

Some Touching News

the new rules of digital media

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Interaction designer but also what might be called: design strategist

I work mainly in mobile.

I wrote a book called Tapworthy about designing iPhone apps.

Fill my days:

Help people/companies think through crafting terrific experiences for non-desktop systems.

Means figuring out how phones, tablets fit into overall digital diet.

But it's also about how these devices are creating entirely new kinds of interaction, new kinds of digital products and interfaces. That's what I'm going to talk about today.

How this explosion of new devices means we have to rethink how we approach design.



Especially excited about possibilities of touch interfaces.

I believe touch forces—or should force—important, FUNDAMENTAL changes in how we approach the designs of these interfaces.

When you get rid of the mouse and cursor, these prosthetics that we've been using to point at stuff for 25 years, you get a VERY different experience. And it suggests entirely new interfaces.

Touch will help us sweep away decades of buttons—menus—folders—tabs—administrative debris to work directly with content.

This is very different from what came before.
And certainly VERY different from print.

I'm going to talk about two things today:

1. How we should/shouldn't go about conceiving entirely new interfaces for news; particularly its relationship to print.

Then: nitty-gritty techniques for pushing touch interfaces in exciting new directions.

iPad in particular giving many of us opportunity to experiment. EXCITING. But also means we see a lot of misfires, too. Start w/awesome example of what think we SHOULDNT do. Ladies and gentlemen...

[twitter]Gonna tweet some of my #sndstl talk's main points as I give the talk, m'kay? Like footnotes![/twitter]



THE GLOBE OF NEWS!
pastes latest videos onto a globe
like some kind of new-media feat of papier-mâché.
And it's a nifty little graphics feat.

Spin to browse, click to watch.
Give it a whirl...
Paris/Lindsay — Carp/ shoes
Who says television can't enlighten?

Sure, interacting directly with this thing, cool!
The interface doesn't inform or enlighten.
It does not organize the clips in any meaningful way.
It actually keeps you from the content, hiding and distorting it with this gimmick.

The interface upstages the content without adding useful value.

Planet of news isn't first planetary gimmick to fall short.



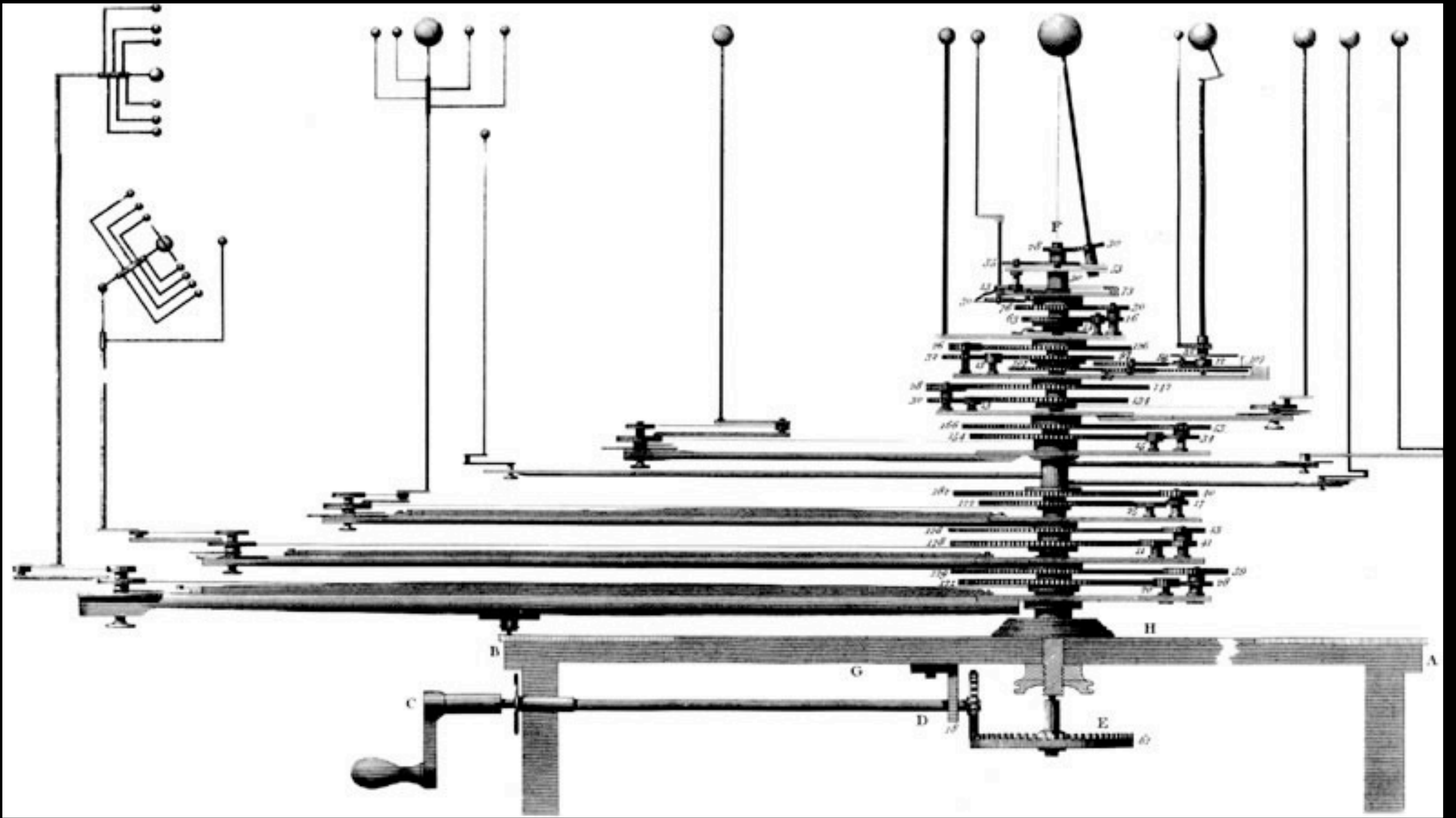
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Model of the solar system from 1800.
Turn the crank.

Edward Tufte: Sin of pridefully obvious presentation
more attention to contraption
than to content it aims to present.

The inner show-off of the designer.

As technologists, we often lose sight of this:
content should defines app,
not its machinery, not its technology.

Showcase the content, not the contraption.

As we create new interfaces, explore new possibilities,
remember that the goal is not showcasing the form.
Showcase the content.

My friend Jeremy Keith said to me the other day that what we need to do is this:
“we have to build from the content out, not the container in.”
In other words, let the content define the presentation, not the reverse.

That doesn’t mean that we can’t deploy
awesome graphics and media.
Let’s keep with the planetary theme before I return
to more traditional news.



Solar Walk a more successful version.
Fly and zoom and swoop through the solar system.
Like the ABC news globe, it's spiffy 3d experience.

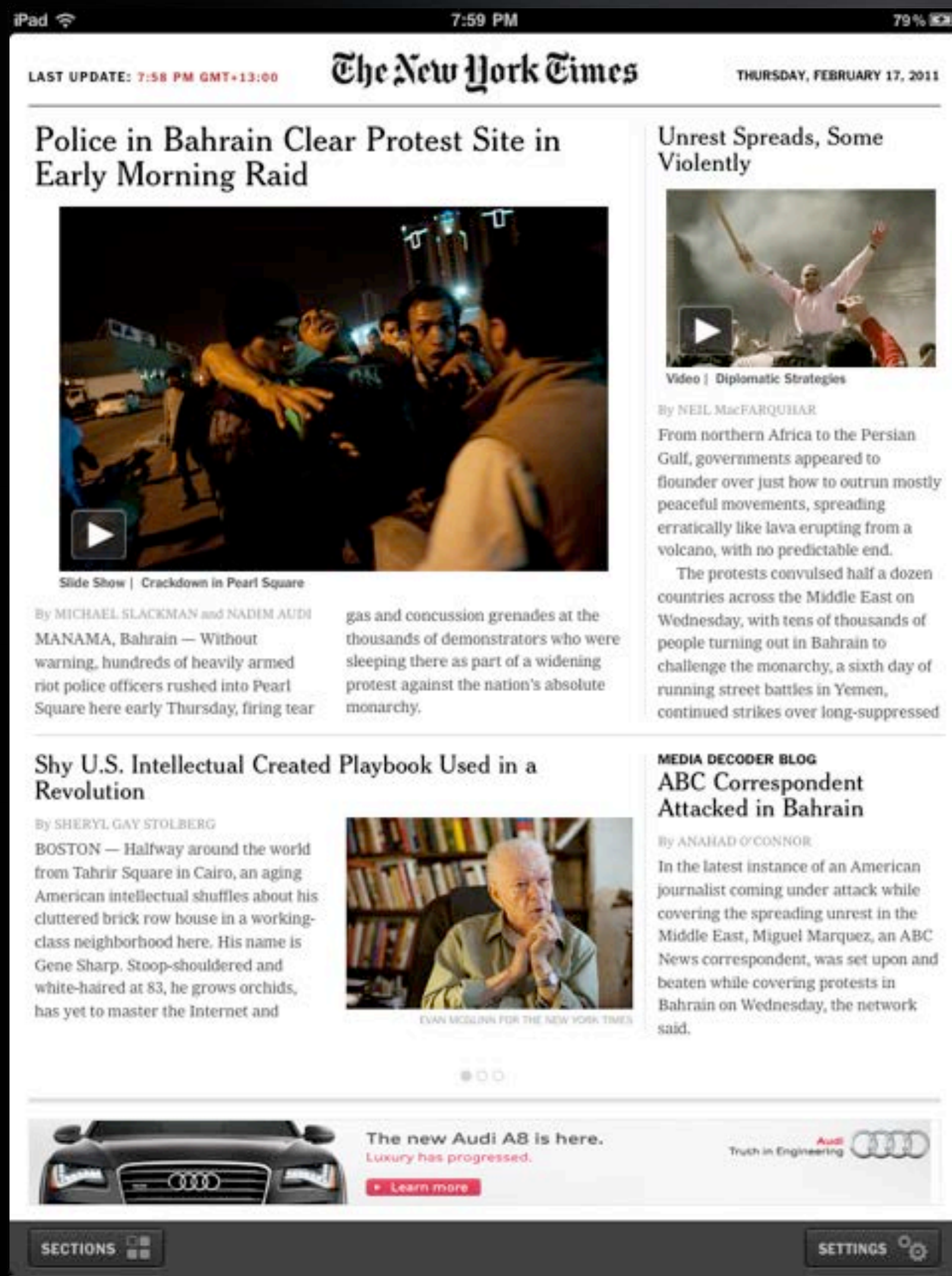
But it serves purpose: to underscore distance & time.
Complex topics, effortlessly explained
by putting you in the middle of it.

Only very little bit of chrome on right
to help you speed or slow time.
Otherwise, app is all content,
very little artifice or interface.

Gee-whiz 3D graphics CAN be a part of the future
as we rethink our interfaces for touch.
And we'll look at some other innovative
interfaces in a bit.

Our new interfaces don't HAVE to be jaw-dropping.
They ****DO**** need to emphasize
direct interaction with content.

[twitter]Snazzy, whiz-bang UIs are swell when they don't upstage content. Solar Walk for iPad is one of the good guys: <http://j.mp/qnOv8d> #sndstl[/twitter]



The New York Times iPad app isn't whiz-bang.
 It doesn't look new at all.
 It looks like the NY Times.

Many have criticized news media for being too safe.
 "COME ON, it's a new platform,
 all you can think is to make it look like a newspaper?"

It's not for lack of imagination.
 This actually wasn't the team's original vision.
 Let's step back 18 months ago to last January.

Two weeks before the announcement...

2 weeks before Steve Jobs announced iPad
Apple secretly invited handful of people
to come to Cupertino and prep demos

Among them:
Three young designers and developers from NYT
Andre Behrens, Jennifer Brook, Adam Kaplan

Apple threw them in server closet,
tossed in some scattered documentation

“Make something cool, don’t embarrass us.”

With only need-to-know info about the iPad,
they scrambled to build the NY Times demo in 2 weeks

They had their first concept running within 1st 48 hours.



This was the first version of NY Times iPad app.
Called concept The Deck,
Andre developed in the fall in anticipation of iPad.

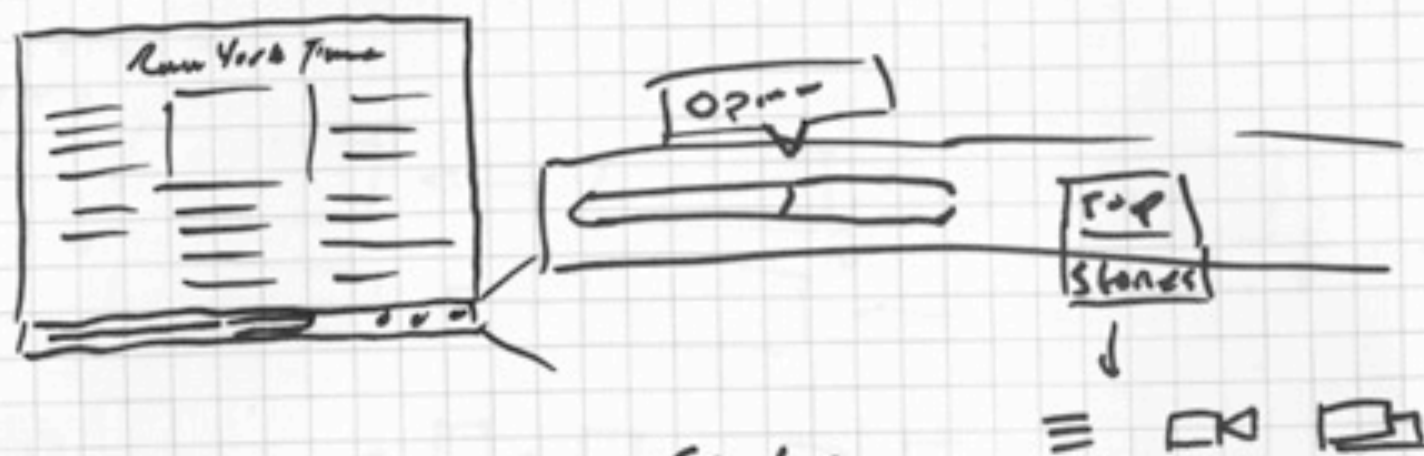
This was the first thing they got up and running on iPad.
Interesting: NPR News, Pulse and others; similar concepts

Danced around, realized it wouldn't work.

Visual brand.
Not only of print but of 15 years of web.
Brief not to create entirely new visual brand.
Didn't want to be jarring; on contrary, wanted comfort.

Today's News.

① Top 5 stories on NY +



② skip to your favorite ^{Section} ~~question~~

Options



look @ something

③ or tap see to top stories in each section.



see an article that catches your eye?

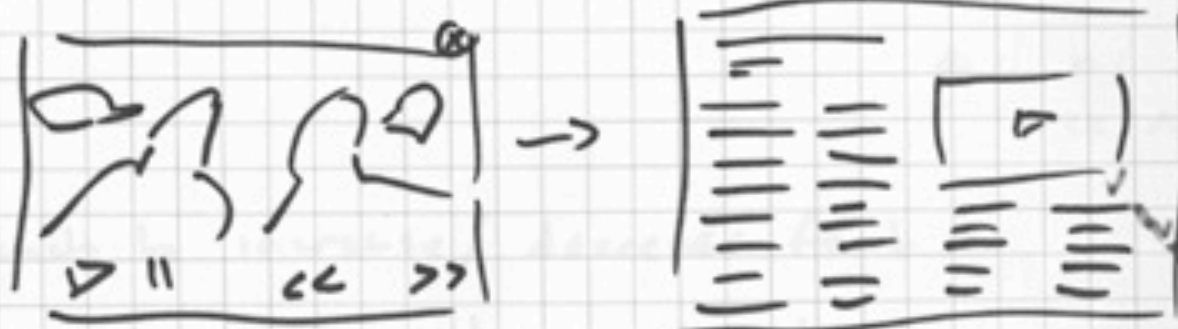
(Section or article.)

④

tap on an article



⑤ play a video, tap twice to go full screen

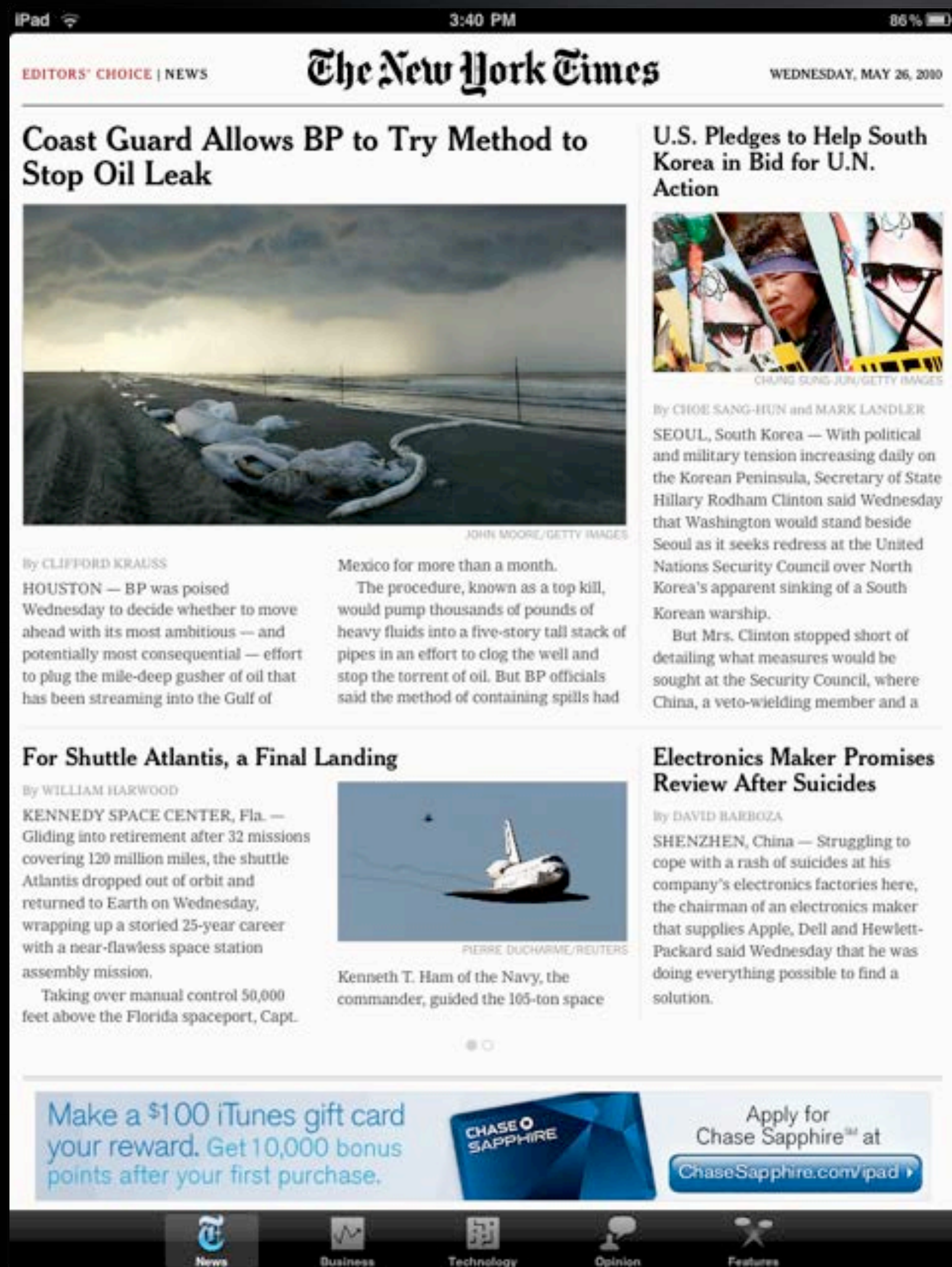


⑥ tap to read the next page, double tap twice to read the next article



long press to share

Email
Facebook
Twitter



This is what they came up with:
NY Times Editor's Choice

Very strong print metaphor.
Feels good, familiar to read a newspaper
that looks like newspaper.

Couple of quibbles
But strong if conservative first effort.

Sometimes you can impress most by doing it quietly.
That was exactly the impression Flipboard made.



Flipboard is an impressive app for iPad
Takes all the links in your Twitter, Facebook, Google Reader feeds...
formats it like a newspaper or magazine.

Remember when this came out? Caused quite a stir.
NY Times came out: ho-hum, looks like a newspaper.
Flipboard: HOLY CRAP it looks like a newspaper!

For Twitter, Facebook, and RSS feeds, this was new.
They somehow made your dizzy array of digital feeds
look like a calm, staid newspaper. Enormously successful.
Tamed chaotic torrent of news feeds for the calm sensibility of the iPad.

Flipboard: entirely new interface by using time-tested graphic design treatments. Pleasure to read your twitter feed this way.

Old conventions are not always old fashioned.

Old interface conventions not necessarily old-fashioned.
Don't underestimate power of humdrum.

Interface revolution doesn't mean everything old must go out.
In many ways, it's a return to the old and familiar.
We have centuries of practice at making printed text engaging.

Important to try new things,
throw everything we've got at the drawing board.
We have tons of new opportunities, and we should explore them.

[slow]
But be aware that our enthusiasm for the new is also an achilles heel.
Some sober moments to ask: does this make sense?
Or is it a planet of news?

Doesn't mean media and animation can't play a role.
Can have an important cognitive impact, particularly if done subtly.

A word about page flips...

I want to talk about page flips.

For at least 2 decades, magazine industry has trotted out desktop apps. As if that's what we were all waiting for. Oh, THAT's why I don't read Cat Fancy on my computer.

A lot of folks in the design community have commented that the page flip has been abused, that it's overly kitsch.

Or worse, that it shows a pathetic lack of imagination, that we can't get past our analog roots to invent something new for this new platform.

Here's a representative point of view.

Why does an e-book reader need a page-turn effect? Like having a fake needle on a CD player. Or horse-shit coming from the back of a car.

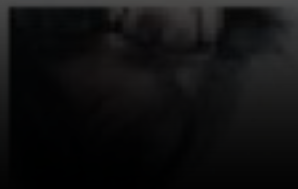
7:44 PM Apr 1st via Twitter for iPhone

Retweeted by 44 people

Reply



blprnt



nathan

He's got a point:
bolting analog metaphors onto digital content: too cute.
These kinds of animations CAN be kitsch,
Can certainly be distracting. Have to be careful.
BUT: there's no charm in horse shit coming from back of a car.

Previous animation took too long. Painful.
[flip back]
Got in the way. Distracts from content.
If make it quick, adds to experience.
Reinforces the physical touch metaphor.

Unlike those sad desktop gimmicks,
touch changes the experience.
Page flip is window dressing, sure, but the animation
provides feedback to reinforce your design metaphor.

I like page flips.

I LIKE PAGE FLIPS.
Books, newspapers carry sentiment/familiarity, ok to capitalize.
Fast animations that don't distract,
don't take too much time, build that familiarity.

Old conventions
are sometimes
~~are not always~~
old fashioned.

Quick animation.

Now. Of course when I say this...
I also mean this...

[next]

Not every print convention should be honored.



One example:
we wrongly cling to the idea of issues of daily or weekly editions.
Publish all at once and then wait.

This is totally understandable.
This is our history. This is our heritage. This is print.
I'm sympathetic to this impulse,
this dogged resistance to give up the print metaphor of issues.



But for users it's limiting, forces us into this monolithic visual and navigational metaphor that does not reflect the ad hoc way we gather information now.

Issues are the way PUBLISHERS understand content... not readers.
As readers, we're engaged by individual stories.

Before music downloads, remember how you had to get the whole album just to have the one song you wanted? That's what magazine and newspaper issues are today.

Overhead. Extra content that's bundled and sent my way whether I want it or not.

[twitter]When forced to DL entire issue of magazine, I'm reminded how I used to have to buy whole album for 1 song I wanted. Feels like spam. #sndstl[/twitter]



Why should I have to wait a week, TIME magazine,
when you have the story today?
Why the artificial embargo on content?
I want to have my cake AND eat it too.

This is why Flipboard, Instapaper, Read It Later are so interesting
Apps we saw this morning: Trove, Zeit, Flood, The Daily Me
One container for whole universe of content from all providers.

Publishers and designers have to start thinking about content at a more atomic level, not in aggregated issues, and
I'll talk about that in a bit.

But aside from that behavioral shift that too many publishers ignore,
there's a simple technical issue, too.



Who's familiar with this screen from The Daily?
This is what you get every morning you fire up the app.
And this screen lasts several seconds.

It is SLOW to download entire issues at a time,
to download every article that a newspaper published at once.

[next]

And then you get this. Oh so tantalizingly close.
You can see the cover but you can't do anything while it keeps loading



And then it finally loads, hurray!
But oh, wait, it's not done yet.



10%



We see this progress bar showing you how far you have to go.

Issue-based apps turn us into clock watchers.

I don't mean to pick on the Daily here.

You have similar experiences across any issue-based app.

Nature of the beast.

Best of luck if your internet is shaky.

It took me 10 minutes of hotel internet time

before I could download an issue of Time Magazine today.

The New Yorker even longer.

On their websites, I was up and running in moments.

“Speed is the most important feature.”

*Fred Wilson
Union Square Ventures*

Quote from venture capitalist Fred Wilson.

Doing the analytics on his investment companies, he found that even microseconds of delay caused drop-off in users-- of revenue.

Microseconds! What happens when we're talking 30 seconds, a minute?

One of the great advantages of native apps is a perceived performance advantage over the web. The UI can feel sleeker, faster, more capable than the web.

Yet the web always feels faster than these issue-based apps.

We're giving up one of the big advantages just so that we can have something that is delivered like print. And for what?

We learned over the course of decades how to respect and anticipate slow internet connections. With cellular internet, those lessons apply more than ever.

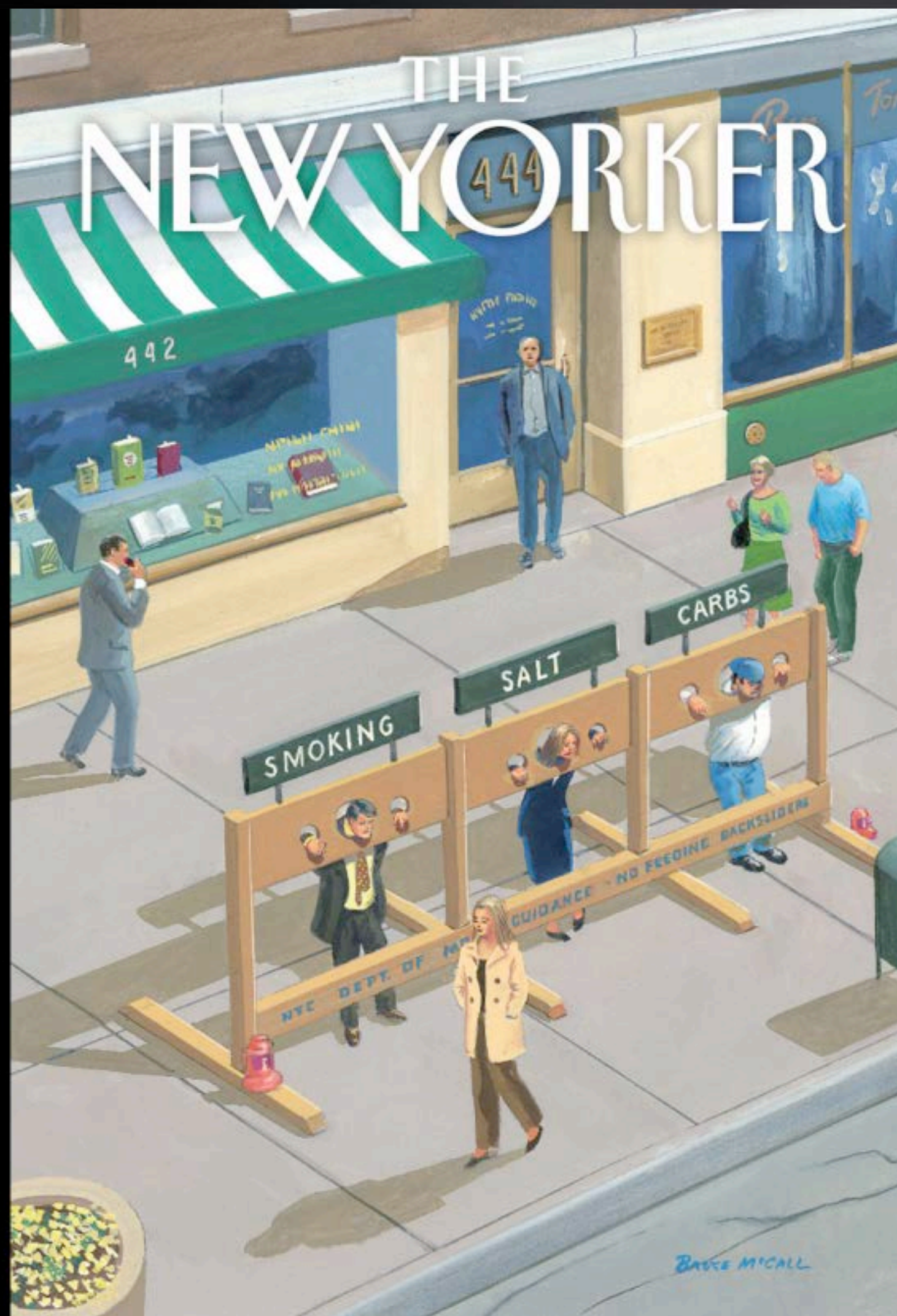
Downloading everything all at once is wasteful, and I would suggest a bit arrogant, too. It's tied to the form that WE want as publishers, not what readers want.

Let's not lose all the lessons we've learned about delivering digital content over the web. Bring back some of those design patterns.

[twitter]Fred Wilson's 10 golden principles of successful apps: "Speed is the most important feature." <http://j.mp/q1XgUa> #sndstl[/twitter]

JUNE 6, 2011

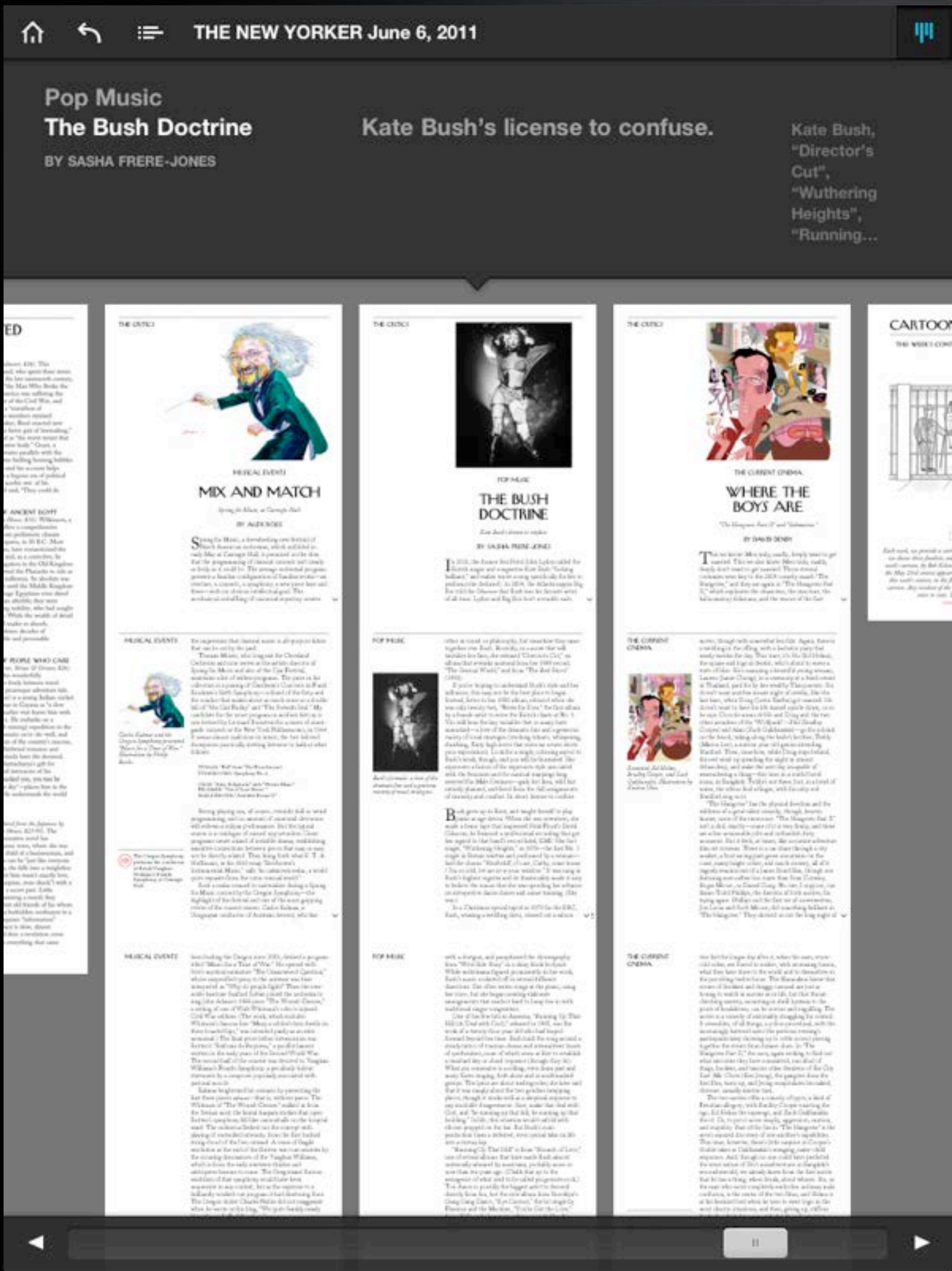
THE NEW YORKER



...but beyond speed, there's also a more damaging risk behind embracing digital content in the same monolithic issue-based view that we see print.

It's limiting.

Recreating print designs, shoehorning print into digital media is...
Limiting for business.
Limiting for designers.
Limiting for users.



It doesn't SEEM that way at first blush. In fact, it seems like the opposite.

Here's the New Yorker app. Like most Conde Nast publications, it directly repurposes its print designs into its iPad app.

It does so with some help from these folks.



Adobe

Most of you are probably familiar with this... [next]
Adobe's Digital Publishing Suite lets you take the work you already do for print in InDesign, morph them directly into an iPad app.

Wow, this seems to solve a lot of problems.
Shift your print product onto iPad w/out much extra work.
No separate team. Conde uses print design crew to do this.

From a biz perspective:
consistent issue-based product to sell across platforms
very little additional overhead, so you get it almost for free

From a design perspective:
you do it with tools you already know how to use
you have people who already know how to use them
you have art direction that is strong and consistent across platforms

For Adobe this is genius, great business. Solves immediate pain for publishers.

But here's the thing:
It's not the DESIGN that you want to repurpose. It's the content.
Privileges print and its design conventions, imposing on other platforms.

WHY? You tell me: is print winner looking out 10 years from now?
Why should print's conventions dictate what happens?

[twitter]On Condé Nast's dubious decision to collapse print and iPad design workflows: <http://j.mp/qgWJb8> #sndstl[/twitter]

Respect print's lessons. Don't be beholden to them.

Again, I'm not saying that we should disregard what we know about print.

On the contrary, as I said earlier, there's a lot we can apply from our centuries of knowledge of print design.

Embrace what we know from print about the design of words,

[next]

but be prepared to jettison how we package those designs.

The form and containers for our words are changing.

It's not longer about a monolithic issue or even a monolithic page.

We have to be prepared to move in new directions that are appropriate to each medium.

Or, put another way...

“What would we do if the goal was to aggressively cannibalize ourselves?”

Justin Smith
President, The Atlantic

Don't be afraid to cannibalize your content.
This is question asked by Justin Smith, prez of Atlantic.

Let's be honest: Atlantic is stodgiest, stuffiest mag on planet.
Century and a half old.
It's where The Battle Hymn of the Republic was published.
Stodgy.

Ten years ago, it was going bust. Swimming in red.

THIS IS THE QUESTION Smith says he asked of the company at the outset of that turnaround.
He's talking about business, but might as well have been talking about content.

By ripping Atlantic's content out of print format and repurposing it
—the content itself, not the print design—
to lots of digital forms and businesses, it's now very profitable.
Turned corner year ago despite economy and plunge of industry.

Unified digital and print staffs.
No pay wall.
New digital properties.
Atlantic-branded conferences.

Unbundling the content to fit new forms.
So here's what I'm getting at...

[twitter]The Atlantic embraced many digital forms and businesses for content. Big turnaround tale: <http://j.mp/nTnMgG> and <http://j.mp/q8OlX> #sndstl[/twitter]

Your product is **not** a product at all

Your product isn't really a product at all.

[next]

Product is something called news. It's a service.

The rest are all just containers.

Products like Adobe's tend to focus on a single container: an app.

And that's what we're all running after in a panic right now, right?

Gotta have an app! Gotta get on tablets.

[slow] But an app is not a strategy. It's just an app.

Thrilling but overwhelming time for all of us right now.

Avalanche. We've been taking them head-on, one at a time.

Android, iPad, Windows Phone, mobile website.

This seems a scary right now, right?

Friends, just beginning. It's only going to get worse.

More and more screens of all sizes.

Devices whose form just won't fit our print designs.

Devices without screens at all. How do we prepare for THAT?

Step back from that whirlwind for a moment.

Stop focusing so much on APPS. Not sustainable. Won't keep up.

Can't do pixel-perfect for EVERY point content touches reader.

Pull back from obsession w/presentation. Have to start w/CONTENT.

Have to accept that your content will have to take many forms.



Hrowing mainstream expectation
that you can simply get all your content from any device.
Expect content to flow seamlessly, follow us throughout day.

This ad for NFL.com, the national football league,
is a crisp illustration of that shift.
[play]

We access the same content across multiple devices.
Phones, PCs, tablets, X-boxes, tv boxes

Kindle and Netflix
Expectation is going to spread to even most modest apps.
I want my stuff everywhere.

[twitter]NFL.com ad a crisp illustration of how we experience digital content. Content flows like water, device to
device. <http://j.mp/qaWPgD> #sndstl[/twitter]

Content like water

Content's going to take many forms,
flow into many different containers,
many of which we haven't even imagined yet.

Web designers taught to separate content/prez.
Hard shift for print designers when moved to web.
Going through that again now with mobile devices.

Don't just shove rigid, warmed-over print designs into an iPad.
Doesn't scale, not well suited to the device.

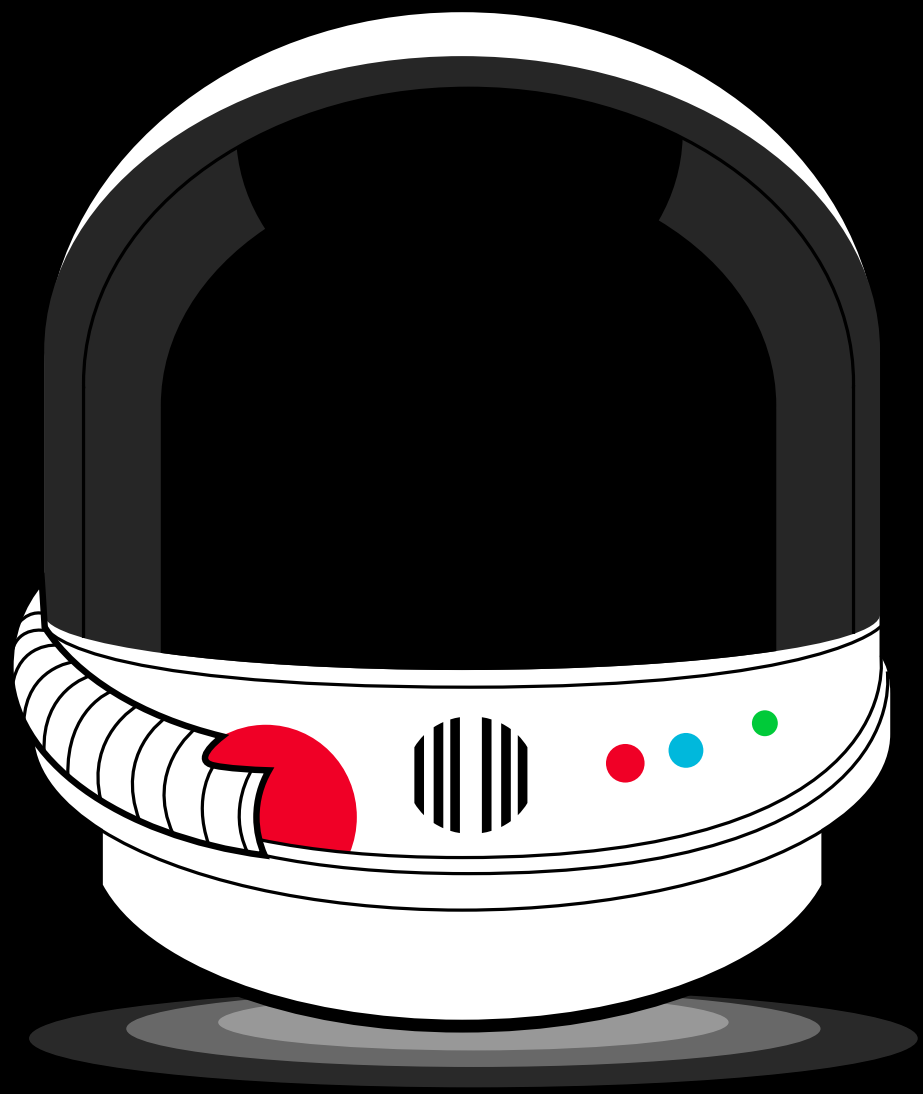
Instead, think about interfaces as a spectrum of apps
that plug into a single wellspring of service. Windows.

Build common back end to serve all these interfaces,
lets you turn and pivot to each technology, each device.
Stop thinking app, start thinking flexible content.

Came out of 90s with data locked up in legacy systems.
Now turning out of early web era with data locked up in web CMS.
Content that's stored as HTML. Big unstructured blobs of data.

CMS has to be agnostic about these platform machinations.
Important design work to be done behind the scenes on CMS.

Need clean content repositories & APIs to deliver
more neutrally formatted content to be displayed on any device.
Even devices we haven't imagined yet.



<http://futurefriend.ly>

Yep, devices & interfaces we haven't even imagined.
Can't know the future, so can't be future-proof.
But we CAN be future-friendly.

Future Friendly is a resource for big-picture considerations
for managing and escaping this app-centric thinking.

Biggest lesson there, strange thing for a designer to say:
don't try to control form of your content in each and every context.
You won't be able to keep up. You can't scale.

Instead, help organization to create well structured content.
Build APIs that can send this content to any device context.

[twitter]Focus less on apps, more on content: a service that can reach any device, present or future. That's <http://futurefriend.ly>
#sndstl[/twitter]

Don't look now, but... You're actually winning.

News organizations are great at this.
You've already got tons of structured content.

That kind of structure allowed NPR, for example,
to create central API that powers all of its services.
Website, member station feeds, iPhone app, iPad app, news feeds...

By having this same, shared, consistent, well structured content repository,
NPR is able to move extremely quickly to deploy new apps
They just build these thin clients
to ask for content and display them in device-appropriate ways.

Friends, THAT's control. It's not making everything look like print.
It's about having the ability to creatively craft your content to fit the current context, no matter what device someone is using.

Use that structured content to build smart APIs behind the scenes that will let you be nimble about adapting to new devices and contexts.

News organizations have an advantage here.
And that gives you MORE creative control.

[twitter]"COPE: Create Once, Publish Everywhere." How NPR created a nimble digital operation with some savvy CMS'ing: <http://j.mp/rcYeBz> #sndstl[/twitter]

“Metadata is the new art direction.”

Ethan Resnick
@studip101

This is a quote from an extremely bright 18-year old designer Ethan Resnick.

What he means: structure your content well,
you'll give yourself more creative control in this exciting,
dizzying world of connected devices.

You'll have the hooks and flexibility you need to:
-- put content where you want it,
-- style it how you want it,
-- in ways that are appropriate to the device.

Adobe's solutions fix short-term pain. But the real win...
for business value,
for creative control,
for empowering readers,

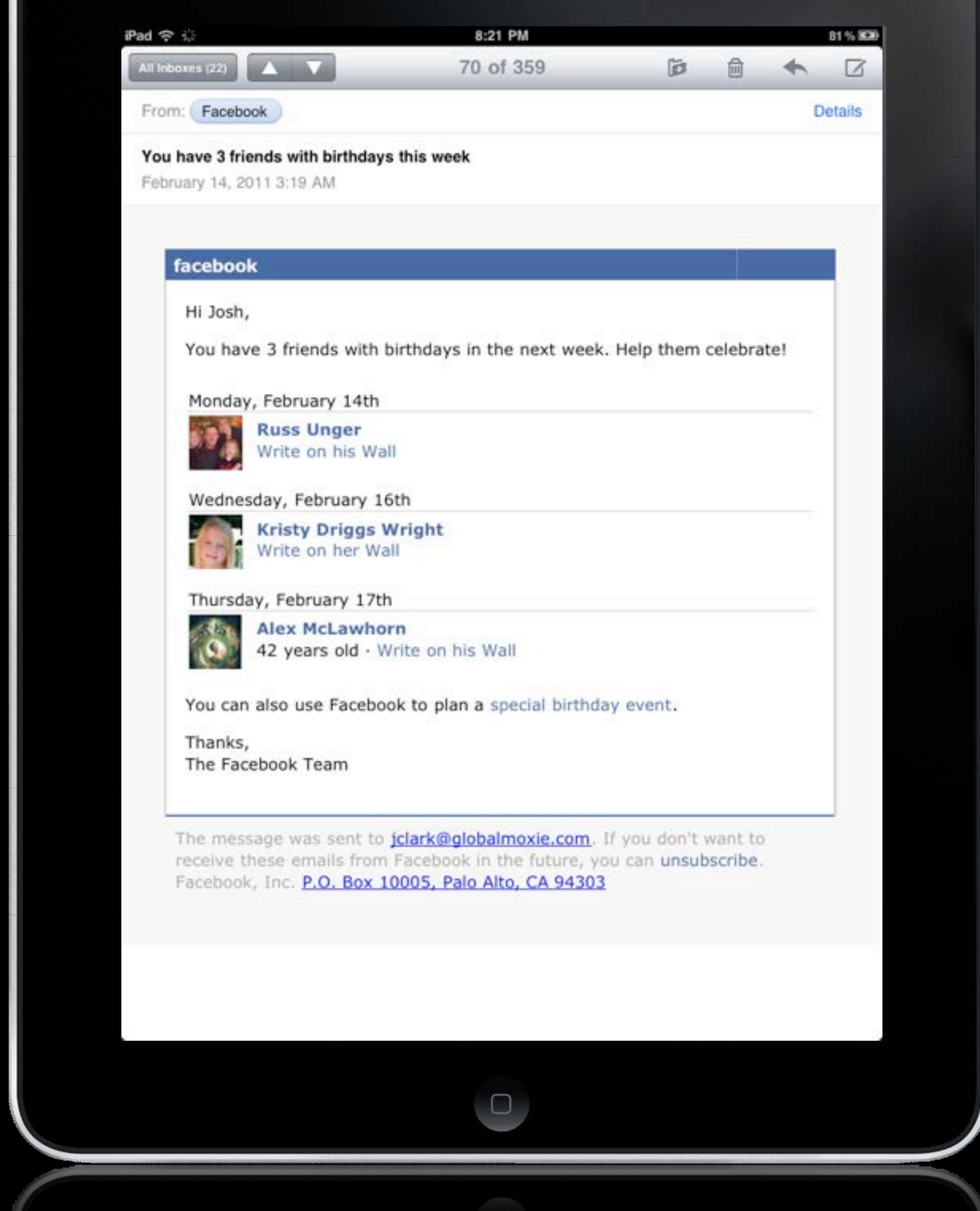
is actually in creating content strategies and design strategies
that are not so tied to any single presentation.

[pause]
All right. So those are my thoughts on content, concept, and presentation.
I do want to talk specifically about interaction design, too.
Especially with regard to touchscreens and the possibilities they create.

And so of course that means I want to talk about... an awesome swiss army knife.

[twitter]“Metadata is the new art direction.”—@studip101. Structured content allows creative control in any context. Build for flexibility.
#sndstl[/twitter]





Especially big touchscreens.
Traditional controls cramped on larger touchscreens like iPad.

Tiny button in the top left of iPad apps not easy enough to hit,
yet I'm asked to hit it all the time.

Lots of iPad apps follow pattern you see in mail app.
The split view for navigating layers of content.
So I'm reading this riveting email from Facebook.

[one tap]

But I want to pop out to my sent mail.
I have to hit this tiny target,
navigate this series of buttons.

I hate the iPad's back button with the heat of a million suns.

Makes me nuts.
Fitts' law comes into play here.
Fitts law describes how long
it takes to hit a target with a tool or pointer,
or move an object to a target.
Like a mouse cursor to a button for example.

Boils down to a common-sense conclusion:
Smaller the target, further away it is, harder it is to hit.
Explains why golf such miserable sport.

Studies show Fitts law applies to touchscreens.
The bigger touchscreen, more model applies.

On phones, problem not as pronounced.
Can hit the entire screen with your thumb.

On iPad, you're moving your whole arm,
dragging this giant meat pointer.

Those buttons, even though same size as iPhone,
much harder to use, cognitively and ergonomically.
Takes concentration and effort on iPad.

Let people be lazy.

This should be our mantra as designers.
Let me be as lazy as I wanna be.

Don't make me concentrate on hitting little buttons.
Let me swipe at the whole screen,
not just a little tiny plot of it.

Do you even need buttons for your app?



Do you need buttons at all?

Pinball HD.

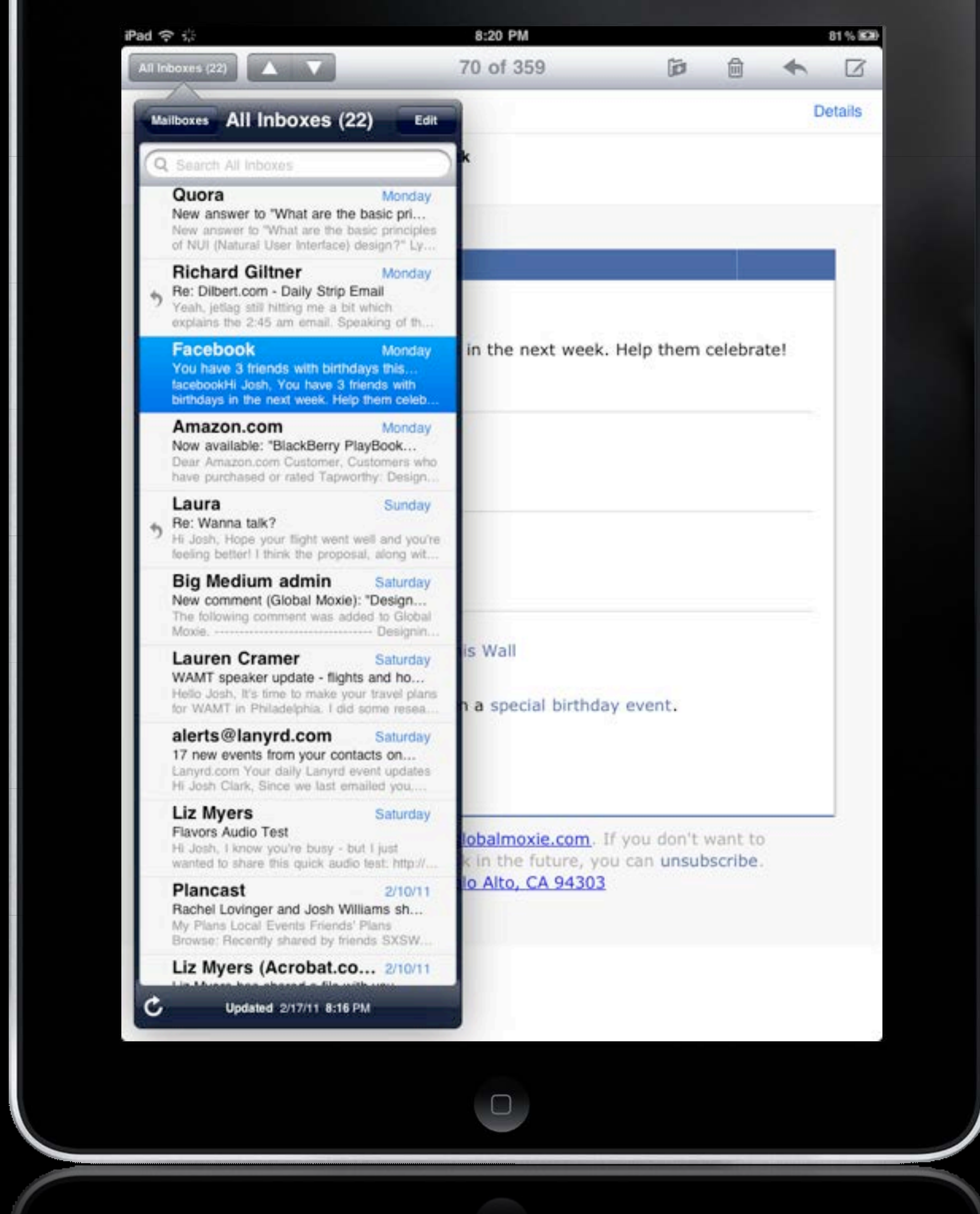
The entire screen is a button. Or really two buttons.

Think: Where are opportunities to eliminate buttons?
I'll follow that thought in a moment.

First: Don't want to say you should never use buttons.

Particularly as we continue to develop gesture vocabulary,
we'll need visible controls or hints to help people,
express abstract actions, like Send to Twitter and so forth.

But that doesn't mean we can't ALSO have alternatives.

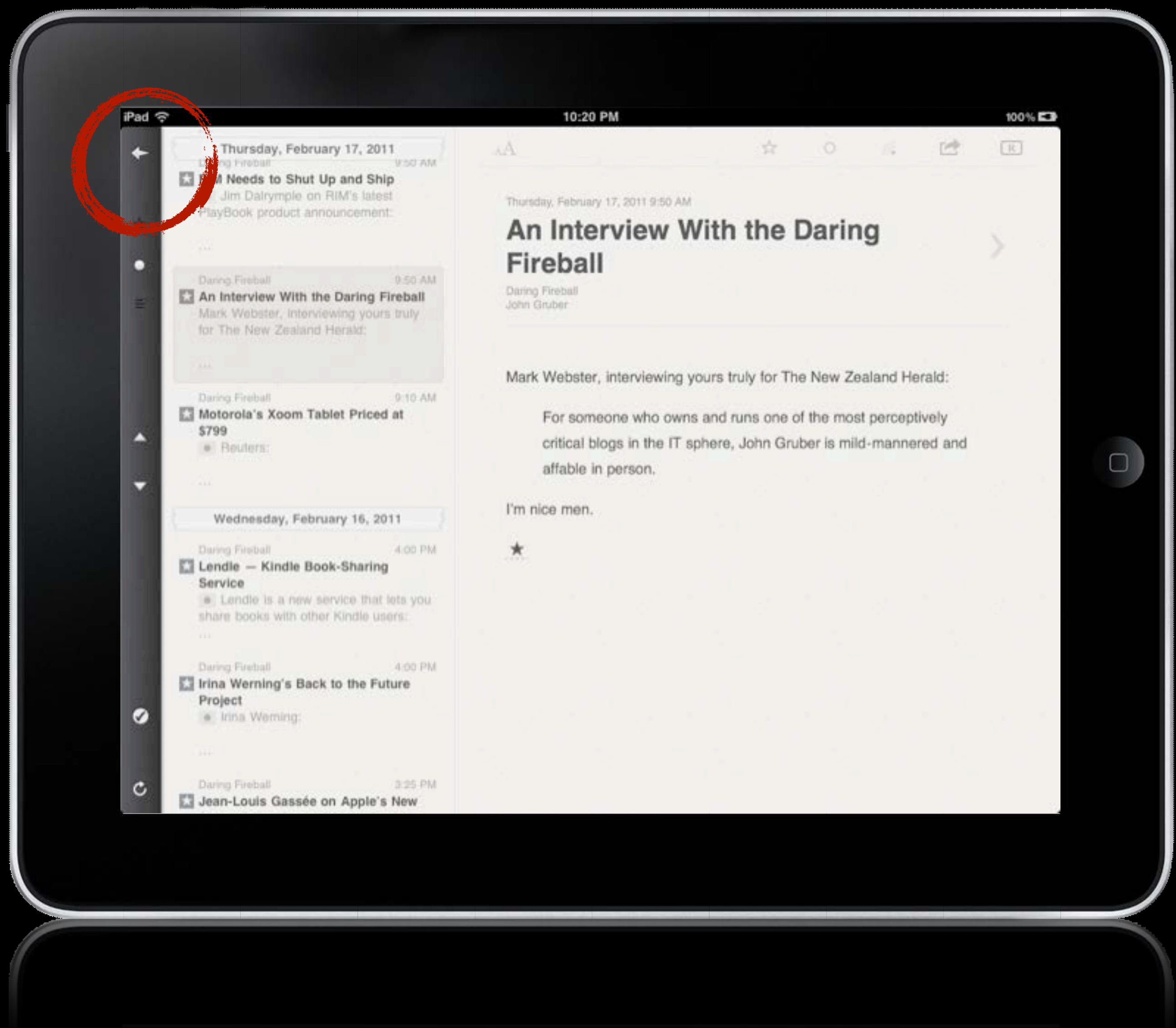


Give me short cuts.

Gestures are the keyboard shortcuts of touch interfaces.
Let you get around the button press.

So keep the button,
but give me a four-or five-finger touch
as a short cut to open those popovers.

[next]
Again, this is an optional shortcut, supplement to button.
There are accessibility issues here.
Not everyone has five fingers.



Reeder for iPad provides a good example.
News feed reader.
Has a back button to return to your list of feeds.
[next]

But you can also do a pinch to return to the menu directly.
[next]
Fast, quick action that uses entire screen as the control.

[slow] Big screens invite big gestures.
Don't have to hit the little button.
Let me just swipe or paw at the whole thing to take an action.

Been talking ergonomics of the button being a hassle:
too much thought, concentration and effort.
But there's also a basic conceptual problem here.

Buttons are a hack.

In the real world AND in software, buttons are abstractions.
Work at a distance on the primary object.
Often necessary, the best available solution
—light switches for example — but they're a workaround.
Operate at a distance. Add a middle man, an extra layer of complication.

Touch helps us manage complexity by getting rid of visual abstractions
to work with content directly.

Touchscreen lets us tickle the brain in new ways
because it's more intimate to touch the thing you're interacting with.
Touching a button doesn't add intimacy.
It's a button. Degree of separation from thing you really want.

Not saying they're evil or bad. No, buttons are an inspired hack.
But recognize it's hack. As design interface: do I still need that hack?
Can I manipulate content or environment more directly?

Our brains evolved to navigate physical space, to work directly with objects.
Don't get trapped in metaphors and hacks of
temporary alternate universe of computer interface.
Design for humans. Design for direct interaction.



Twitter for iPad managed to eliminate back button entirely.
Loren hates the back button as much as I do.
He told me his mission is to kill the back button.

The app designed to really encourage exploration.
Interact directly with words, URLs, entire content contexts.

[flip through]

Tap the content, slide these views around.
Each tweet is its own panel, paw thru your history.
Flip through stack of tweets, no back button needed.



Here's an experiment, a doodle really, put together by designer named Moritz Haarmann. A demo he created as an example of navigating content without controls, just interacting directly with content. He used IKEA catalog content as his example.

Feels odd at first, but it's actually quite intuitive. Very easy to get.

[twitter]I'm showing off a clever UI demo by @derwildemomo. Navigating w/no buttons, just direct interaction w/content: <http://j.mp/oe5k0T> #sndstl[/twitter]



Part of this does mean we have to give up old abstractions and mental models that we associate with desktop controls.

TouchUp: Draw filters or effects on photos.
Brush these effects on, drawing them with your finger.

[next] What if you want a smaller brush?
Traditionally you'd have a slider or some brush selector.
But the thing is, you have a brush, and it doesn't change size.

A setting to change my finger's touch footprint
to double or half actual size
would just be confusing, hard to get my head around.

Instead of changing the brush size,
you change the canvas size. Pinch to zoom in or out.
[next]

And then draw your next stroke.
Finger always keeps its same physical size on the screen.
It's the canvas that changes size.

[slow]
When you deal w/touch, have to rethink these familiar abstractions.

The trouble: how do you teach these invisible gestures to people,
especially when they're somewhat abstract or complex?

[twitter]I'm showing off touchUp, an iPad app that cleverly upturns familiar notions of brush size. <http://j.mp/qB5QTc> #sndstl[/twitter]

Finding What You Can't See

How do you find out about these gestures?
Gestures unlabeled. Rely on visual clues or past experience.

Less a gesture resembles physical action, more difficult to find.
More abstract gestures tend to go overlooked.

Train people by using conventions they already understand.
One way to do that, as we'll see, is creating realistic, physical interfaces.

But understand that with a little help,
people will learn to work your interface sight unseen.
We do this all the time.
[next]

We use interfaces daily that are essentially invisible, or at least in the dark.
Too many of us can even hit that snooze button in our sleep.
It's muscle memory, like typing.



Most of us here no longer look at the keys when we type.
Studies: ask professional typists to write down order of the keys,
can't do it
Muscle memory, not part of conscious knowledge.

We do it without thinking.
Access that subconscious knowledge faster than conscious.

The trouble with both of these examples:
had to learn clock and keyboard before you could do this.
Layout of the alarm clock before snooze in dark.
Hunt-and-peck characters before touch type.

Nearly everything we know has to be taught, learned, observed.

<http://www.flickr.com/photos/37996588780@N01/346360988/>



We rely on cues in environment to help until we obtain mastery.

Cutting board for obsessive-compulsive chefs
Precise length and width of julienne vegetables for example.
Means you don't have to rely on memory, or muscle memory.
It's a cheat sheet, a reference.
This is where we always start. Some kind of physical reference.

Surrounded by these little hints all the time,
some a conscious set of tools or personal organization...
but others are softer reminders, often social,
and not entirely in our control as either designers or consumers.



Don Norman’s new book Living with Complexity is a terrific read.
And in it he talks about salt and pepper shakers.
Which is salt, and which is pepper?
[next] right is pepper? right is salt? who has no idea?
[next] Don Norman: actually doesn’t matter which is correct.
All that matters is what the person who fills them believes.

Arbitrary. Socially defined. Not evenly understood by all.
[slow] Social signifiers only work if everyone knows them.
Cultural understanding is messy.

Why uncomfortable or embarrassed traveling abroad.
No signs telling you how to behave
Just some rules about tipping would be nice, thank you very much.

Or going to fancy dinner when we don’t know what fork to use first.

So we have uncertainty. Forced to proceed with caution.
Test shaker to see if salt or pepper. Slow down. Lose confidence.
Our job is to give users confidence that they understand the system,
move efficiently and confidently to their goal.
Which should always be salty food as far as I’m concerned.

A good host makes people feel at ease.
As designers, we are the hosts filling the salt shakers.
To say, “anyone who doesn’t know which one is salt is stupid” isn’t enough.
Social understanding is not so neatly synchronized.

UI conventions are social constructions.
We can’t give machines perfect intelligence about user expectations,
but we can at least give them good manners.

[twitter]Seriously, read this book. “Living with Complexity” by @jnd1er: <http://j.mp/oVuu0O> #sndstl[/twitter]

<http://www.flickr.com/photos/blackcountrymuseums/4385115536/>



To help prevent confusion among our guests.
So we need to provide signals to prevent errors, confusion.
Good design makes the problem go away so that these questions aren't asked in the first place.

Labeling is one solution.

http://www.flickr.com/photos/ella_marie/3142159351/



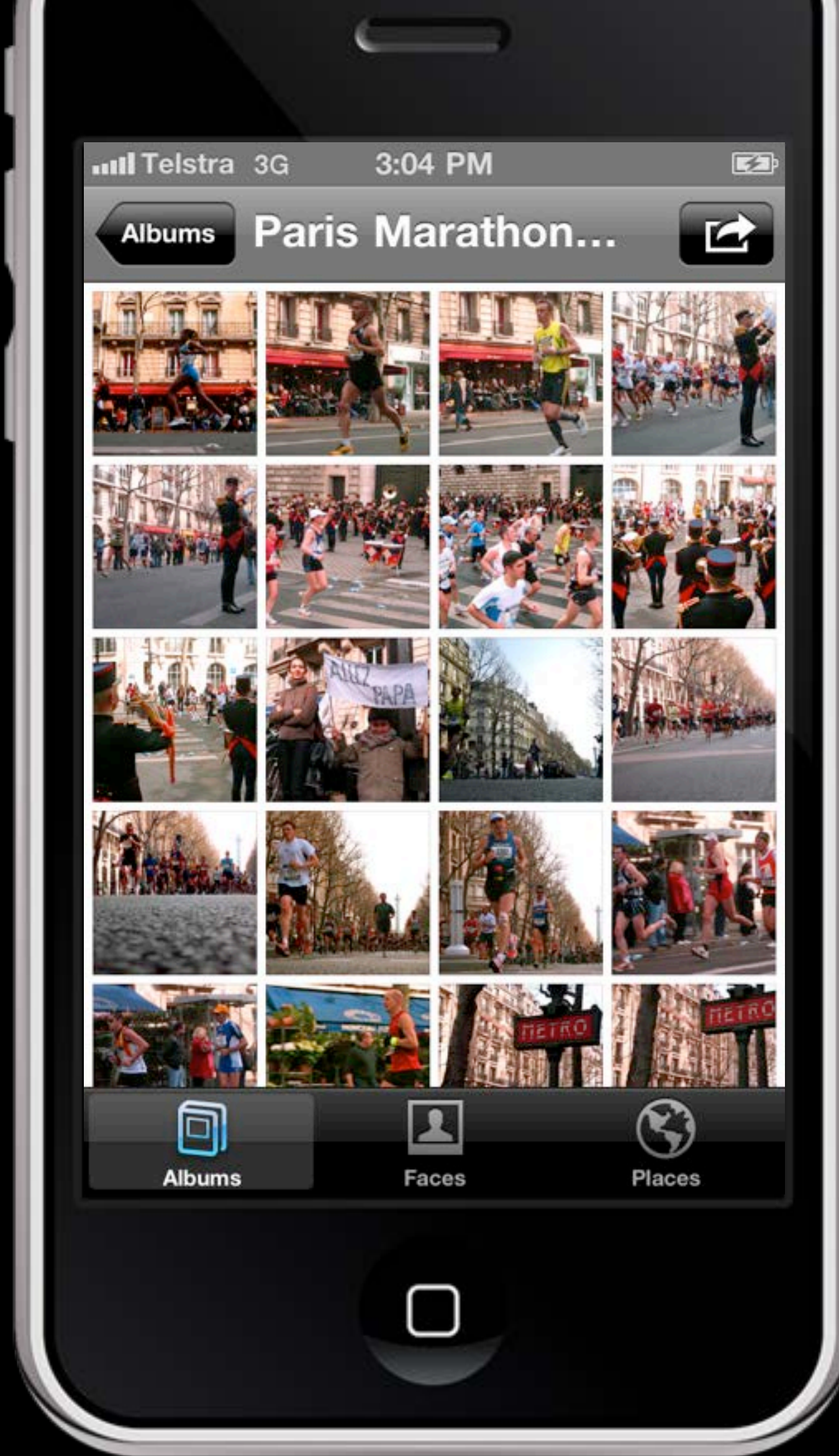
This is even better. No labels at all, just instant intuitive understanding. I know what it is, because I can see it.

The content itself is the label.

Want salt? Grab the salt! No middle man involved. No processing of labels or signs.

Who needs a control when you have the content itself?

<http://www.flickr.com/photos/smi23le/2420961722/>



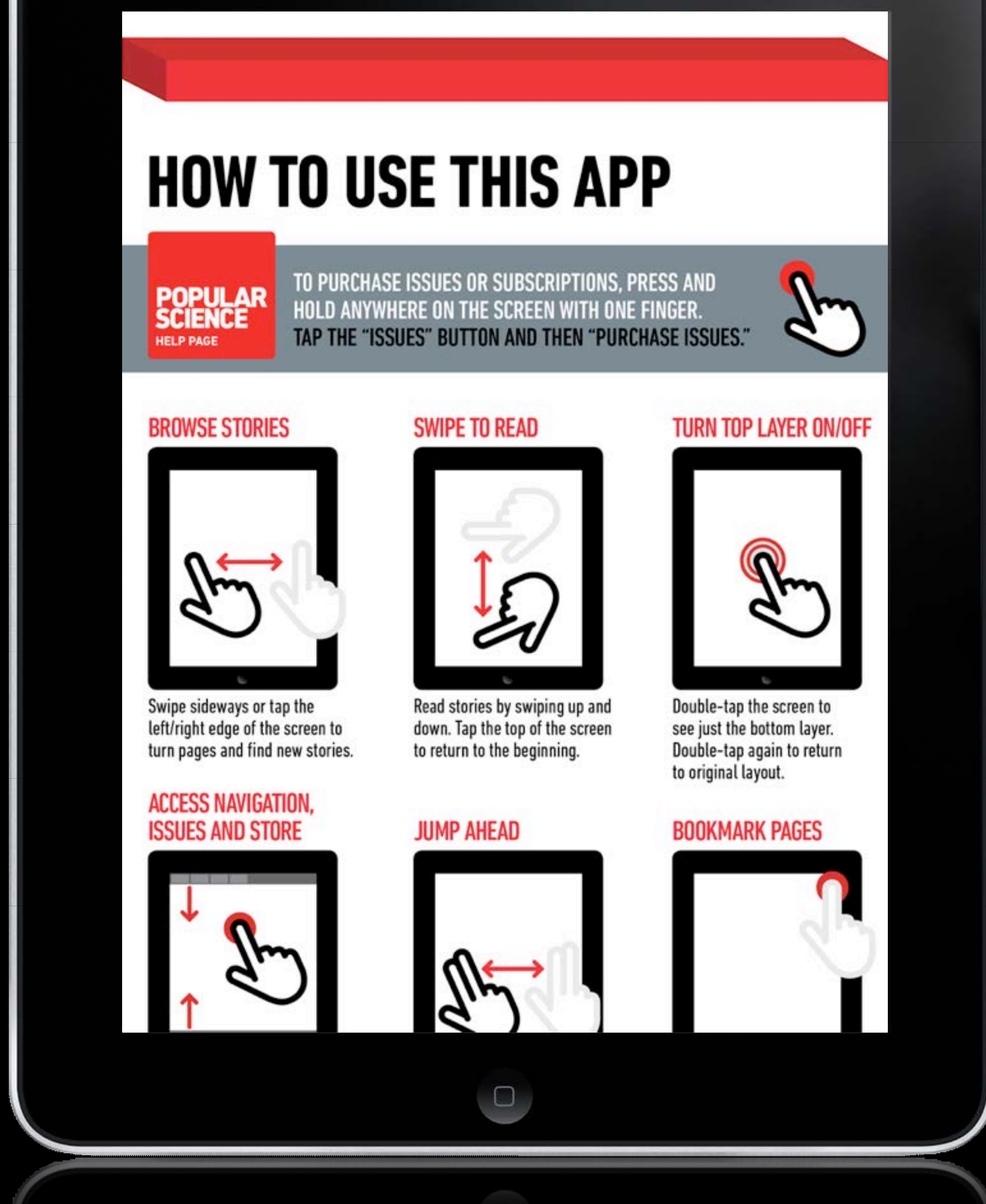
Touch interfaces allows direct interaction with content itself.
 Don't touch a button, touch content you want to work with.

Photos app uses content as navigation.
 Information as interface.
 There's no chrome here, just lots and lots of content.
 Tap the photo to see it.
 [next]

How can I let people interact with actual content
 instead of buttons,
 instead of gray interface controls?

But glass salt shakers and photo thumbnails are obvious visual cues.
 Evident calls to action.

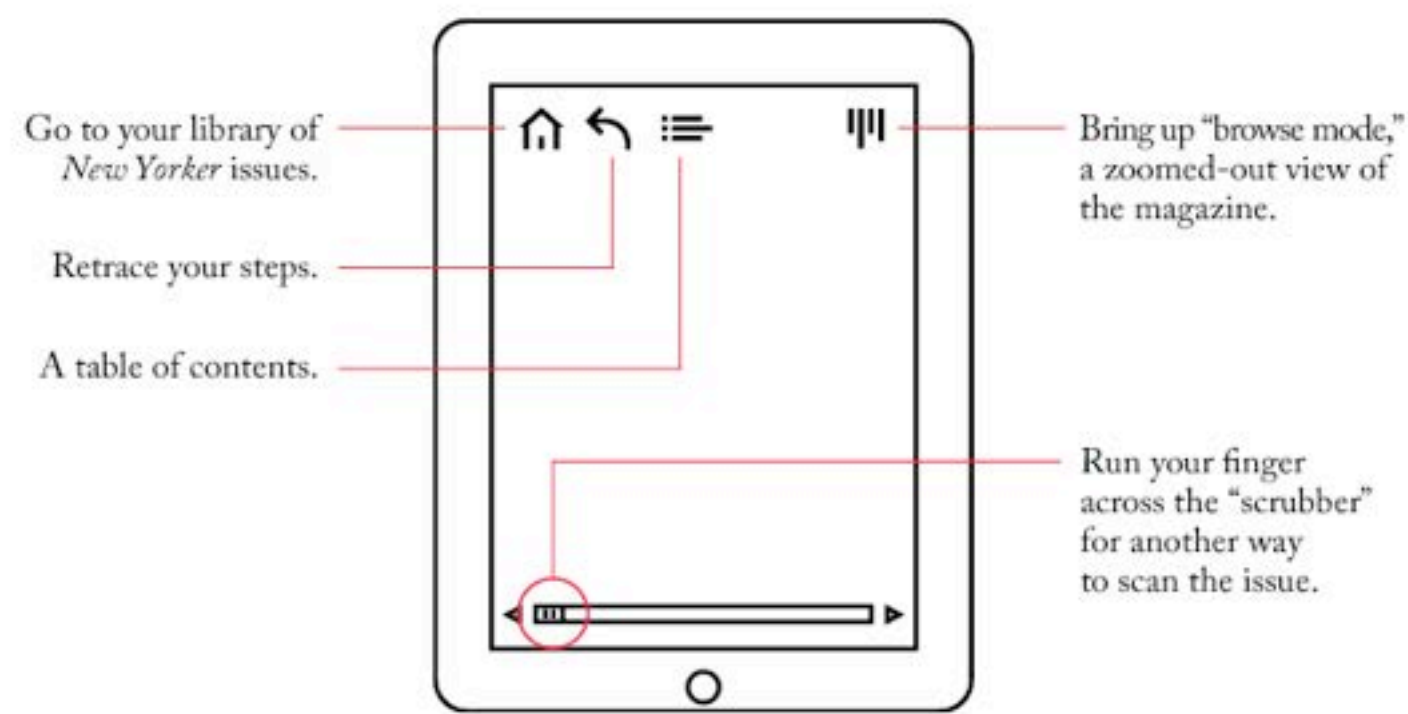
What about more abstract behaviors,
 like those pinch gestures we saw earlier?



This is where we often start.
Instructions.

Make people read a manual before you get started.
This is where you start
when you use Popular Science app for the first time.

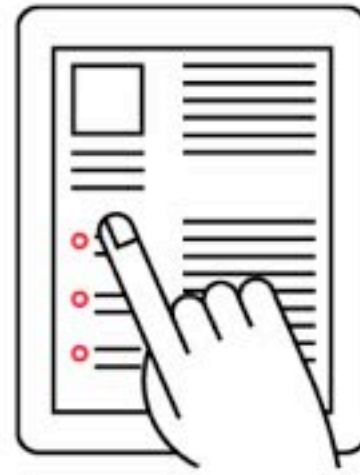
Slog through all the controls before you get to step one.



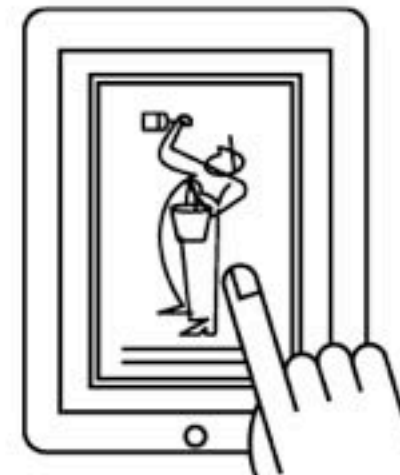
The basic navigation works the same way whether you're holding the device horizontally or vertically.



Tap the tab to see highlights; each highlight links to a story.



Look for additional content on the left side of the page. *Red* = link.



Tap an image to view it full-screen. Launch a cartoon slide show by tapping on any cartoon.

ICON GUIDE



Audio



Document



Slideshow



Archive



Infographic



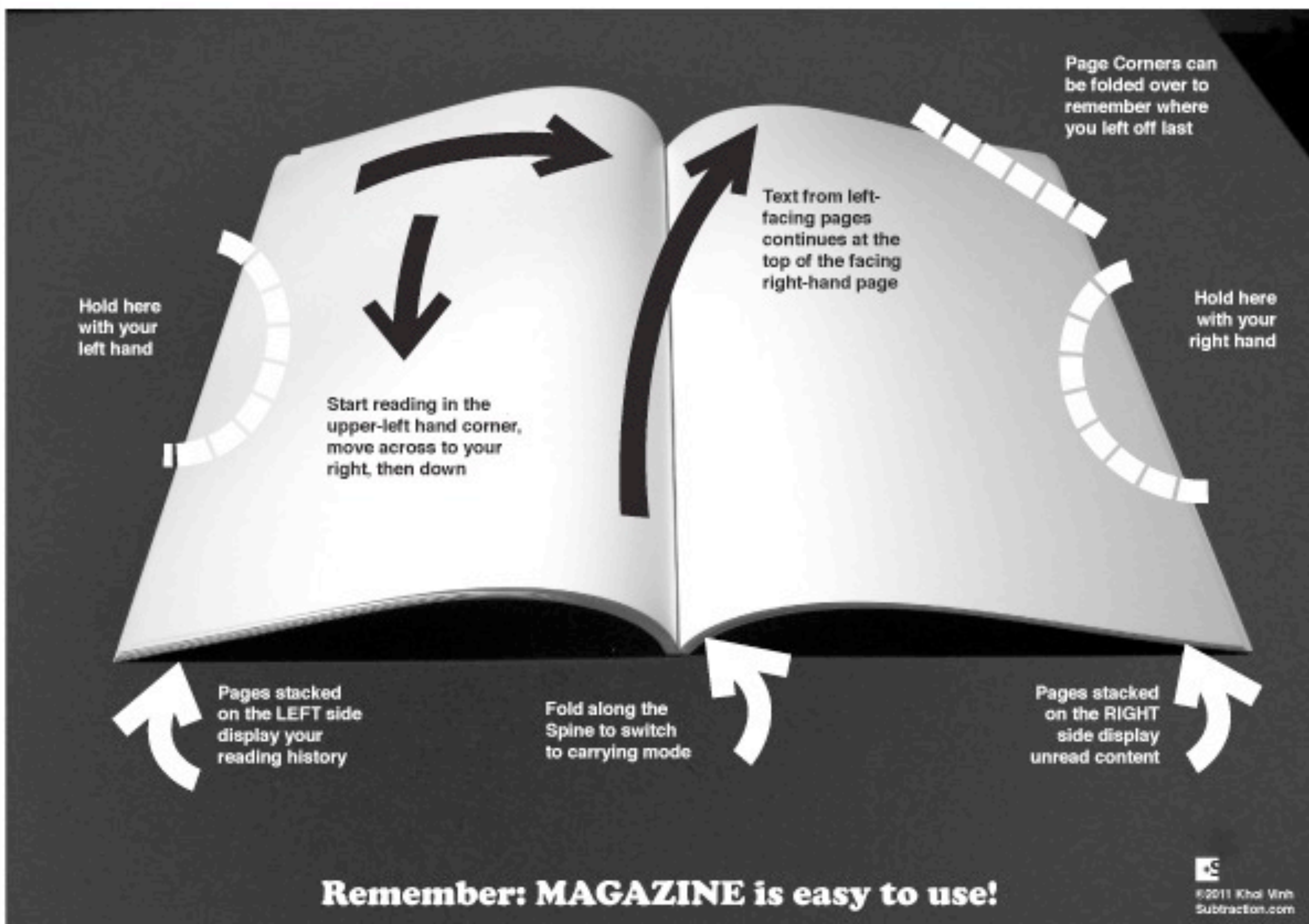
Video



Feed

New Yorker does the same.
LOTS of apps do this,
asking you to read about how to work every bit of the app,
before you even understand what it can do for you.

This is not only premature,
but it also makes it feel more complicated than it needs to be.



Khoi Vinh, former design director for NY Times Digital, poked a little fun at this trend in iPad magazines. Here's his cheat sheet for using a magazine.

Pages stacked on the right side display unread content.
Pages stack on the LEFT display your reading history.

Pokes fun at just how overwrought this makes the experience.
Instead of making it easier,
up-front instruction manuals make it seem more complicated than it is.

[twitter]Khoi Vinh's send-up of iPad magazine instruction screens: <http://j.mp/hxHHpM> #sndstl[/twitter]

<http://www.subtraction.com/2011/03/28/an-illustration-for-stack-america>



When you're used to paper rolls it takes some time to convert to turn the pages of a – beek.

Norwegian TV had a comedy sketch many years ago, titled Medieval Help Desk.
Read the captions?

The book has just been invented,
longtime scroll readers are confused.

This monk has called in the help desk for support.
We'll come in at the middle, just after he's gotten a quick tutorial,
and he thinks he's got it.

[watch]

Even if he COULD read the manual, he wouldn't read it.
Nobody reads the manual.

[twitter]What if books required instructions and helpdesk support? Medieval Helpdesk: <http://j.mp/rdlctL> #sndstl[/twitter]

HOW TO PLAY MONOPOLY

1935 Rules

THE GAME consists of a board showing streets, railroads, utilities, Chance and Community Chest, and Penalty spaces. Two Dice. Thirty-two wooden houses. Twelve hotels. Title Cards for every property, and sufficient scrip for six players.

IN MONOPOLY each player tries to invest 1500 scrip dollars to such good advantage that all other players are forced out of the game. A player who has lost his money is bankrupt and leaves the game.

SET UP YOUR MONOPOLY board on any convenient table, place COMMUNITY CHEST and CHANCE cards face down on their allotted places inside the squares; see that each player is provided with some TOKEN (Key, Ring, etc.) to represent him in his travels around the board, and give each participant 1500 scrip dollars in the following distribution: one 500, five 100s, five 50s, five 20s, ten 10s, eight 5s and ten 1s. If more than six desire to play, give each player 1000 scrip and a bank credit of 500 scrip. Any number of people can play. Four to nine seem to be the best number.

THE MONOPOLY BANK is a community affair; any one player can act as BANKER, keeping his personal funds separate, collecting fines, paying premiums, auctioning properties, allowing mortgages and selling houses, etc., for the BANK. We suggest a player be selected as BANKER who has a good sense of humor and who is a good auctioneer.

STARTING WITH THE BANKER each player in turn throws the dice. The player with the largest total has the honor of starting play.

THE STARTING PLAYER places his TOKEN on the corner marker "GO" throws the dice and moves the TOKEN in the direction of the ARROW the number of spaces equal to the total of the numbers exposed on the dice. After he has completed his play, the player to his left takes the dice and plays in a like manner. The TOKENS remain on the spaces occupied and proceed from that point when the dice come around to the player again. As each player passes "GO" he receives 200 scrip from the BANK as salary. Throwing doubles, retain dice and throw again.

LANDING ON JAIL is not a penalty unless the player has been sent there from the corner marked "GO TO JAIL," receives a card saying "GO TO JAIL" or throws doubles three times in a succession. Once in jail, a player is compelled to come out free if he throws doubles, otherwise he has the option of staying in his cell until his third turn with the dice, or purchasing a "GET OUT OF JAIL FREE" card from another player (unless he has already drawn such a card from CHANCE or COMMUNITY CHEST) or paying a \$50.00 fine to get out. He must come out with his third turn of the dice after his sentence and pay fine of \$50.00.

LANDING ON CHANCE OR COMMUNITY CHEST the player takes the top card from the deck indicated and after following the instructions printed thereon, returns the card face down at the bottom of its deck. The only exception is in the case of "GET OUT OF JAIL FREE" cards which are retained until used. These may be sold to other players. All bonuses are paid by the BANK and all penalties paid to the bank.

LANDING ON TAX SPACES, pay the BANK. INCOME TAX is 10 per cent of your total worth. It is figured on CASH ON HAND, MORTGAGE VALUE of properties, mortgaged or not and Cost Price of any buildings you may have. (The player may estimate his tax at \$300.00 if he so chooses.)

LANDING ON UNOWNED PROPERTY gives the player the OPTION to buy that property from the BANK at twice its MORTGAGE VALUE. If the player declines this option, the BANKER will offer the property for sale at PUBLIC AUCTION and sell it to the highest bidder, accepting scrip in payment and giving the buyer a TITLE

But god, this doesn't exactly promise an evening of fun.

Why don't we read manuals? We're impatient.
We have a goal when we're using a product or software,
and instructions seem like a diversion from that goal,
even when they could actually get us there faster.

Doesn't mean you shouldn't have
complete reference for power users,
but you should treat it as just that: a reference, not a primary learning tool.

Because nobody will use your manual that way.

Since we can't get people to read, we often try show and tell instead.



Maybe using this guy, famous resident of Tennessee.
He wrote a book called Our Choice, and it's been adapted into an ebook with a really smart, button-free interface. The interface largely self-explanatory, but AI took no chances and launches his app with this video.
[watch]

Well me, too, AI, because jesus, you really sucked the joy out of my first two minutes of this app experience.

Everybody does screencasts.
But friends, nobody watches them except us geeks.

Still, you can see from watching this one,
no buttons, no chrome, great interactions.

Complex actions will always require some instruction.
And as I've said we have to give visual hints
to let people know how to work your app.

But instruction can come in many forms,
not just a manual or a lecture,
though we usually fall back on those solutions.

Nature doesn't have instructions.

The best interfaces, of course, require no instruction.
Nature itself doesn't have labels,
neither do most obvious and useful designs.

Do something wrong out in world, result often nothing at all.
Nature doesn't have error messages.
Push a door the wrong way, nothing happens.
We're smart enough to figure out to pull the other way.
Nature is a complex interface, but we seem to manage.

Learn how the world works by trial and error, gain confidence as we explore it.

Touch powerful component drawing people in, encouraging exploration.

Emotional satisfaction is a big part of a great user experience.
Connection of touch is one of the most intimate experiences.

Consider texture and look of a well loved leather journal.
If interface looks/behaves like treasured personal totem,
app itself benefits from same emotional connotation.
If done right, realistic 3D interfaces invite touch,
encourage emotional attachment.

Physicality invites touch, too. Not just "ooh, I want to touch that,"
but hints about how thing works.

Texture & physicality give clues about what to touch.
Apple emphasizes in its interface guidelines: Make it realistic.

Have to do more than throw some photoshop textures at it.
Apple's own apps show the hazards.



Calendar:
ooh, a lovely datebook.

Very pretty, and of course...
you naturally know how to use it.
Just swipe to turn the page.

[next]

To turn the page, you have to use
one of these tiny buttons at bottom.

[next]

You have to embrace your interface metaphor.
If you're going to make it look like a book,
make it act like one.



Contacts: Tapping doesn't turn page
Swipe deletes

Your interface metaphor suggests how to use the app.
Here, the book metaphor is a confusing misdirection.
Creates expectation that works like a book,
but really through desktop-style buttons.

Love the one you're with.

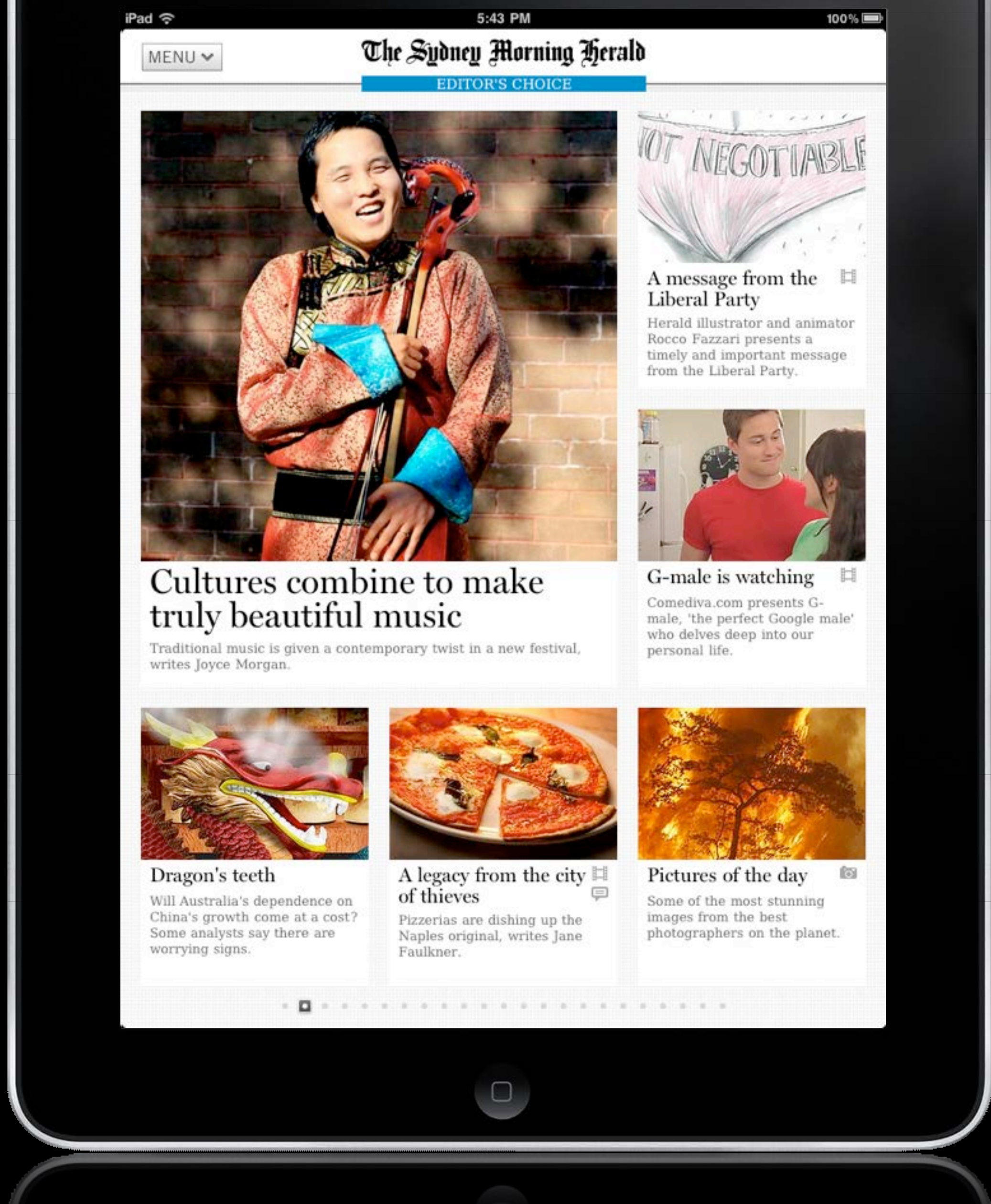
If you go this route of aping a physical object:
EMBRACE THE METAPHOR
Think hard about new interaction opportunities it proposes.

In user testing I see this all the time:
If it looks like a physical object,
people will try to interact with it like one.

Have to follow through.
Don't make me tap buttons if interface suggests otherwise.

Meanwhile, many magazine apps are TOO literal.
Very true to original print artifact.
Little more than PDFs. Clear exactly how to use
But difficult to find table of contents: no random access

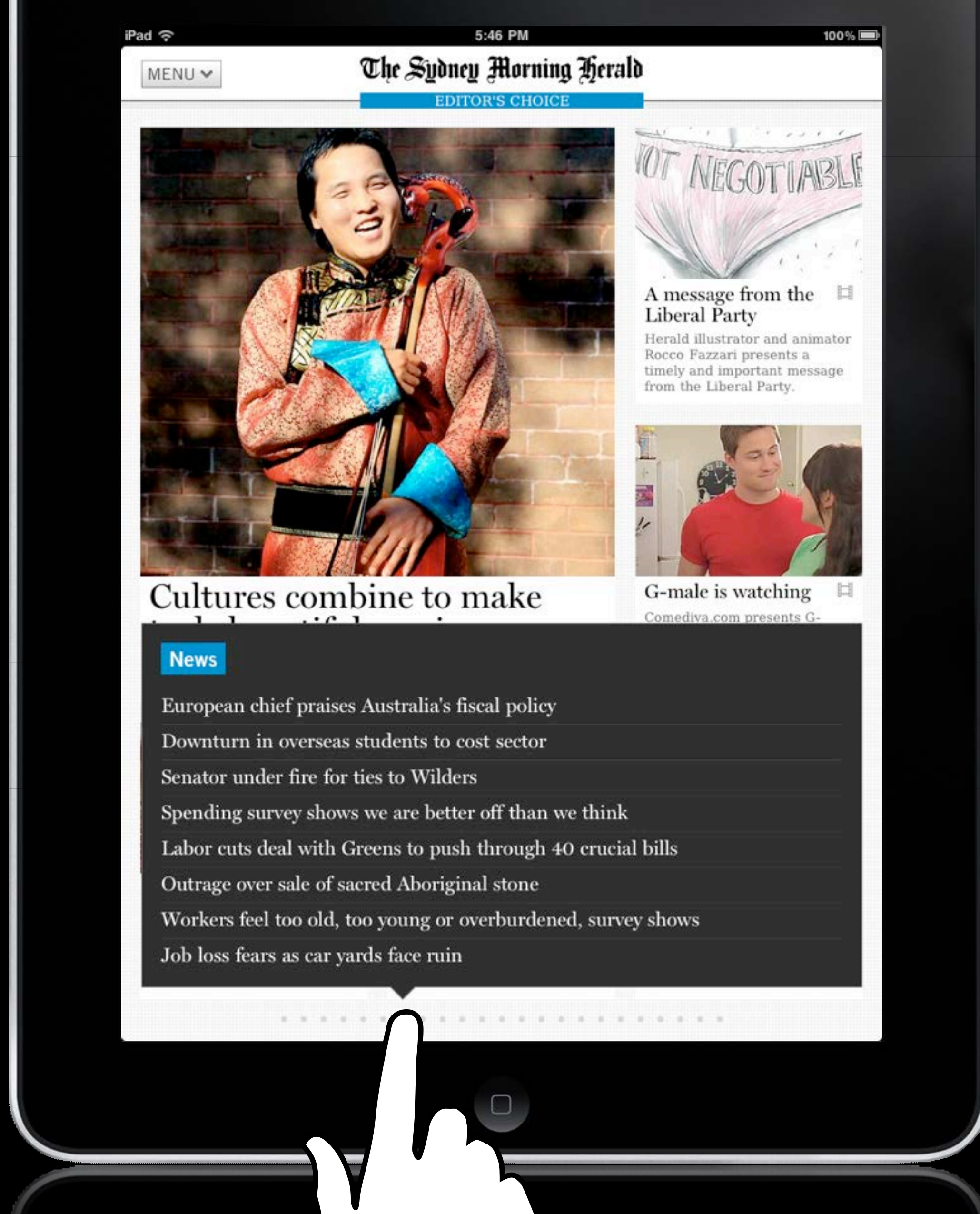
As you embrace these realistic interfaces,
don't forget to enable what digital media can do best.
Unshackling us from linear reading experiences.



Here’s an example of tweaking the real world to digital advantage. Met these guys last week in Aus. Sydney Morning Herald.

It looks like a newspaper, and you swipe through pages. Page indicator to show how. But even better, can quickly scan each and every article in today’s edition.

[twitter]Sydney Morning Herald app melds paper-like interface w/digital advantages like random access to content: <http://j.mp/n5ph5p> #sndstl[/twitter]



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Model your apps to help people learn same way they learn in the real world: Right from our earliest days, we rely on physical hints about how something works and then verify it through the feedback the thing gives us.

Watch how toddlers use iPad. Amazing how quickly they get it: direct manipulation of content. Tap content directly, drag content across screen, nudge views away. They won't get your multi-level menu navigation, but they'll get any physical metaphor.

Follow the toddlers. They're better at this than you are. Toddlers haven't been poisoned by 30 years of desktop interfaces like we have. Find a three-year old and make her your beta tester. Think: would my toddler figure out this interaction?

Think of yourself as a parent when you're building these interfaces. Not that you treat people as helpless babies, shouldn't patronize.

Just that you should have the same patience and empathy as when explaining the world to a child. They haven't seen this before, so go gently.

In that vein, I think it's useful to see look at how we learn to use games and toys.

Play more video games.

This is your homework assignment.
Go to work next week, settle into your desk, and fire up some games.
Tell your boss you're doing research, because you are.

Video games are great at teaching unfamiliar controls, unfamiliar skills.

In many games, you start without knowing anything:
you don't even know your goal, let alone what you can do,
what abilities you might have, how to control them?

Sound familiar? That's the same problem we have with teaching touch.
So how do they do it?

Coaching

Leveling up

Power ups

Among other things,
video games use these 3 tools to teach us
with visuals and experiences.

Every modern theory of learning emphasizes
importance of active participation,
of active discovery,
supplemented by coaching and mentoring.

I'm sure there are great examples of teachers
who do all these things in the classroom.
I prefer to look at video games.

Coaching

Leveling up

Power ups

Coaching involves simple demonstrations,
prompts to tell you what to do.

This is the game riding along with you,
pointing things out as you go.
We learn by doing. We learn best in the moment.
Telling people HOW not nearly as effective as coaching them thru.

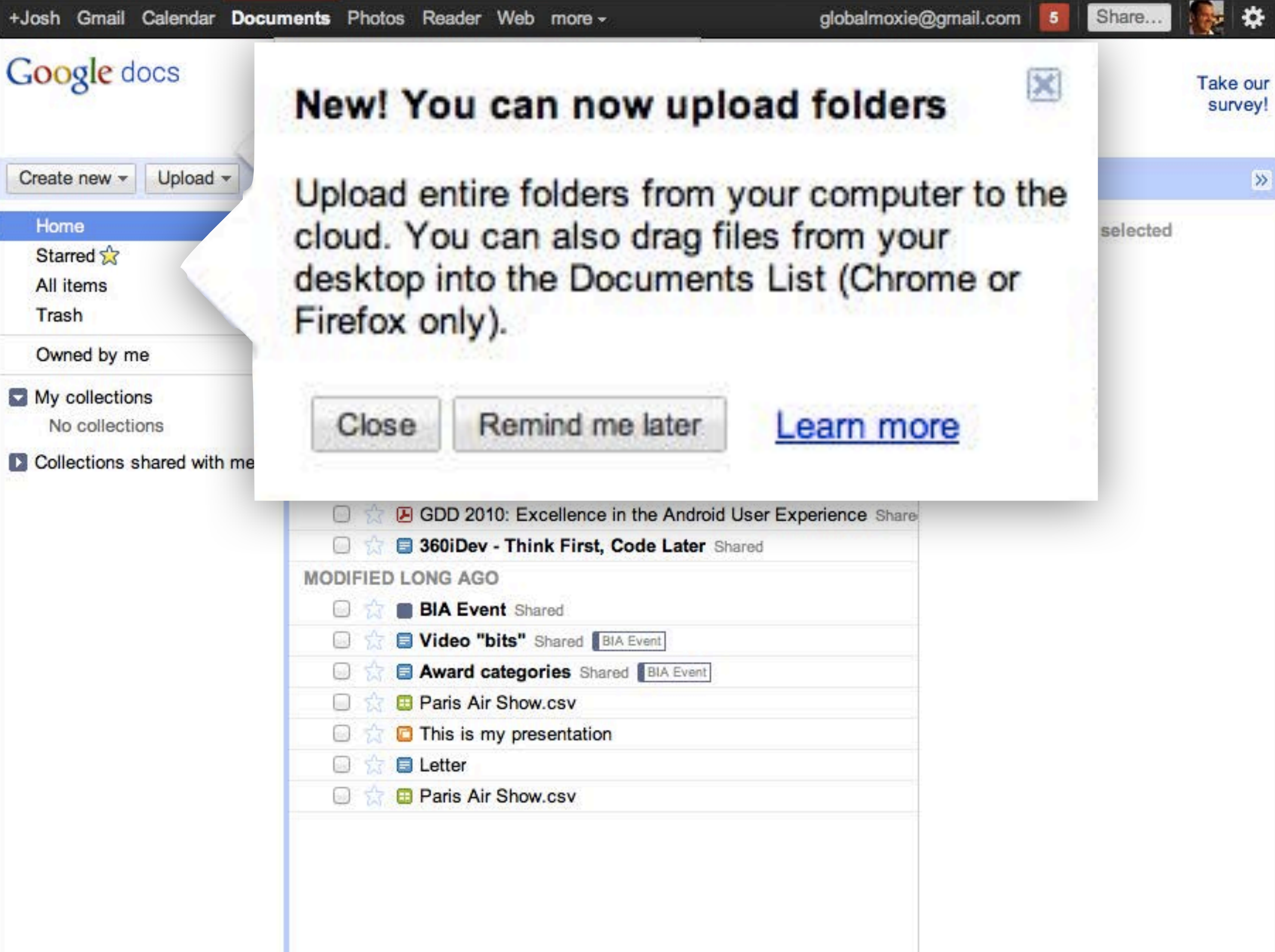
Teaching HOW to do things is hard.
Consider teaching music, consider teaching a tennis serve.
Best taught by demonstration and learned by practice...
because they're largely subconscious, like typing as we saw before.



So help me in the moment. Show me. That's what games do.

The arrows overlaid on the hero in the first screen of iPad game Dead Space show you how to move.

Simple temporary overlays that tell you what to do in the moment can be super helpful.



Same principle for these little tutorial boxes in many websites.

Gmail uses them in getting-started tours of an app, as well as to call out a new feature. Facebook does something similar.

Your app can, too.

Some of you might be squirming a little bit, because this might seem a little bit like a certain interface flop.



Are you trying to
write a letter?

A flop named Clippy.

The problem wasn't so much Clippy concept,
as the inane content that he had.

Clippy was never helpful.
He was only a distraction, offering to do dopey things.

Done right, though, assistant feature
like you see in Gmail or Facebook or in so many games
can be helpful to give information at appropriate times,

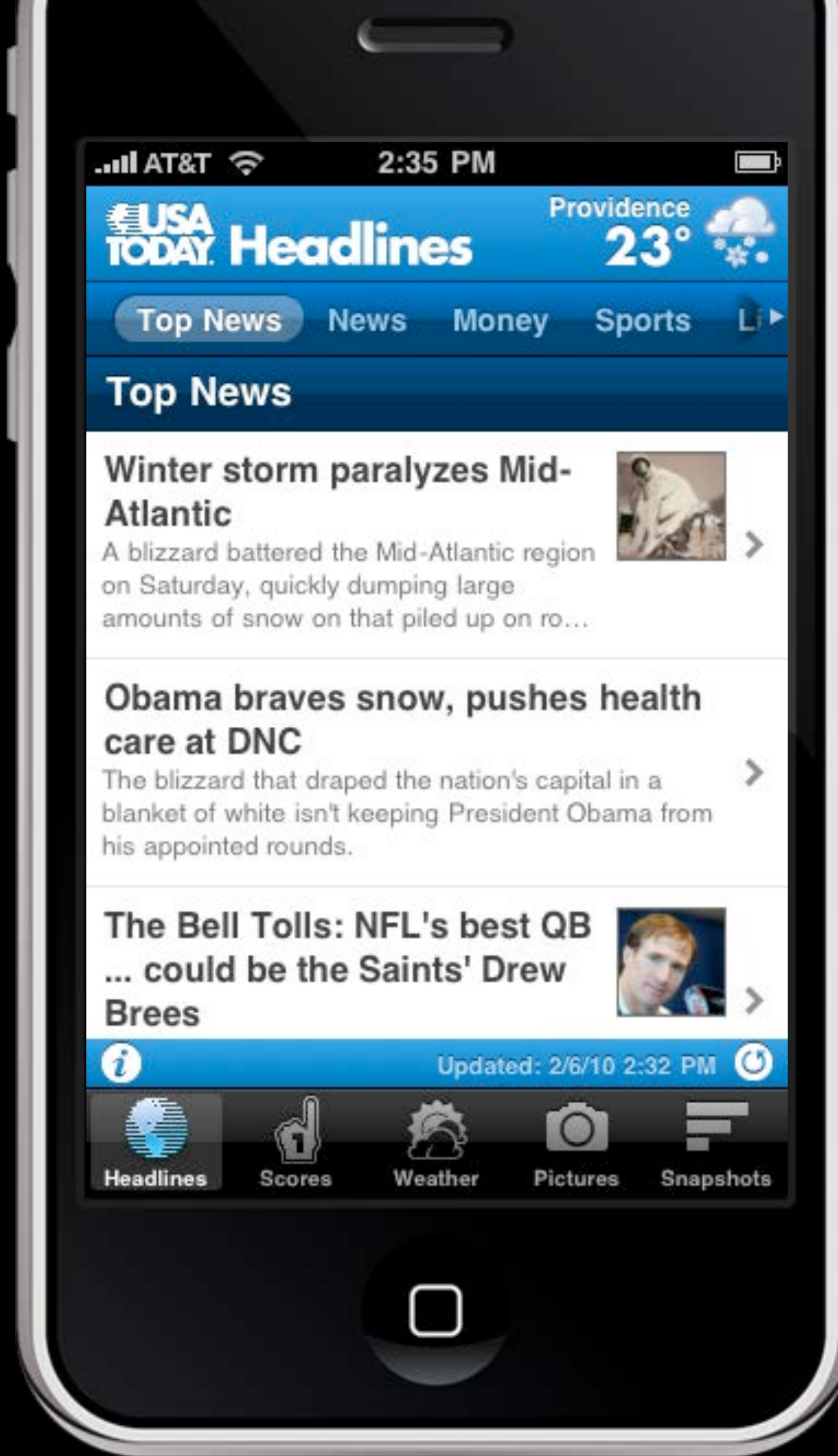
...and even emphasize the personality of your app.
Take this guy for example...



Who knows this guy? Crazy Dave!
Like him?

This character in Plants vs Zombies
pops up frequently to explain story twists,
give you missions or introduce microgames.
He's entertaining, useful, and appears for only very short periods of time.

Don't overdo it. Respect people's time.
Don't make them read for long, let them get to the action.
In fact, if you can avoid words with your coaching, so much the better.



USA Today uses animation in several places for coaching hints.

Coaching

Leveling up

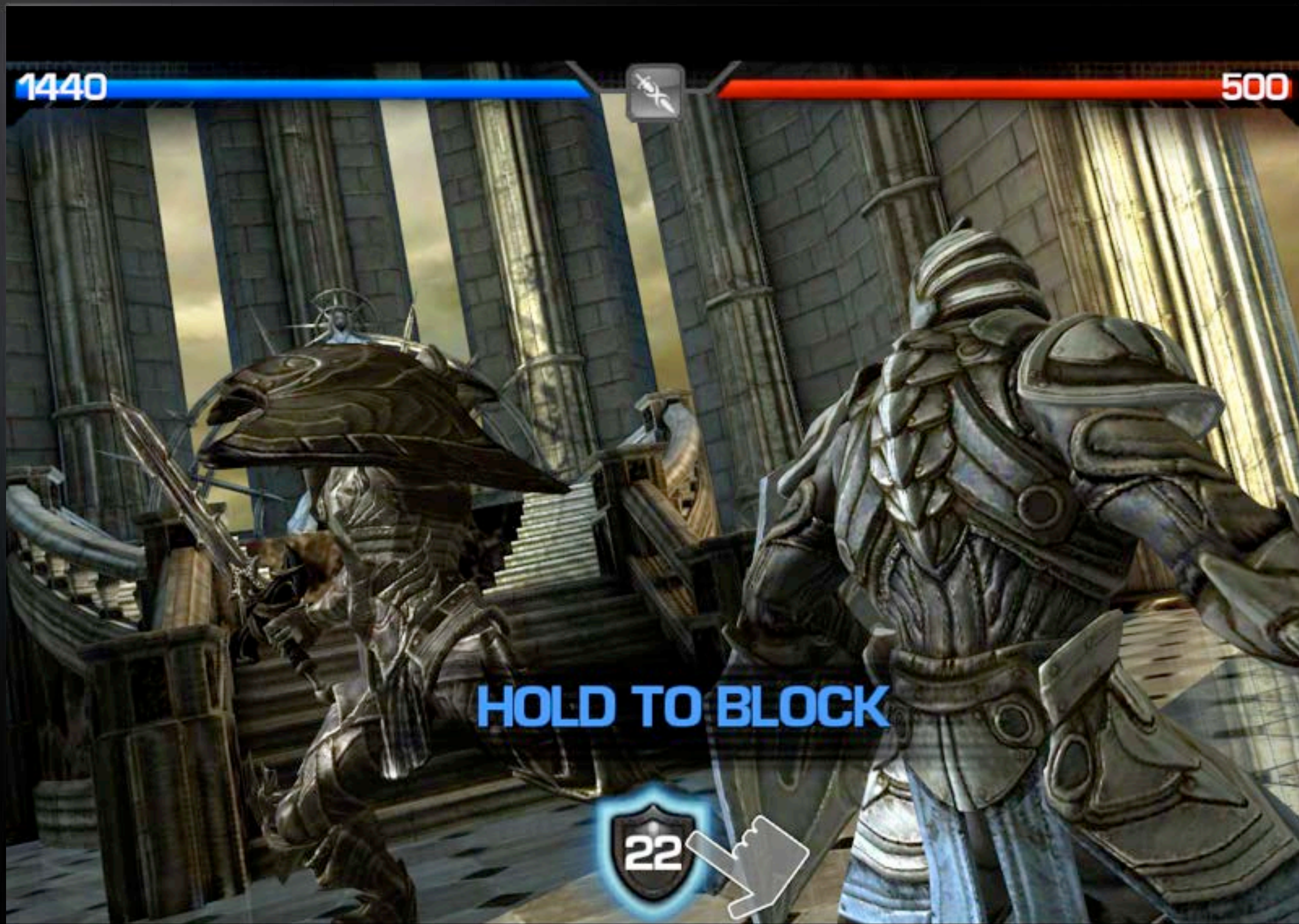
Power ups

An important component of coaching:
you don't teach everything all at once.

We learn best by getting it in doses.
Build on the basics and then reveal more as you go.
Teaching a kid football, you don't hand him the 200-page rulebook.
You start with the basics and gradually build,
teaching skills only as they're needed.

Ease players into the app.
Introduce one element at a time.
Encourage people to master the controls and features a little at a time.

Best time to learn a skill is right at the moment when you discover it's needed.
That's when we're most motivated, most engaged.



Like, for example, when you encounter a gigantic and hugely scary guy with a big-ass sword.

This is Infinity Blade for iPad.
Crazy sophisticated combat system,
but easy to learn by teaching you one step at a time,
introducing challenges that are specifically designed to test those skills.

The game pauses itself right here, freezes it,
when you're about to get your ass kicked,
to tell you, hey, hold this shield to block.

When you do, the action starts up again,
and whattya know, you've blocked.
Your first try is a guaranteed success.
Now you're ready to try it yourself.

In games, levels that introduce a new feature
should focus on teaching that feature.
Likewise, when people first encounter a feature is when you should offer coaching.



In some very important cases, should interrupt people to force them to demonstrate they've learned before continuing. That's whole principle of a fire drill. Show me you know how.

That's what Infinity Blade does over and over again, pausing the action at incredibly convenient times to teach you how to use a move to beat your opponent.

It waits until you demonstrate you understand. Again, first time is always a success.

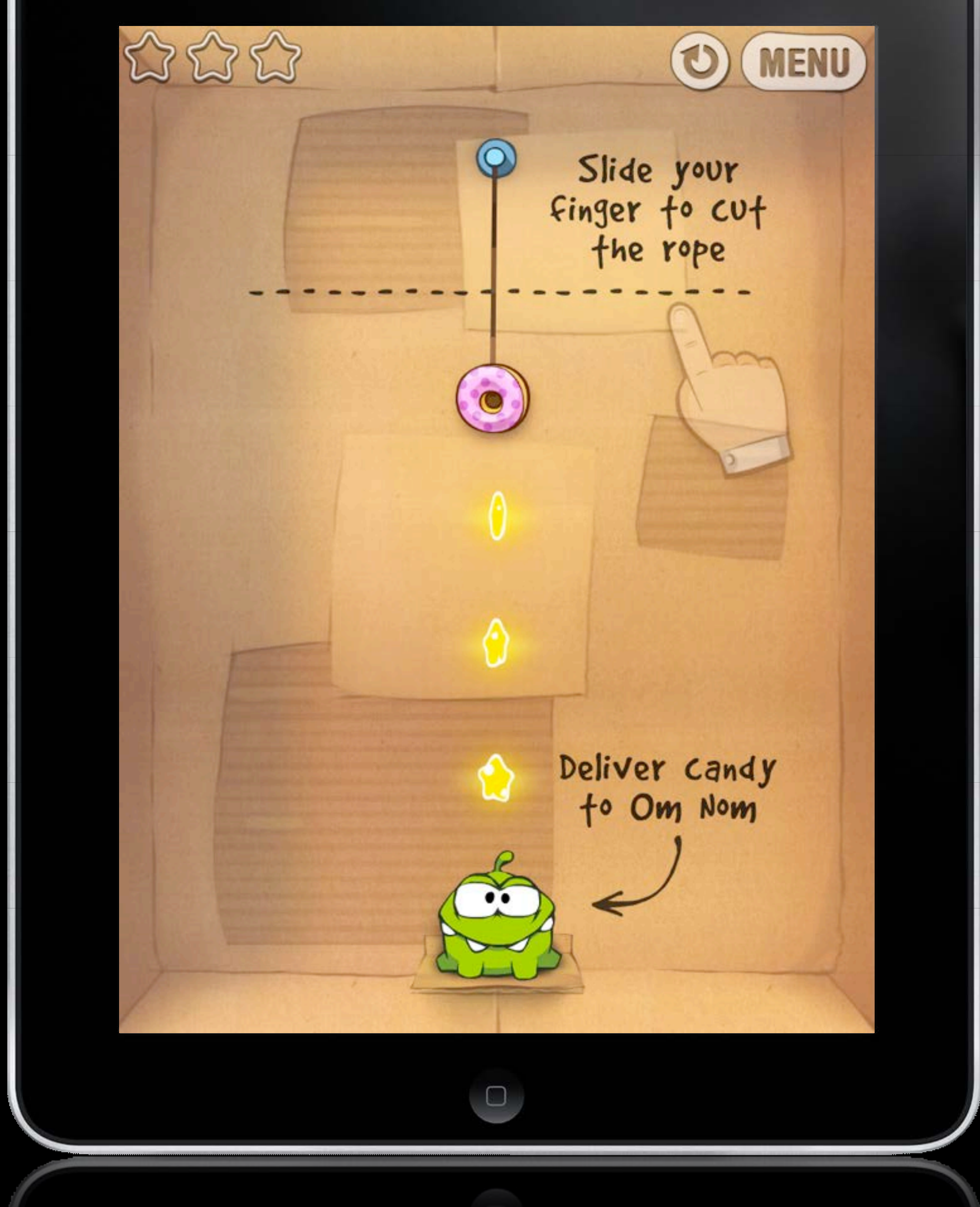
OS X Lion does this when it first installs, explaining you must swipe up to scroll down, instead of the old way. It MAKES you do it. Actually scroll before you can see the continue button.

Boom, you've completed the first level of the OS X Lion game.

Think about your app as levels. What's level one in your app? How do you introduce people to new levels of features and skills?

Often we just do one level, a welcome screen and then set people free. Think about the whole journey from novice to expert. Where can you help people level up?

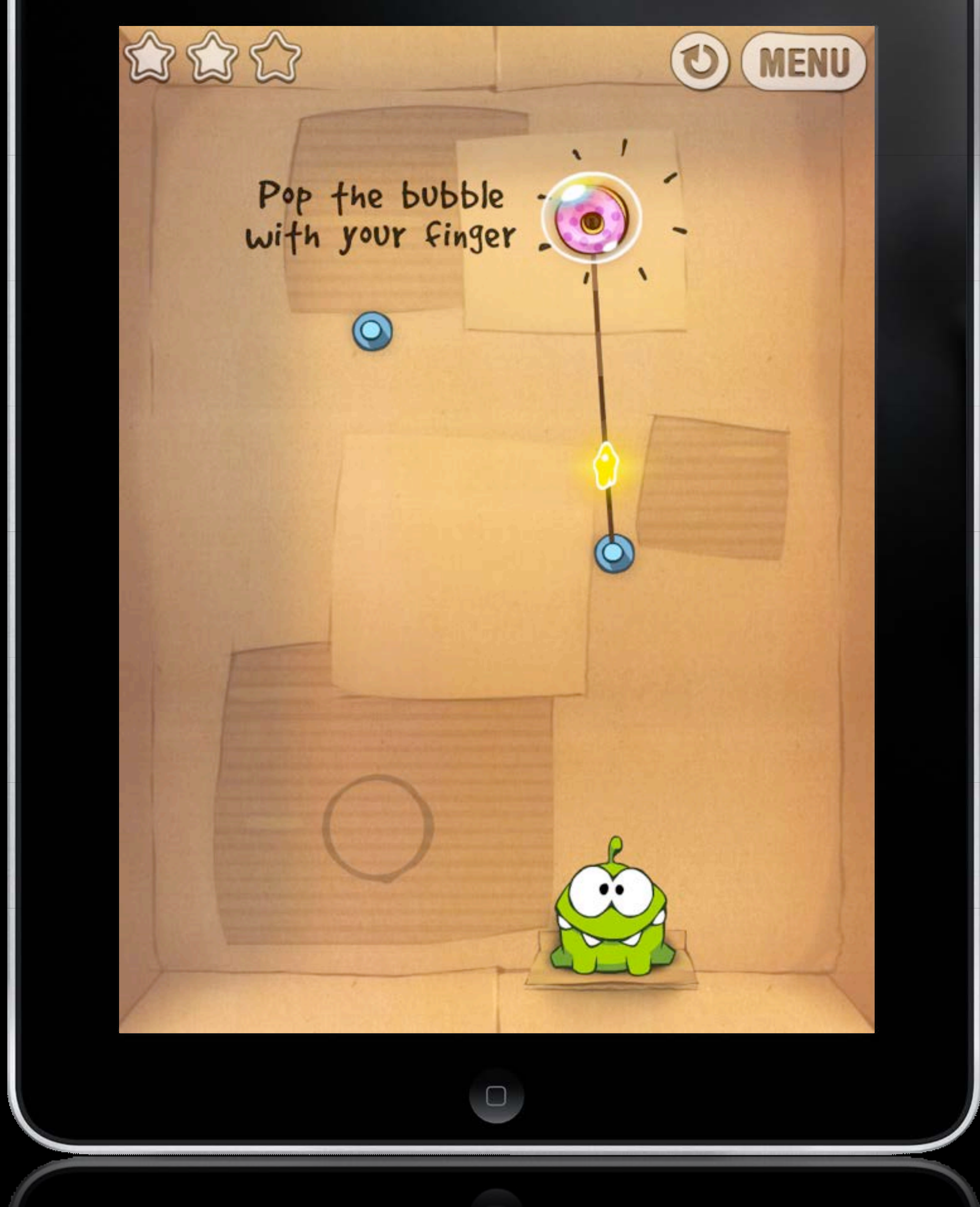
[twitter]Infinity Blade for iPad offers great examples for both coaching and leveling up. <http://j.mp/pojE9v> #sndstl[/twitter]



This overlay in the first and simplest level of Cut the Rope tells you basic move of the game.

Slide your finger to cut the rope.

[twitter]Cut the Rope game is great example of just-in-time coaching to level up w/ new gestures. <http://j.mp/qqWYFh> #sndstl[twitter]



Subsequent levels do the same to teach you new game mechanics.

Steady little demonstrations and explanations that coach you through.

Not all at once, the way those magazine apps do, but gradually. I'll talk about that in a sec.

Coaching

Leveling up

Power ups

Whole concept of levels is about evolving from beginner to expert,
and expertise is where the fancy moves come in... the power ups.



In video games, power ups like the super mushrooms in super mario brothers give you some kind of superpower. They turbo-boost your game, giving you shortcuts or some other advantage.

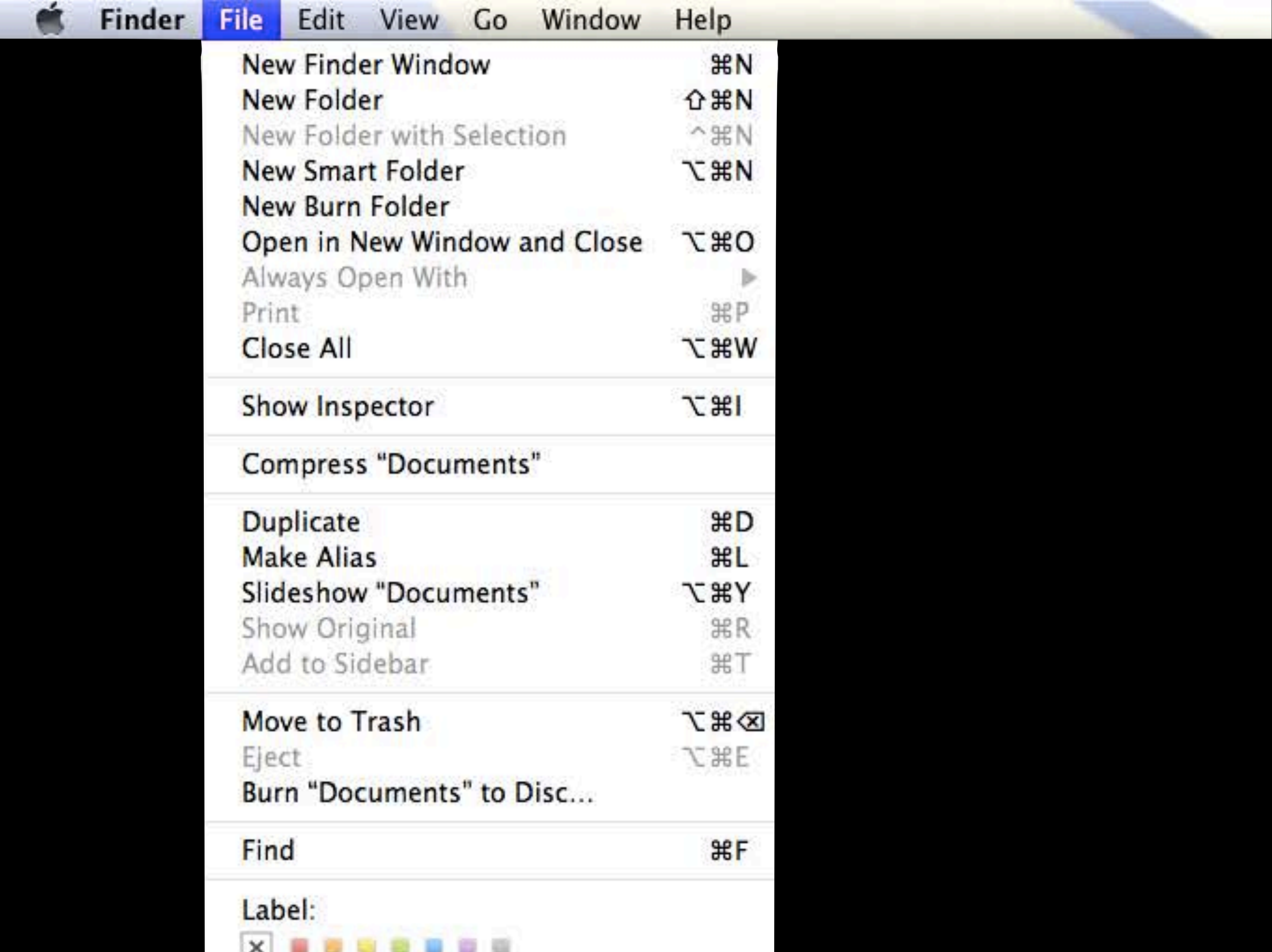
Power ups are the keyboard shortcuts of video games, usable by anyone but especially efficient in the hands of an expert.

And that's what gestures are, too.

Gestures are the keyboard shortcuts of touch

This is the real advantage of gestures.
They let you move quickly through the interface,
quickly and naturally without mashing buttons.

Creating shortcuts for time-consuming actions
That's motivation behind most custom gestures
in nearly all non-game apps.



Keyboard shortcuts are labeled. There's a visual clue here. The trouble with gestures of course is that they're invisible.

What if we add that five-finger touch to return home and remove all visual hints? People will be trapped.

Problem: Custom gestures aren't known. Can't count on people figuring them out, unless you show them, and as I've said, you should stage that info over time.

That means, that for most gestures, you should offer the same options through visible controls. Adding a shortcut doesn't mean you should eliminate the long way.



Here looking at news feed.
From the first level of any sub app, you can get back to the dashboard by tapping the grid at top left.

But say you drill further down...

I tap a comment...



And by now I'm pretty far down. Could go on forever. Essentially infinite.
How do I get back to the top?

You *can* tap all the way back through those screens.
But not quality taps.
(Tap quantity vs tap quality)
Now you're just following back through footsteps.

Tap the title bar. A hidden affordance as a shortcut.
Great to have, but no way to know about it unless you stumble on it, or someone tells you.
No documentation, it's hidden. Twitter does similar.

Both do the right thing by preserving the slow way, but how do users find out about the shortcut?

Deliver a power up when people earn it.
Observe when someone backs out four or five levels deep a few times, and on the fifth time, give them some help.



This lets them practice and understand the basic navigation the slow way, and, once mastered, to learn the shortcut.

Watch people's behavior.
When they're ready, reward them with a power up.

A PLEA

Explore multitouch gestures

As you explore new touch-based gestures,
please pay special attention to multitouch.
Territory that we as a community need to explore.
We have to experiment here, along with our audience.

Here's the trouble: multitouch gestures are typically abstract.
Not a natural operation like pushing or tapping an object.
More obscure, have to be learned, not guessable.

Instead of hitting that tiny button to trigger the popover,
give me a five finger touch.

Let me do 2- or 3-finger swipe to leap back out to the top of the Mail app.

Multitouch gestures create the possibility of apps that you PLAY like an instrument more than use as a tool. Look at all of you
with keyboards: intent translated fluidly to action.

Conventions like this don't exist yet, but they're badly needed.
Big companies like Apple, not showing much leadership here.
So we need to explore this as a community.



This is another salt and pepper issue, though.
How gestures work depends on who's making the call,
who's filling the shakers.
That's us.

There are no accepted conventions or customs
for dealing with multitouch gestures.
A two-finger swipe at one app means something
completely different from another.

So we're in an awkward position as both users and designers.
We're waiting for conventions,
but nobody's showing much leadership,
not even Apple whose own iPad apps
frankly haven't revealed much self-confidence.

Important to standardize ASAP,
but not so soon that bugs can shake out, new tech learned.



That means that it's more important than ever to share.

This stuff is hard. Don't go it alone. We have to talk about it.

Gestures are invisible and have to be learned.
We'll stagger at this.

Don't assume anyone else has nailed it or tested it,
or thought about it.
Everyone's flying by seat of their pants right now.
This is very early, and it's dangerous to lock in on half-baked conventions.

Talk. Ask questions. Find out if this is solid.
Need to help each other, we need to have conversations.

[slow] This is a time to be generous.

New platforms don't come along very often, and this is EXCITING.
Just inventing what the iPad and other connected devices do.
Be expansive, let imagination roam.

Coollest job in the world. Inventing future.
Go make something amazing.

I love you guys.

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[twitter]I'm talking about designing for touch on Wed 6:30 PM at the Emma offices @emmaemail.
Details & RSVP: <http://bit.ly/joshville>[/twitter]