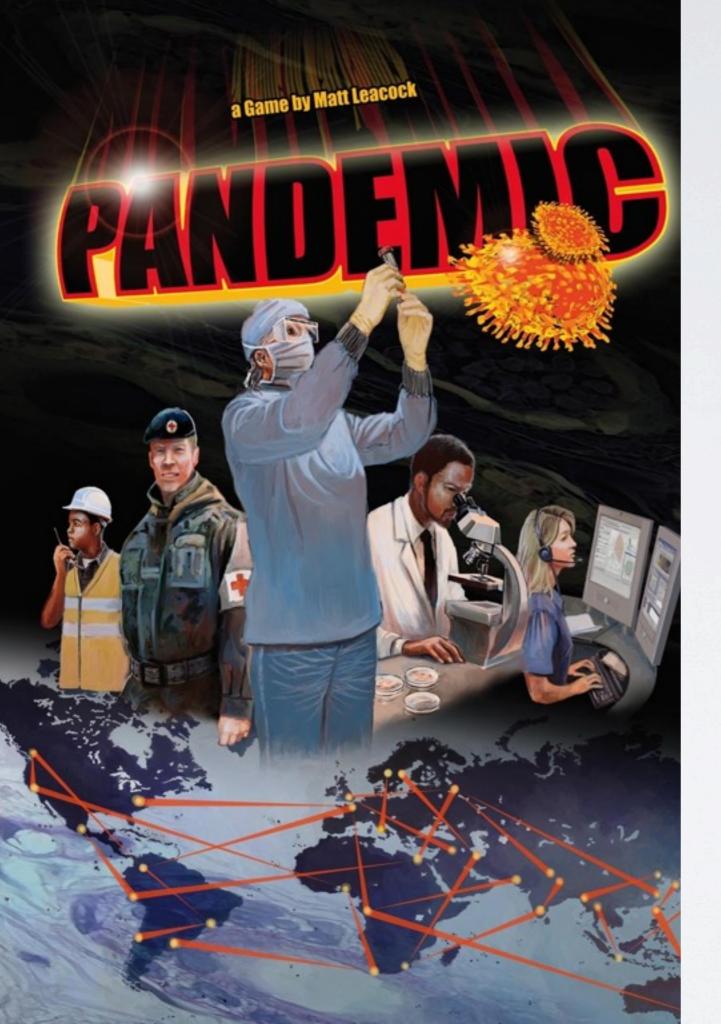
DESIGNING WITH LENSES

Bill Scott
UxLx
Lisbon, Portugal
14 May 2010





Dozens of awards including: Family Game of the Year

Designed by Matt Leacock
Fellow Y! Patterns curator / ID
Game Designer

Matt switched my vocabulary
Lenses, perspectives

Jesse Schell's book Art of Game Design A Book of Lenses



DESIGN LENSES

LENS CARDS



The Lens of Simplicity/Complexity



Illustration by Tom Smith

Striking the right balance between simplicity and complexity is difficult. Use this lens to help your game become one in which meaningful complexity rises out of a simple system.

Ask yourself these questions:

- What elements of innate complexity do I have in my game?
- Is there a way this innate complexity could be turned into emergent complexity?
- Do elements of emergent complexity arise from my game? If not, why not?
- Are there elements of my game that are too simple?

A DESIGN LENS ALLOWS YOU TO VIEW THE USER EXPERIENCE FROM THE PERSPECTIVE OF A SINGLE DESIGN PRINCIPLE.

USUALLY FROM THE PERSPECTIVE OF ANOTHER FIELD OF STUDY



title



figure

Striking the right balance between simplicity and complexity is difficult. Use this lens to help your game become one in which meaningful complexity rises out of a simple system.

Ask yourself these questions:

synopsis

- What elements of innate complexity do I have in my game?
- Is there a way this innate complexity could be turned into emergent complexity?
- Do elements of emergent complexity arise from my game? If not, why not?
- Are there elements of my game that are too simple?

focus questions





Illustration by Tom Smith

Striking the right balance between simplicity and complexity is difficult. Use this lens to help your game become one in which meaningful complexity rises out of a simple system.

Ask yourself these questions:

- What elements of innate complexity do I have in my game?
- Is there a way this innate complexity could be turned into emergent complexity?
- Do elements of emergent complexity arise from my game? If not, why not?
- Are there elements of my game that are too simple?



SAMPLER: FOUR LENSES



Cognitive

Flow



Supporting Actor

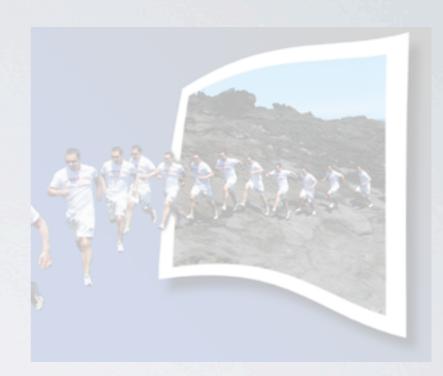


Interesting Moments

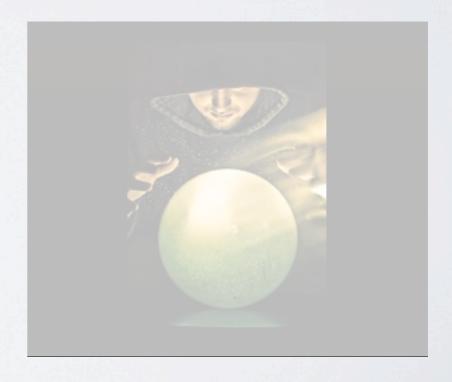
Art, Animation

SIMPLICITY/COMPLEXITY

Came, Furniture, Car Simplicity/Complexity





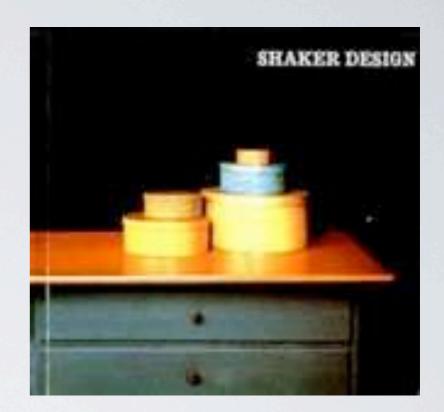


The Lens of Simplicity/Complexity



Strike the right balance between simplicity and complexity.

- Are the main things simple?
- Does complexity emerge as needed? Or is the interface intrinsically complex?
- Does the balance match the context?



Shakers.
Furniture Design.

FOUR POSTS, THREE SLATS, A HANDFUL OF STRETCHERS, A FEW YARDS OF WOOLEN TAPE FOR THE SEAT. IT COULD SCARCELY BE MORE SIMPLY MADE, BUT LOOK MORE CLOSELY ATTHIS PRODUCT OF AN UNHURRIED HAND. THE PROPORTIONS WERE CHOSEN WITH CARE.

The posts are slender, no thicker than needed for strength. You can lift the chair with a finger. The slats increase slightly in height as they rise, as does the space between them, so that the back seems to float above the seat and legs. The chair slants backward at an angle agreeable for sitting.

SEAT. IT COULD SCARCELY BE MORE SIMPLY MADE,

UNHURRIED HAND. CHOSEN WITH CARE.

CAN LIFT THE CHAIR WITH A FINGER.



VARD AT AN ANGLE AGREEABLE FOR SITTING.

The Shakers did not spurn beauty; they simply reinvented it...The Shakers had just one [restriction]: do not make what is not useful.

They rejected ornament. The rest--color, pattern, line, form, proportion--they freely and joyously used.

The Lens of Simplicity/Complexity



Strike the right balance between simplicity and complexity.

- Are the main things simple?
- Does complexity emerge as needed? Or is the interface intrinsically complex?
- Does the balance match the context?



Pandemic.
Game Design.

LENS APPLIED TO PANDEMIC

Before

Actions:

Quarantine with cubes

Move and cure with cards

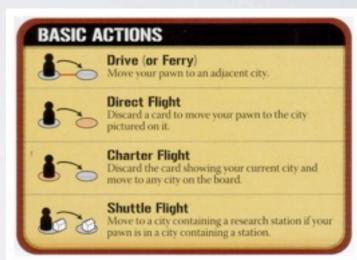
End of Turn:
Draw 4 points of stuff
Cards count for 2
Cubes count for I

After

Actions:

Everything takes I action

End of Turn:
Draw 2 cards





LENS APPLIED TO PANDEMIC

Before

Actions:

Quarantine with cubes

Move and cure with cards

End of Turn:

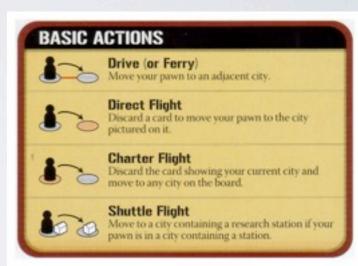
Draw 4 points of stuff Cards count for 2 Cubes count for I

After

Actions:

Everything takes I action

End of Turn:
Draw 2 cards



Is interface intrinsically complex?

Discard the card showing your current city to build a Research Station there.

Discover A Cure
Discard 5 cards of the same color to cure the disease of that color. Your pawn must be in a city containing a research station.

Treat Disease
Remove a disease cube from the city your pawn occupies. If the cure has been found, remove all the cubes of that color from the city.

Share Knowledge
Pass a card from one player to another. Both players' pawns must be in the city pictured on the card that is passed.

Build A Research Station

... AS SIMPLE AS POSSIBLE, BUT NO SIMPLER

LENS APPLIED TO PANDEMIC

Before

Single Deck of Cards:

- For direct flights
- For connecting flights
- For charter flights
- To cure diseases
- To infect cities

After

Two Decks of Cards:



infection card



LENS APPLIED TO PANDEMIC

Before

Single Deck of Cards:

- For direct flights
- For connecting flights
- For charter flights
- To cure diseases
- To infect cities

After

Two Decks of Cards:



ard

Right balance? Simplicity/Complexity

player card

The Lens of Simplicity/Complexity



Strike the right balance between simplicity and complexity.

- Are the main things simple?
- Does complexity emerge as needed? Or is the interface intrinsically complex?
- Does the balance match the context?



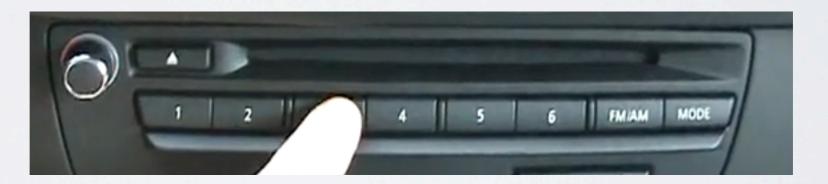
BMW.
Car Design.





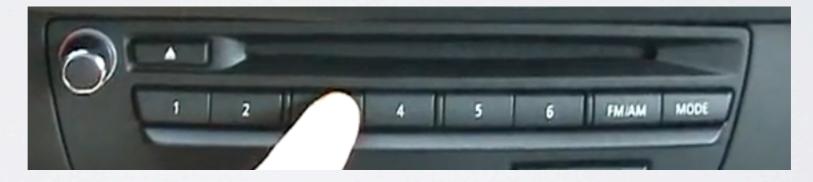






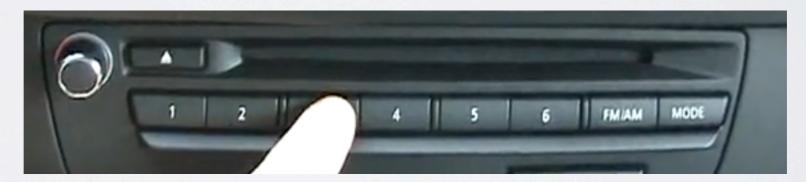






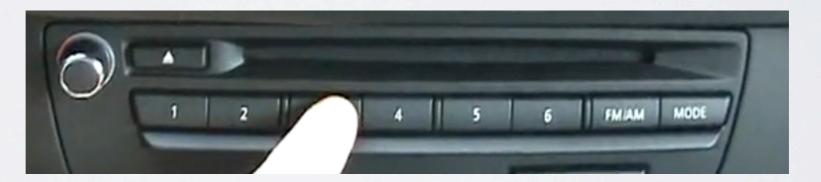


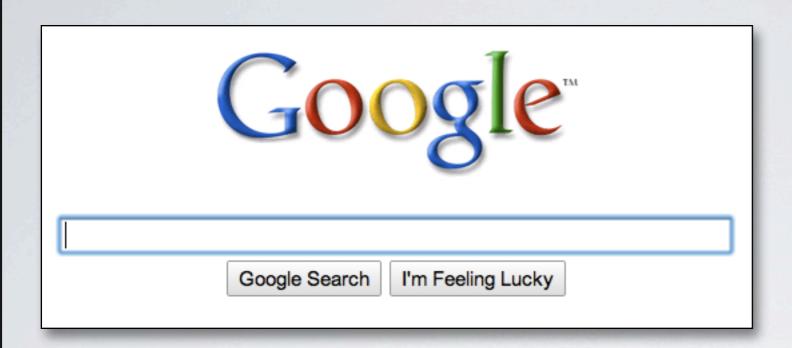








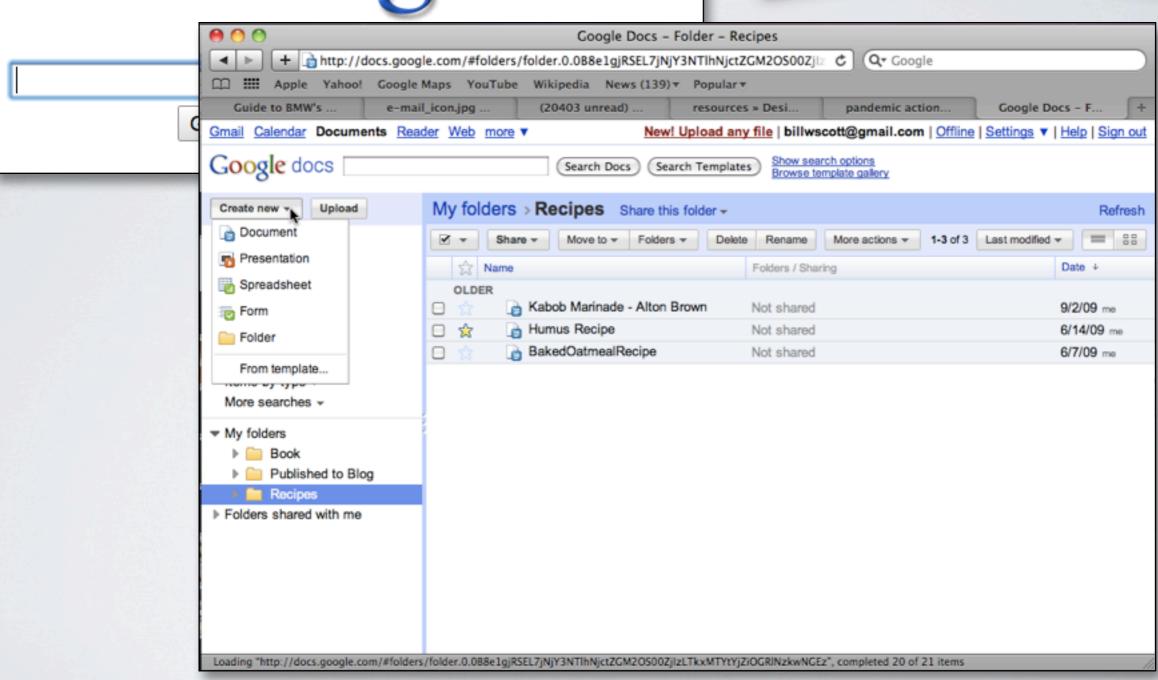




Simplicity has a context



Simplicity has a context



The Lens of Simplicity/Complexity



Strike the right balance between simplicity and complexity.

- Are the main things simple?
- Does complexity emerge as needed? Or is the interface intrinsically complex?
- Does the balance match the context?

NETFLIX

Rate & Replace. Web Design.

Based on your interest in

National Lampoon's Pledge This! The Stoned Age Team America: World Police

Set this genre

Late Night Comedies



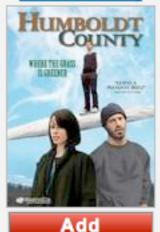






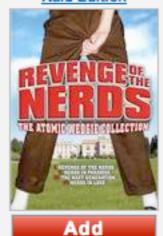
Sometimes watch

Humboldt County



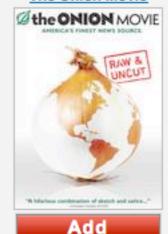
Not Interested

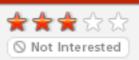
Revenge of the Nerds: Panty Raid Edition





The Onion Movie





A Dirty Shame







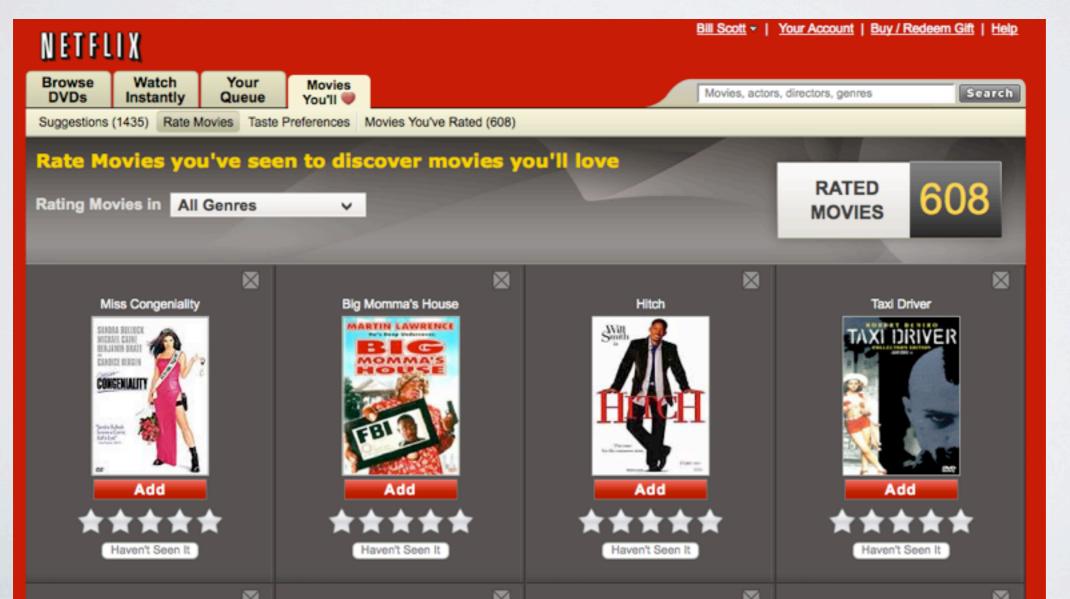




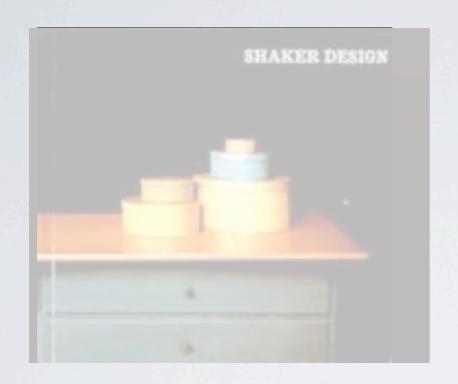








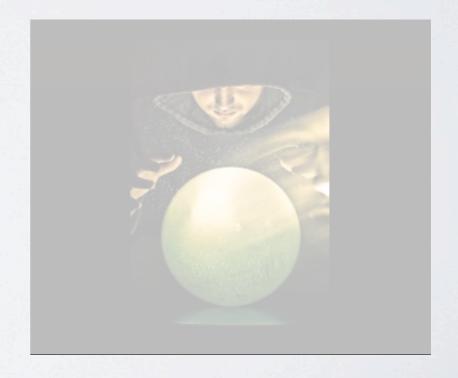
FLOW



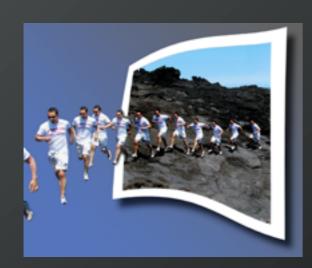






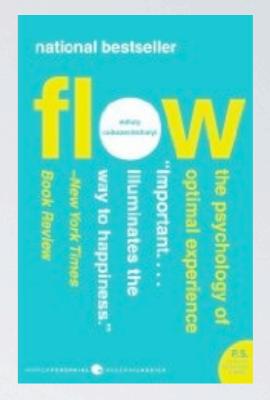


The Lens of Flow



A state of heightened mental focus.

- Are there natural transitions?
- Every dialog needed?
- Would one page suffice?
- Can you persist context?
- More subtle ways to show state change?
- Are there assists that amplify efforts?



Flow Book. Psychology.

Spot differences...



Try again.



Upload Photos

All My Photos

My Albums



Paris06

My Tags

My Friends' Photos

All My Photos

Slideshow

Create -

Share -

Edit w

Prints & Gifts -

Drag photos into this tray and choose a task above.

Sort by: Date -



Sunset



Underneath



View from the Top







riendly advice for photo haring.



Upload Photos

All My Photos

My Albums



My Tags

My Friends' Photos

All My Photos

Slideshow

Create -

Share -

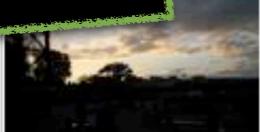
Edit -

Prints & Gifts -

Drag photos into this tray and choose a task above.

Sort by: Date -

Are there natural transitions?



Sunset



Underneath



View from the Top







riendly advice for photo haring.













All My Photos

My Albums



My Tags

My Friends' Photos

All My Photos

Slideshow

Create -

Share -

Edit -

Prints & Gifts -

Drag photos into this tray and choose a task above.

Sort by: Date 🕶

Are there natural transitions?

Is every dialog needed?

riendly advice for photo haring.



Underneath



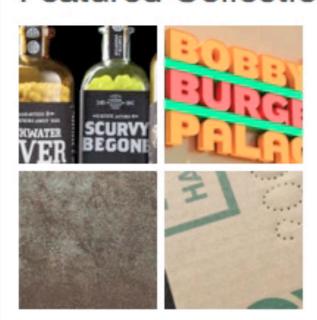
View from the Top



Welcome!

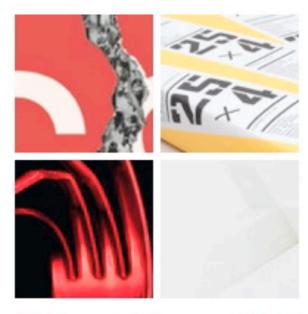
The archives of AIGA serve to identify, preserve and make available records of enduring value. AIGA's aim is to make conditions suitable for access and to support research that will add to the literature of design and to safeguard its legacy. More about the archives...

Featured Collections



AIGA 365: 30 (2009)

Work in all media that has been designed, produced and used in the marketplace between January 1 and December 31, 2008. View Collection



50 Books/50 Covers of 2008

The 50 best-designed books and book covers designed and/or produced between January 1 and December 31, 2008.

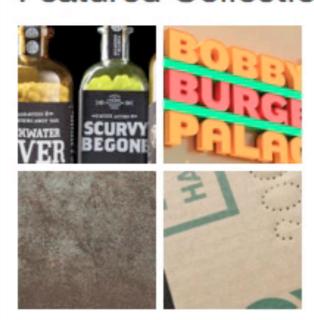
View Collection

Next ->

Welcome!

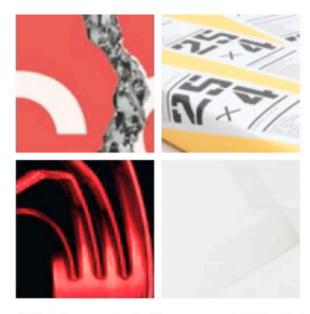
The archives of AIGA serve to identify, preserve and make available records of enduring value. AIGA's aim is to make conditions suitable for access and to support research that will add to the literature of design and to safeguard its legacy. More about the archives...

Featured Collections



AIGA 365: 30 (2009)

Work in all media that has been designed, produced and used in the marketplace between January 1 and December 31, 2008. View Collection



50 Books/50 Covers of 2008

The 50 best-designed books and book covers designed and/or produced between January 1 and December 31, 2008. View Collection

Amplifying or dampening efforts?

Next -

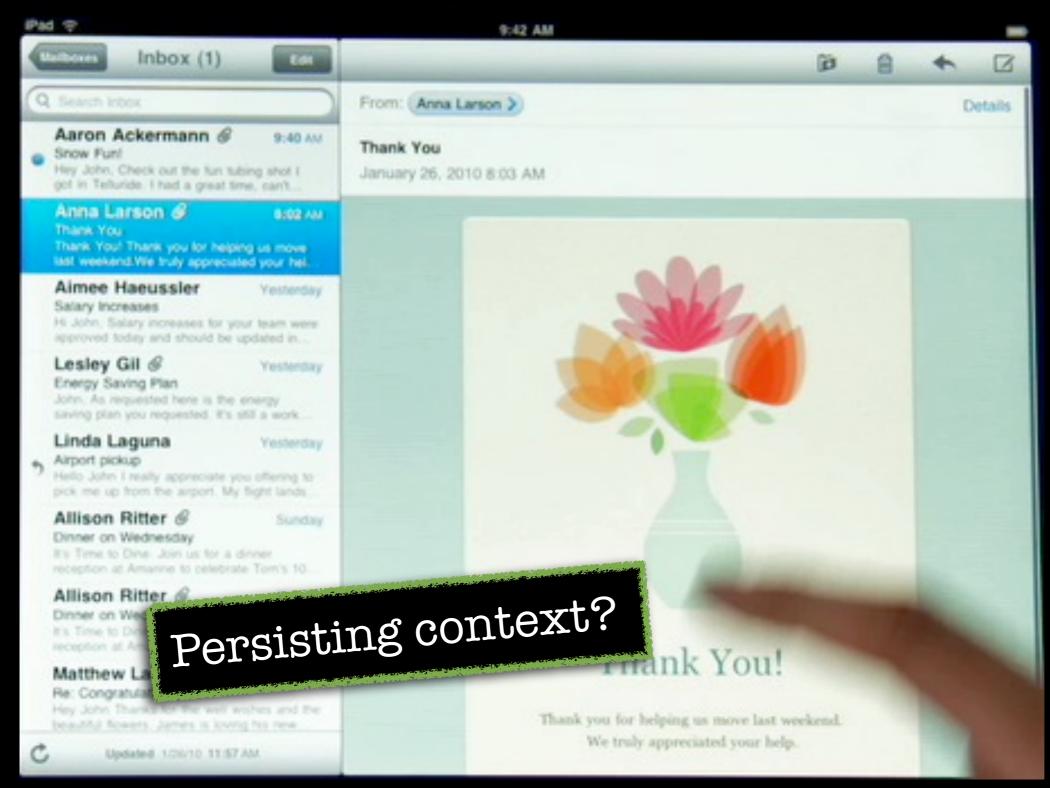
Keeping Flow



Keeping Flow



Keeping Flow



SUPPORTING ACTOR



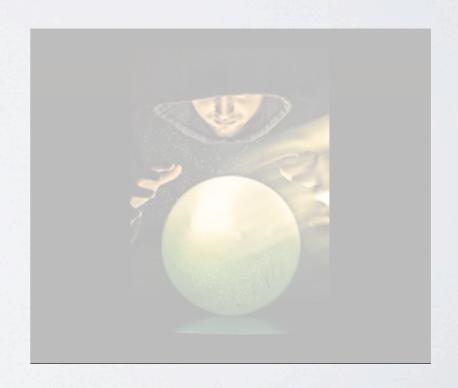


Theater, Animation



Motion Graphics

Supporting Actor



Role of Supporting Actor

Gives added dimension to a main character through relationship with this character.

Enhances the plot of a story.



Best Actor in a Supporting Role - 2009

Christoph Waltz
(Col. Hans Landa)
Inglourious Basterds

The Lens of the Supporting Actor



A supporting actor/actress must use restraint not to upstage the main actor.

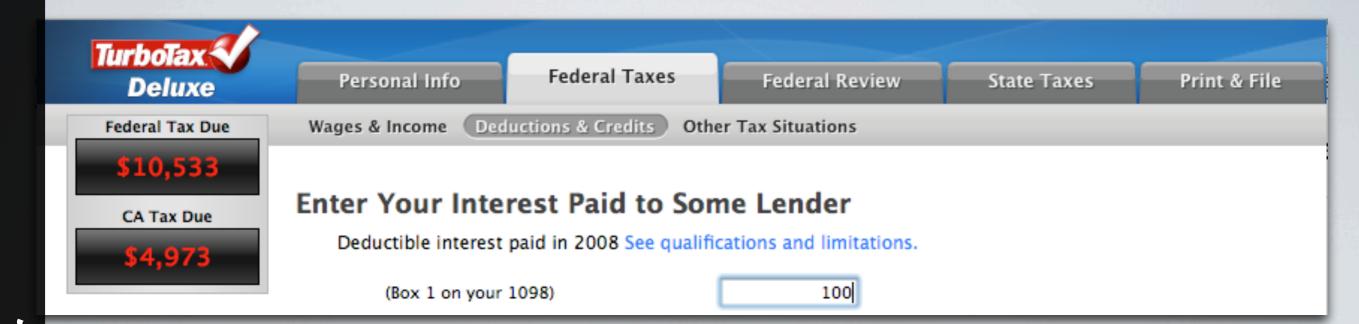
Ask these questions about effect/elements:

- Do they enhance the overall plot/goal?
- What would they experience be like without them?
- Are there alternate, more subtle approaches?
- Is the interaction natural (not forced)?

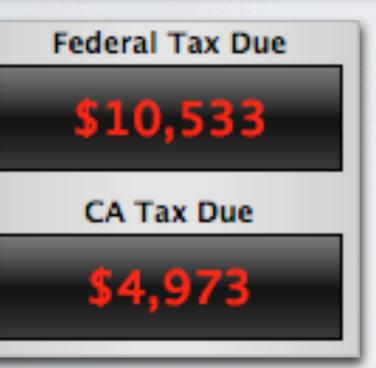


Thelma Ritter. Actress.

Stella in Rear Window
Nominated for 6
Oscars for Best
Supporting Actress but
never won









Personal Info

Federal Taxes

Federal Review

State Taxes

Print & File

Federal Tax Due

\$10,533

CA Tax Due

\$4,973

Wages & Income

Deductions & Credits

Other Tax Situations

Enter Your Interest Paid to Some Lender

Deductible interest paid in 2008 See qualifications and limitations.

(Box 1 on your 1098)

100

\$10,533 CA Tax Due \$4,973





Personal Info

Federal Taxes

Federal Review

State Taxes

Print & File

Federal Tax Due

\$10,533

CA Tax Due

\$4,973

Wages & Income

Deductions & Credits

Other Tax Situations

Enter Your Interest [

Deductible interest paid in 2

(Box 1 on your 1098)

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

Federal Tax Due

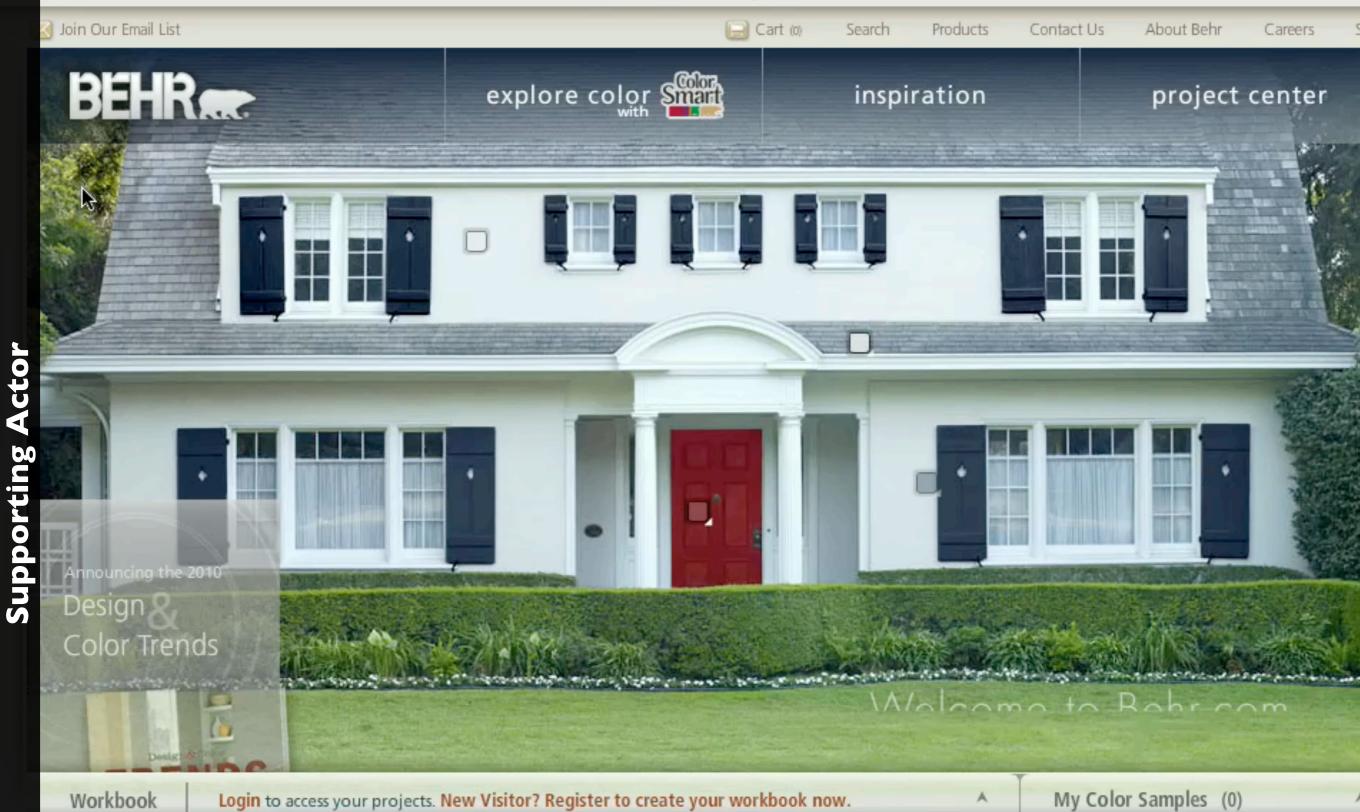
\$10,533

CA Tax Due

\$4,973

- Occam **PREVIOUS WEIGHT CURRENT WEIGHT** DIFFERENCE

Print & File



Privacy Policy

Terms of Use Promotions Submit Rebate

Copyright @ 2009 Behr Process Corpo



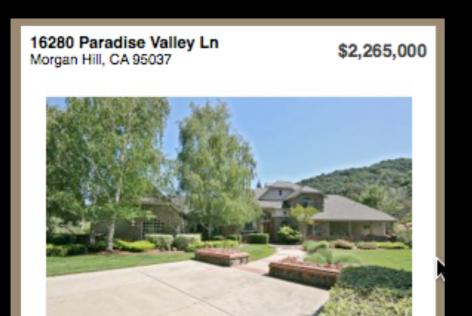
Privacy Policy Terms of Use Promotions Submit Rebate

Copyright @ 2009 Behr Process Corpo

16280 Paradise Valley Ln Morgan Hill, CA 95037 \$2,265,000 (1 of 9) Listing courtesy of Intero Real Estate Services

Schedule a Tour

View Details



Listing courtesy of Intero Real Estate Services

√ (1 of 9)

Disclaimer



View Details

Schedule a Tour



\$136,995

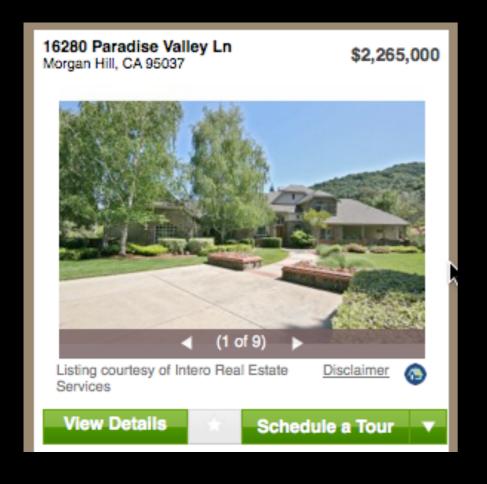
Next

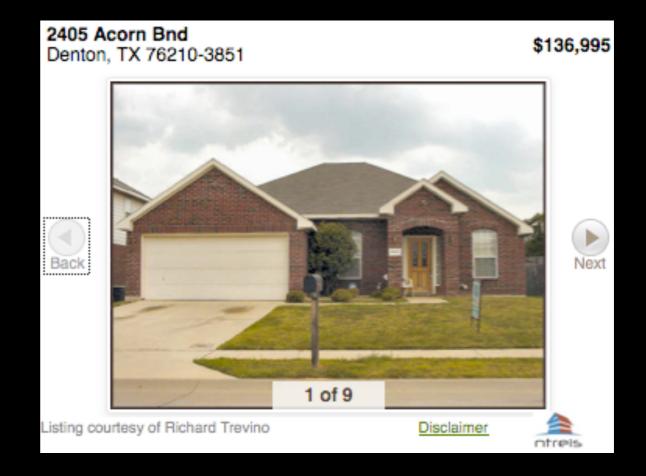


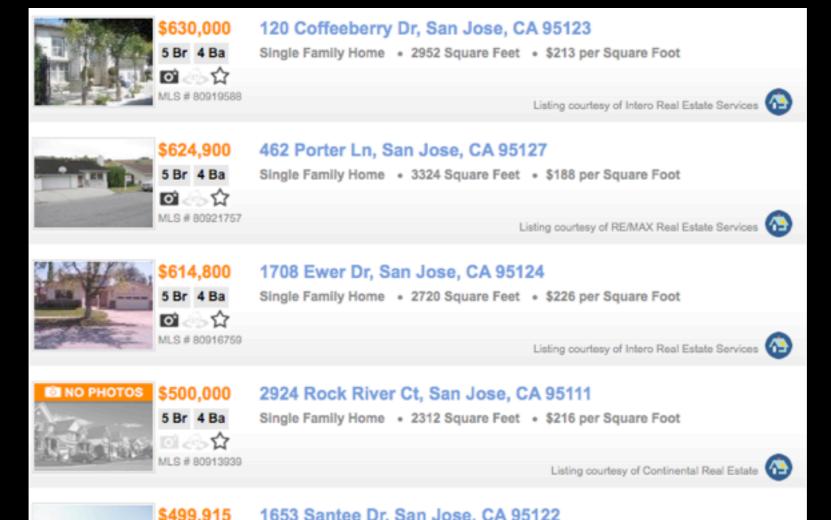
Listing courtesy of Richard Trevino

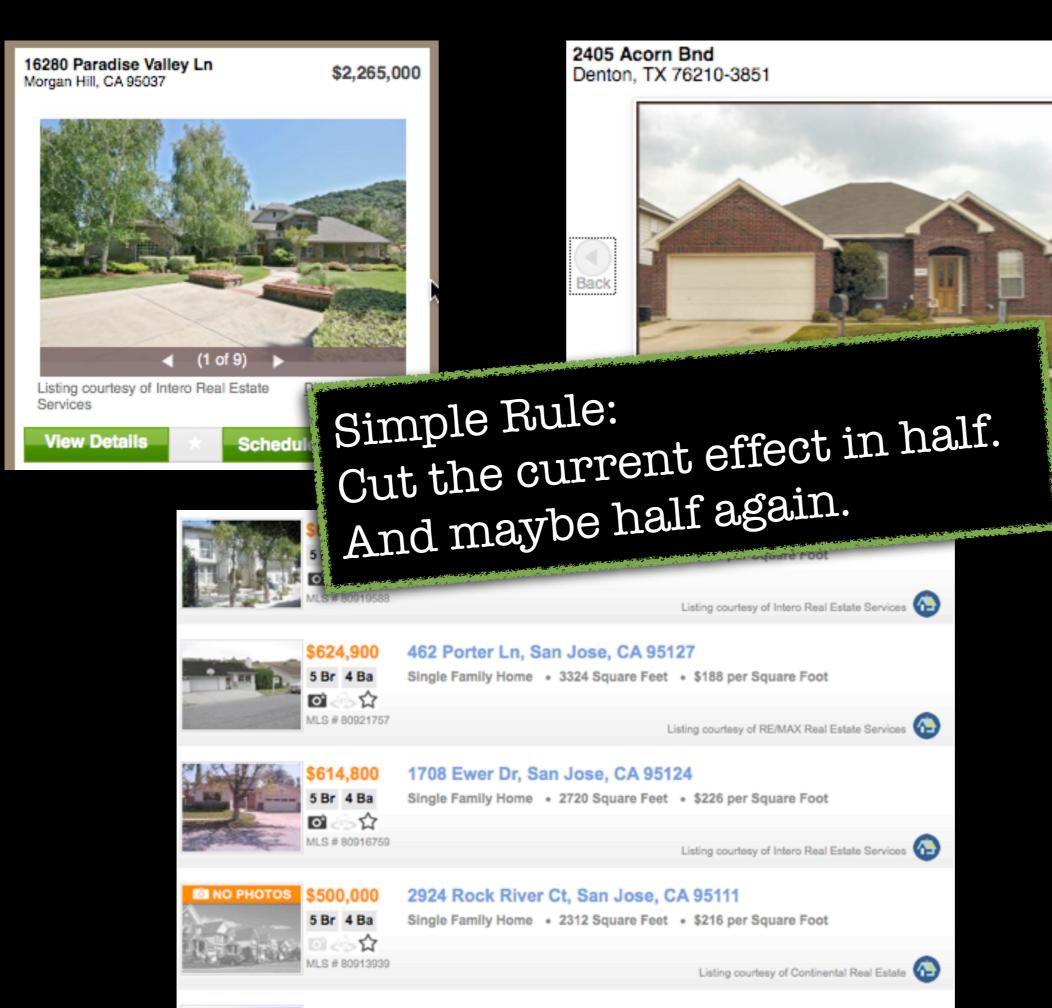
Disclaimer











\$136,995

Next

1653 Santee Dr. San Jose, CA 95122



INTERESTING MOMENTS









Interesting Moments

Art, Animation

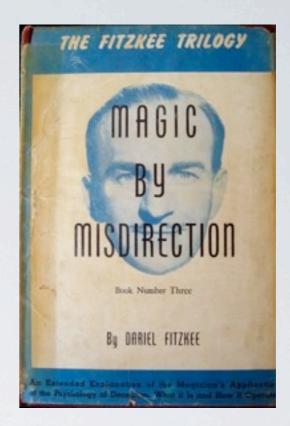
The Lens of Interesting Moments



An experience is like an illusion. It looks simplest when every moment has been painstakingly premeditated.

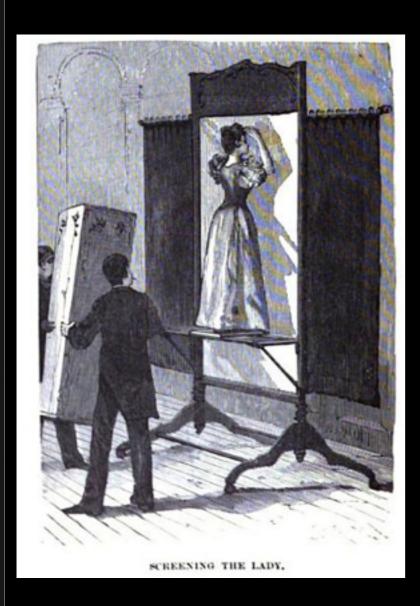
Ask these questions about the moments:

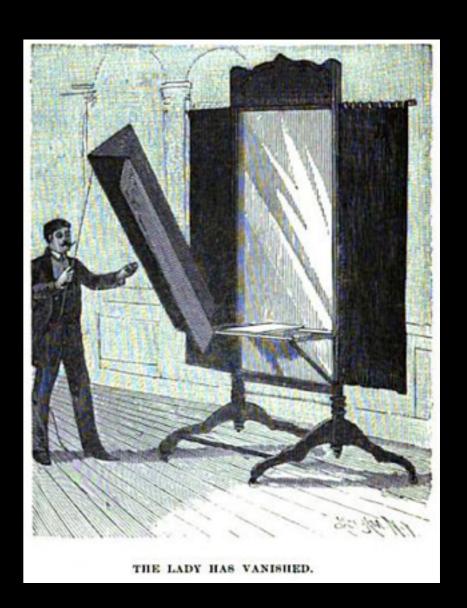
- Have you considered all the details?
- Are you using them for engagement?
- Choosing wisely which to ignore?
- Do they add up to a story?
- Are there tell-tale signs? e.g., bandaids to cover up for unconsidered moments?



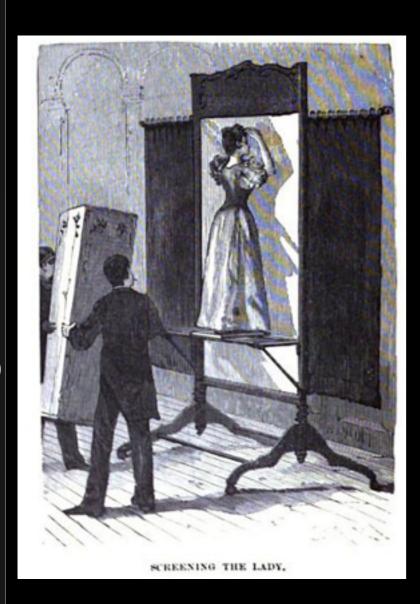
Magic is in both in the details and in the performance.

THIS IS AN ILLUSION



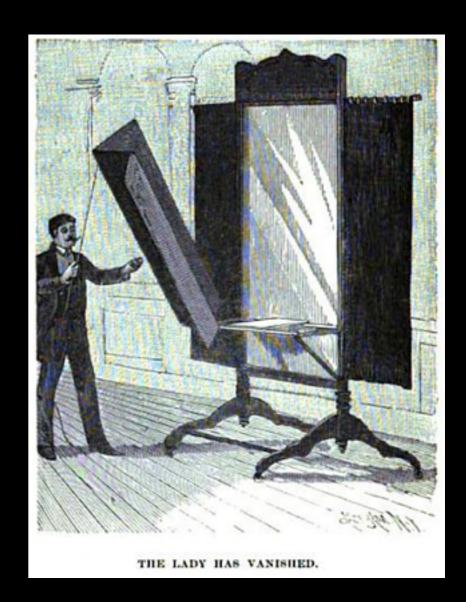


THIS IS AN ILLUSION

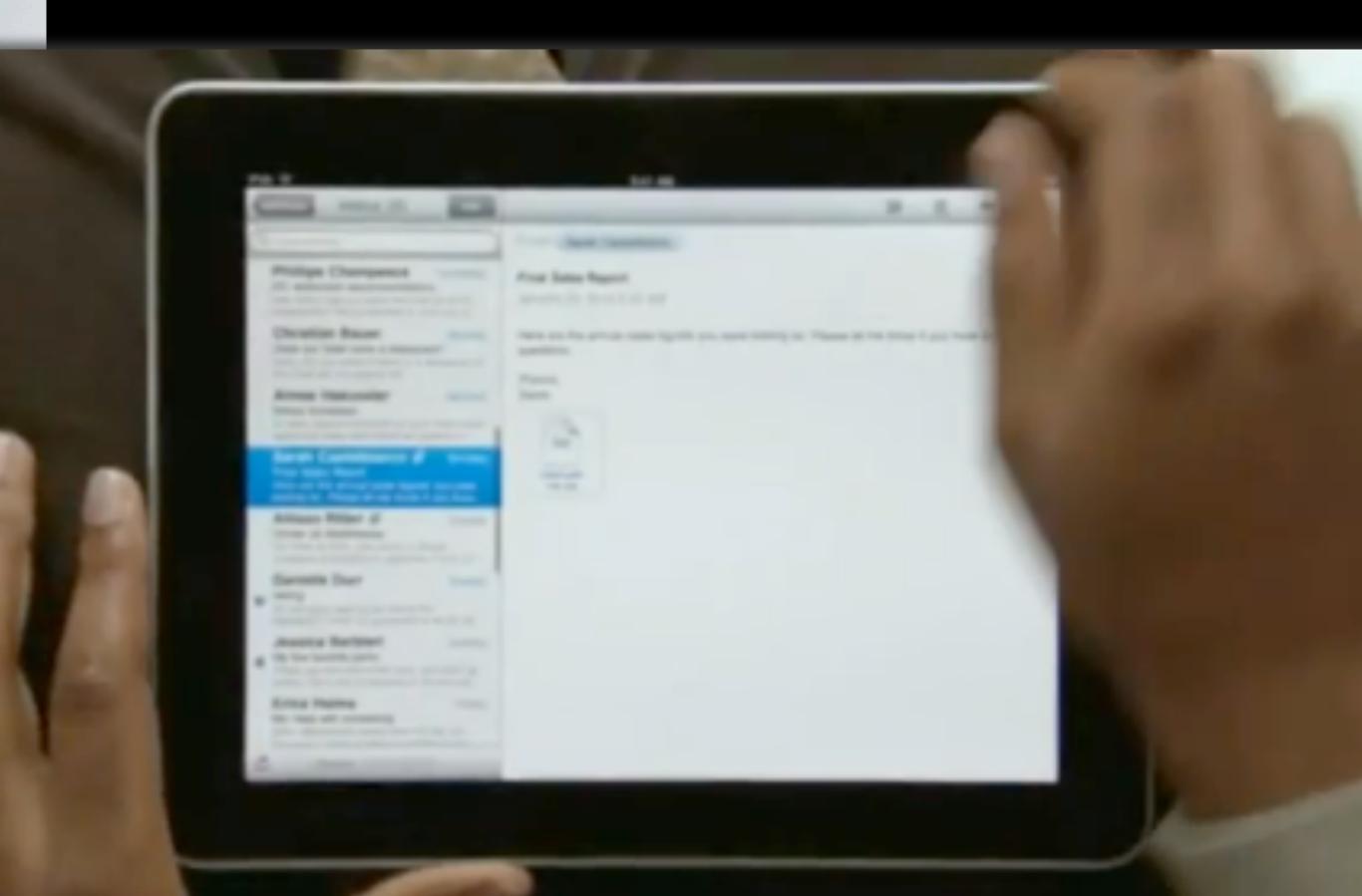


Magic is both in the details and in the performance.

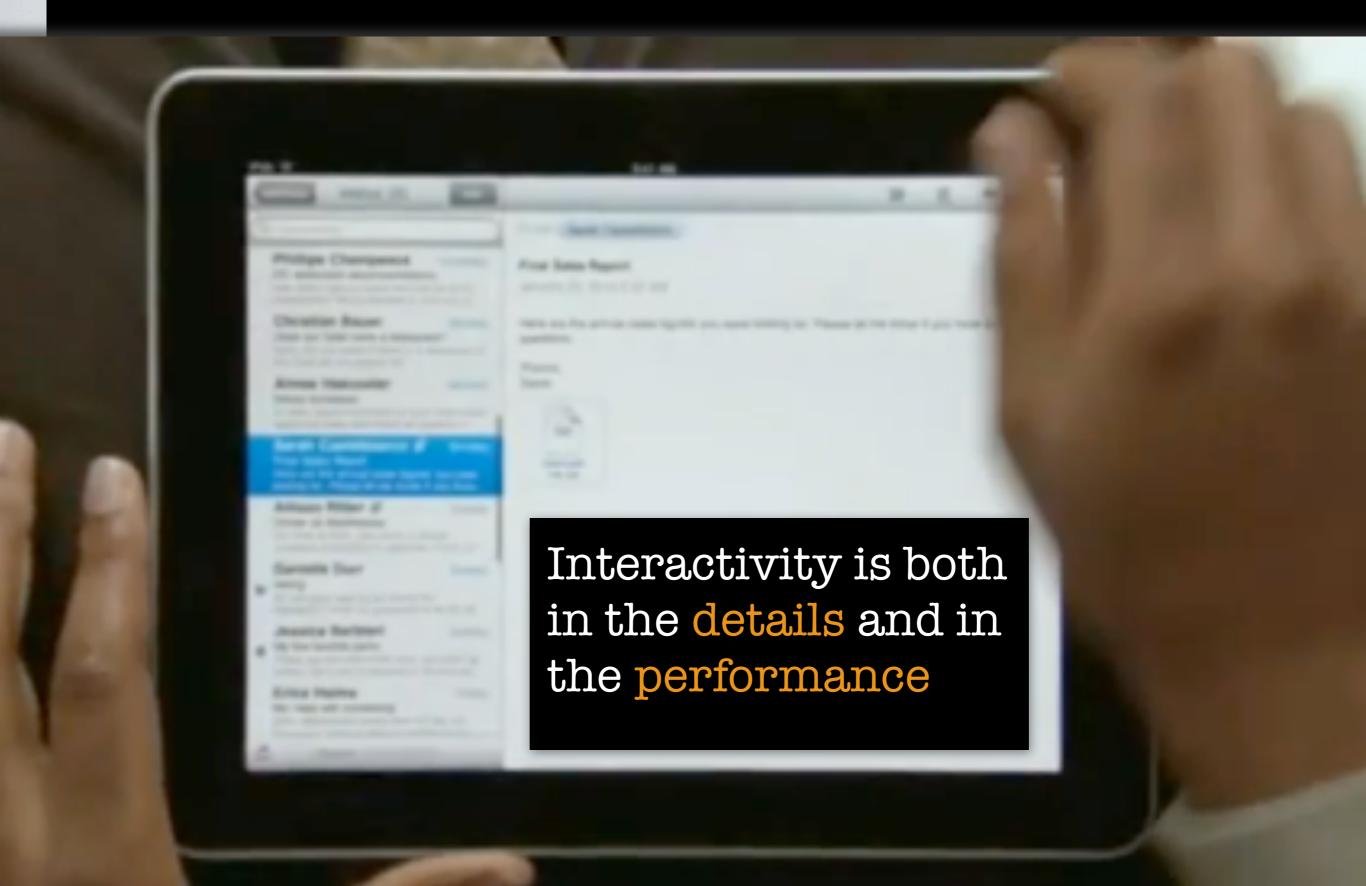
- Dariel Fitzkee



THIS IS ALSO AN ILLUSION



THIS IS ALSO AN ILLUSION



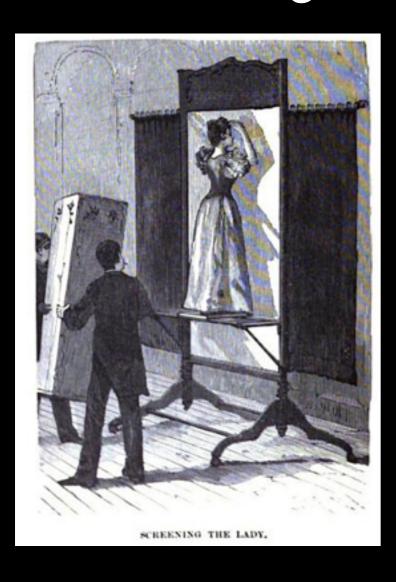
THIS IS ALSO AN ILLUSION

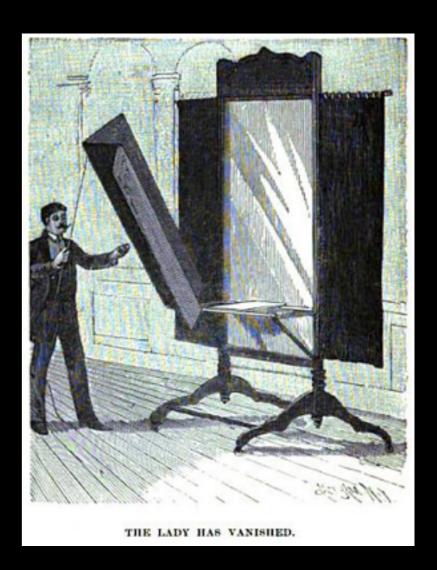
David Smith (Xerox) dubbed the Xerox Star interface the user illusion

- Alan Kay

Interactivity is both in the details and in the performance

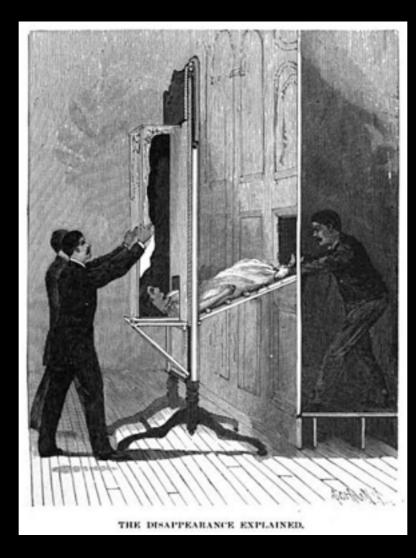
Delicacy of an Illusion





Delicacy of an Illusion

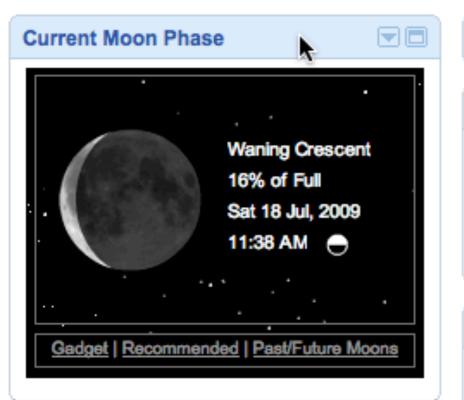






The slightest mistake would destroy an illusion. Each moment matters.

Key principle for effective illusions: attention to detail -Fitzkee



youtube :: top rated

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

National Geographic POD





POD -

Google Webmaster Tools Automatically undate Google when you

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

BBC News | News Front Page | World Edition



- Fugitive linked to Jakarta blasts
- Tour de France spectator killed
- New photos show Apollo sites on Moon

Wired Top Stories



- Your Apollo Anniversary Experience
- → Google Says Mobile App Stores Have No Future

NYT > Home Page



- News Analysis: Iran Insider Sees a Chance to Seize Moment
- News Analysis: Democrats Grow Wary as Health Bill Advances
- Tivers Dismiss Risks of Multitasking on the Road
- An Appraisal: Cronkite's Signature: Approachable Authority
- → Media Decoder: Explaining Cronkite to the YouTube Generation
- Media Decoder: Memorable Video by Walter Cronkite
- Media Decoder: Television Icons Reflect on Cronkite's Career
- The Crime Drops Despite Fewer Officers in Lean Times
- Tongressional Memo: In Books on Two Powerbrokers, Hints of the Future

Top Stories



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 ... FOXNews - all 2473 related »



youtube :: top rated

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

National Geographic POD





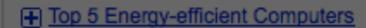
POD -

Google Webmaster Tools

Automatically undate Google when you

Stock Market





- 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

BBC News | News Front Page | World Edition



- Fugitive linked to Jakarta blasts
- Tour de France spectator killed
- New photos show Apollo sites on Moon

Wired Top Stories



- Your Apollo Anniversary Experience
- Google Says Mobile App Stores Have

NYT > Home Page



- News Analysis: Iran Insider Sees a Chance to Seize Moment
- News Analysis: Democrats Grow Wary as Health Bill Advances
- Tip Drivers Dismiss Risks of Multitasking on the Road
- An Appraisal: Cronkite's Signature: Approachable Authority
- Media Decoder: Explaining Cronkite to the YouTube Generation
- Media Decoder: Memorable Video by Walter Cronkite
- Media Decoder: Television Icons Reflect on Cronkite's Career
- (+) Crime Drops Despite Fewer Officers in Lean Times
- Two Congressional Memo: In Books on Two Powerbrokers, Hints of the Future

Top Stories



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 ... FOXNews - all 2473 related »

SIMPLE ILLUSION? 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.

SIMPLE ILLUSION? ACTORS...

PAGE. CURSOR. TOOL TIP. DRAG OBJECT. DRAG OBJECT'S PARENT CONTAINER. DROP TARGET.

Actors

Events ----

Interesting Moments

	Mouse Hover	Mouse Down	Drag Initiated	Drag Hovers over Valid Target*	Accepted 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.



	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.





	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.







	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.



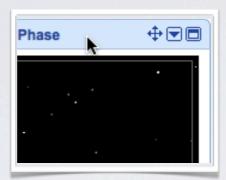






	Mouse Hover	Mouse Down	Drag Initiated	Drag Hovers over Valid Target*	Drop Accepted
Cursor	Change to a hand pointer.	Change to normal style.*			
Dragged Module			Slightly transparent.		Dragged module removed.
Dragged Modules Original Location			Hole is shown as a gray, thick, dashed outline.		Hole is 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.











	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.

Actors



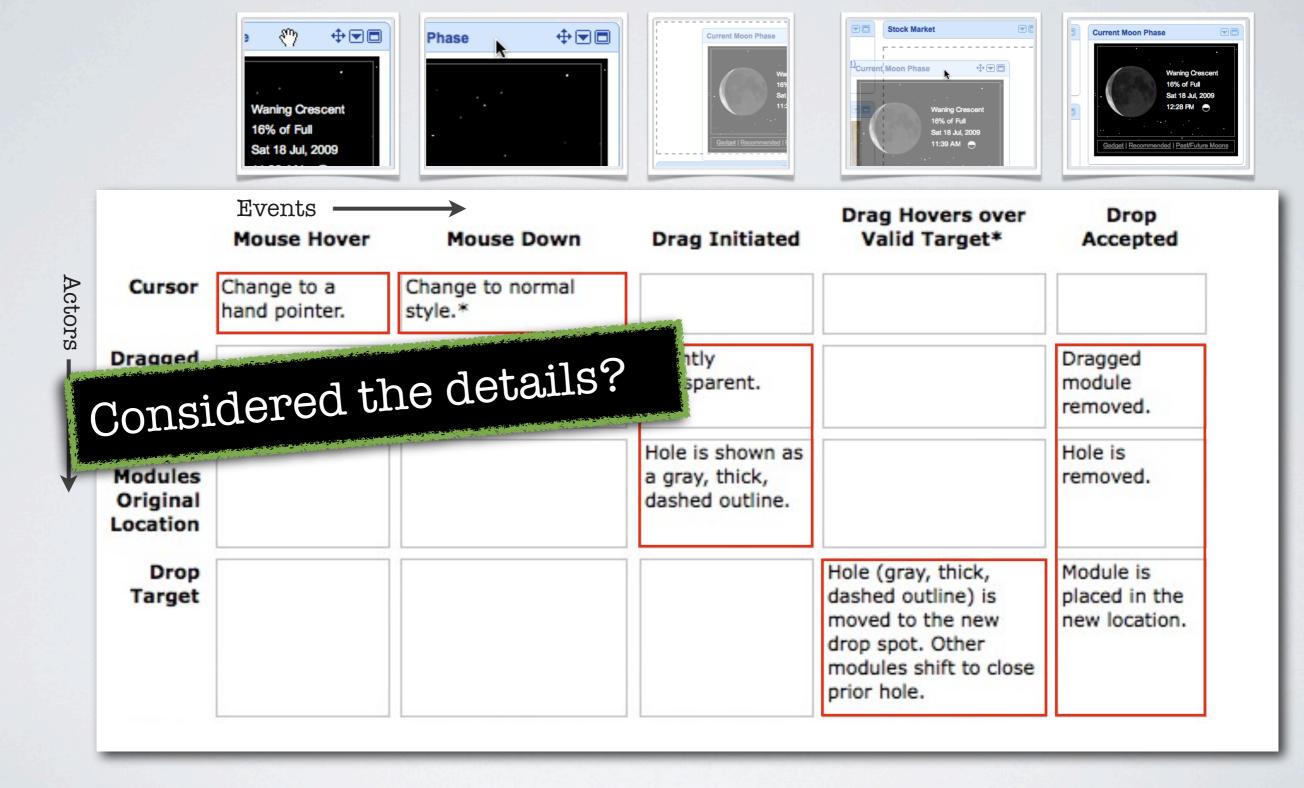


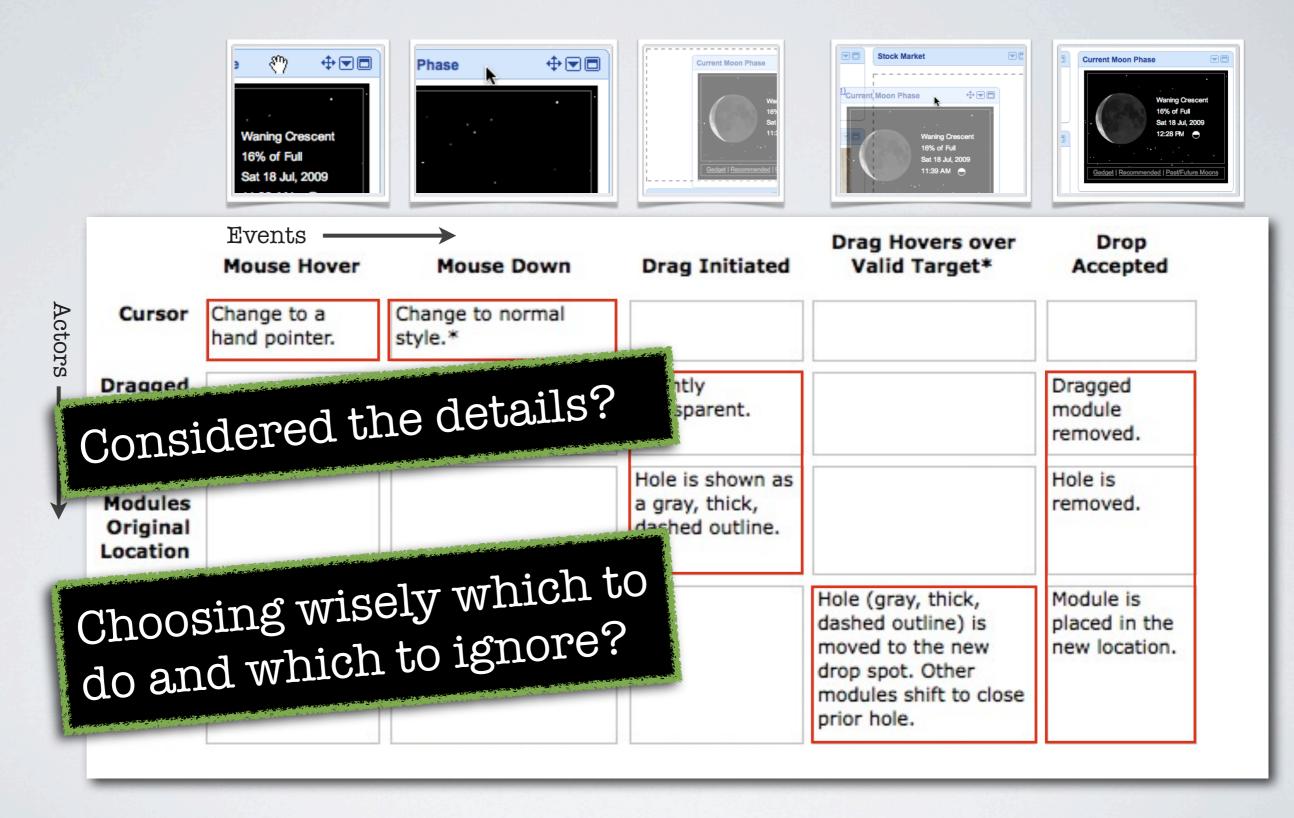


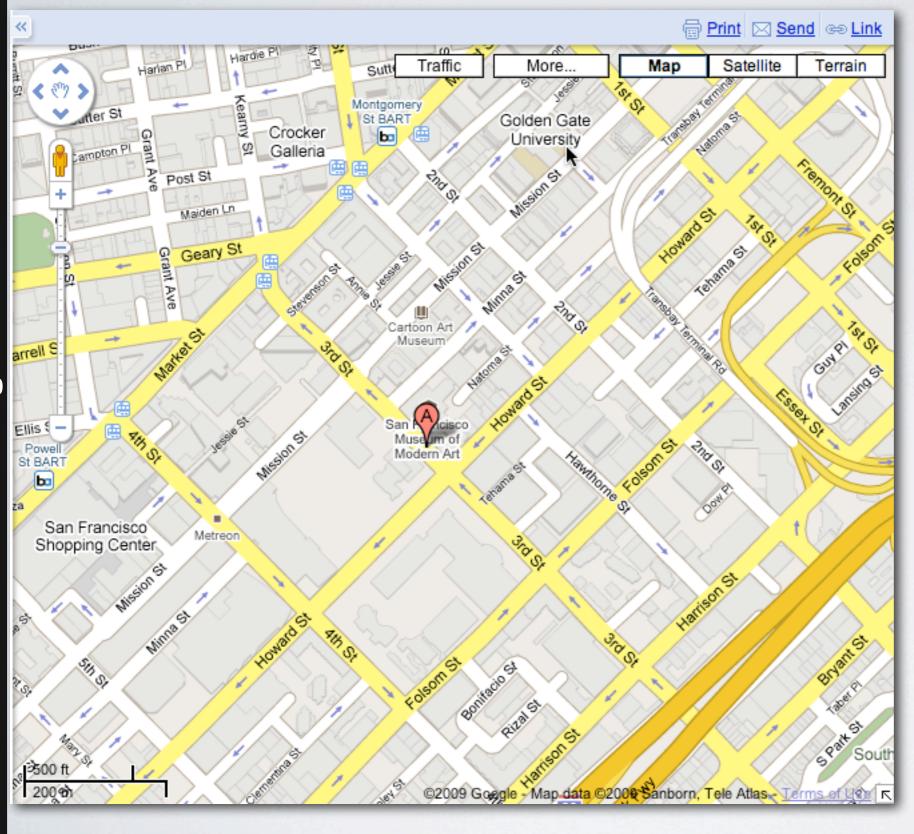


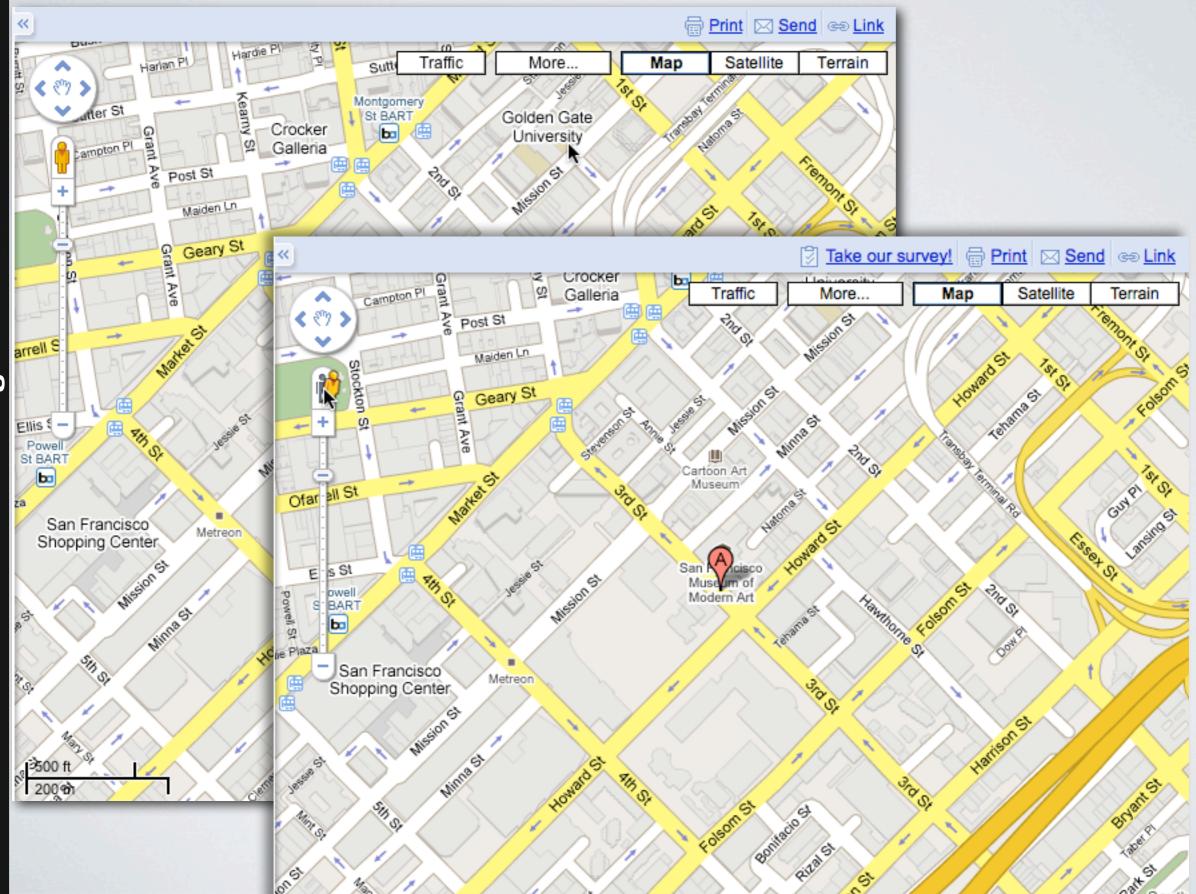


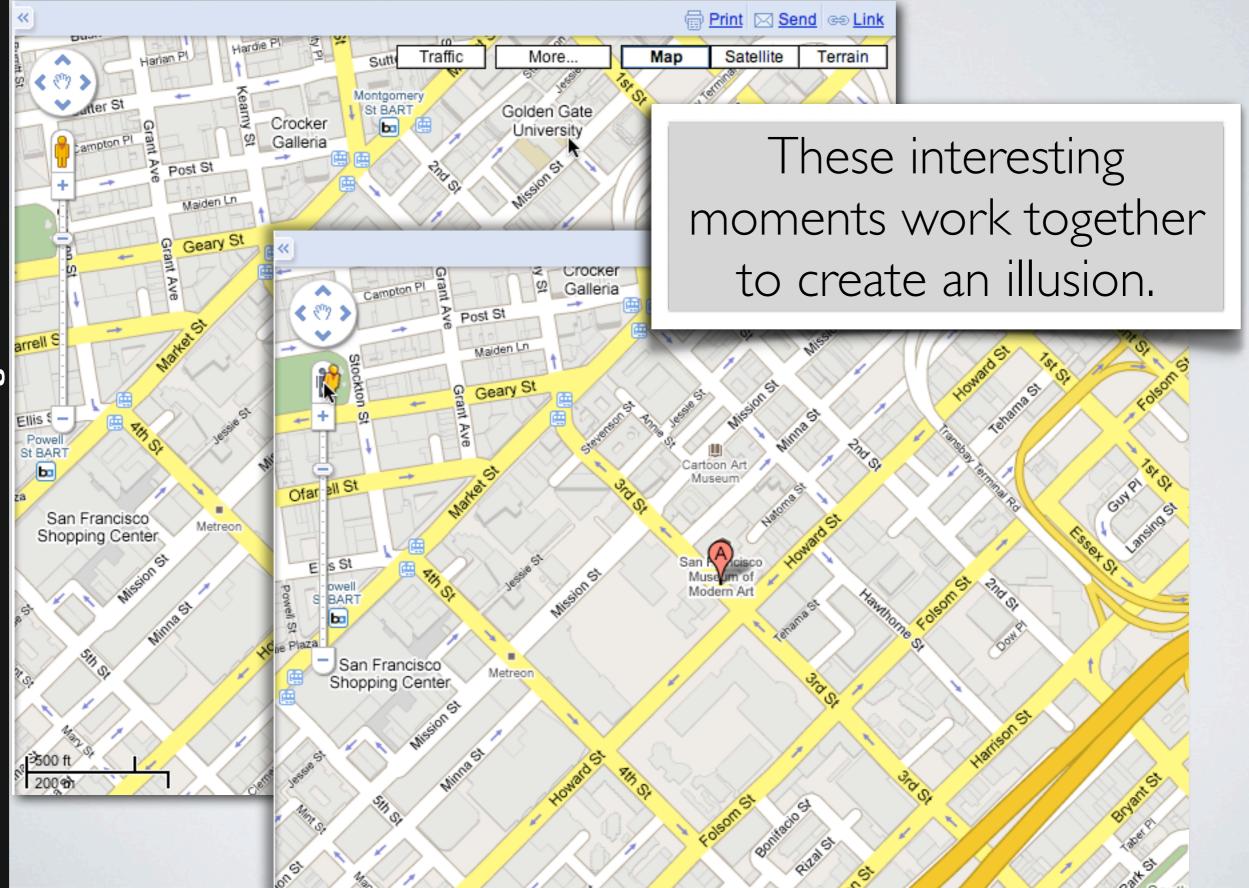
	Events Mouse Hover	Mouse Down	Drag Initiated	Drag Hovers over Valid Target*	Drop Accepted
Cursor	Change to a hand pointer.	Change to normal style.*			
Dragged Module			Slightly transparent.		Dragged module removed.
Dragged Modules Original Location			Hole is shown as a gray, thick, dashed outline.		Hole 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.

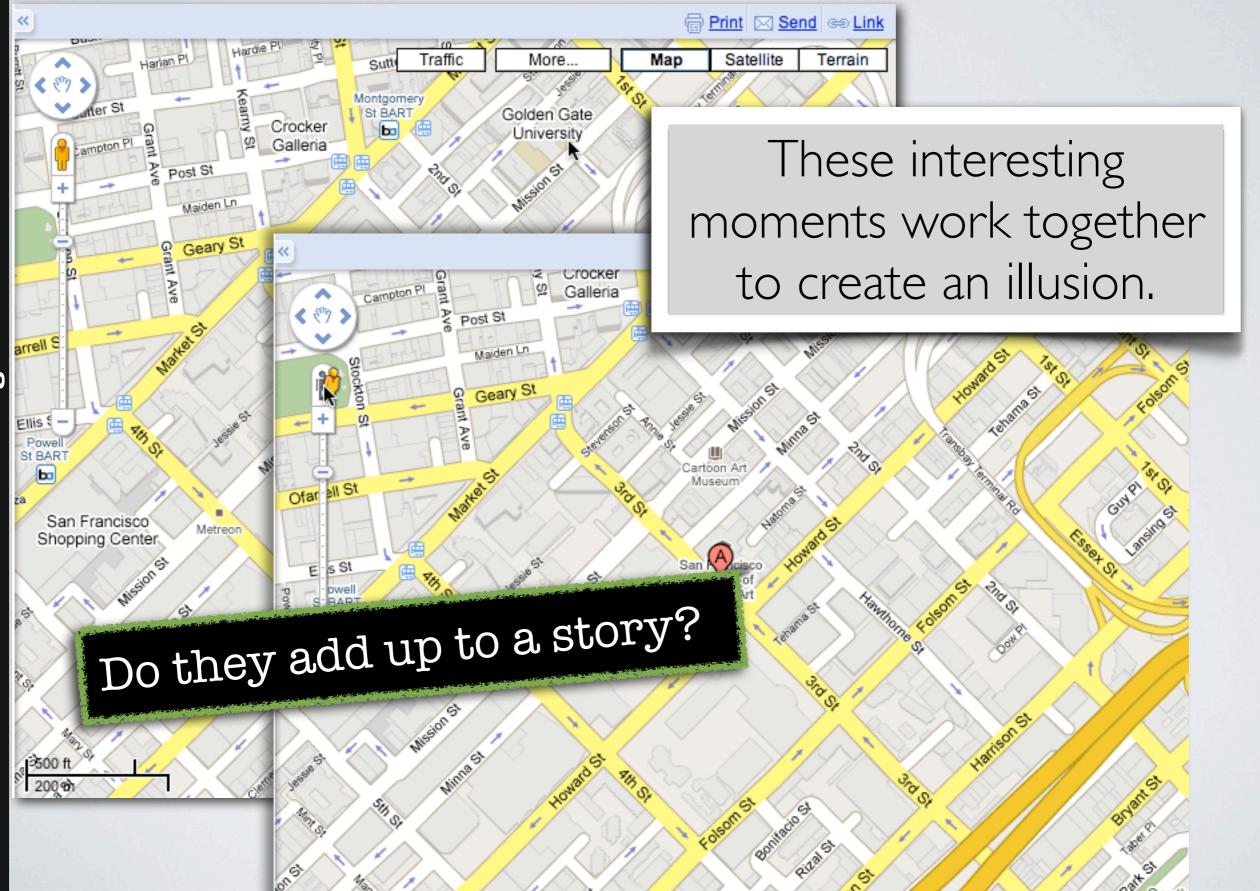












DELICACY BROKEN



barnes and nobles

A DESIGN LENS ALLOWS YOU TO VIEW THE USER EXPERIENCE FROM THE PERSPECTIVE OF A SINGLE DESIGN PRINCIPLE.

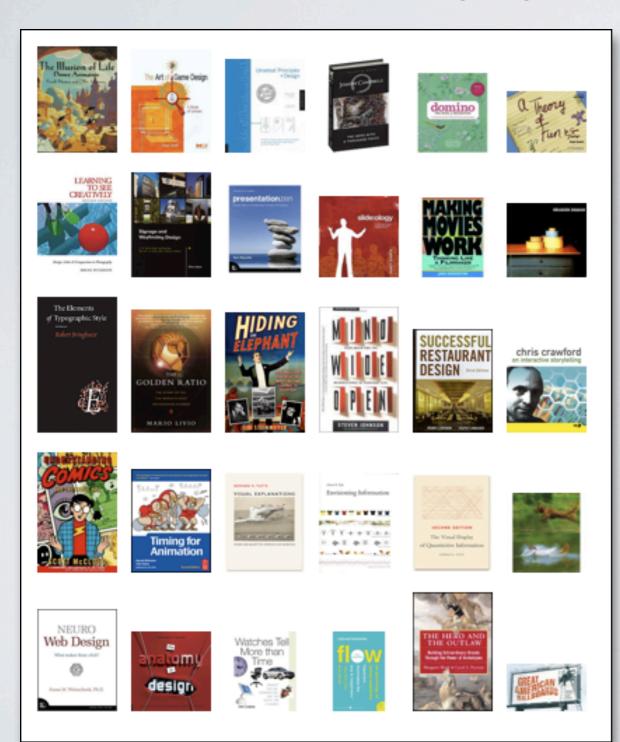
By Asking Focusing Questions It Brings a Single Principle in Focus

THINK OF IT AS A LIBRARY OF DESIGN PRINCIPLES



RESOURCES

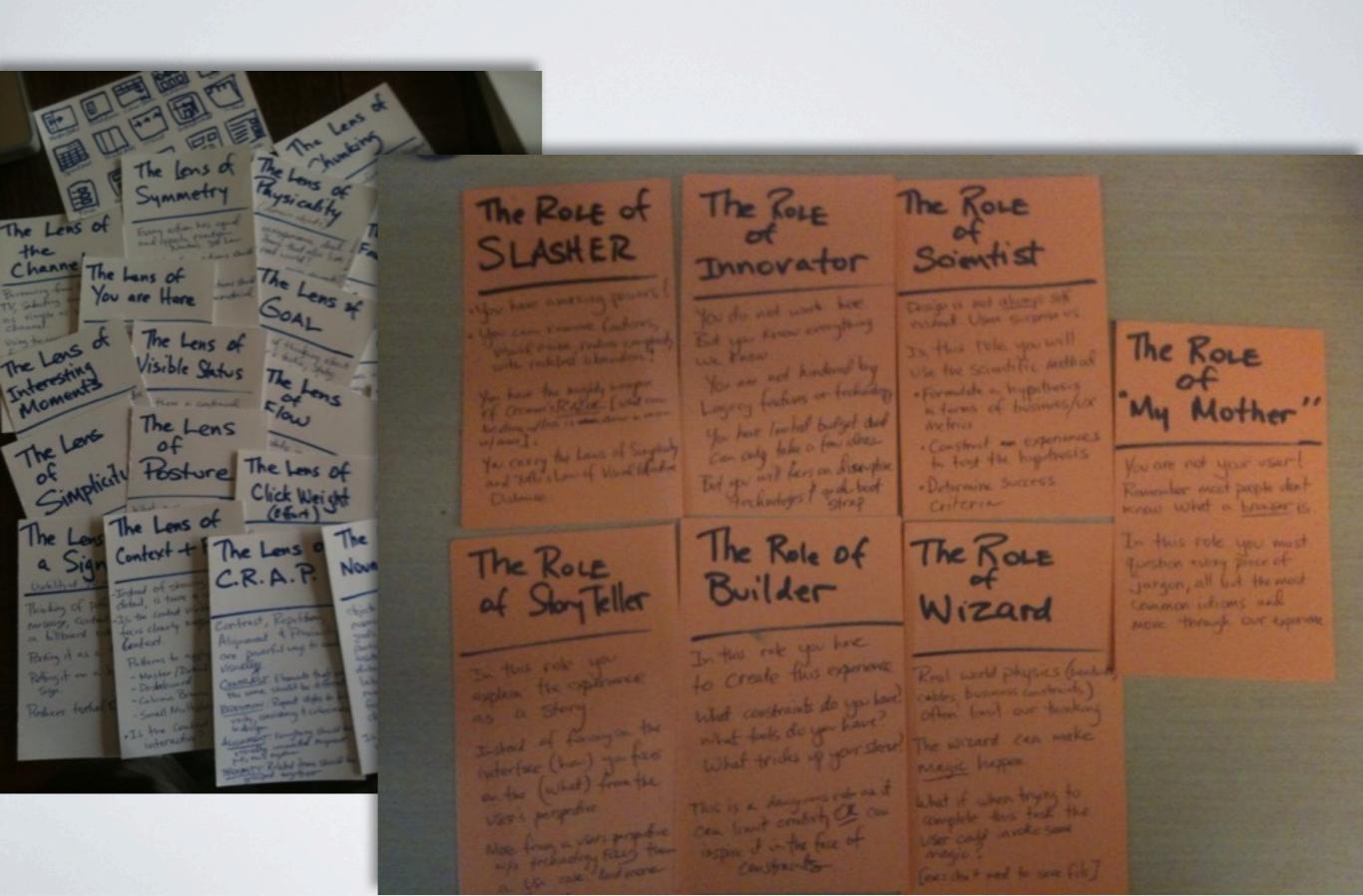
designingwebinterfaces.com/resources

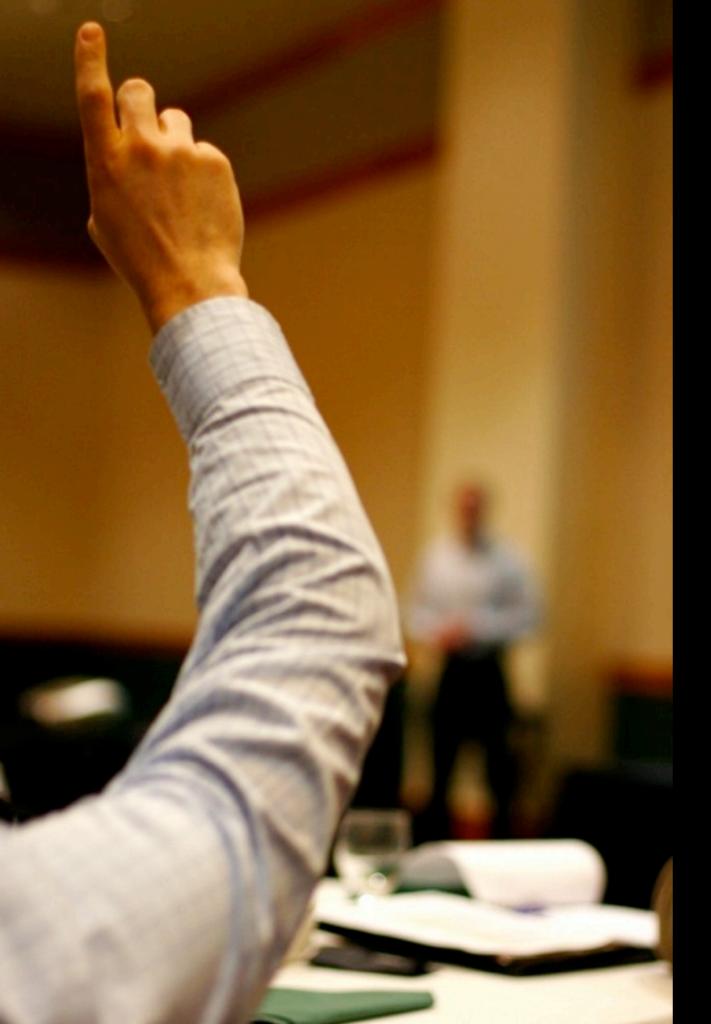




kits

CARDS? ROLES?





Companion Site designing with lenses.com

Presentation billwscott.com/share/ presentations/2010/uxlx

Blogs

looksgoodworkswell.com designingwebinterfaces.com designingwithlenses.com

Book
Designing Web Interfaces

Follow me on twitter!

- @billwscott
- @uxlenses