

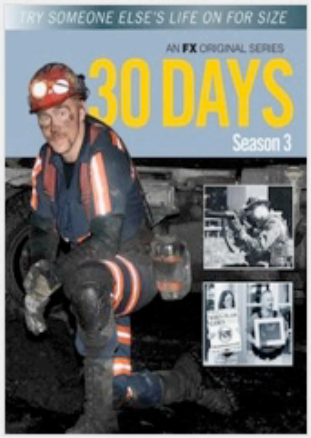

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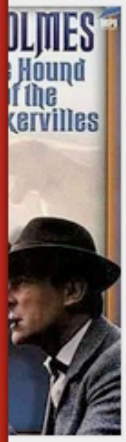
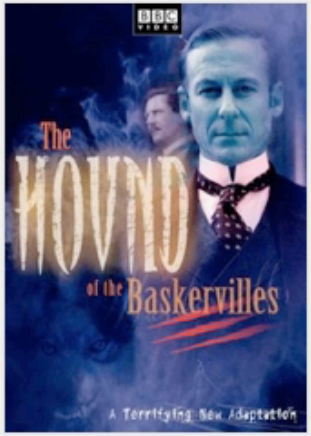
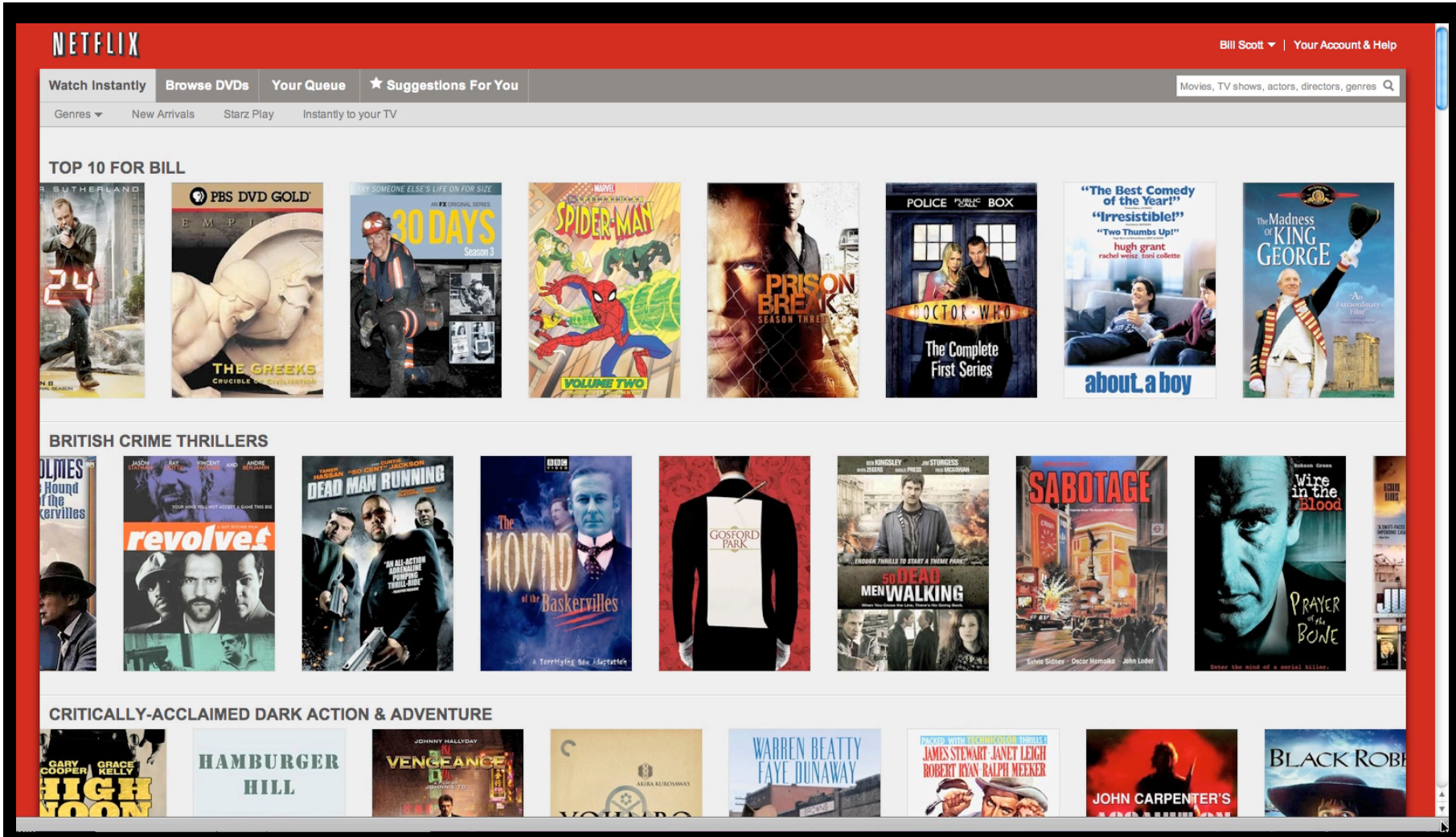




CRITICALLY-ACCLAIMED DARK ACTION & ADVENTURE



Can Influence Website Experience

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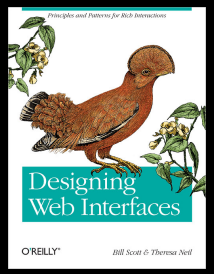

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