Buttons Are a Hack

…and what to do about it

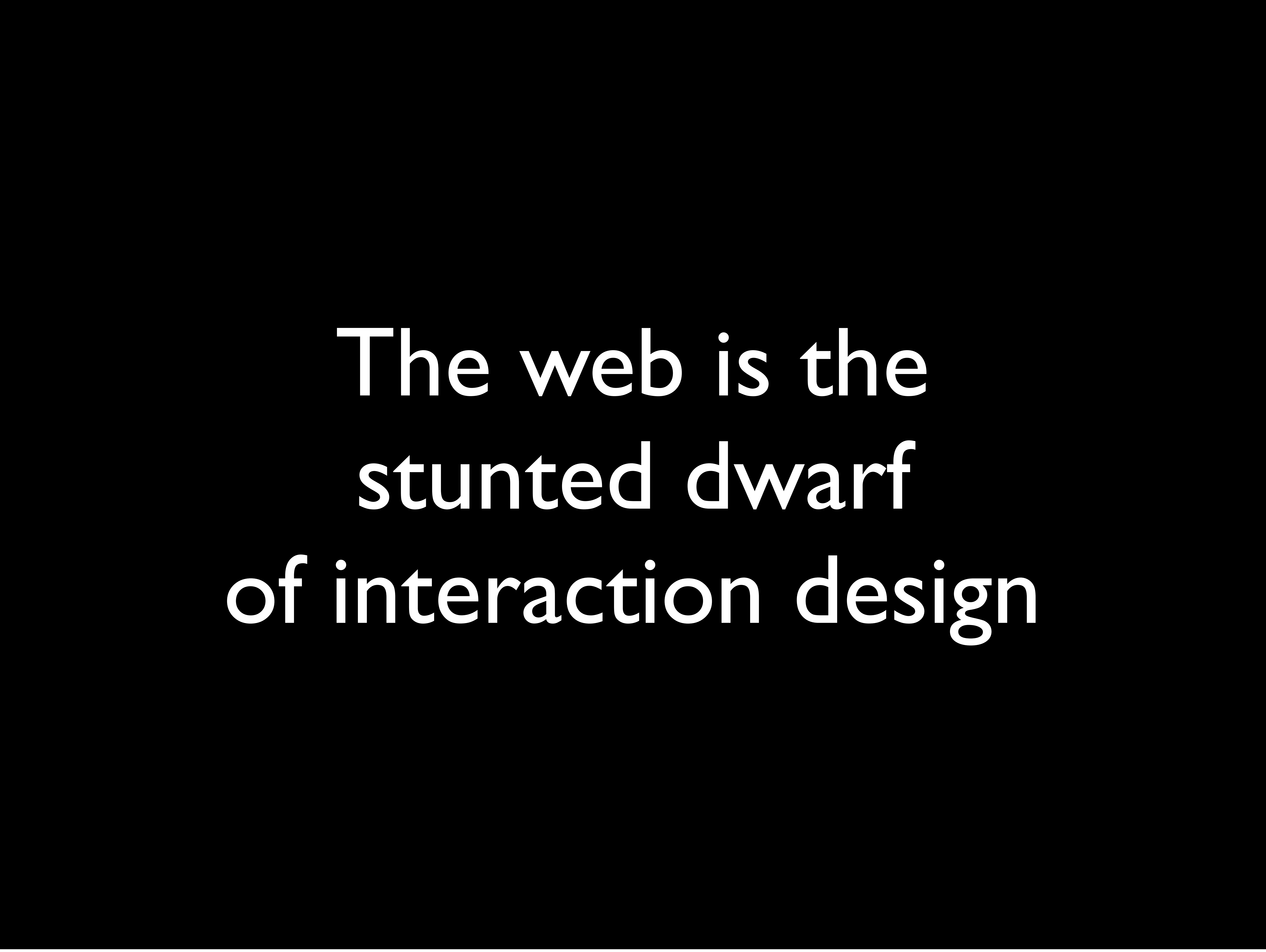
Josh Clark
@globalmoxie

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

Touch will help us sweep away decades of buttons—menus—folders—tabs and administrative debris to work directly with the content. That's important because buttons are a hack. I'll explain what I mean about that in a moment.

This talk is about interaction design, about the way we conceive interfaces.

These ideas are not specific to the web, but do represent a big problem for the web, because this new class of devices—touch devices—have created all kinds of interaction expectations that the current web is simply crummy at meeting.



The web is the stunted dwarf of interaction design

Not news. The web is about links. Click once, zip anywhere.
The web is awesome, strength is its reach and accessibility.

But it's HARD to push beyond simple click. Consider Flash. Flash has tons of problems, obviously, but web only just catching up. Coders struggle with canvas and svg to create 3-D experiences and dynamite visuals that took a designers moments in the 1990s.

That's where we are with touch interaction & gestures, too.

Point is not the web sucks. But it sucks at this. Sucks at rich interaction. Really sucks for coding gestures, which will be central part of our computing experience this century.

As we rush toward these new interaction experiences, natural gestures over tired desktop conventions, native apps are CLEARLY leading the way, leaving the web in the dust.

A theme you'll hear a lot this week, I think: Platform and OS vendors have allowed mobile web experience to languish in favor of pushing native apps. Shame on them.

When it comes to interaction design, my area of interest, our community must be active and creative in pushing two things...

Real support for gestures

```
touchstart
touchmove
touchend
```

Out of the box, JS coders have really weak broth to work with. These are the events we get. Coders forced to start w/most primitive elements.

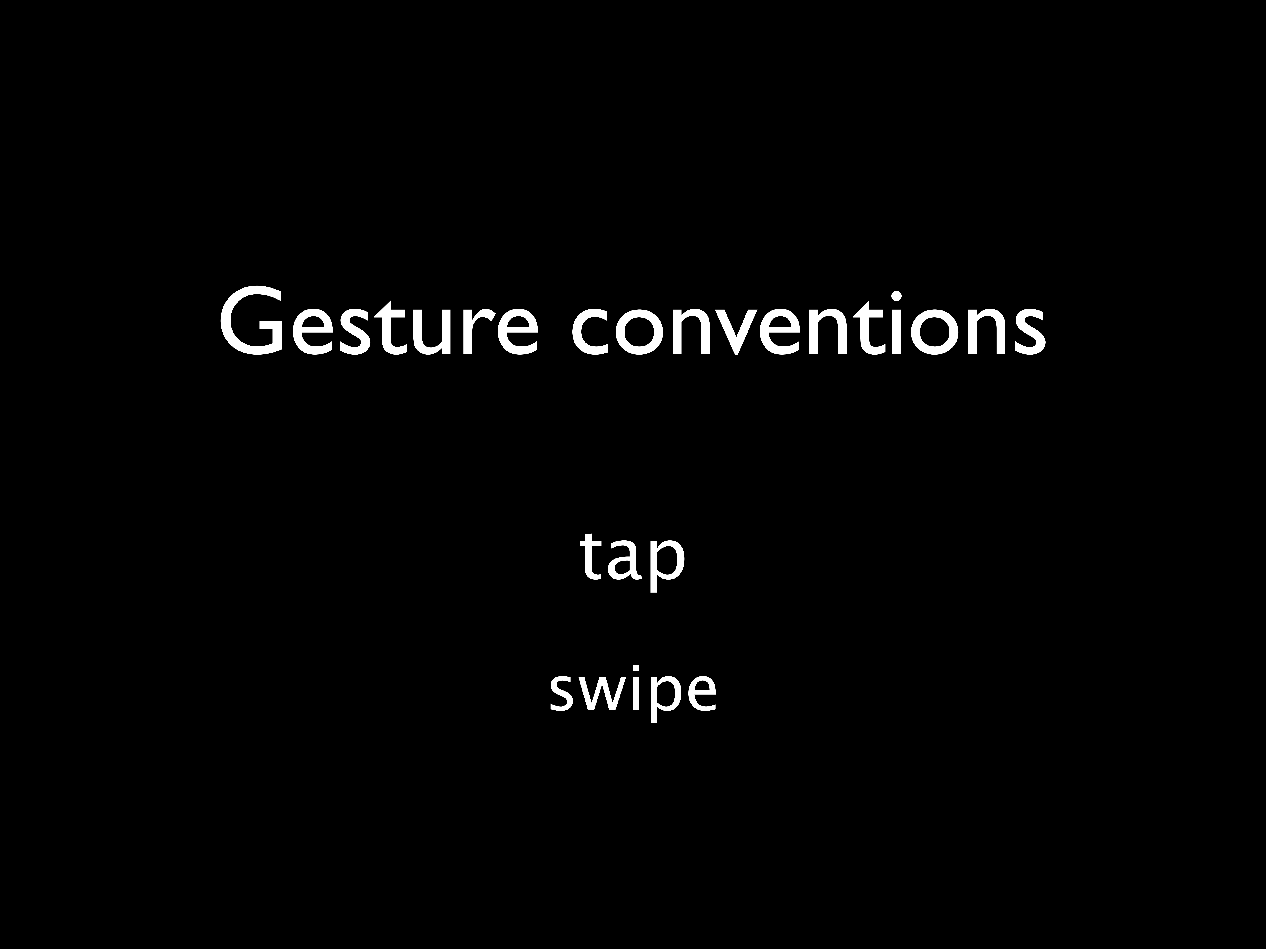
2-finger touch? Code it from scratch! Detect the touch, location, motion... design entire gesture.

We should have better, more abstracted gesture events to easily get at pinches, at multi-fingers touches and swipes.

So one job we have is to agitate for better gesture support. Challenging enough to design complex gestures on native SDK designed to encourage such things. Far worse to have to build it from scratch with this sorry crap.

JS libraries out there to try to address this, but it should be native to browsers. The web should be a first-class citizen here.

If you care about the web, you should care about this. Browsers have to get better.



Gesture conventions

tap

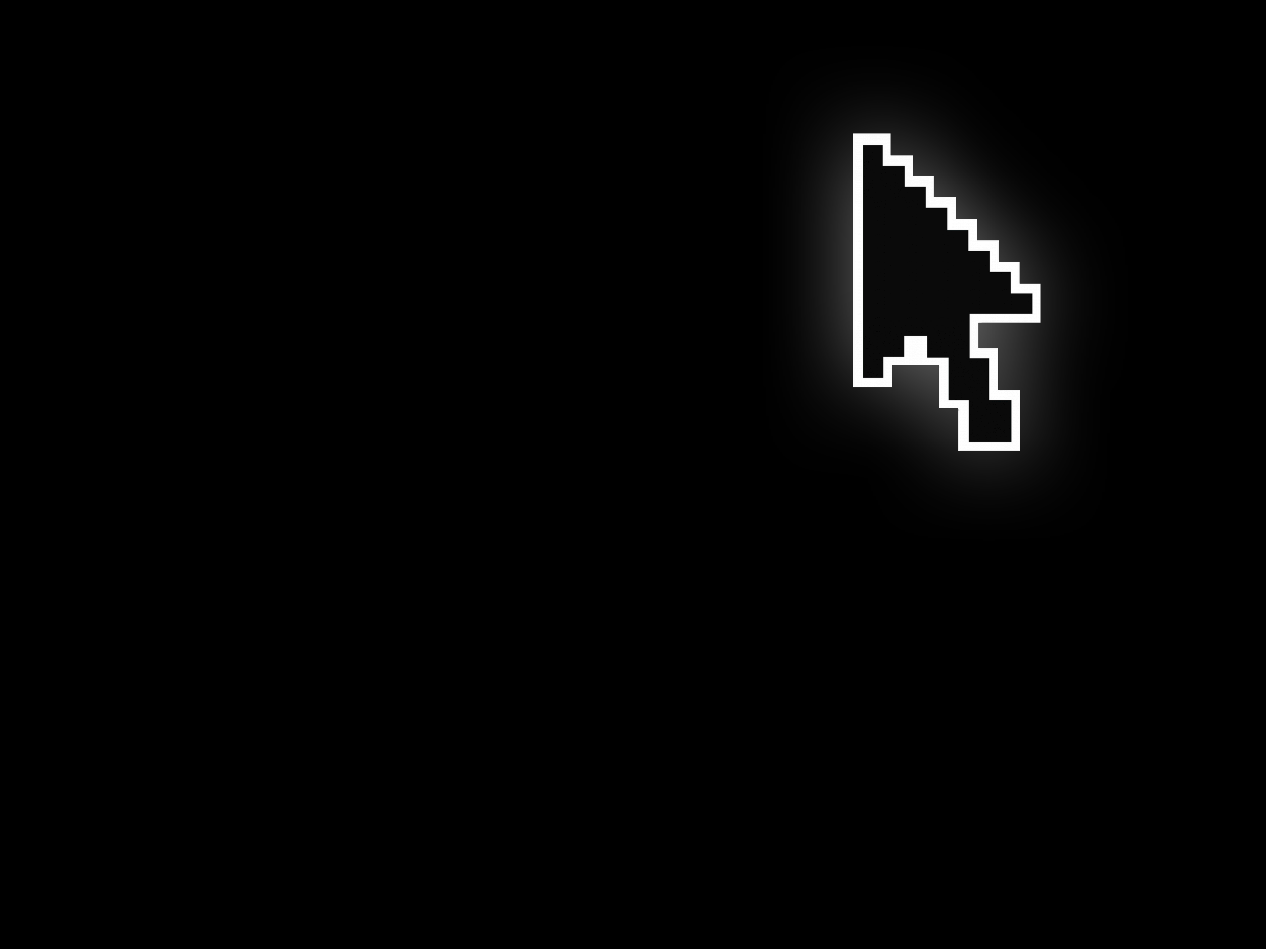
swipe

We have to start to be more creative and collaborative in forming gesture conventions. On the web, we have just two: tap and swipe.

And to be honest, native apps are not much better. You can add pinch to the mix there, and in some OS’s tap and hold.

We need to do much better to develop gesture conventions TOGETHER... that work on all platforms... that work on both web and native (that on the web don’t fight the built in browser gestures)

We shouldn’t leave these decisions to OS’s and toolmakers. We need to get in there and share our two cents, to make these DESIGN decisions, not platform decisions.



I’m saying WHAT we should do before I talk about WHY. So let me put aside the polemic, talk about how touch changes things.

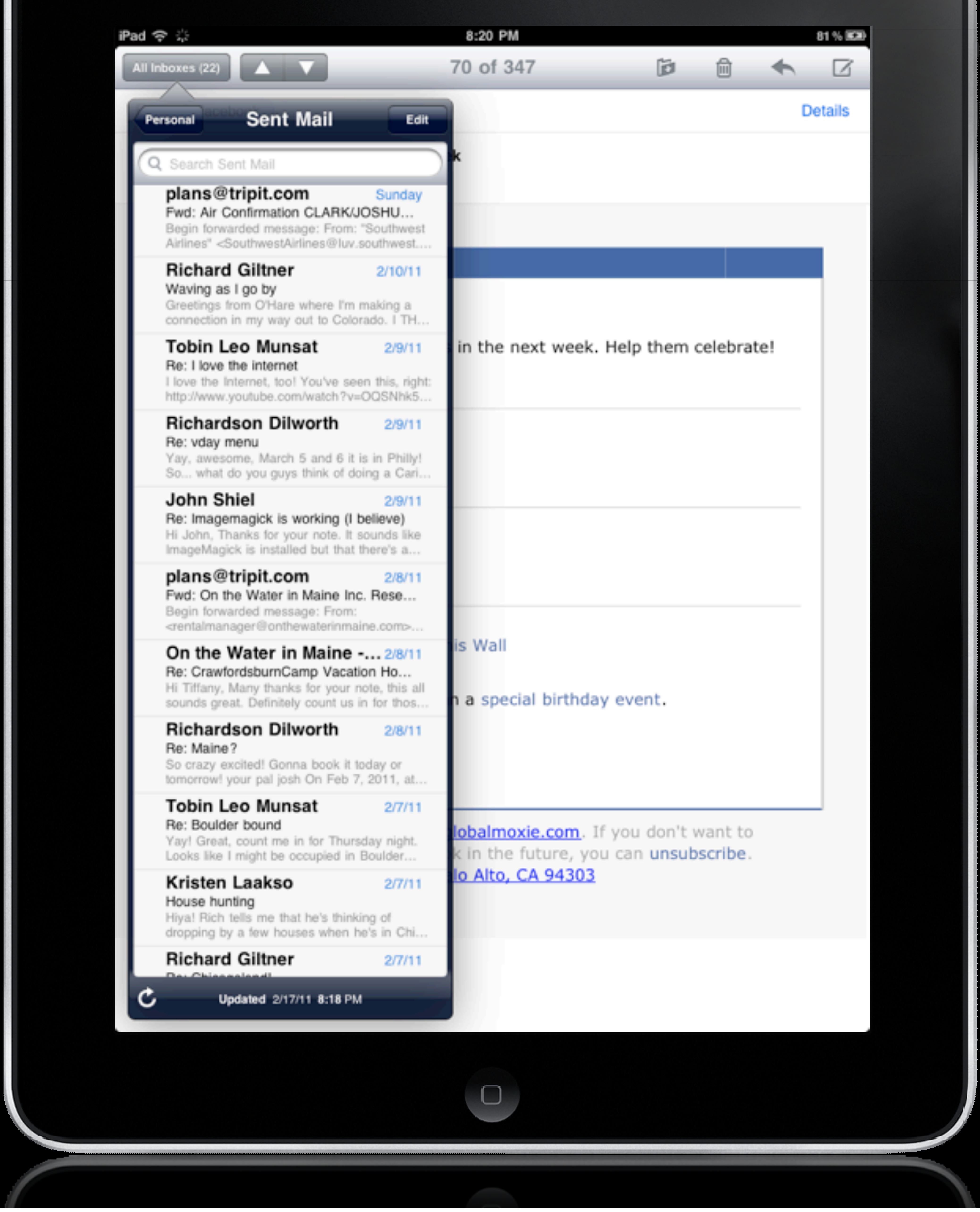
When you remove this thing—the cursor, and the mouse, too, these prosthetics we've pointed at stuff for 25 years—all that remains is you and the device.

Changes the experience, creates an illusion of working directly with content and objects. It cuts through complexity to interact directly instead of pumping buttons.

Big shift, a real change in the way we think about interface design. Challenge for software designers, but or regular folks, too. How do we help people learn to use software without buttons?

How do we teach touch?

First, what’s the big deal? Touch lets us do awesome new UI stunts, which is great. More important: point-and-click desktop conventions. kinda crummy on touch screens.



iPad
8:20 PM
81 %
All Inboxes (22)
70 of 347
Details
Personal
Sent Mail
Edit
Search Sent Mail
Updated 2/17/11 8:18 PM
in the next week. Help them celebrate!
is Wall
a special birthday event.
lobalmoxie.com. If you don't want to
k in the future, you can unsubscribe.
lo Alto, CA 94303

plans@tripit.com Sunday
Fwd: Air Confirmation CLARK/JOSHU…
Begin forwarded message: From: "Southwest Airlines" <SouthwestAirlines@luv.southwest.…

Richard Giltner 2/10/11
Waving as I go by
Greetings from O'Hare where I'm making a connection in my way out to Colorado. I TH…

Tobin Leo Munsat 2/9/11
Re: I love the internet
I love the Internet, too! You've seen this, right: http://www.youtube.com/watch?v=OQSNhk5…

Richardson Dilworth 2/9/11
Re: vday menu
Yay, awesome, March 5 and 6 it is in Philly! So... what do you guys think of doing a Cari…

John Shiel 2/9/11
Re: Imagemagick is working (I believe)
Hi John, Thanks for your note. It sounds like ImageMagick is installed but that there's a…

plans@tripit.com 2/8/11
Fwd: On the Water in Maine Inc. Rese…
Begin forwarded message: From: <rentalmanager@onthewaterinmaine.com>…

On the Water in Maine -… 2/8/11
Re: CrawfordsburnCamp Vacation Ho…
Hi Tiffany, Many thanks for your note, this all sounds great. Definitely count us in for thos…

Richardson Dilworth 2/8/11
Re: Maine?
So crazy excited! Gonna book it today or tomorrow! your pal josh On Feb 7, 2011, at…

Tobin Leo Munsat 2/7/11
Re: Boulder bound
Yay! Great, count me in for Thursday night. Looks like I might be occupied in Boulder…

Kristen Laakso 2/7/11
House hunting
Hiya! Rich tells me that he's thinking of dropping by a few houses when he's in Chi…

Richard Giltner 2/7/11

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.... 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.

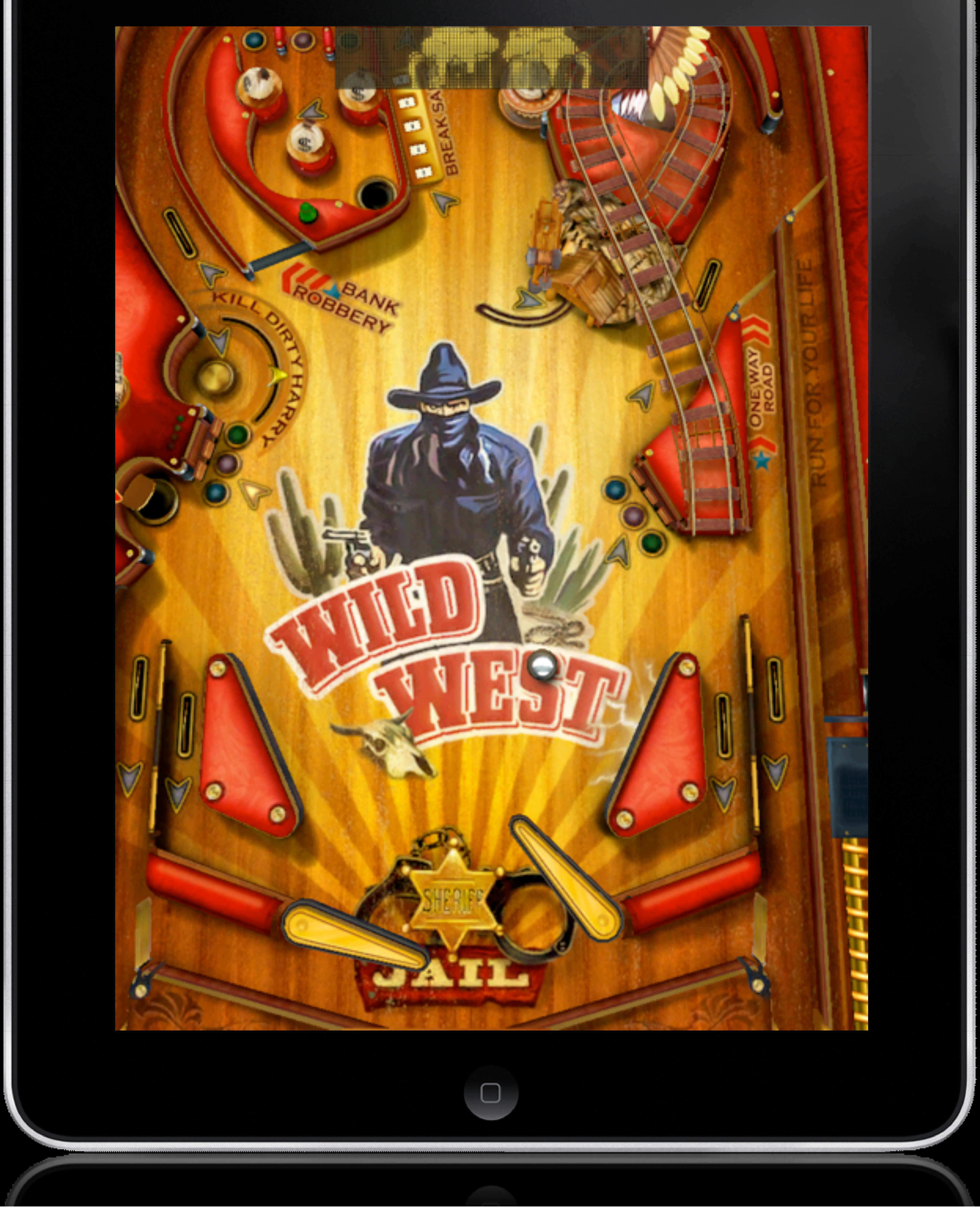
On phones, problem not as pronounced. Can hit the entire screen with your thumb. But on iPad, you’re moving your whole arm, dragging this giant meat pointer.

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.

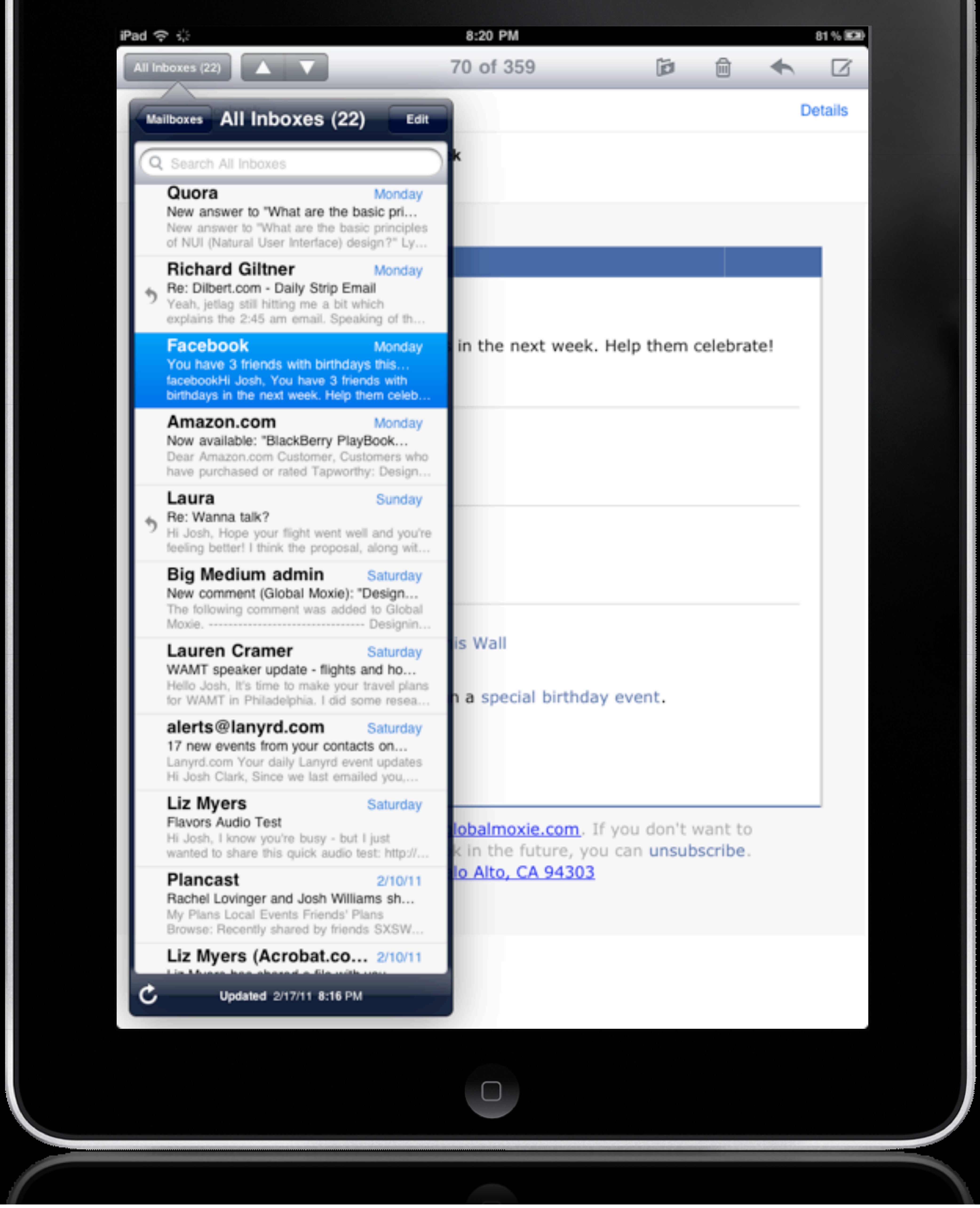
Don’t make me concentrate on hitting little buttons. Let me swipe at the whole screen, not just a little tiny plot of it. Do you even need buttons for your app?



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? Don’t mean 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.



Quora Monday
New answer to "What are the basic pri…
New answer to "What are the basic principles of NUI (Natural User Interface) design?" Ly…

Richard Giltner Monday
Re: Dilbert.com - Daily Strip Email
Yeah, jetlag still hitting me a bit which explains the 2:45 am email. Speaking of th…

Facebook Monday
You have 3 friends with birthdays this…
facebookHi Josh, You have 3 friends with birthdays in the next week. Help them celeb…

Amazon.com Monday
Now available: "BlackBerry PlayBook…
Dear Amazon.com Customer, Customers who have purchased or rated Tapworthy: Design…

Laura Sunday
Re: Wanna talk?
Hi Josh, Hope your flight went well and you're feeling better! I think the proposal, along wit…

Big Medium admin Saturday
New comment (Global Moxie): "Design…
The following comment was added to Global Moxie. ------------------------------- Designin…

Lauren Cramer Saturday
WAMT speaker update - flights and ho…
Hello Josh, It's time to make your travel plans for WAMT in Philadelphia. I did some resea…

alerts@lanyrd.com Saturday
17 new events from your contacts on…
Lanyrd.com Your daily Lanyrd event updates Hi Josh Clark, Since we last emailed you,…

Liz Myers Saturday
Flavors Audio Test
Hi Josh, I know you're busy - but I just wanted to share this quick audio test: http://…

Plancast 2/10/11
Rachel Lovinger and Josh Williams sh…
My Plans Local Events Friends' Plans Browse: Recently shared by friends SXSW…

Liz Myers (Acrobat.co… 2/10/11

in the next week. Help them celebrate!

is Wall

a special birthday event.

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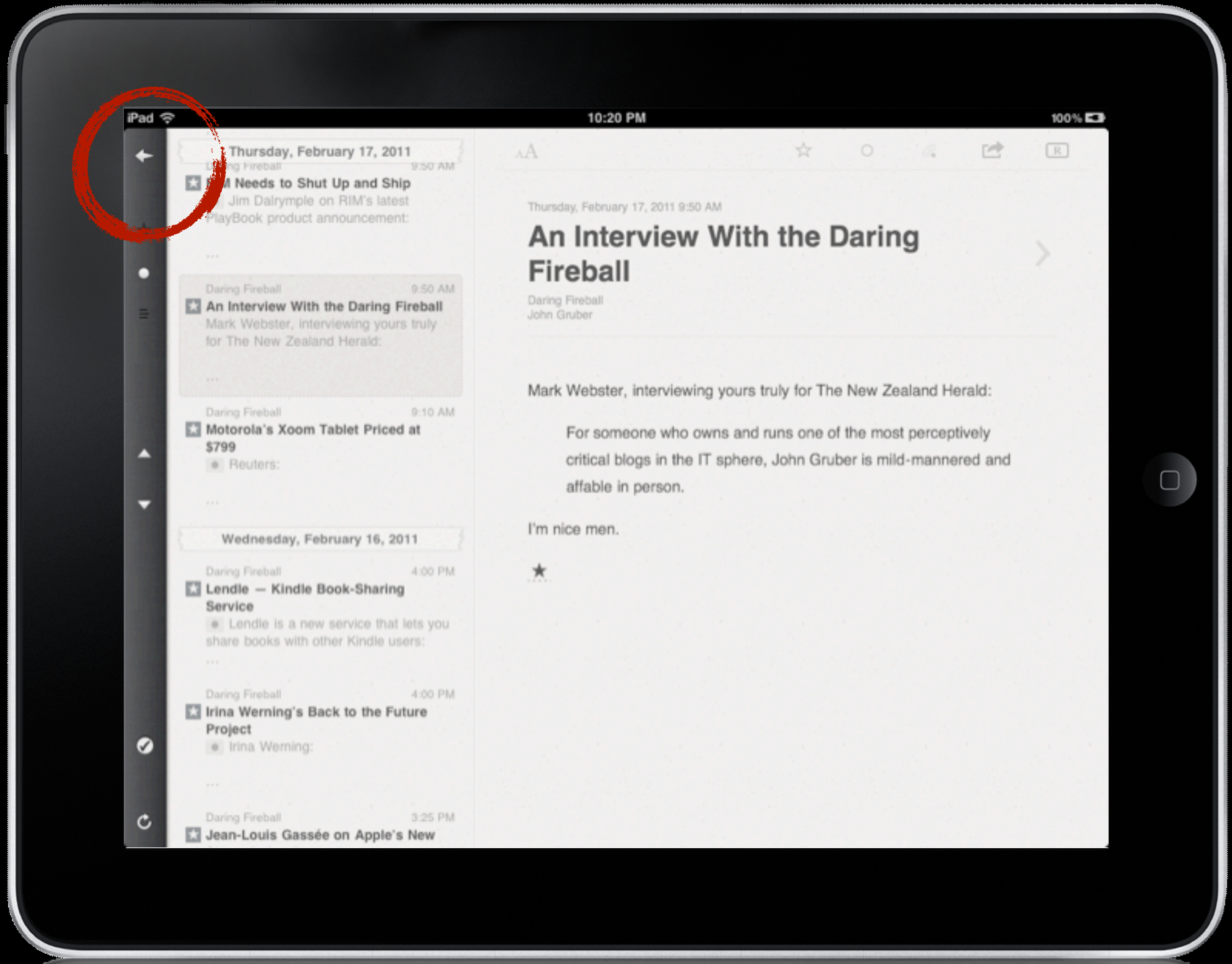
Give me shortcuts. Gestures are the keyboard shortcuts of touch interfaces. Let you get around the button press.

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

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



Thursday, February 17, 2011

Daring Fireball 9:50 AM
RIM Needs to Shut Up and Ship
Jim Dalrymple on RIM's latest PlayBook product announcement:
...

Daring Fireball 9:50 AM
An Interview With the Daring Fireball
Mark Webster, interviewing yours truly for The New Zealand Herald:
...

Daring Fireball 9:10 AM
Motorola's Xoom Tablet Priced at $799
Reuters:
...

Wednesday, February 16, 2011

Daring Fireball 4:00 PM
Lendle — Kindle Book-Sharing Service
Lendle is a new service that lets you share books with other Kindle users:
...

Daring Fireball 4:00 PM
Irina Werning's Back to the Future Project
Irina Werning:
...

Daring Fireball 3:25 PM
Jean-Louis Gassée on Apple's New

Thursday, February 17, 2011 9:50 AM

An Interview With the Daring Fireball

Daring Fireball
John Gruber

Mark Webster, interviewing yours truly for The New Zealand Herald:

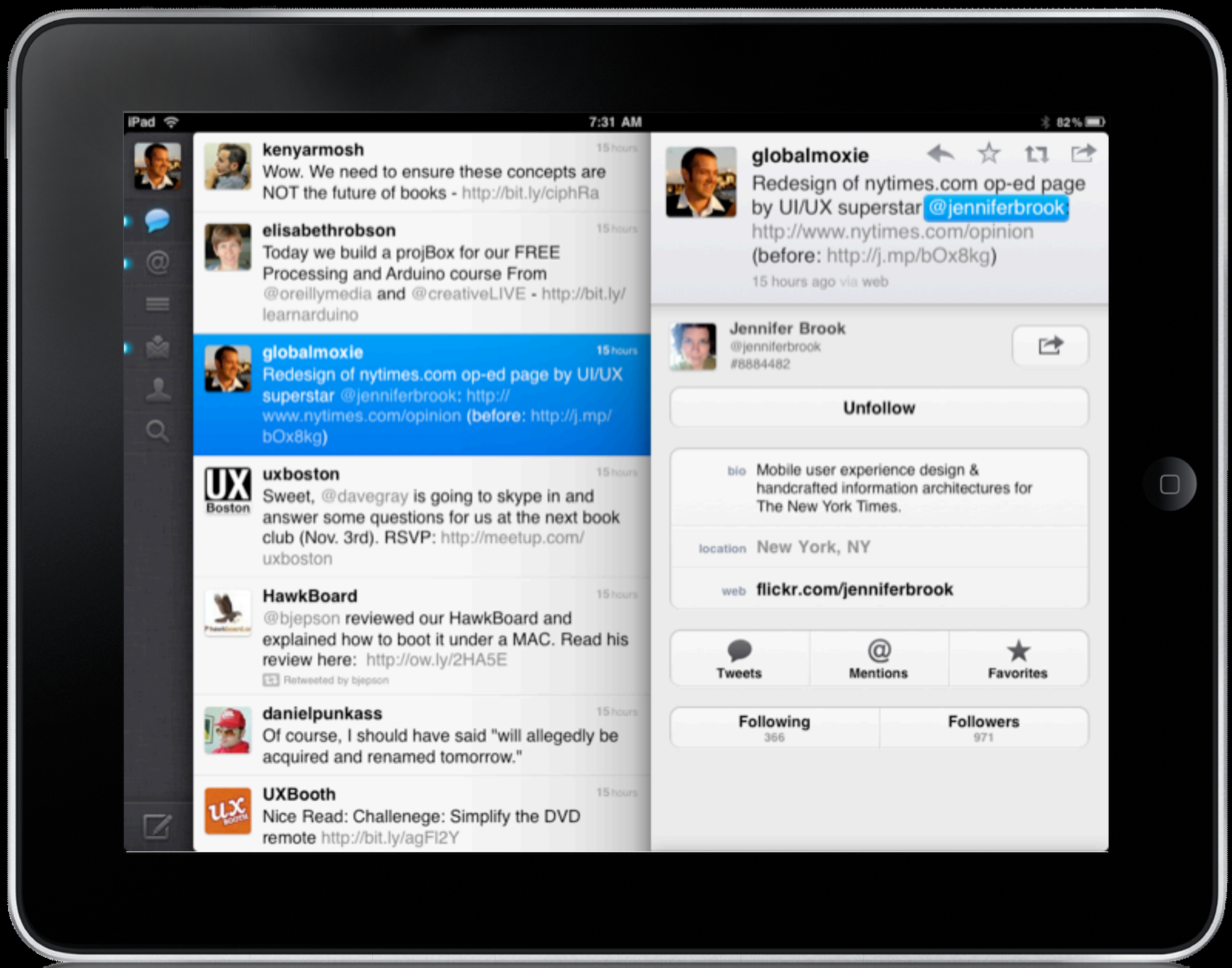
> For someone who owns and runs one of the most perceptively critical blogs in the IT sphere, John Gruber is mild-mannered and affable in person.

I'm nice men.

★

Reeder for iPad provides a good example. Has a back button to return to your list of feeds. But you can also do a pinch to return to the menu directly. Fast, quick action that uses entire screen as the control.

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.



kenyarmosh 15 hours
Wow. We need to ensure these concepts are NOT the future of books - http://bit.ly/ciphRa

elisabethrobson 15 hours
Today we build a projBox for our FREE Processing and Arduino course From @oreillymedia and @creativeLIVE - http://bit.ly/learnarduino

globalmoxie 15 hours
Redesign of nytimes.com op-ed page by UI/UX superstar @jenniferbrook: http://www.nytimes.com/opinion (before: http://j.mp/bOx8kg)

uxboston 15 hours
Sweet, @davegray is going to skype in and answer some questions for us at the next book club (Nov. 3rd). RSVP: http://meetup.com/uxboston

HawkBoard 15 hours
@bjepson reviewed our HawkBoard and explained how to boot it under a MAC. Read his review here: http://ow.ly/2HA5E
Retweeted by bjepson

danielpunkass 15 hours
Of course, I should have said "will allegedly be acquired and renamed tomorrow."

UXBooth 15 hours
Nice Read: Challenege: Simplify the DVD remote http://bit.ly/agFI2Y

globalmoxie
Redesign of nytimes.com op-ed page by UI/UX superstar @jenniferbrook http://www.nytimes.com/opinion (before: http://j.mp/bOx8kg)
15 hours ago via web

Jennifer Brook
@jenniferbrook
#8884482

bio Mobile user experience design & handcrafted information architectures for The New York Times.
location New York, NY
web flickr.com/jenniferbrook

Following 366
Followers 971

Twitter for iPad managed to eliminate back button entirely. Interact directly with words, URLs, entire content contexts. 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.

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

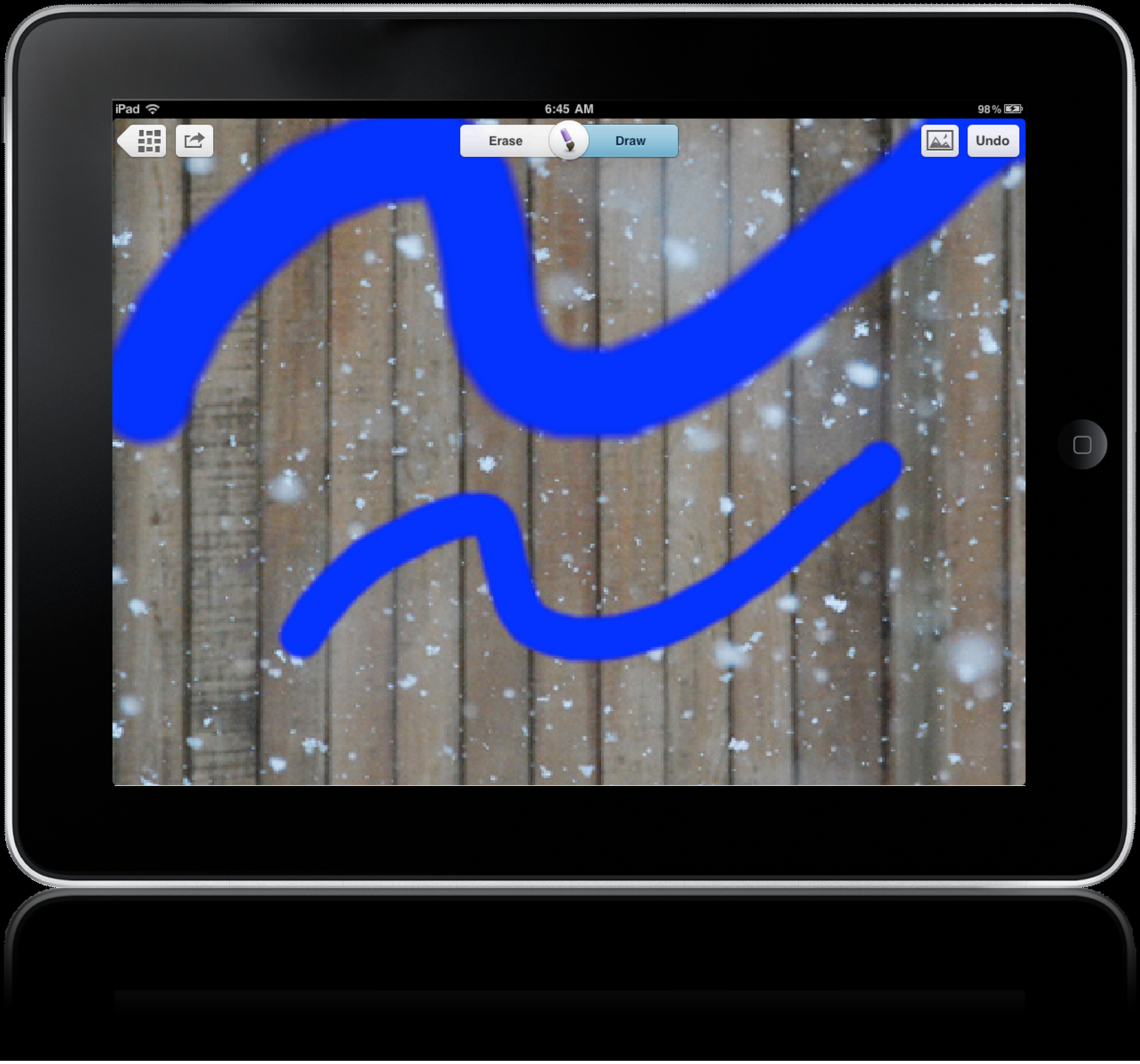
In the real world AND in software, buttons are abstractions. Work at a distance on the primary object. Often necessary, the best available solution—light switches for example — but they're a workaround. Operate at a distance. Add a middle man, an extra layer of complication.

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.



So if it’s not just about ergonomics, but about UI concepts, that means we also 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.

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

When you deal w/touch, have to rethink these familiar abstractions. What BIG opportunities does that afford? Speaking of big...

TouchUp: http://j.mp/qB5QTc

This is the Wenger Giant. Guinness world record: most multifunctional pen knife. 87 tools, 141 functions.

The Wenger Giant Swiss Army Knife can be yours for just $902! http://j.mp/mQGu0k

Clearly ridiculous but intentionally so. 100th anniversary: include every gadget ever included. Fun bit of humor and whimsy, but as a knife, it's a failure.

Usability problems obvious, won't linger long. Heavy physical load, heavy cognitive load 87 tools, just finding the one you want is a challenge.

In a mobile interface. clarity should trump density.

With most interfaces, the more features you have, the more controls you need. Too much in small space and you get something ergonomically unsuited to purpose: Pocket knife can't fit in pocket.

A wonderful thing about touch gestures is that they can let us remove chrome. But that leaves a giant question...

Finding What You Can’t See

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

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

On iPhone, in maps app, zoom out with two-fingered single tap. Not a gesture that would have effect on physical object

Newcomers DO discover tapping twice zooms in. Doesn’t have real-world equivalent either. Double-click training from desktop computers kicks in.

People will figure out stuff that works from physical or mouse-driven experience. 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.

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.

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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.

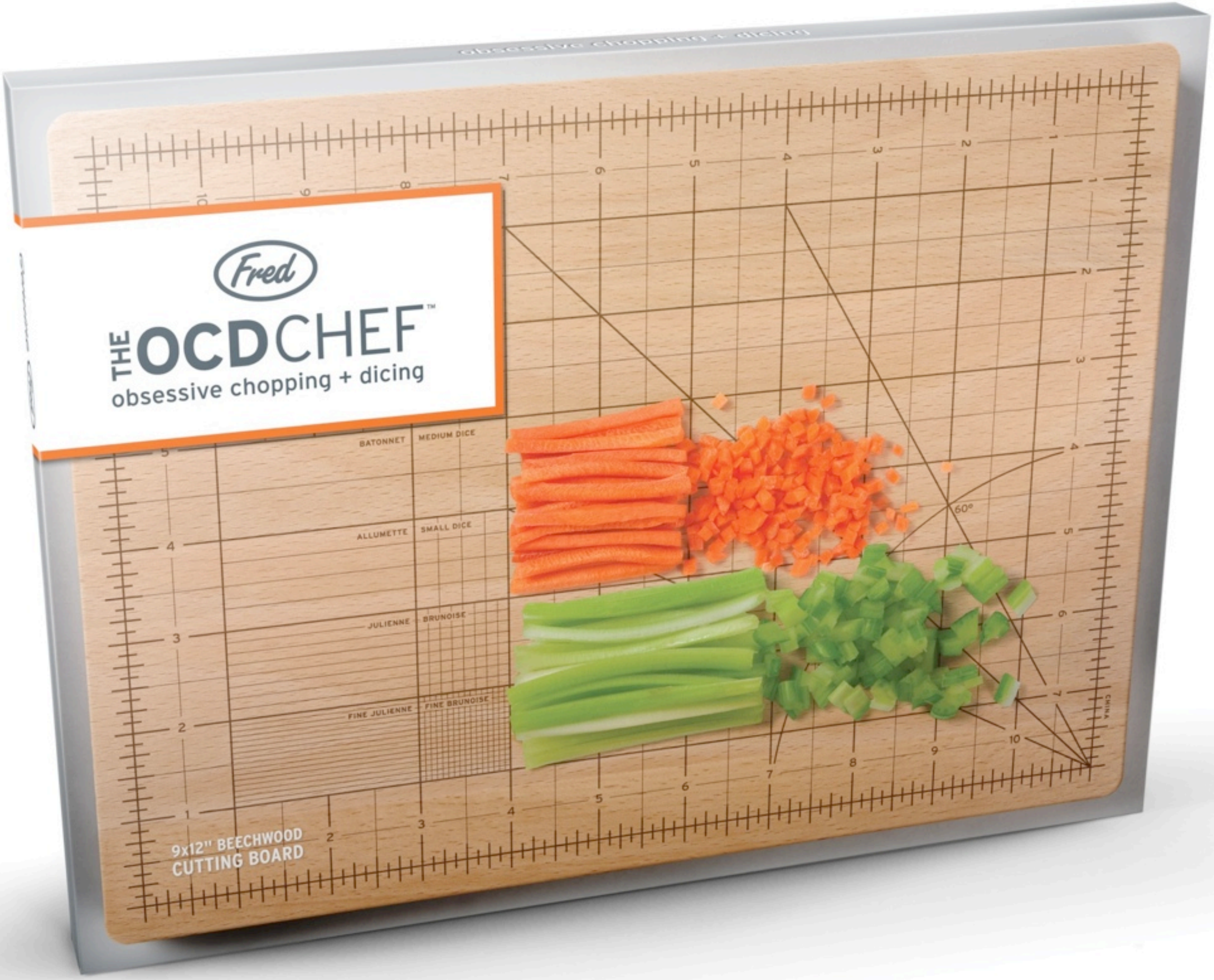
Most of us here no longer look at the keys when we type. Studies: ask professional typists to write down order of the keys, can't do it. Muscle memory, not part of conscious knowledge.

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.

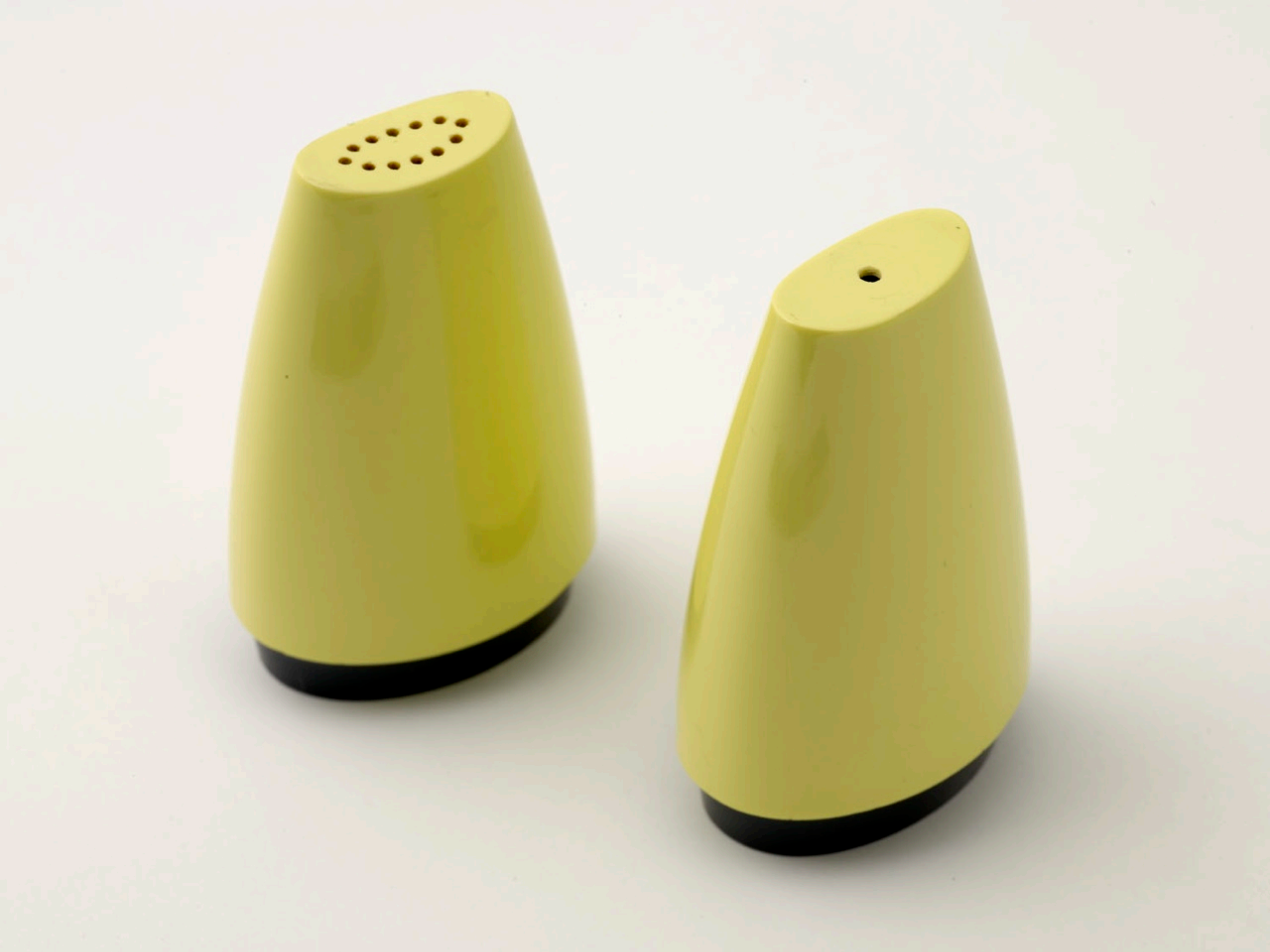
http://www.flickr.com/photos/37996588780@N01/346360988/



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. http://j.mp/oVuu0O
And in it he talks about salt and pepper shakers. Which is salt, and which is pepper? 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. Social signifiers only work if everyone knows them. Cultural understanding is messy.

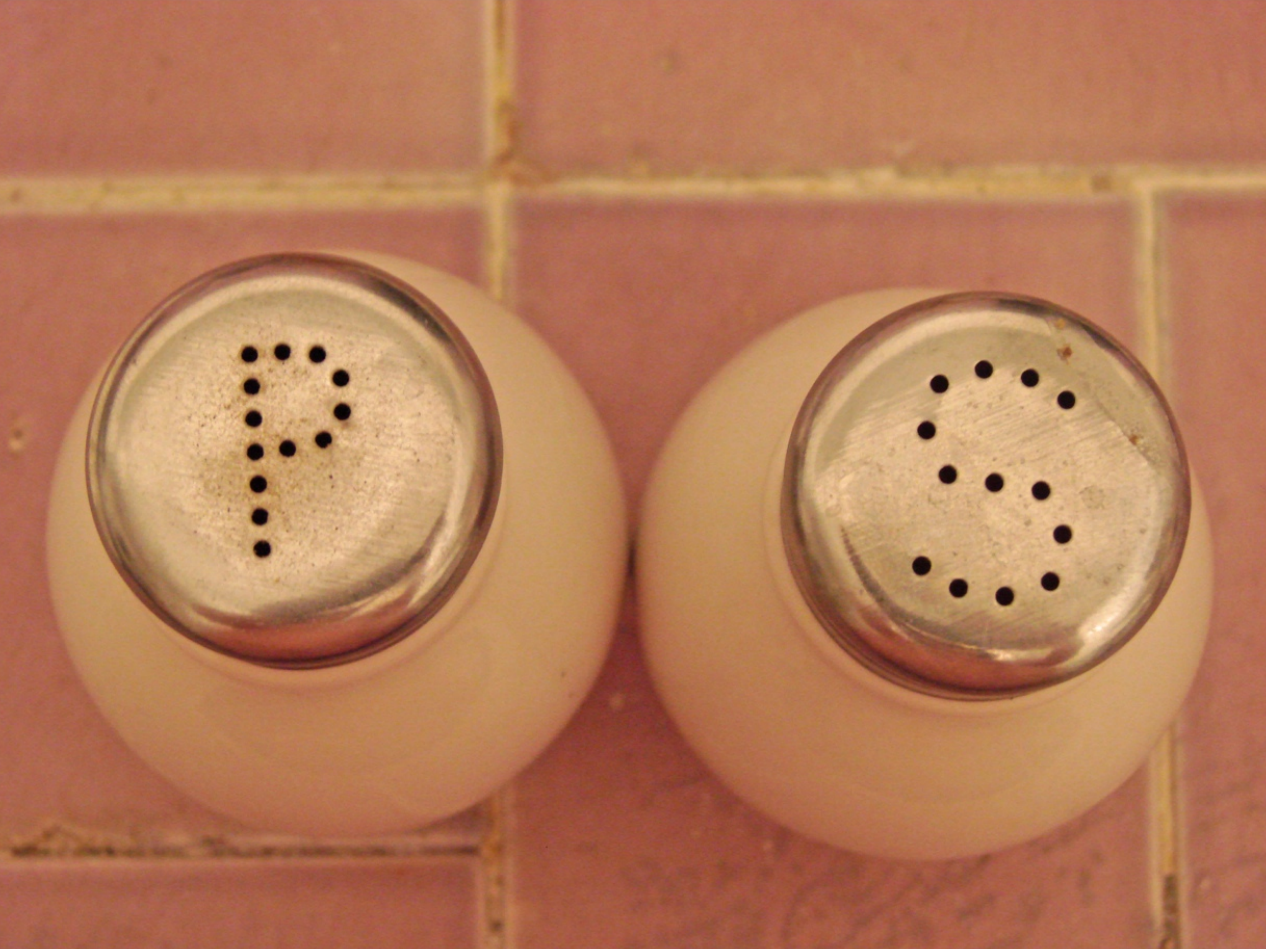
Why uncomfortable or embarrassed traveling abroad. Or going to fancy dinner when we don’t know what fork to use first. No signs telling you how to behave.

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.

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.

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



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.

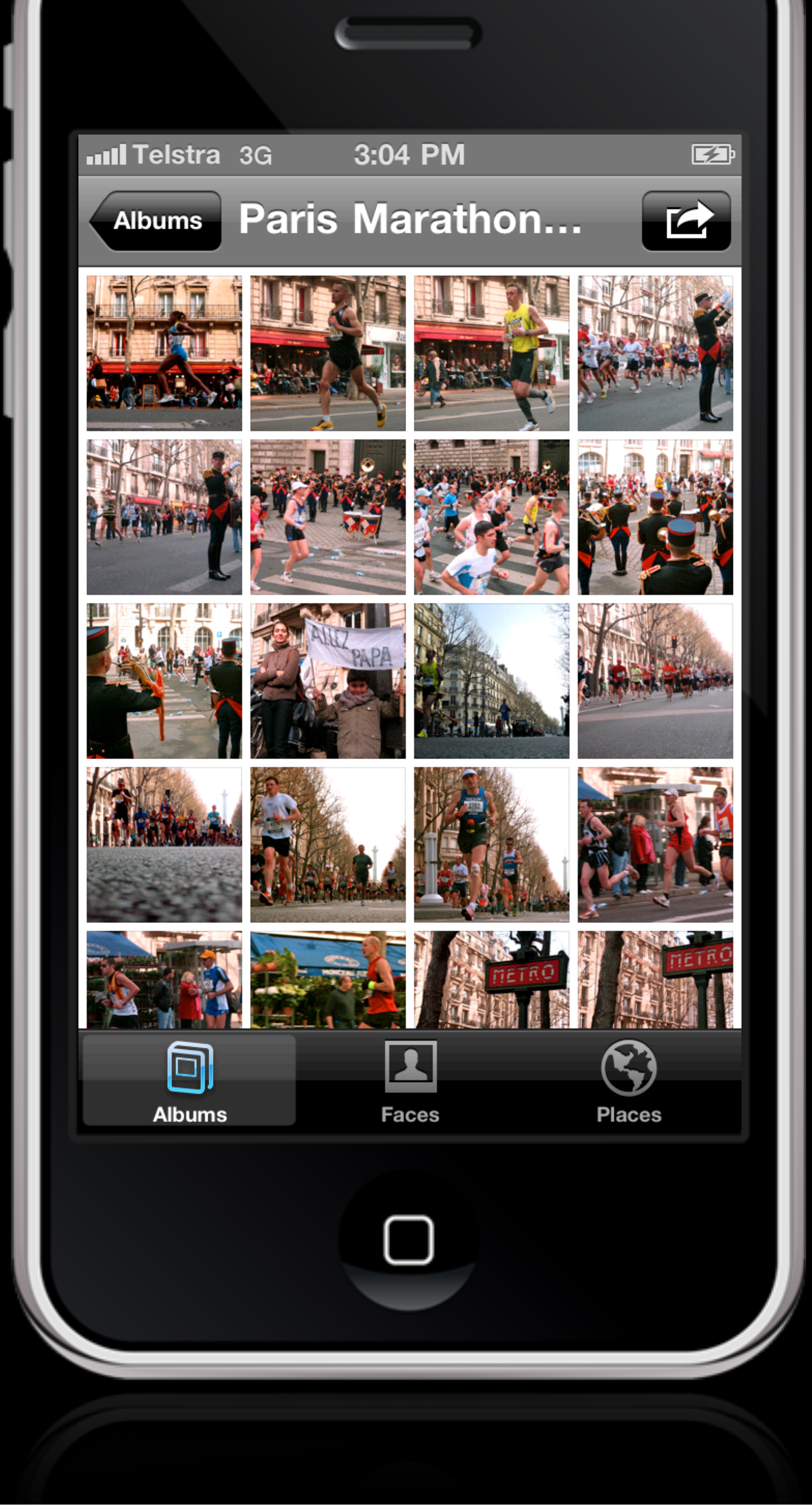
http://www.flickr.com/photos/ella_marie/3142159351/

But 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?

[twitter]Who needs a control when you have the content itself? Transparent salt and pepper shakers need no label.[/twitter]
http://www.flickr.com/photos/smi23le/2420961722/



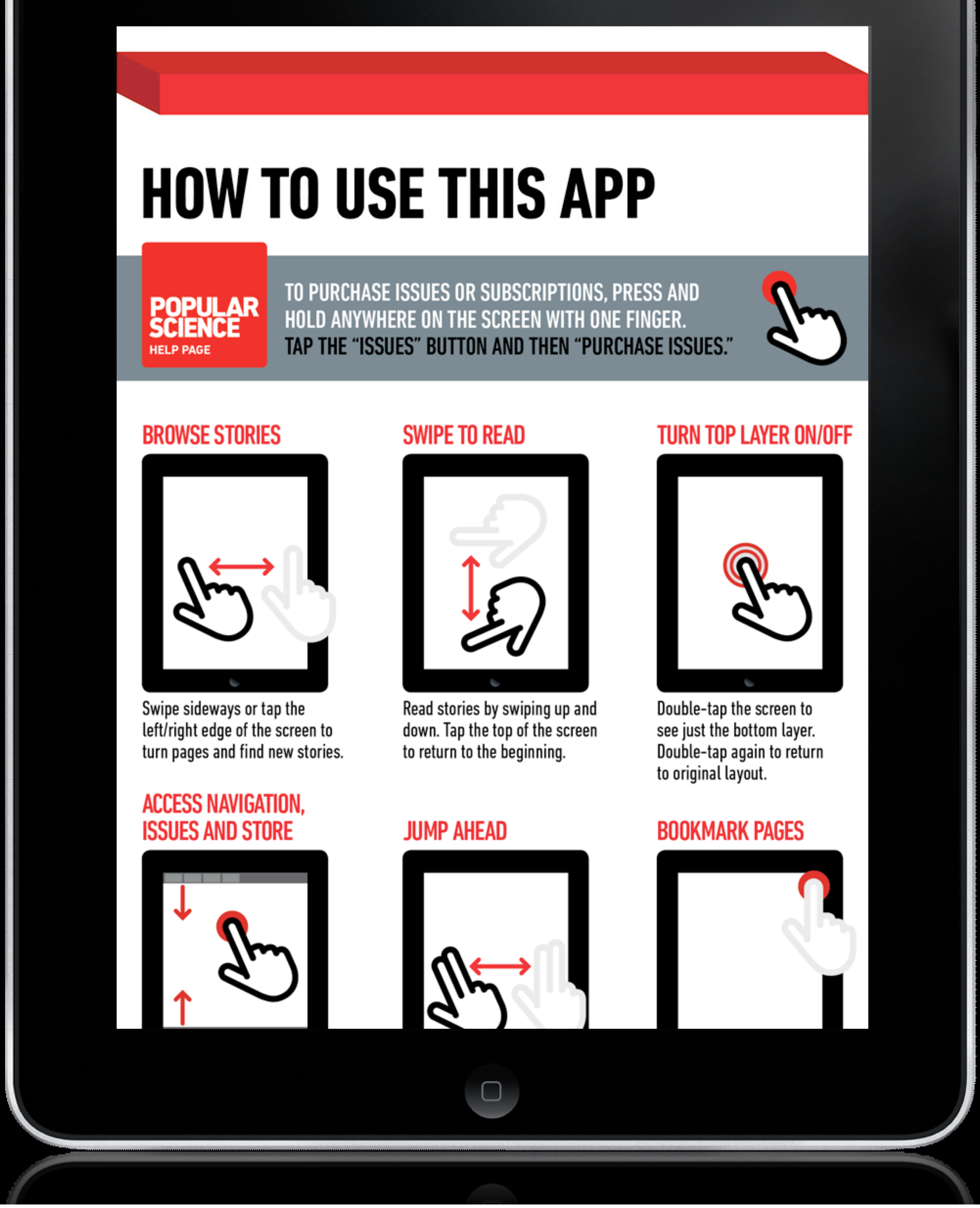
Touch interfaces allows direct interaction with content itself. Don’t touch a button, touch content you want to work with.

Photos app in iOS uses content as navigation. Information as interface. There’s no chrome here, just lots and lots of content. Tap the photo to see it.

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?



HOW TO USE THIS APP

POPULAR SCIENCE
HELP PAGE

TO PURCHASE ISSUES OR SUBSCRIPTIONS, PRESS AND HOLD ANYWHERE ON THE SCREEN WITH ONE FINGER. TAP THE "ISSUES" BUTTON AND THEN "PURCHASE ISSUES."

BROWSE STORIES

Swipe sideways or tap the left/right edge of the screen to turn pages and find new stories.

SWIPE TO READ

Read stories by swiping up and down. Tap the top of the screen to return to the beginning.

TURN TOP LAYER ON/OFF

Double-tap the screen to see just the bottom layer. Double-tap again to return to original layout.

ACCESS NAVIGATION, ISSUES AND STORE

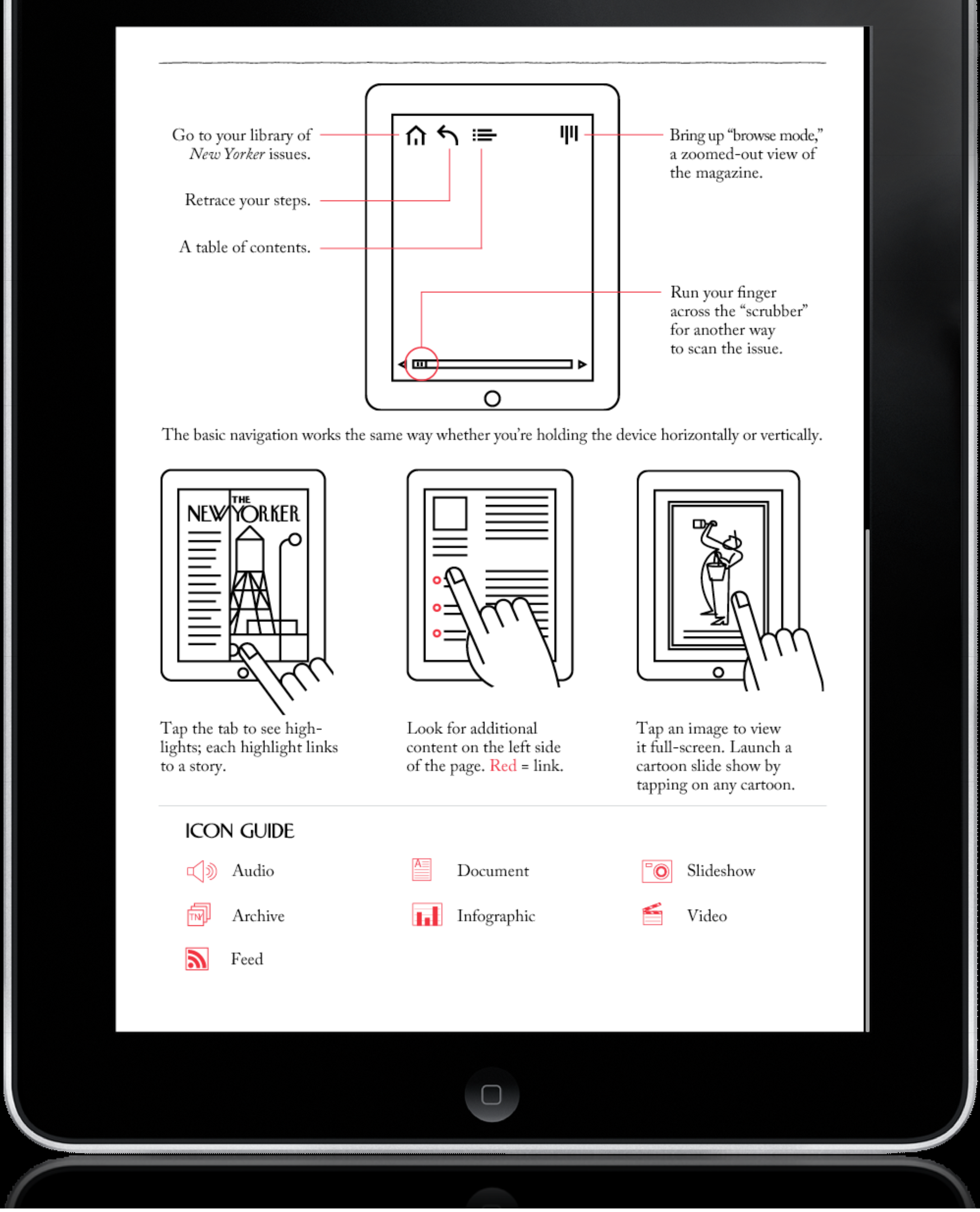
JUMP AHEAD

BOOKMARK PAGES

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.



Go to your library of *New Yorker* issues.

Retrace your steps.

A table of contents.

Bring up "browse mode," a zoomed-out view of the magazine.

Run your finger across the "scrubber" for another way to scan the issue.

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

Archive

Feed

Document

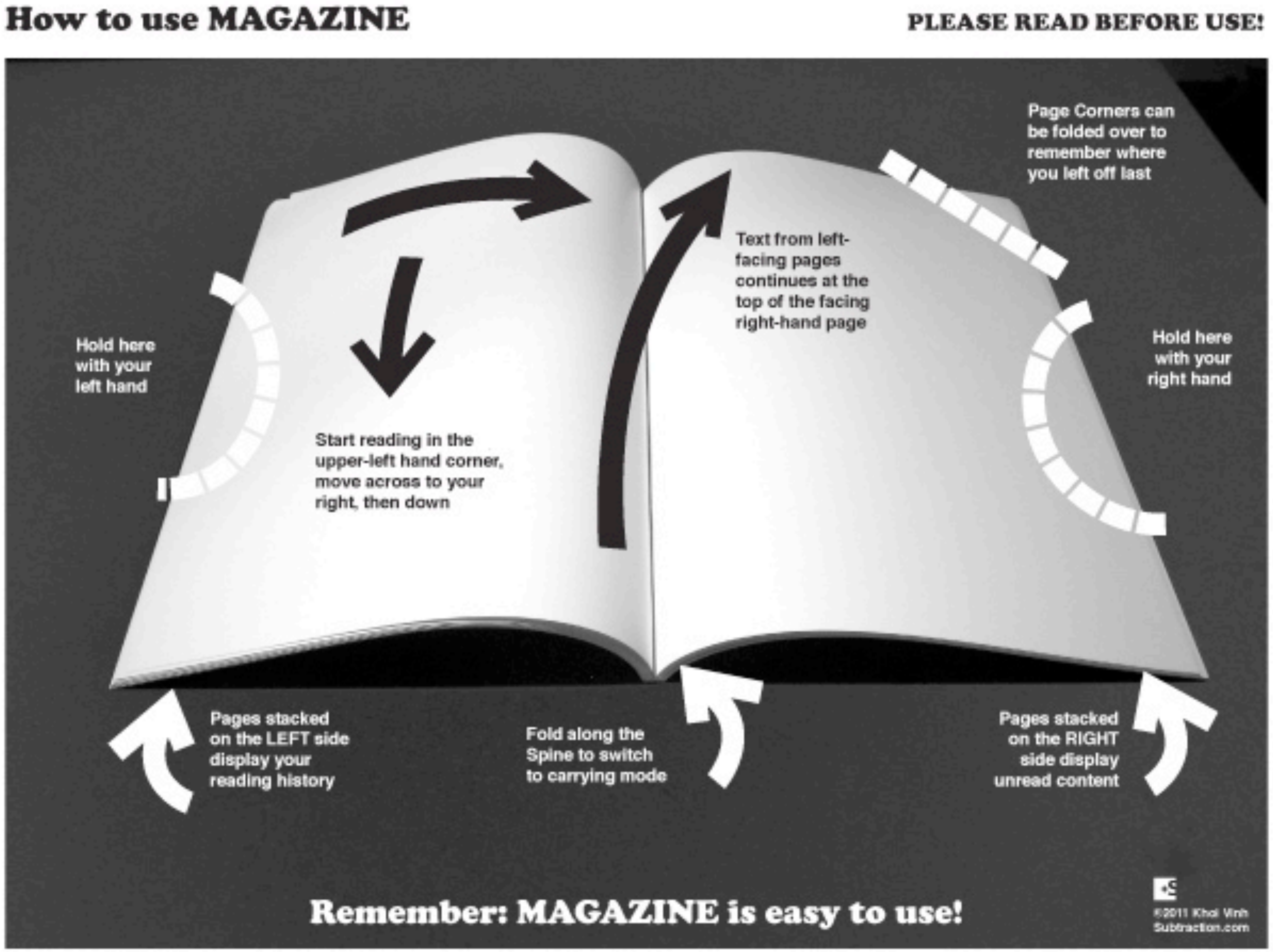
Infographic

Slideshow

Video

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.

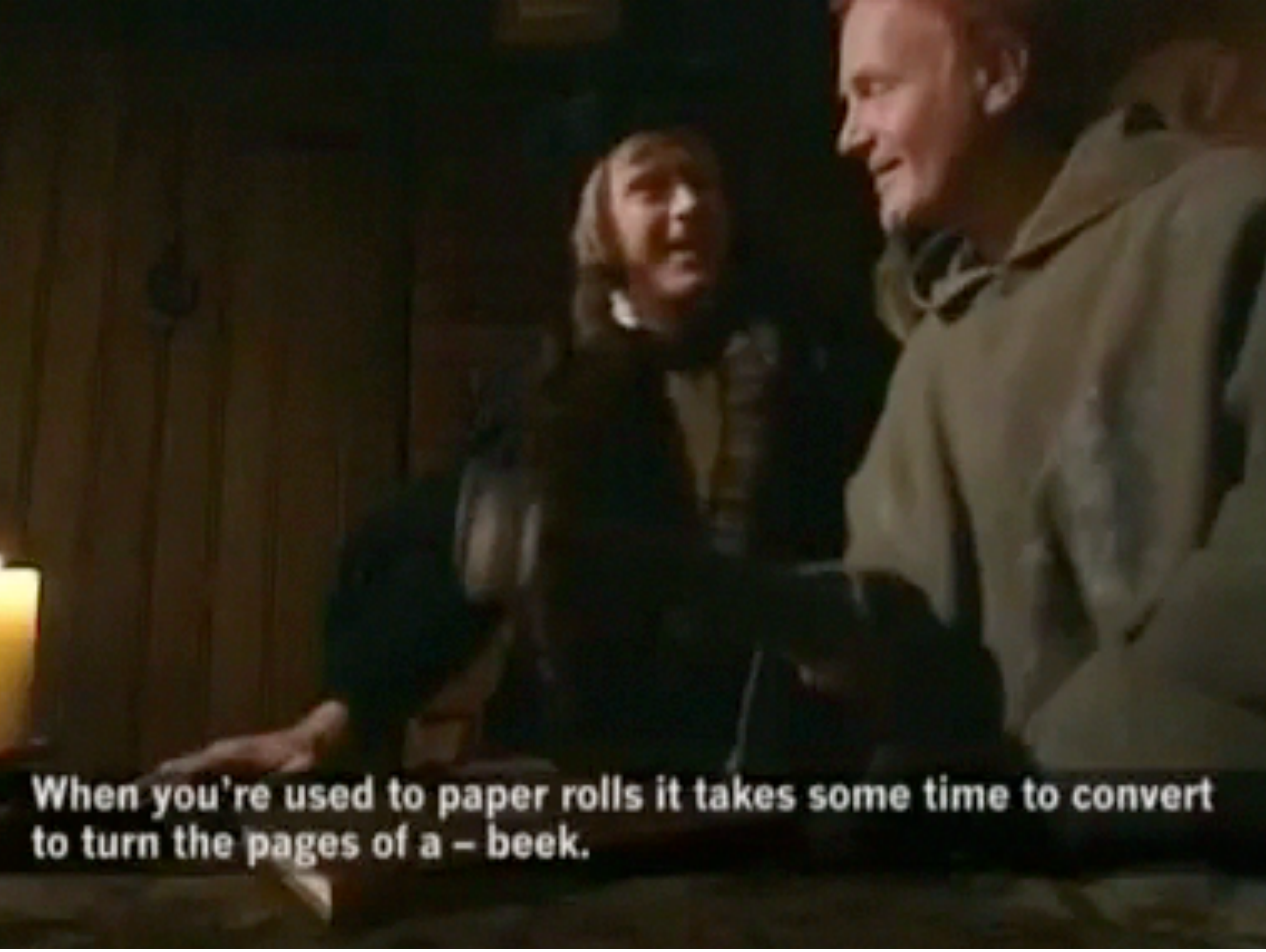

How to use MAGAZINE
PLEASE READ BEFORE USE!
Page Corners can be folded over to remember where you left off last
Text from left-facing pages continues at the top of the facing right-hand page
Hold here with your left hand
Start reading in the upper-left hand corner, move across to your right, then down
Hold here with your right hand
Pages stacked on the LEFT side display your reading history
Fold along the Spine to switch to carrying mode
Pages stacked on the RIGHT side display unread content
Remember: MAGAZINE is easy to use!
©2011 Khoi Vinh
Subtraction.com

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.

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

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.



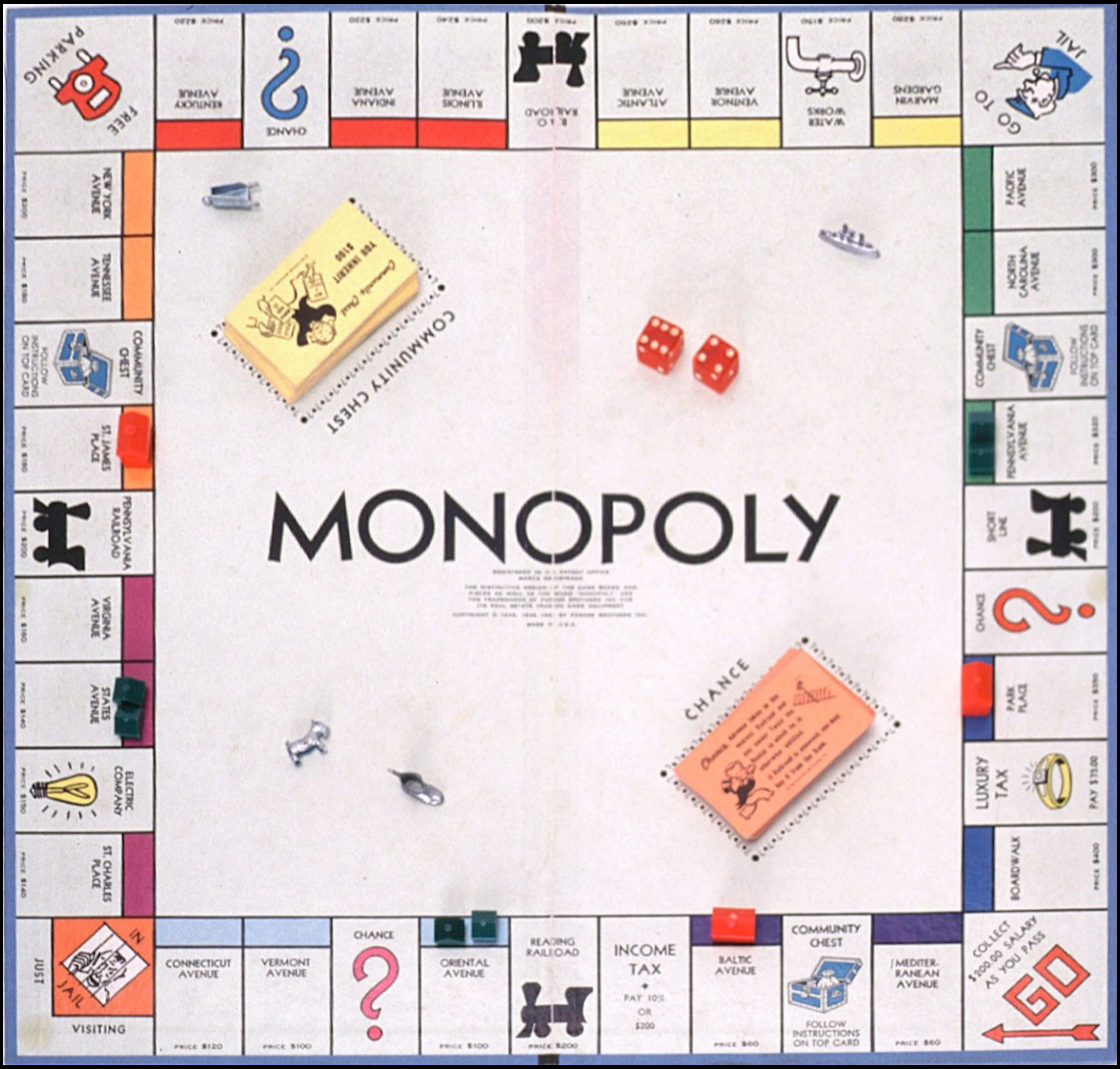
When you're used to paper rolls it takes some time to convert to turn the pages of a – beek.

Norwegian TV had a comedy sketch many years ago, titled Medieval Help Desk.

The book has just been invented, and longtime scroll readers are confused. This monk has called in the help desk for support.

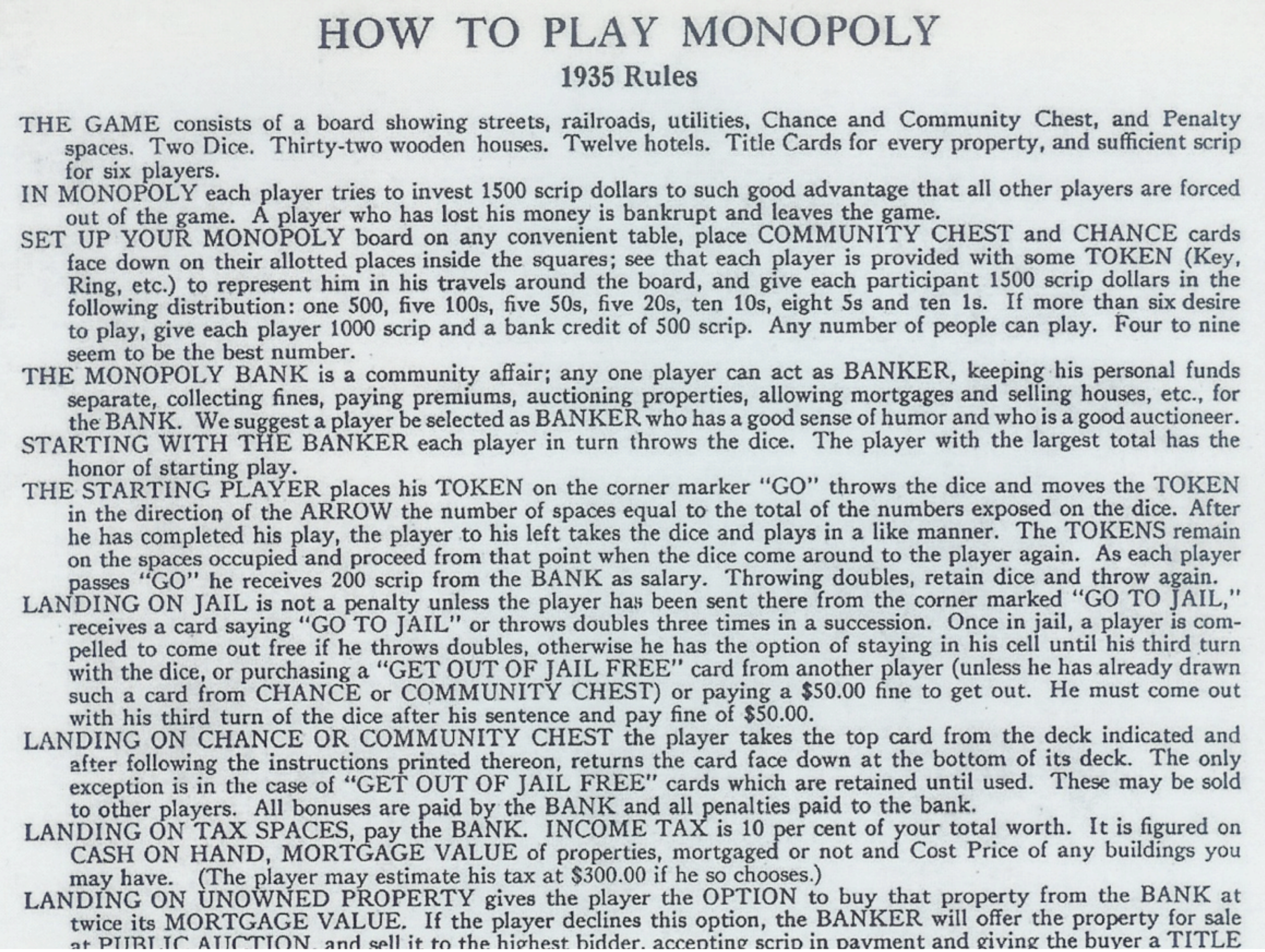
http://j.mp/rdlctL

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



Most people have only partial understanding of their tools. This is why most people think Monopoly is a long, tortuous game that never ends.

Because people don’t play by the rules. When people actually read the instructions and play by the letter, the game actually goes pretty quickly.



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, a 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 is largely self-explanatory, but Al took no chances and launches his app with this video:
http://vimeo.com/22872218

Video shows that the app has no buttons, no chrome, great interactions. Yet Al really sucks the joy out of my first two minutes of this app experience.

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

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.

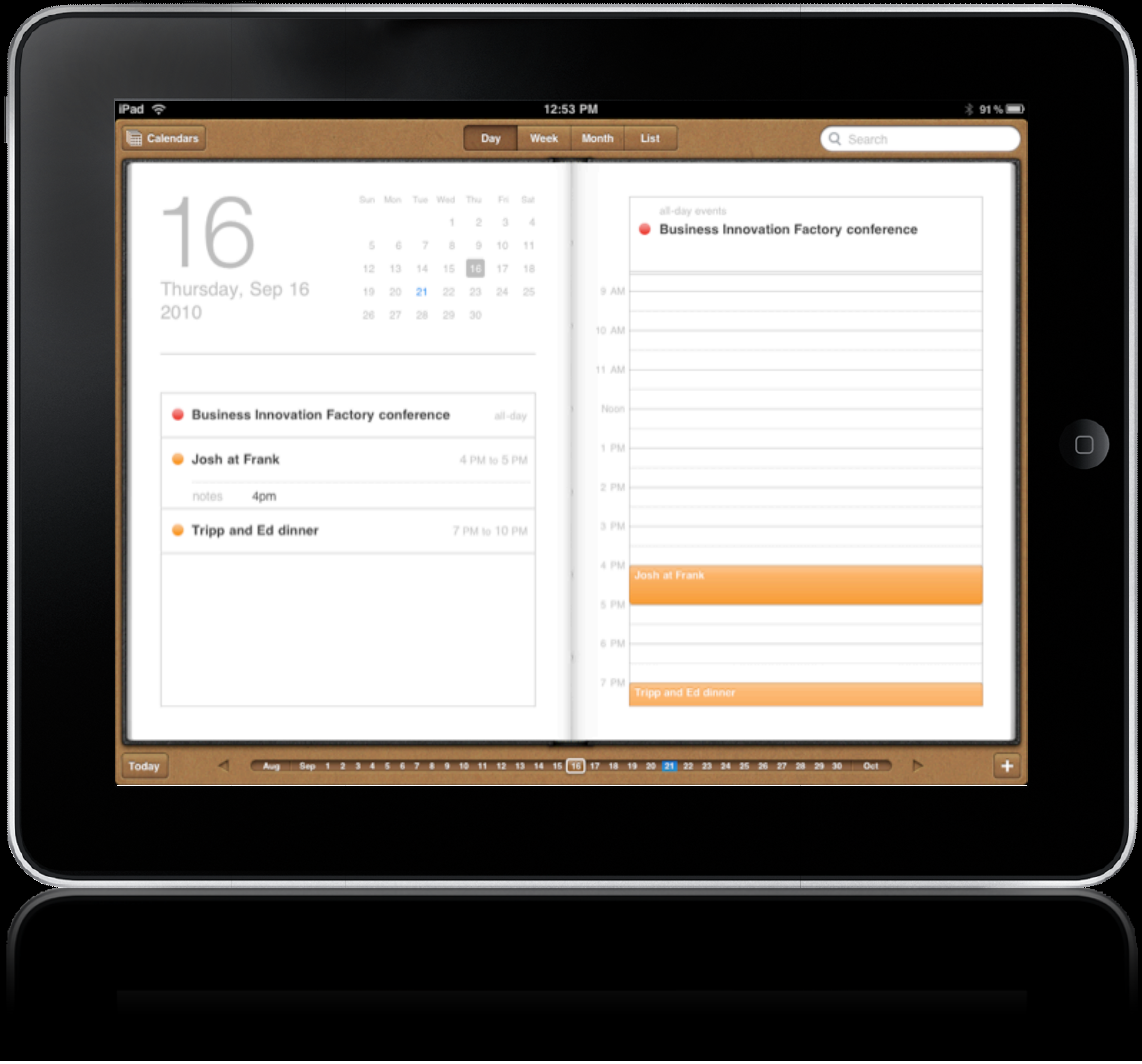
Learn how the world works by trial and error, gainconfidence as we explore it. Touch is a powerful component drawing people in, encouraging exploration.

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, though, and Apple’s own apps show the hazards.



Business Innovation Factory conference all-day

Josh at Frank 4 PM to 5 PM

notes 4pm

Tripp and Ed dinner 7 PM to 10 PM

all-day events

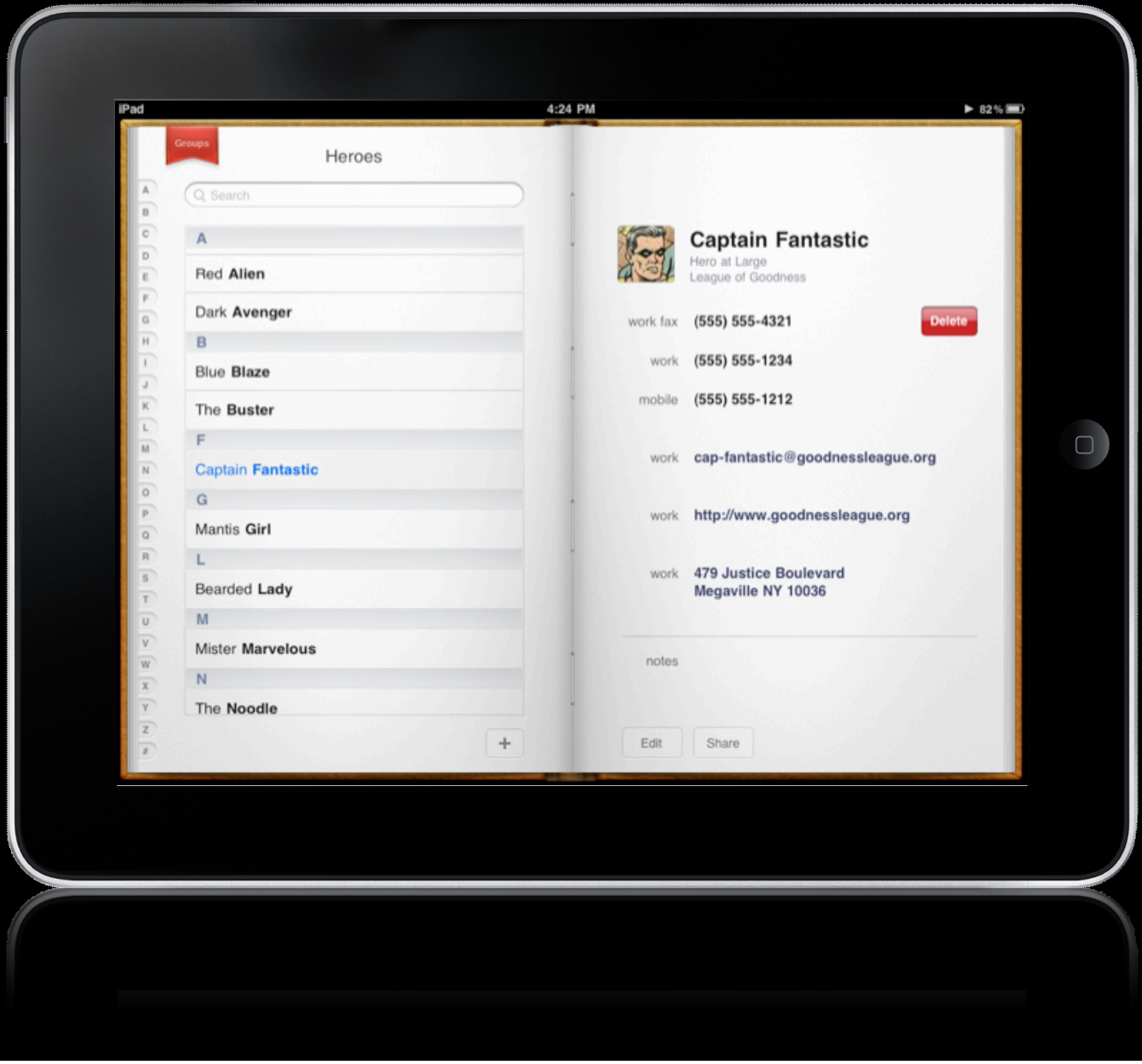
Business Innovation Factory conference

9 AM
10 AM
11 AM
Noon
1 PM
2 PM
3 PM
4 PM Josh at Frank
5 PM
6 PM
7 PM Tripp and Ed dinner

Calendar for iPad: ooh, a lovely datebook.

Very pretty, and of course... you naturally know how to use it. Just swipe to turn the page. Except, um, no. To turn the page, you have to use one of these tiny buttons at bottom.

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



A
Red Alien
Dark Avenger
B
Blue Blaze
The Buster
F
Captain Fantastic
G
Mantis Girl
L
Bearded Lady
M
Mister Marvelous
N
The Noodle

Captain Fantastic
Hero at Large
League of Goodness

work fax	(555) 555-4321
work	(555) 555-1234
mobile	(555) 555-1212
work	cap-fantastic@goodnessleague.org
work	http://www.goodnessleague.org
work	479 Justice Boulevard Megaville NY 10036
notes	

Contacts for iPad is even worse: Swiping doesn't turn page. Instead, 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.

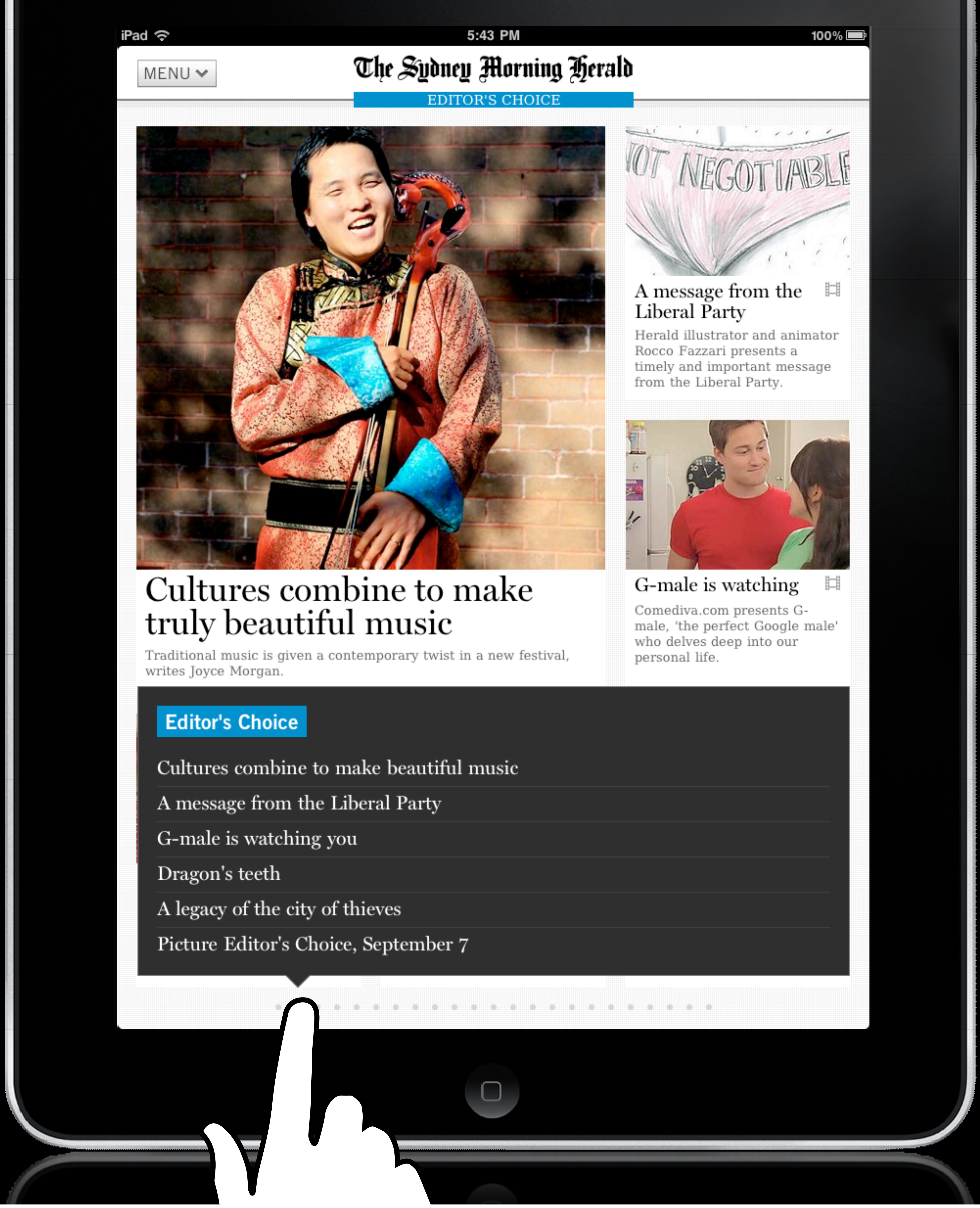
In user testing I see this all the time: If it looks like a physical object, people will try to interact with it like one.

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.

[twitter]Embrace your metaphor. Don’t make me tap buttons if the UI suggests I can swipe to turn pages.[/twitter]



Cultures combine to make truly beautiful music

Traditional music is given a contemporary twist in a new festival, writes Joyce Morgan.

A message from the Liberal Party

Herald illustrator and animator Rocco Fazzari presents a timely and important message from the Liberal Party.

G-male is watching

Comediva.com presents G-male, 'the perfect Google male' who delves deep into our personal life.

Editor's Choice

- Cultures combine to make beautiful music
- A message from the Liberal Party
- G-male is watching you
- Dragon's teeth
- A legacy of the city of thieves
- Picture Editor's Choice, September 7

Here’s an example of tweaking the real world to digital advantage. Met these guys last week in Australia... Sydney Morning Herald for iPad:
http://j.mp/n5ph5p

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.

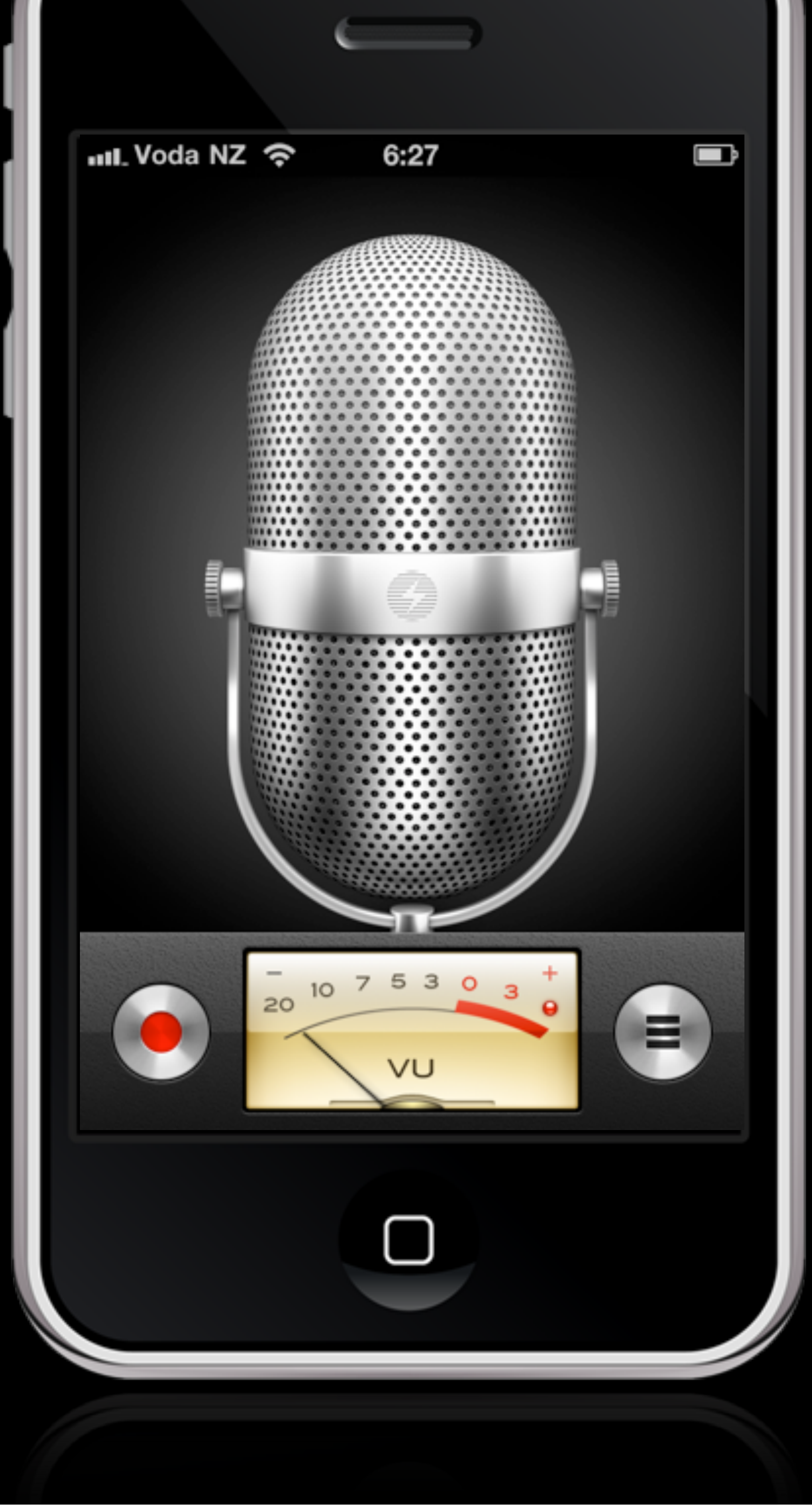
Calendar and contacts: designers following their metaphor half-heartedly in interaction. Too many magazines and newspapers are too literal and they miss interaction opportunities.

This is understandable: The iPad in particular is a weird hybrid.

The iPad is the awesome love child of many parents

Not the web, phone, desktop, or paper/physical interface. Yet suggests elements of all.

Great opportunities, lots of tradition to draw from. But have to be careful about mixed metaphors.



Sometimes you’ve just got the wrong metaphor. This is gorgeous. But what does it tell me to do?

What’s the mic doing there? Do I talk into it? Well, that’s not where the actual mic is. Do I touch it to start recording? No, the button. The entire app is about turning recording on and off. But I’m obliged to hit this tiny button.

Why isn’t the entire screen an on-off button? Why isn’t the entire screen a control? It’s a single-purpose app, open up the screen to serve that purpose.

Model your apps to help people learn the 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 (and neither will your adult users), 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

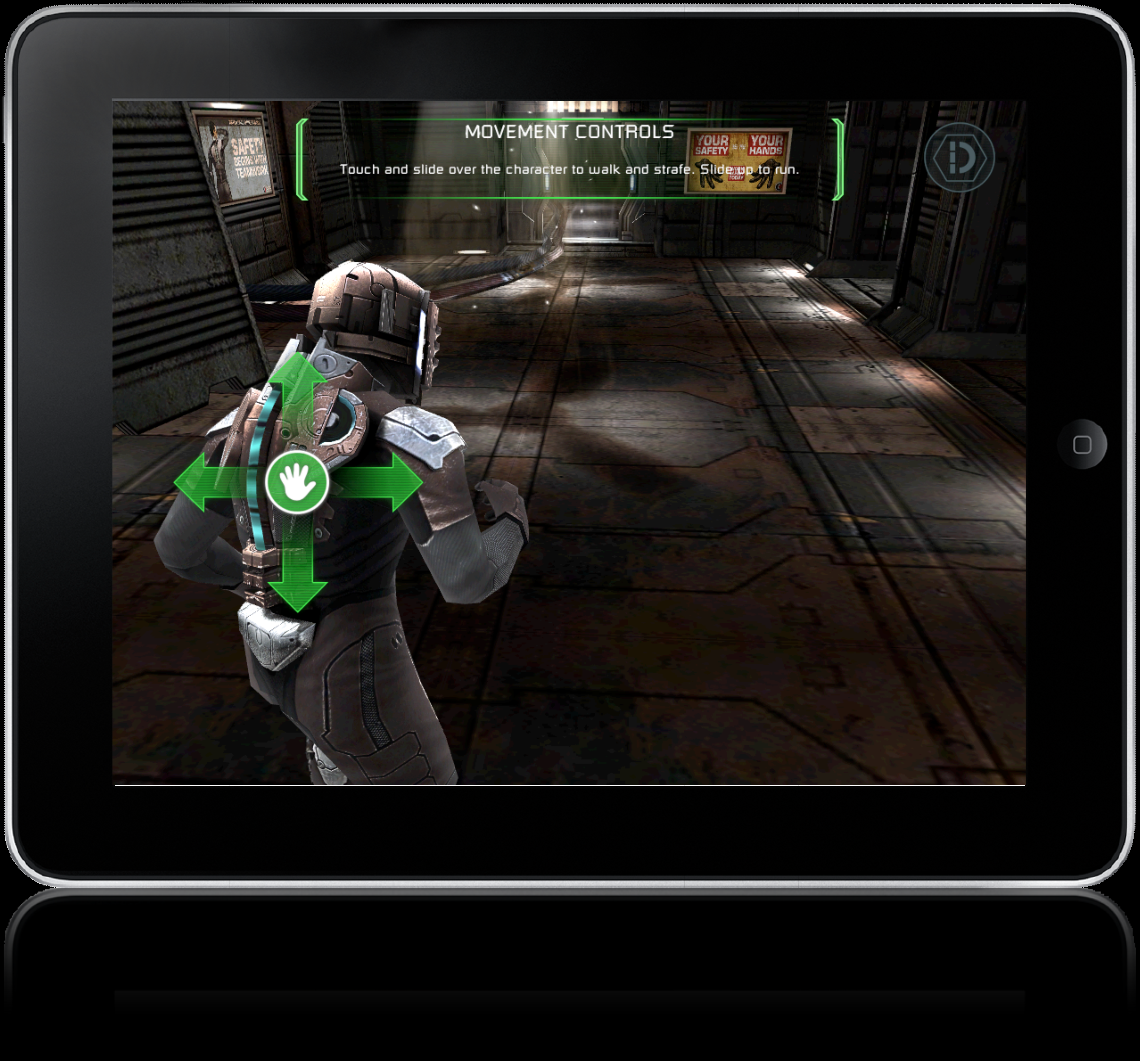
Leveling up

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.



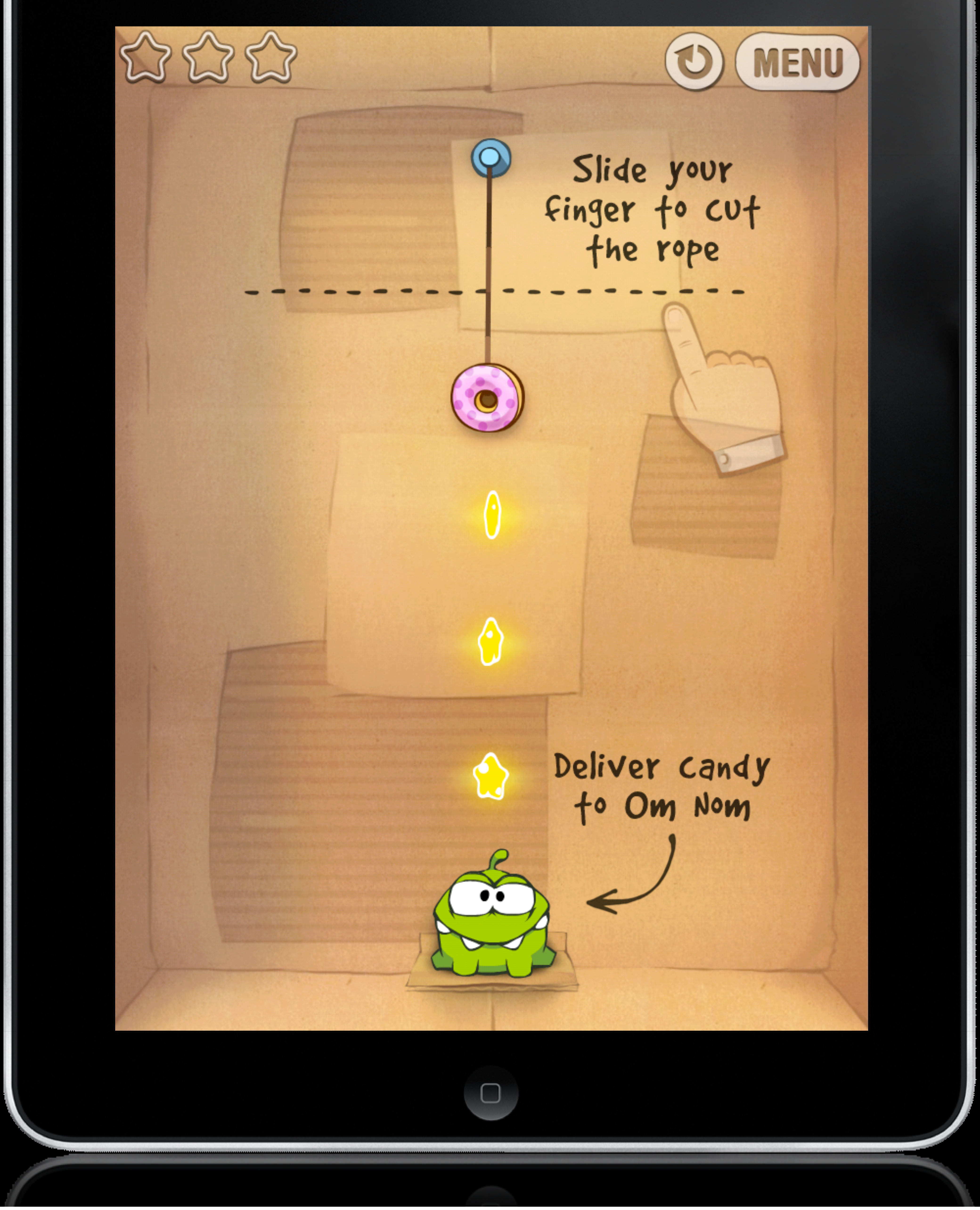
MOVEMENT CONTROLS
Touch and slide over the character to walk and strafe. Slide up to run.
SAFETY
YOUR SAFETY
YOUR HANDS

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.

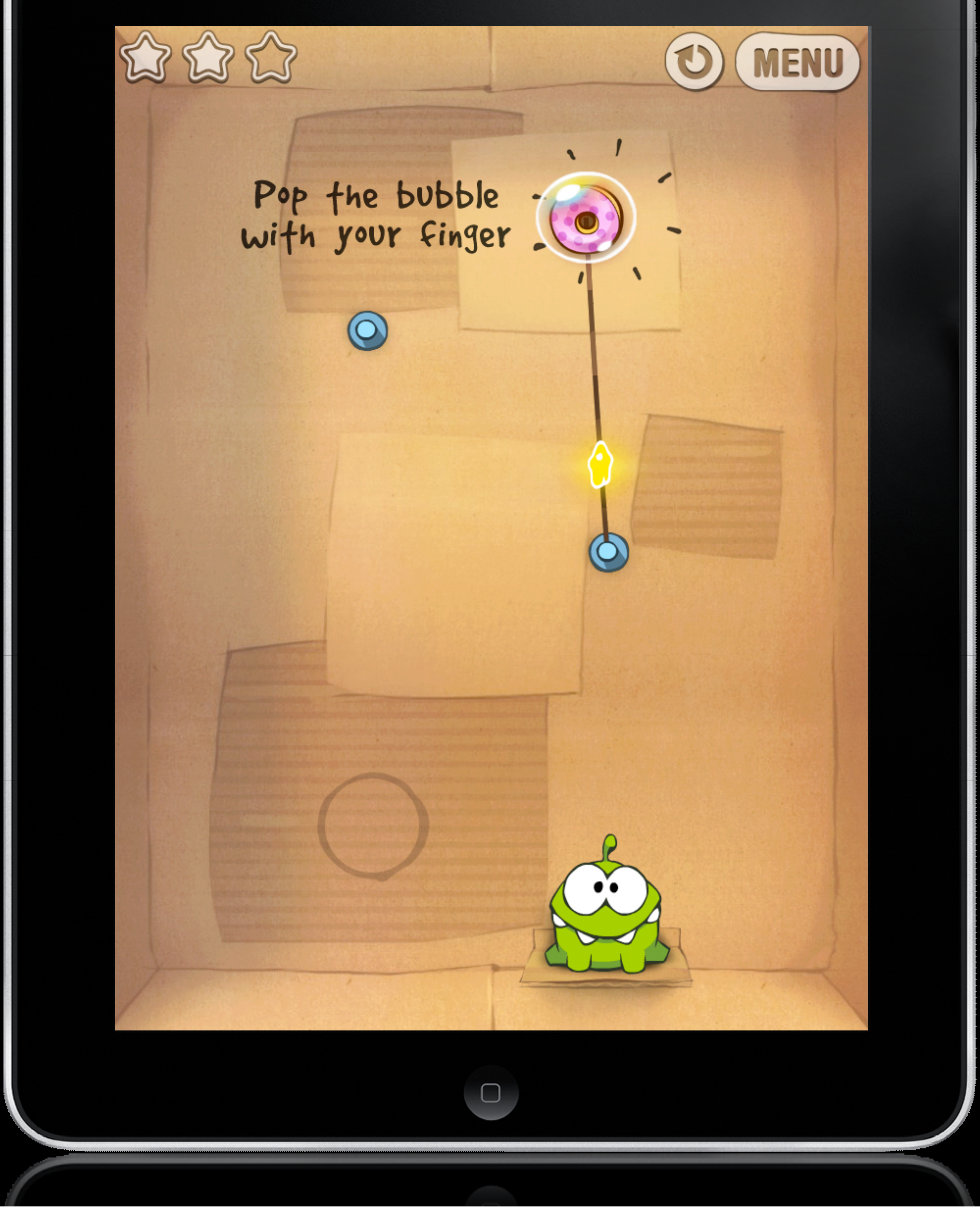
Simple temporary overlays that tell you what to do
in the moment can be super helpful.

[twitter]We learn best in the moment, by demonstration and practice. Interfaces should teach (coach!) in context. Just-in-time education.[/twitter]

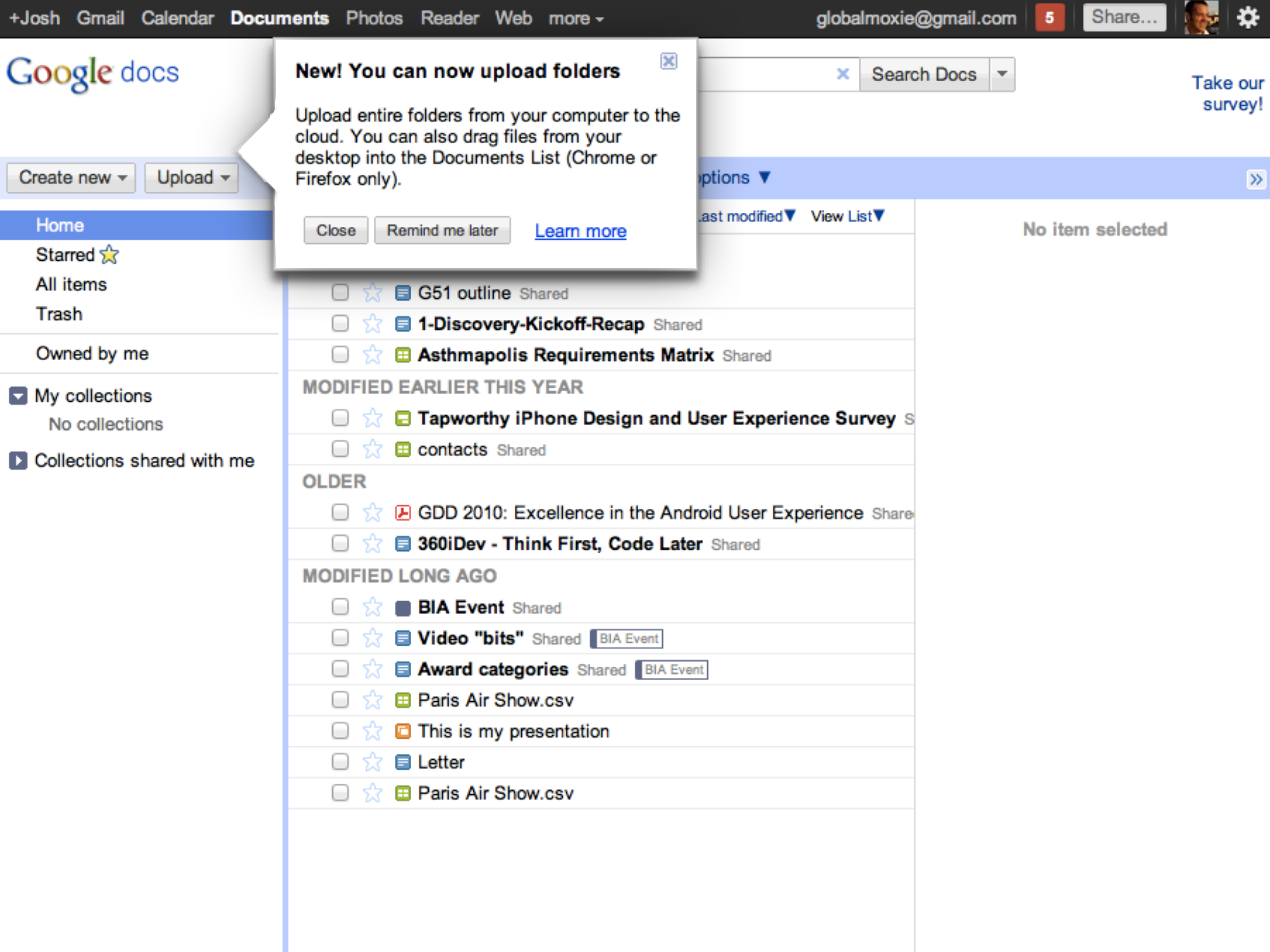


This overlay in the first and simplest level of Cut the Rope; tells you the basic move of the game. Slide your finger to cut the rope.

Cut the Rope: http://j.mp/qqWYFh



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.

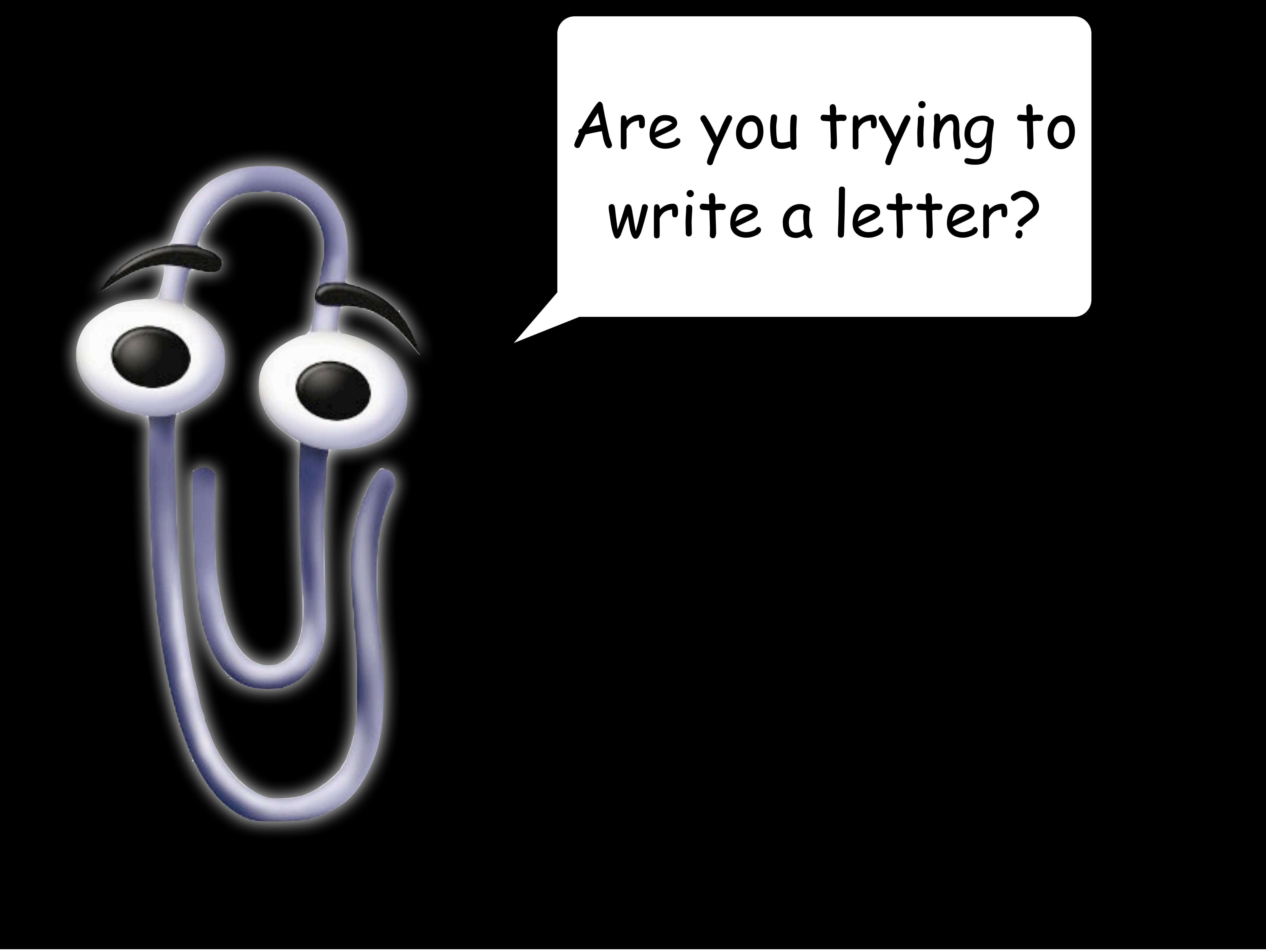

New! You can now upload folders

Upload entire folders from your computer to the cloud. You can also drag files from your desktop into the Documents List (Chrome or Firefox only).

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...

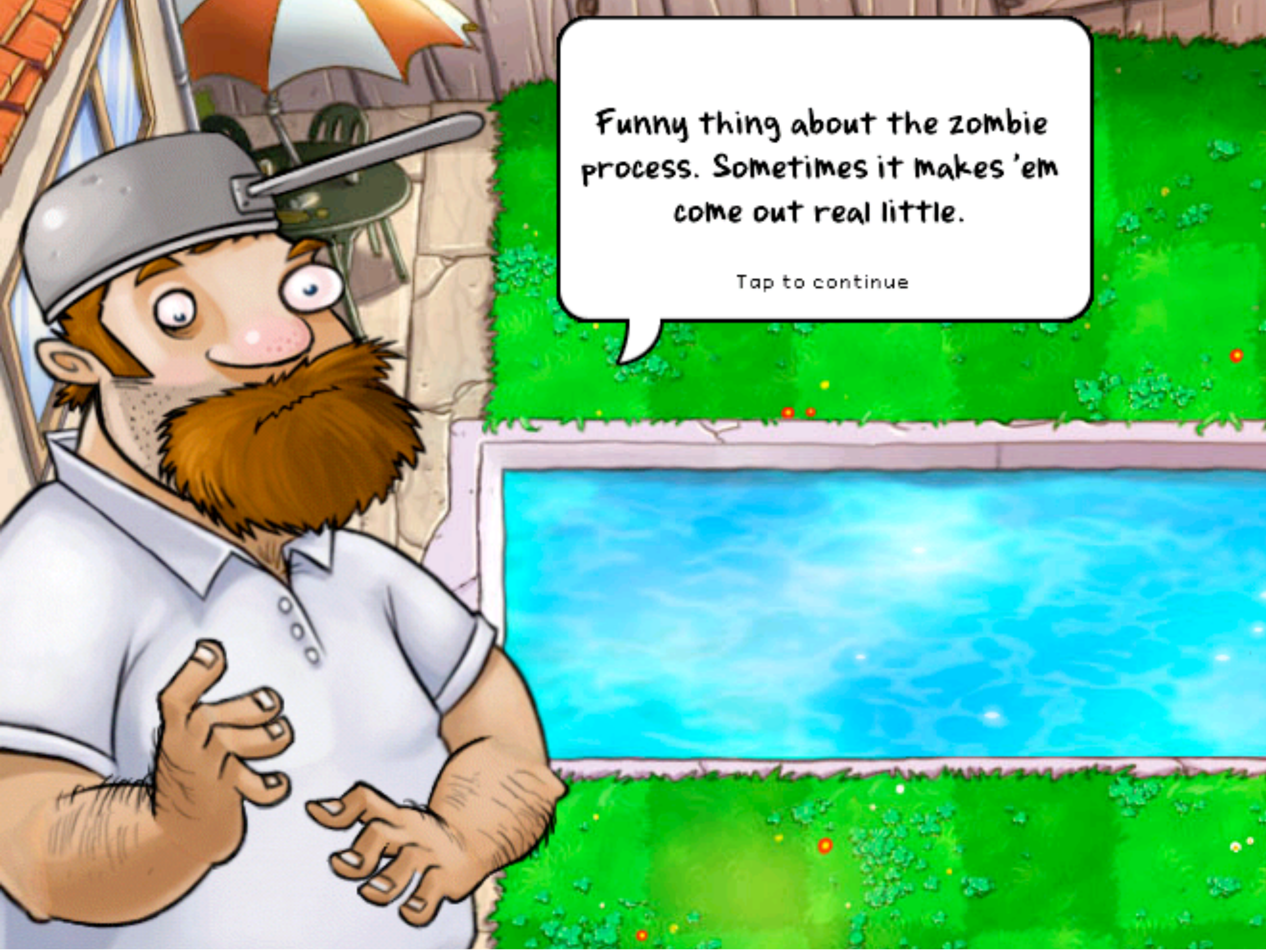


A flop named Clippy.

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.

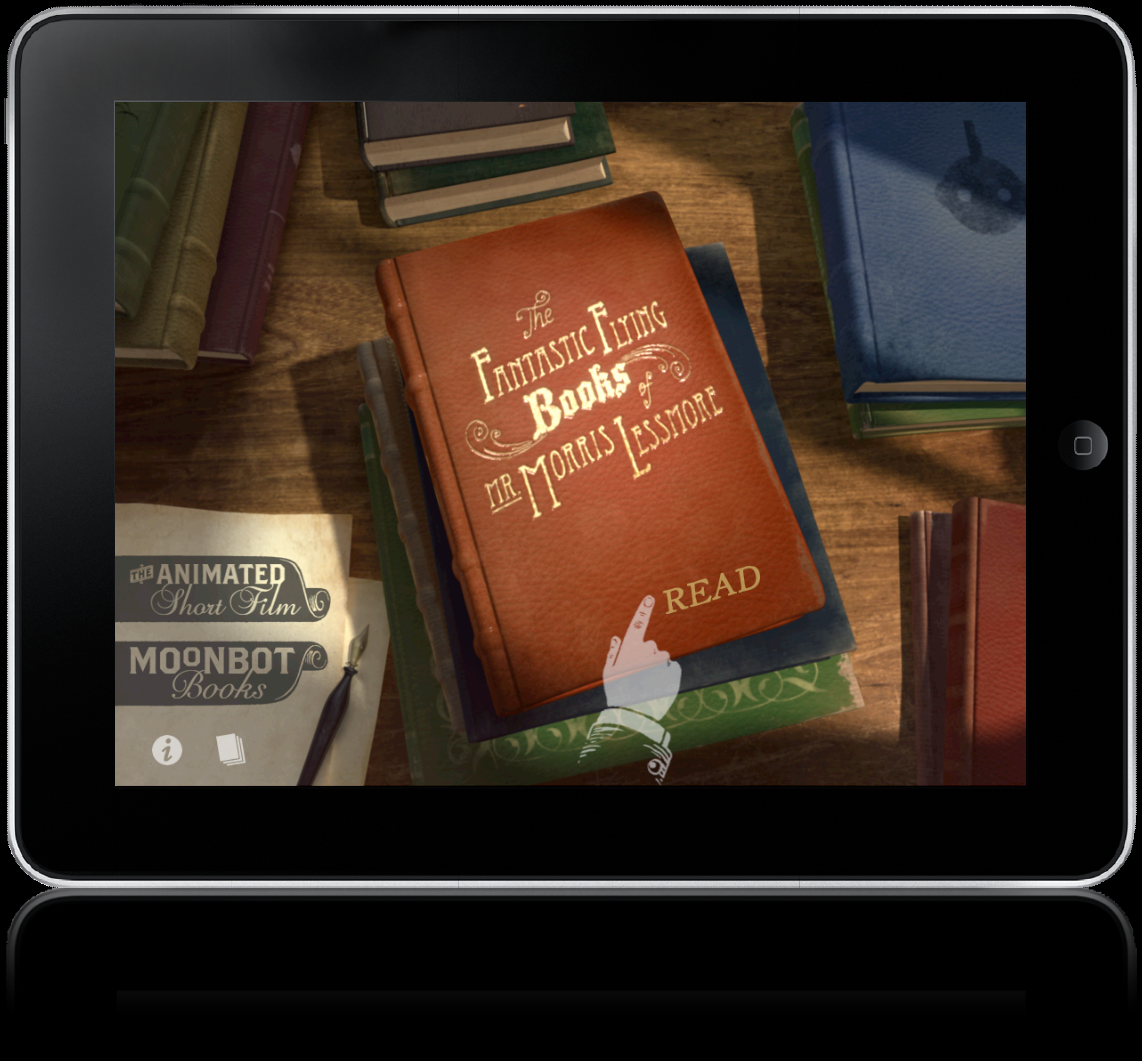
Done right, though, assistant feature like you see in Gmail or Facebook or in so many games can be helpful to give information at appropriate times,

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


Funny thing about the zombie process. Sometimes it makes 'em come out real little.

Crazy Dave! 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.

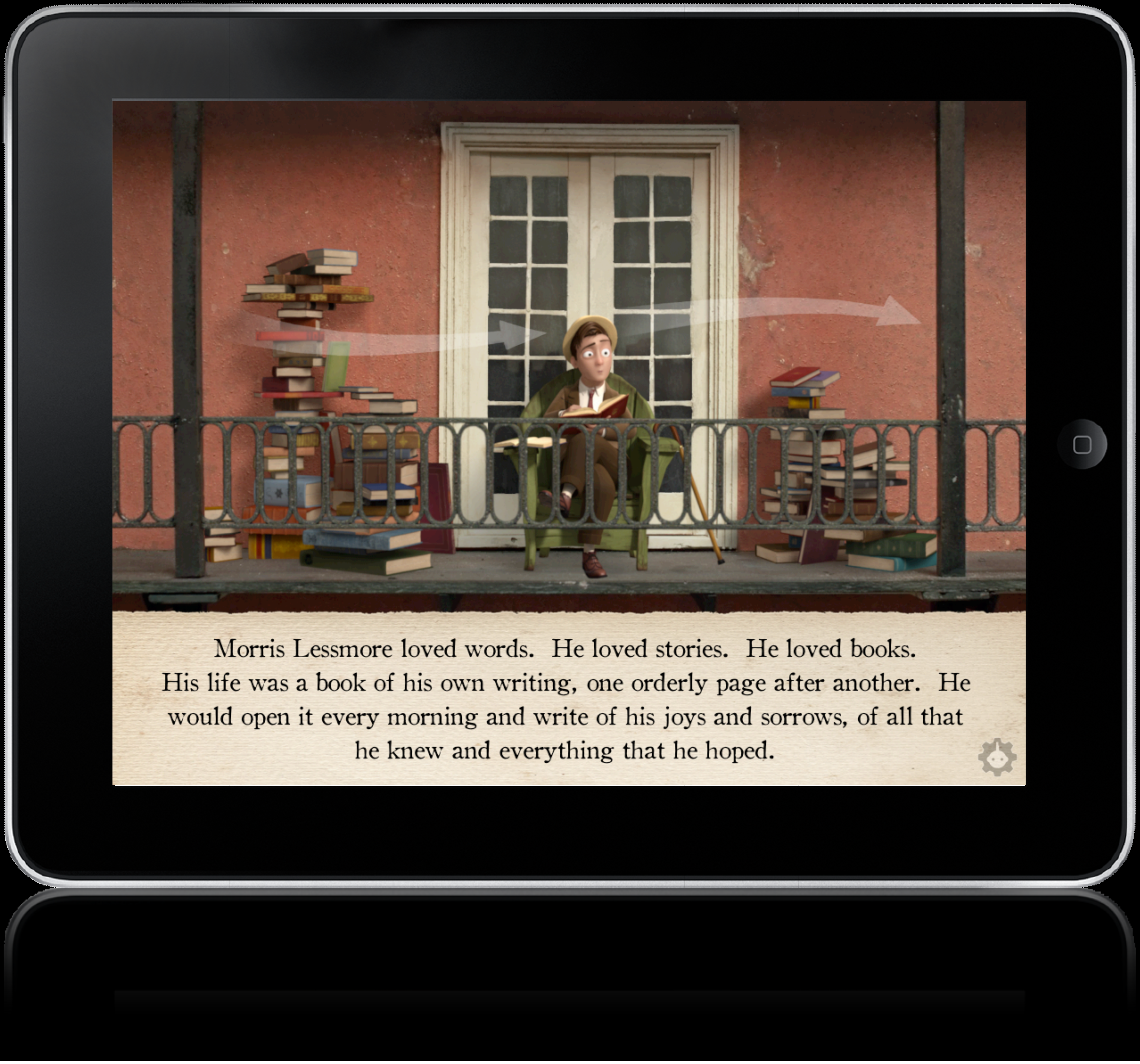
Don't overdo it. Respect people's time. Don't make them read for long, let them get to the action. In fact, if you can avoid words with your coaching, so much the better.



The Fantastic Flying Books of Mr. Morris Lessmore
http://j.mp/n2QMPL

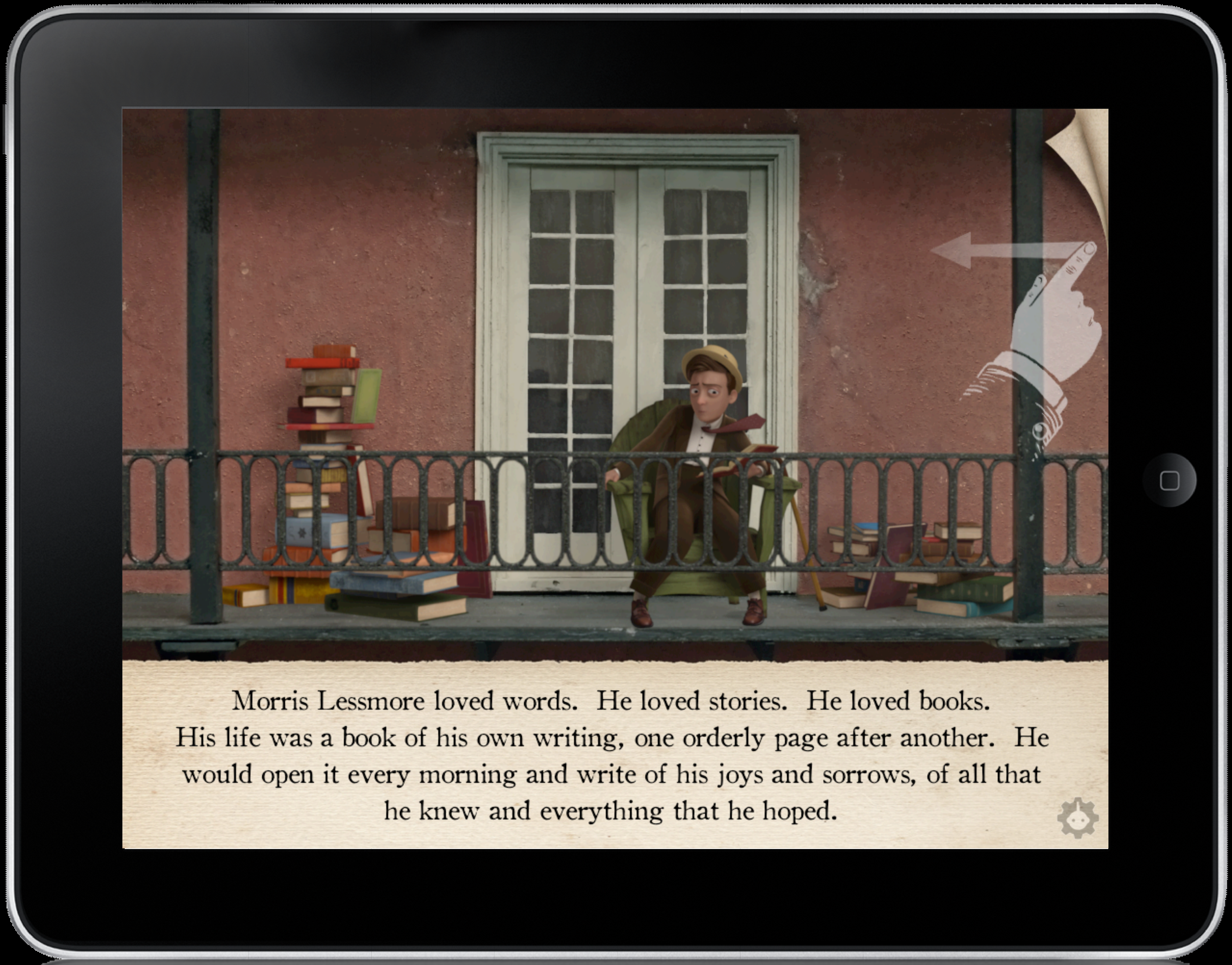
Gorgeous animated book for kids, lovely example of subtle coaching.

When you launch the app, the book is in front of you. If you don’t do anything, prompts you by showing you what to do. There’s a pause, a few beats before it comes up. It’s like it knows you’re stumped and it’s whispering, “it’s okay, here’s a hint, now you go.”



Morris Lessmore loved words. He loved stories. He loved books. His life was a book of his own writing, one orderly page after another. He would open it every morning and write of his joys and sorrows, of all that he knew and everything that he hoped.

Inside the book, other little ghostly gesture prompts pop up to suggest the way. Here a swipe-swipe gesture is indicated to make the wind blow.



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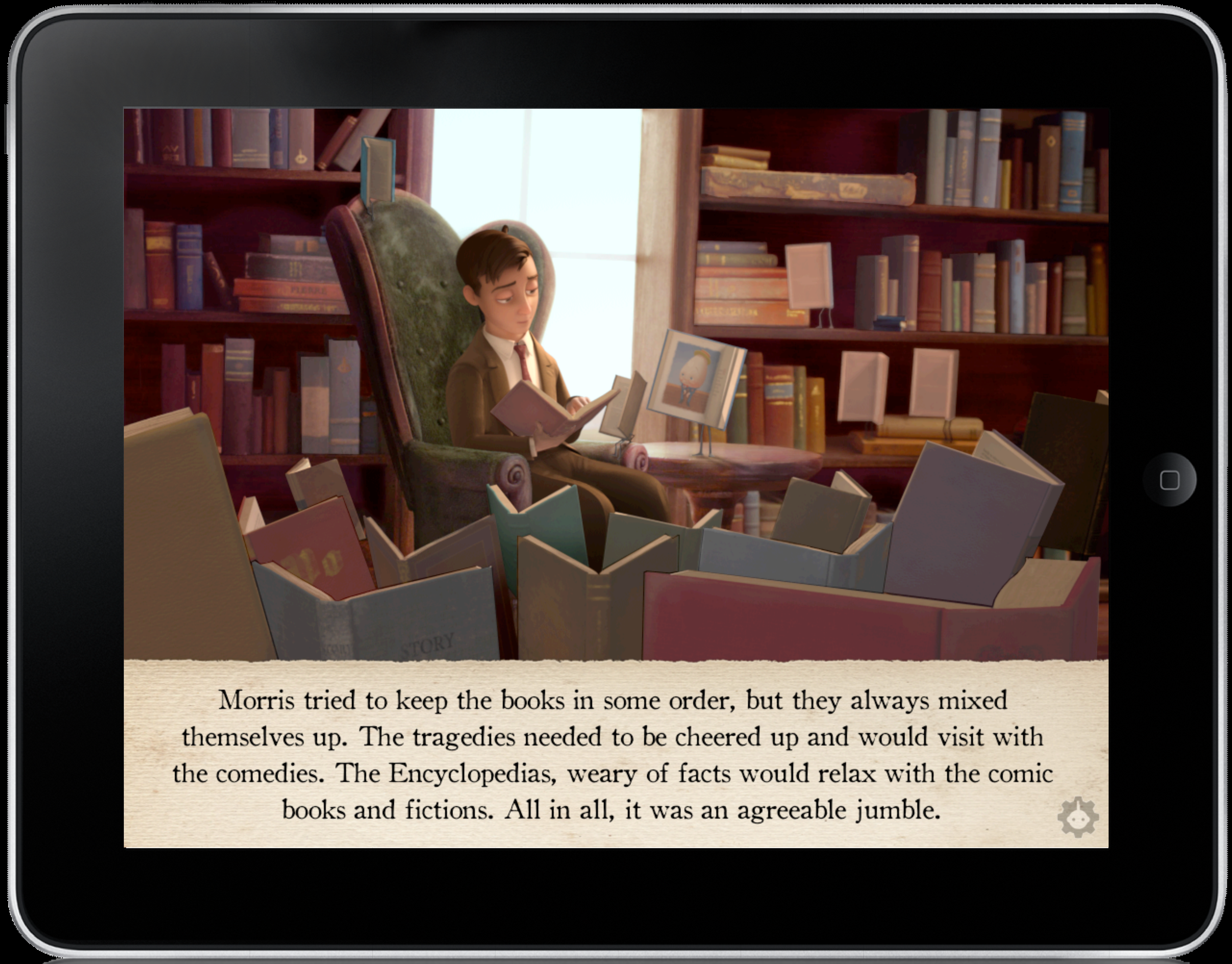
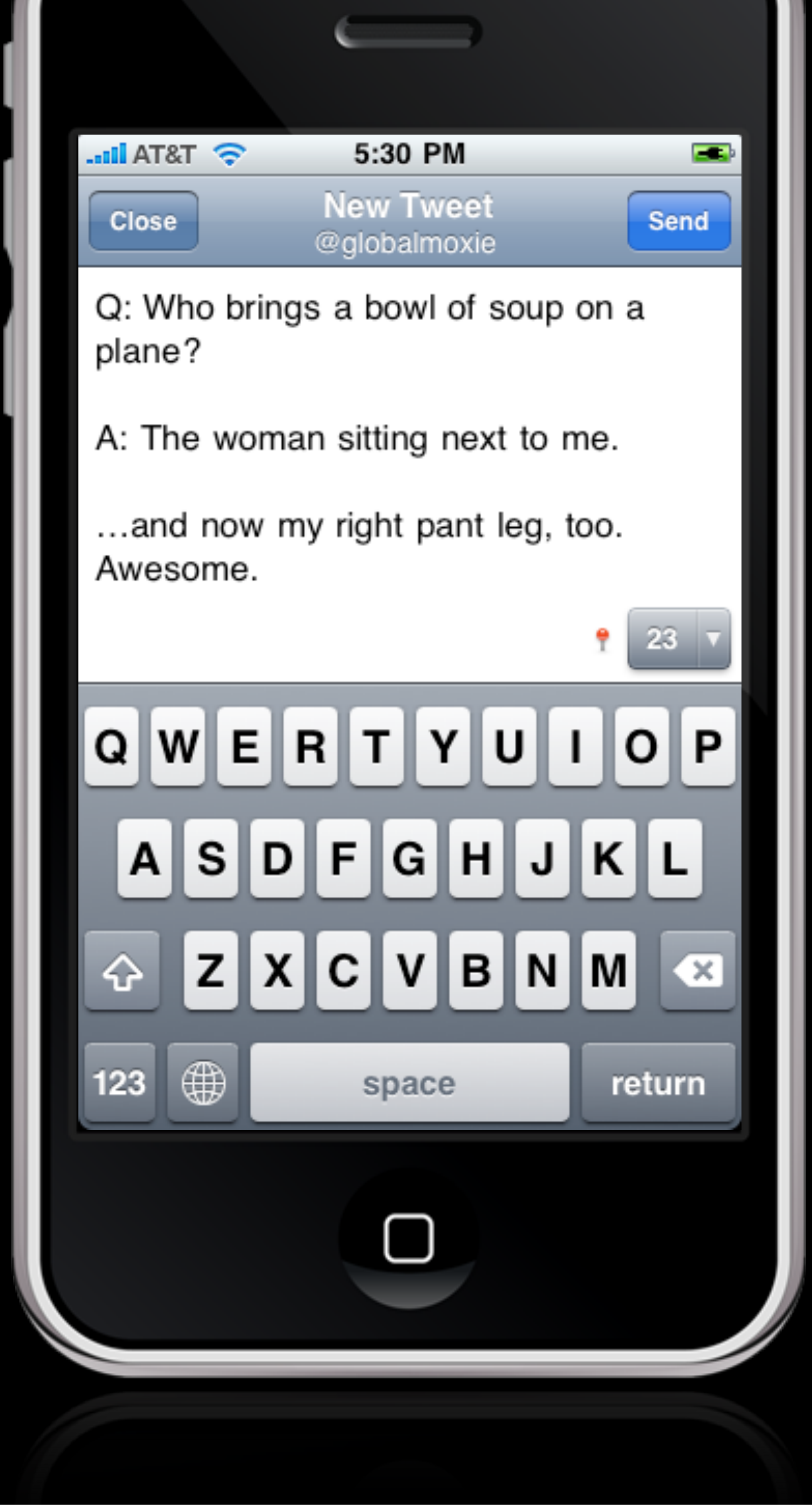
It teaches you to turn the page, too.



Morris tried to keep the books in some order, but they always mixed themselves up. The tragedies needed to be cheered up and would visit with the comedies. The Encyclopedias, weary of facts would relax with the comic books and fictions. All in all, it was an agreeable jumble.

The books use of animation is a bit more subtle, flickering objects ever so slightly to get your attention and invite you to touch and explore.

That’s obviously a simple example, intended for children. But that kind of technique of drawing the eye, even subconsciously, can be useful for training and coaching people to use your app.



Q: Who brings a bowl of soup on a plane?

A: The woman sitting next to me.

…and now my right pant leg, too. Awesome.

The last version of Twitter for iPhone used animation to help users find utilities for adding content to tweets.

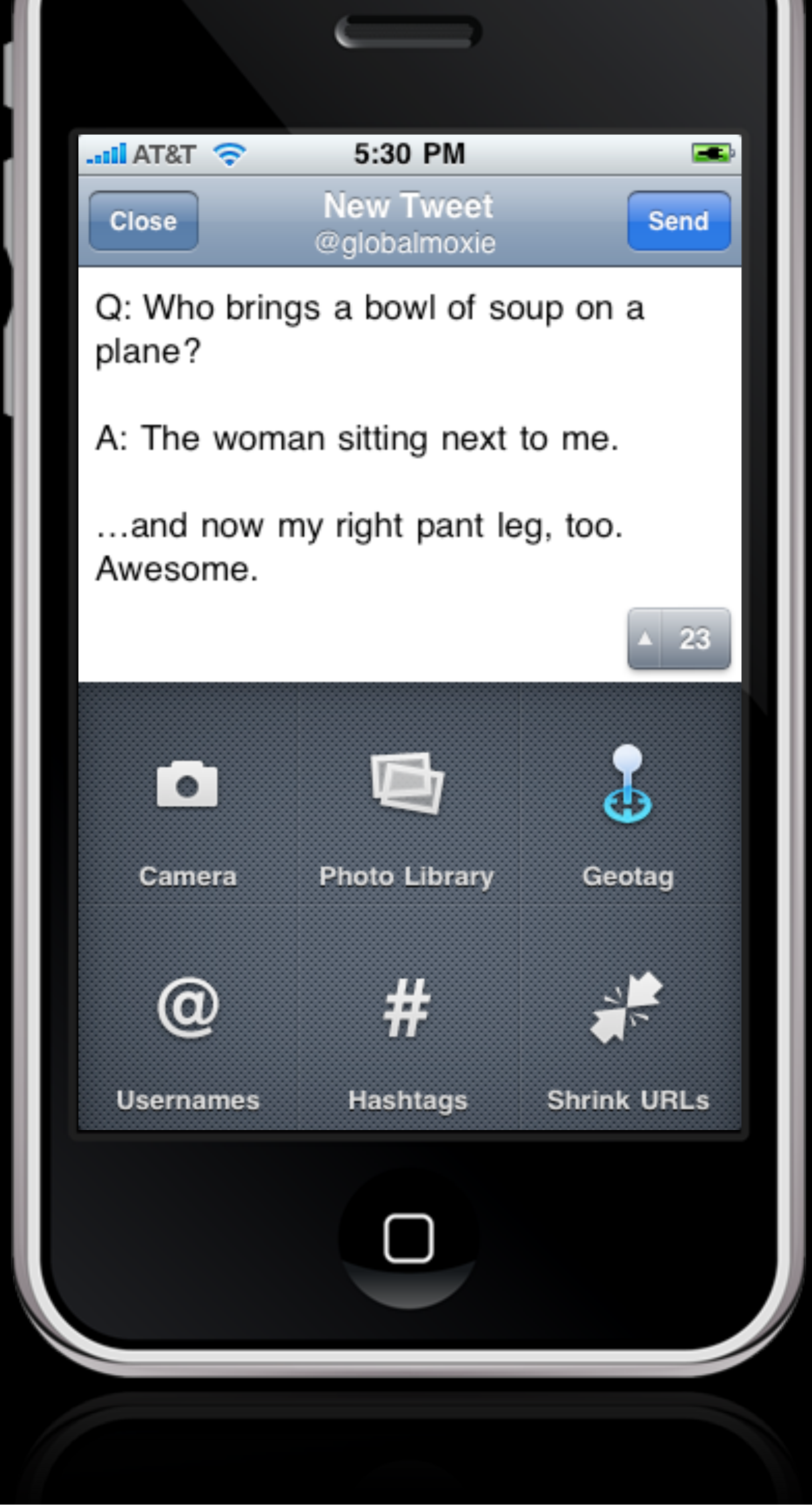
Screen totally focused on the primary task at hand: posting a new tweet. No distractions, plenty of space for content, screen could breathe.

Put secondary tools and features behind a secret panel. Trouble with secret panels is that they have to be discoverable.

Latch hidden in plain sight. In recent releases, added animation hint, showing the tools for a beat before sliding up the keyboard... each and every time before you compose a tweet.

But here’s the thing: it was grating.

Design should not slow power users who have internalized the knowledge of how the thing works.



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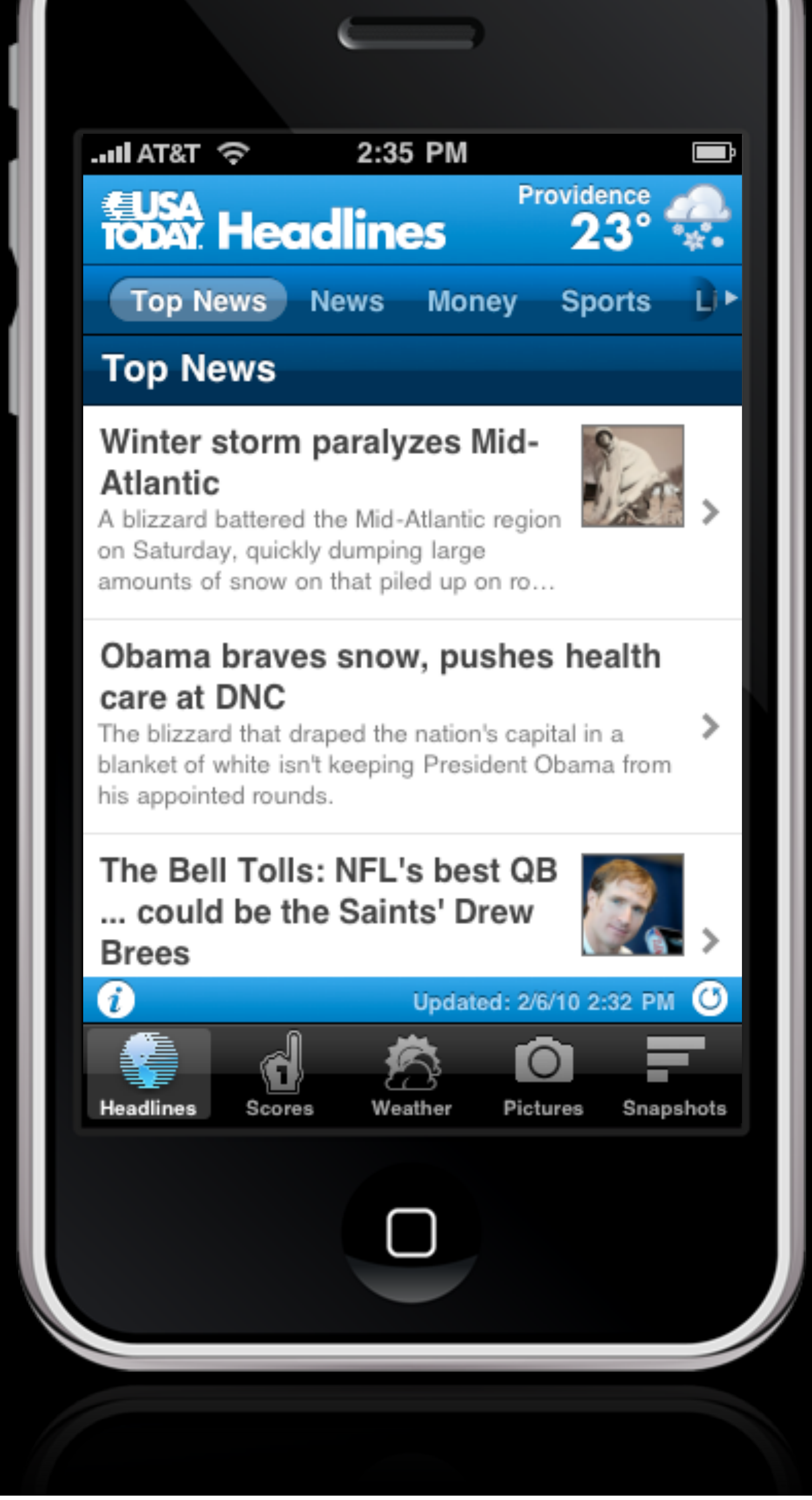


Top News

Winter storm paralyzes Mid-Atlantic
A blizzard battered the Mid-Atlantic region on Saturday, quickly dumping large amounts of snow on that piled up on ro…

Obama braves snow, pushes health care at DNC
The blizzard that draped the nation's capital in a blanket of white isn't keeping President Obama from his appointed rounds.

The Bell Tolls: NFL's best QB ... could be the Saints' Drew Brees

Updated: 2/6/10 2:32 PM

Coaching

Leveling up

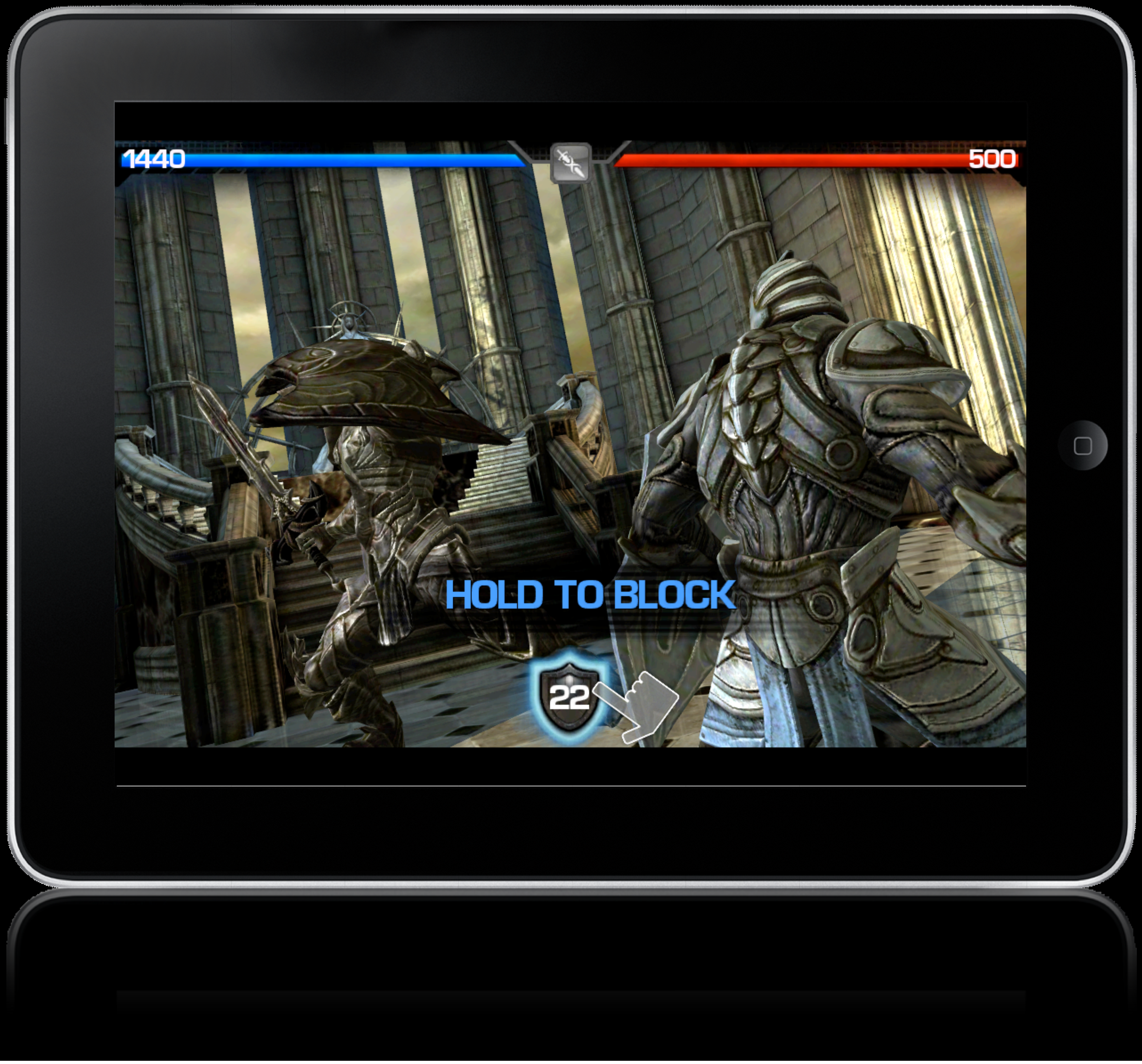
Power ups

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 people 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.



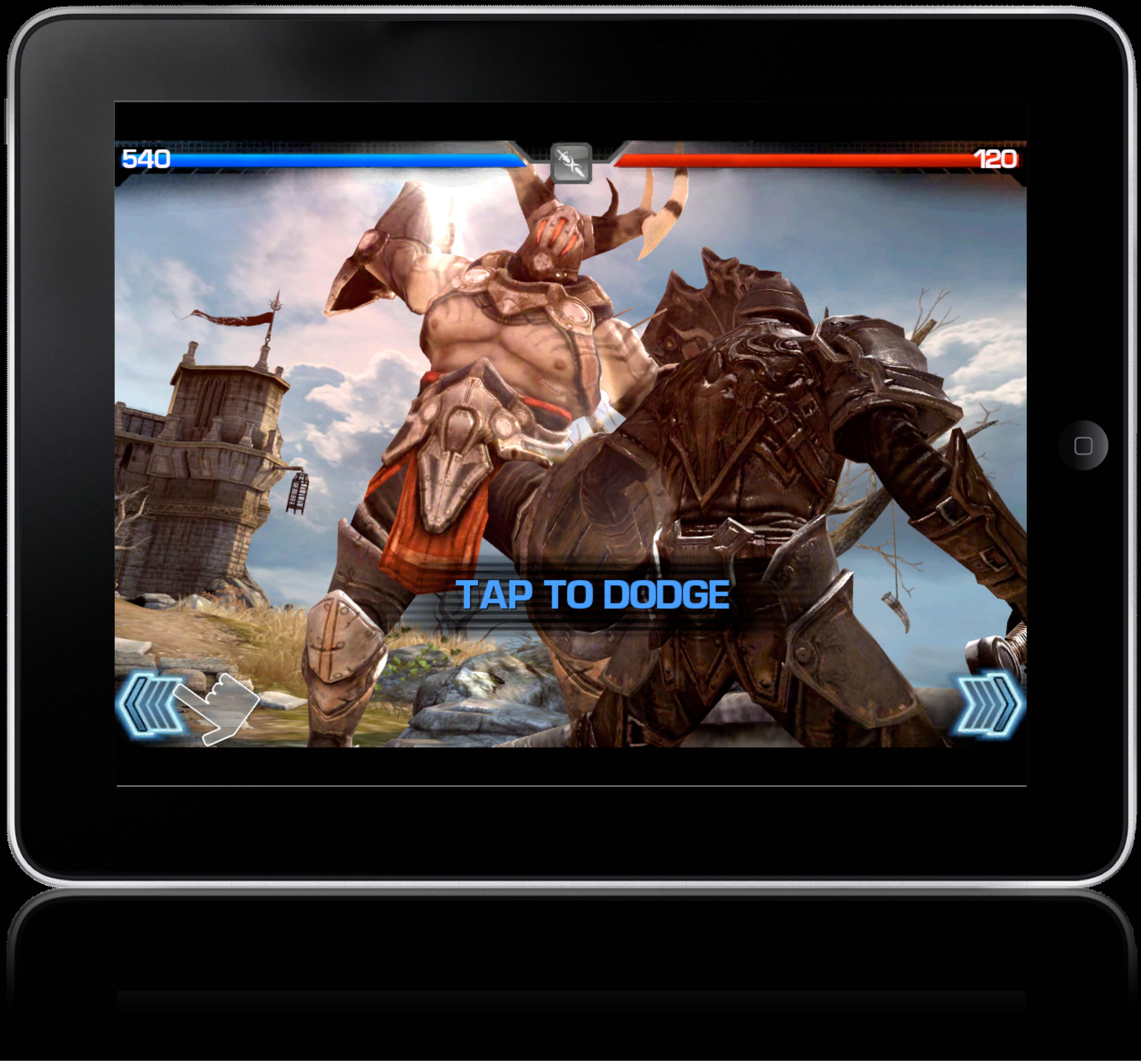
Like, for example, when you encounter a gigantic and hugely scary guy with a big-ass sword.

This is Inifinity 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.

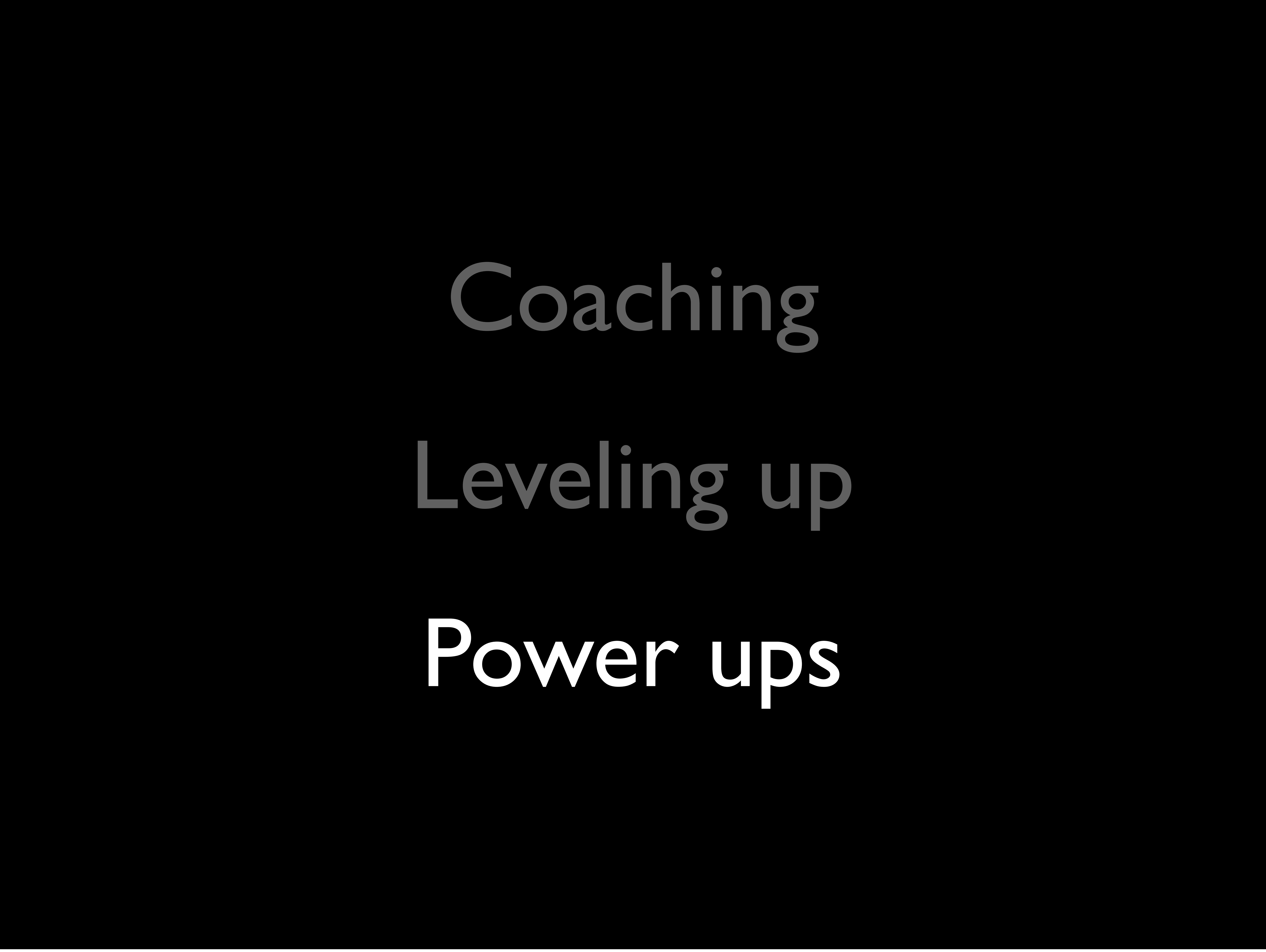
It waits until you demonstrate you understand. Again, first time is always a success.

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?

Infinity Blade for iPad: http://j.mp/pojE9v

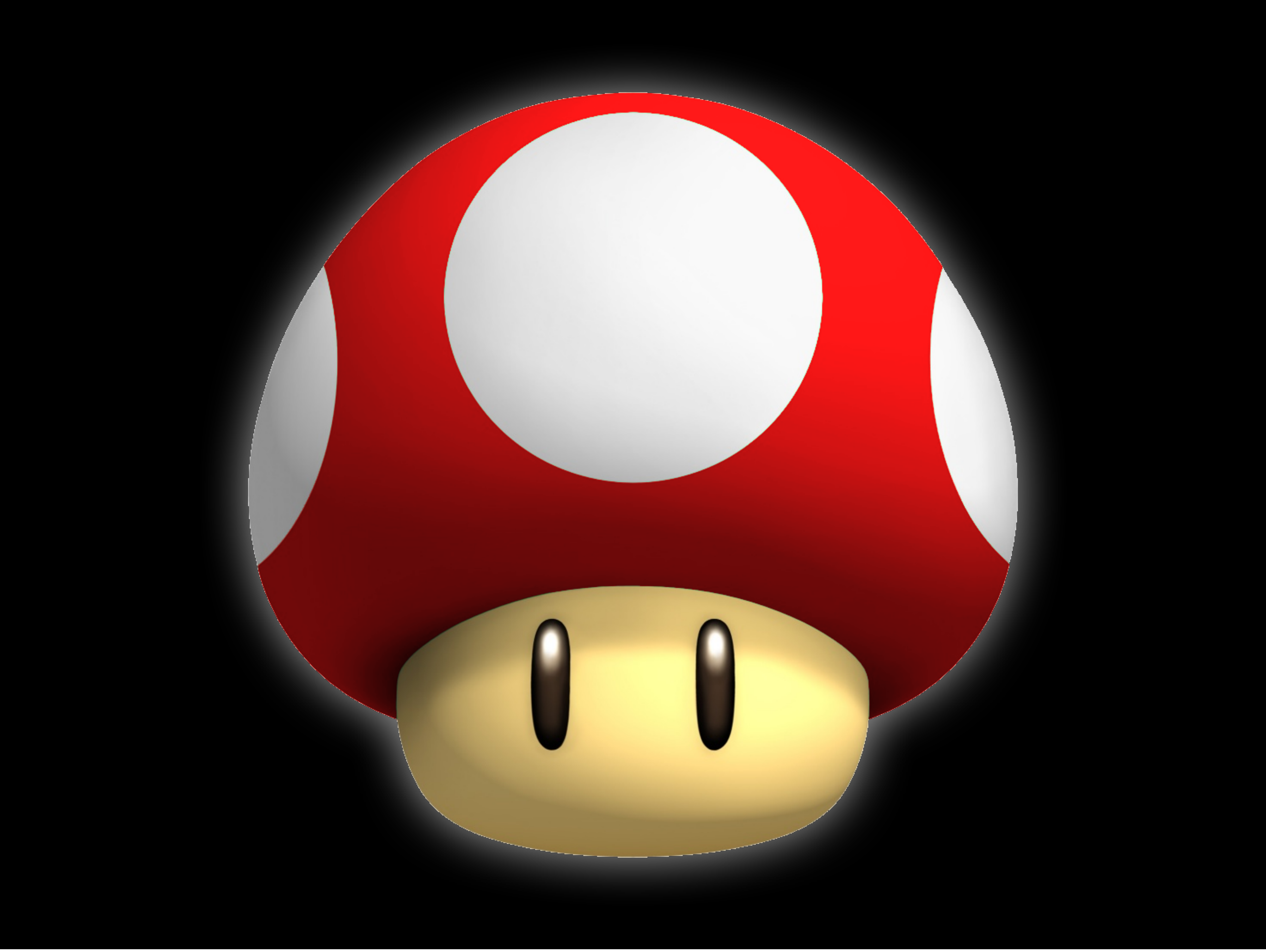


Coaching

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.



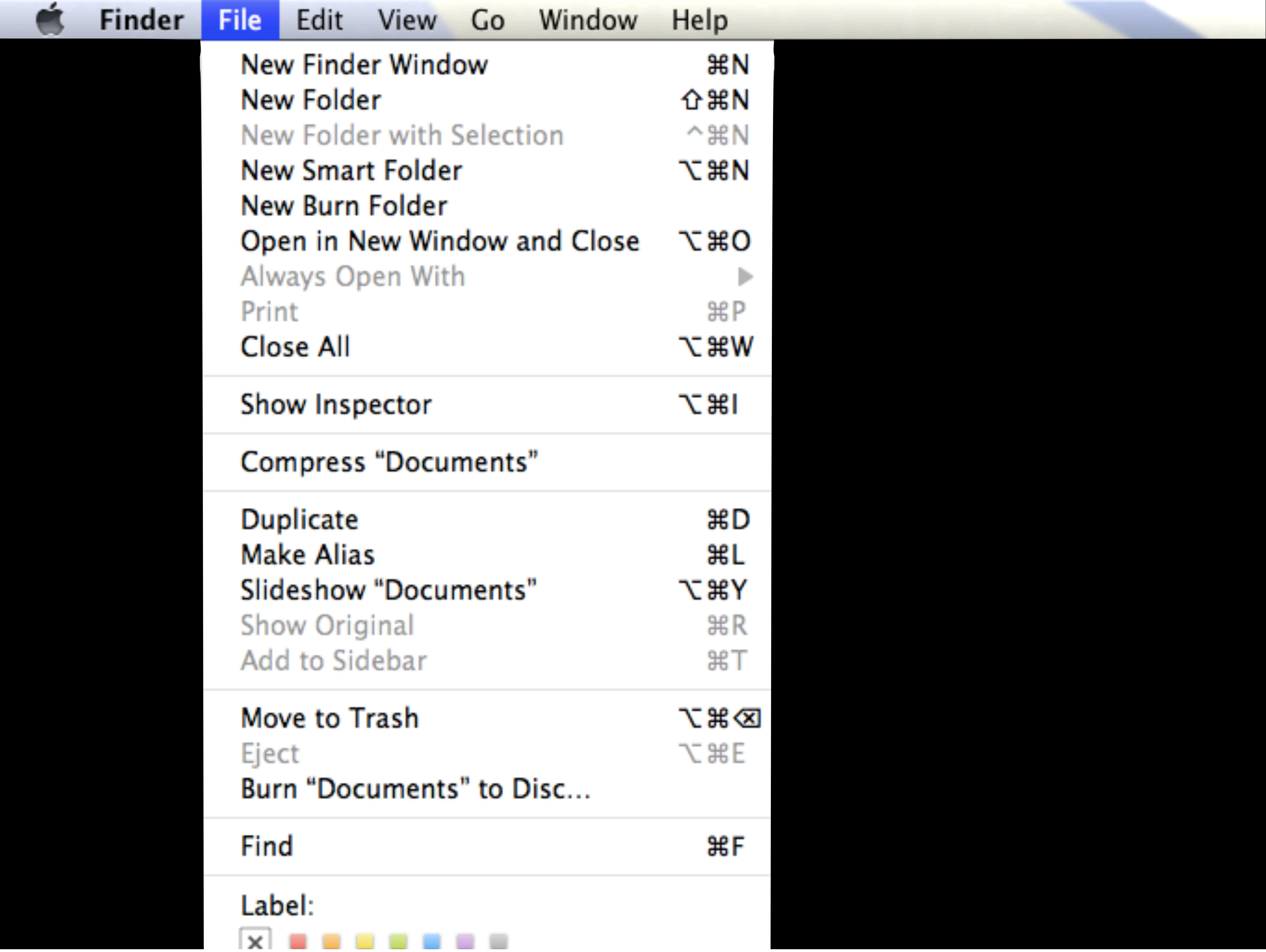
In video games, power ups like the super mushrooms in super mario brothers give you some kind of superpower. They turbo-boost your game, giving you shortcuts or some other advantage.

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.

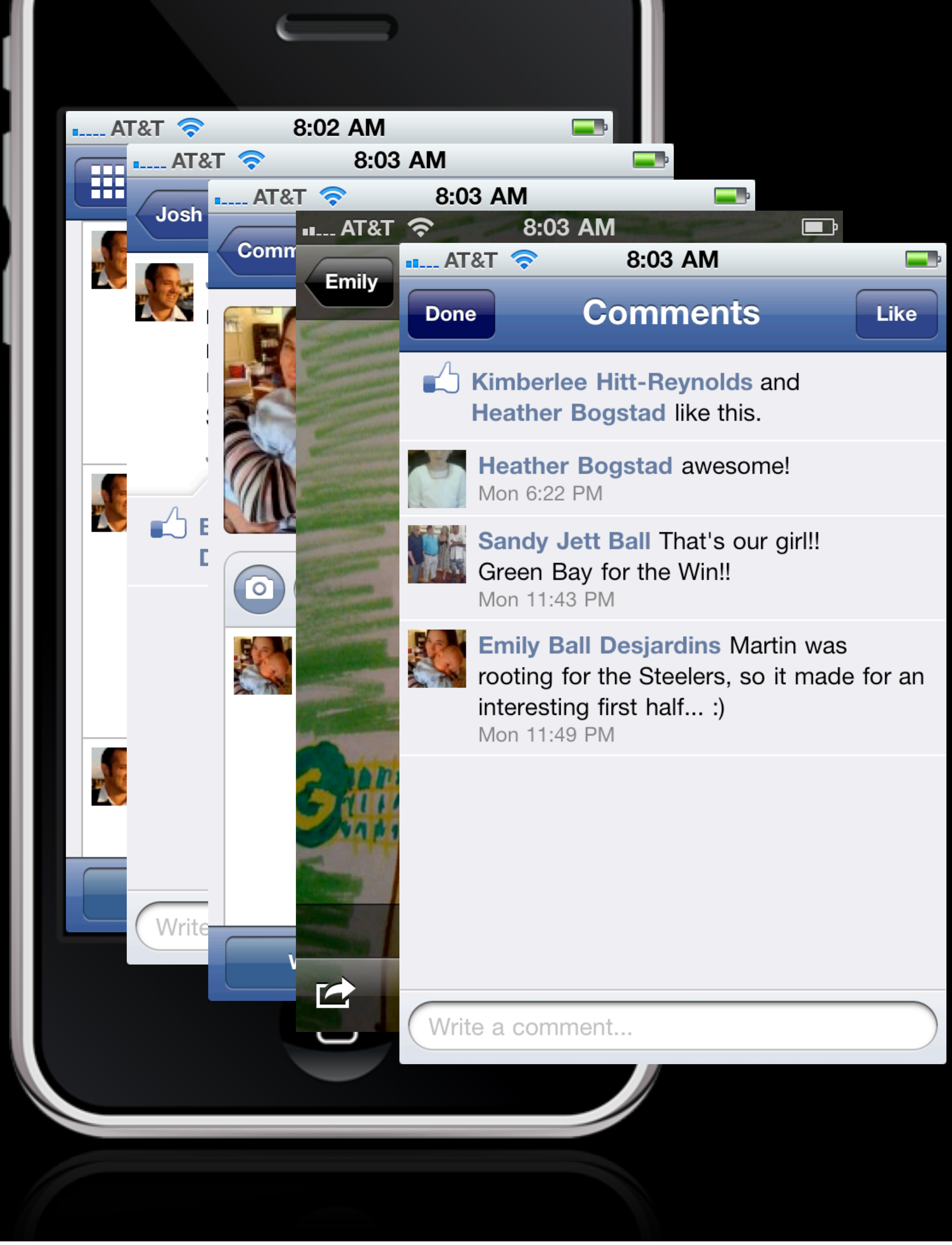


Keyboard shortcuts are labeled. There’s a visual clue here. The trouble with gestures of course is that they’re invisible.

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.



Kimberlee Hitt-Reynolds and Heather Bogstad like this.

Heather Bogstad awesome!
Mon 6:22 PM

Sandy Jett Ball That's our girl!! Green Bay for the Win!!
Mon 11:43 PM

Emily Ball Desjardins Martin was rooting for the Steelers, so it made for an interesting first half... :)
Mon 11:49 PM

Write 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 those are garbage taps. Retracing steps.

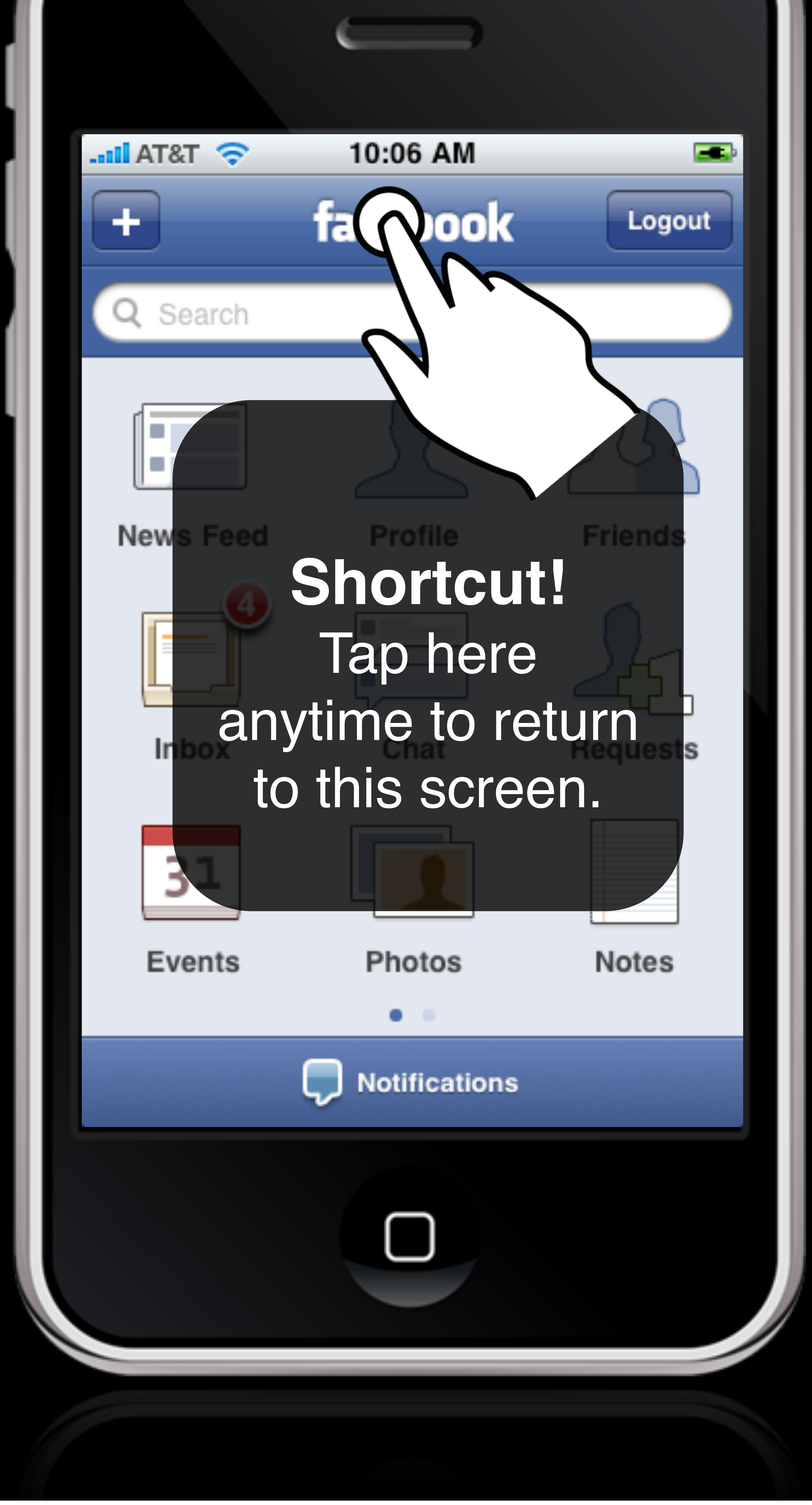
Tap the title bar! A hidden affordance as a shortcut, zips you back to home screen.

That’s great to have, but no way to know about it unless you stumble on it,
or someone tells you. No documentation, it’s hidden.

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

How about this: Wait for them to repeat the slow way. Then, when they’re done, tell them how to save time next time.

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.



Shortcut!
Tap here anytime to return to this screen.

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

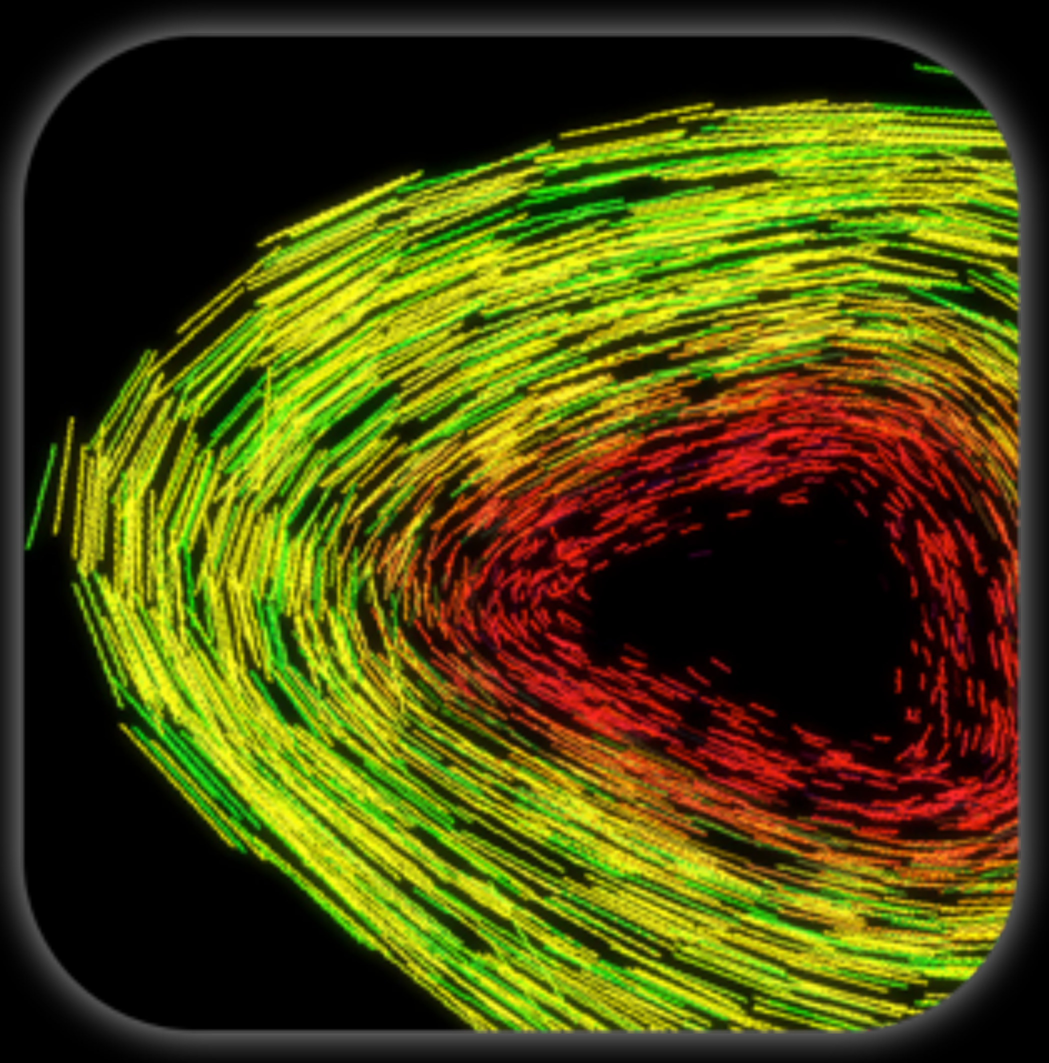
Explore multitouch gestures

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. Conventions like this don’t exist yet, but they’re badly needed. So we need to explore this as a community.



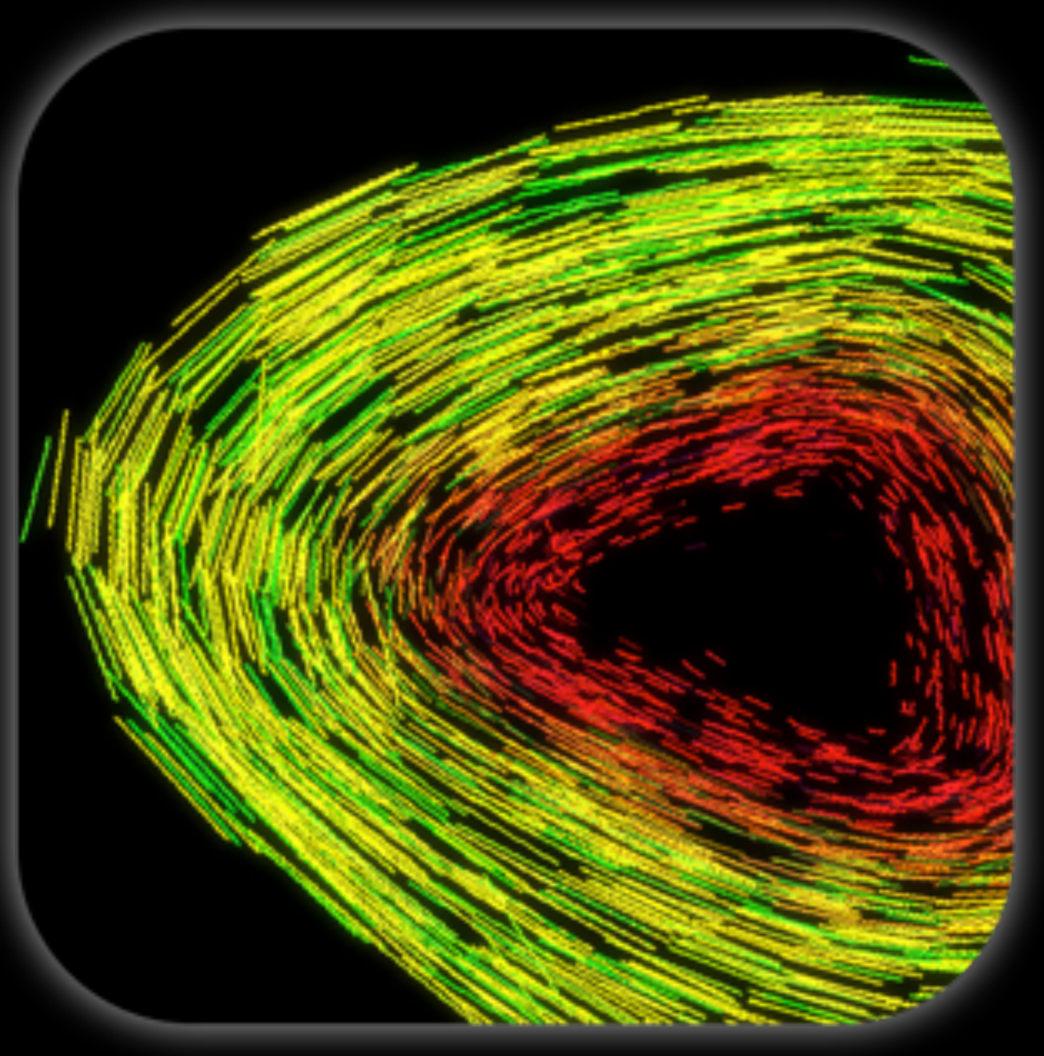
Uzu

How do we teach this stuff? What does it even look like?

We might start with things like this. Uzu is an iPad app, a kinetic multitouch particle visualizer. Put more simply, it's a lava lamp, a toy to hypnotize stoners. Or that's what it might seem.

[twitter]Uzu for iPad might SEEM like a toy to hypnotize stoners, but has useful multitouch lessons: http://j.mp/ddRUsW[/twitter]

http://www.youtube.com/watch?v=sbVU7zq4Ox0



Uzu

Uzu is a toy. Or more like a musical instrument. It seemed more like he was playing it rather than using it.

When any of us master a device or an app or an instrument, that's how it feels. Look at all of you with keyboards: intent fluidly transferred to action.

In Uzu, every finger triggers new mode. Ten modes, ten fingers. Imagine the possibility.

Gestures give us opp to make apps that are like instruments. Apps that you PLAY more than you USE.

I've talked a lot about mimicking physical interfaces to give cues about how we use touchscreen apps. But how do we train users for THIS?

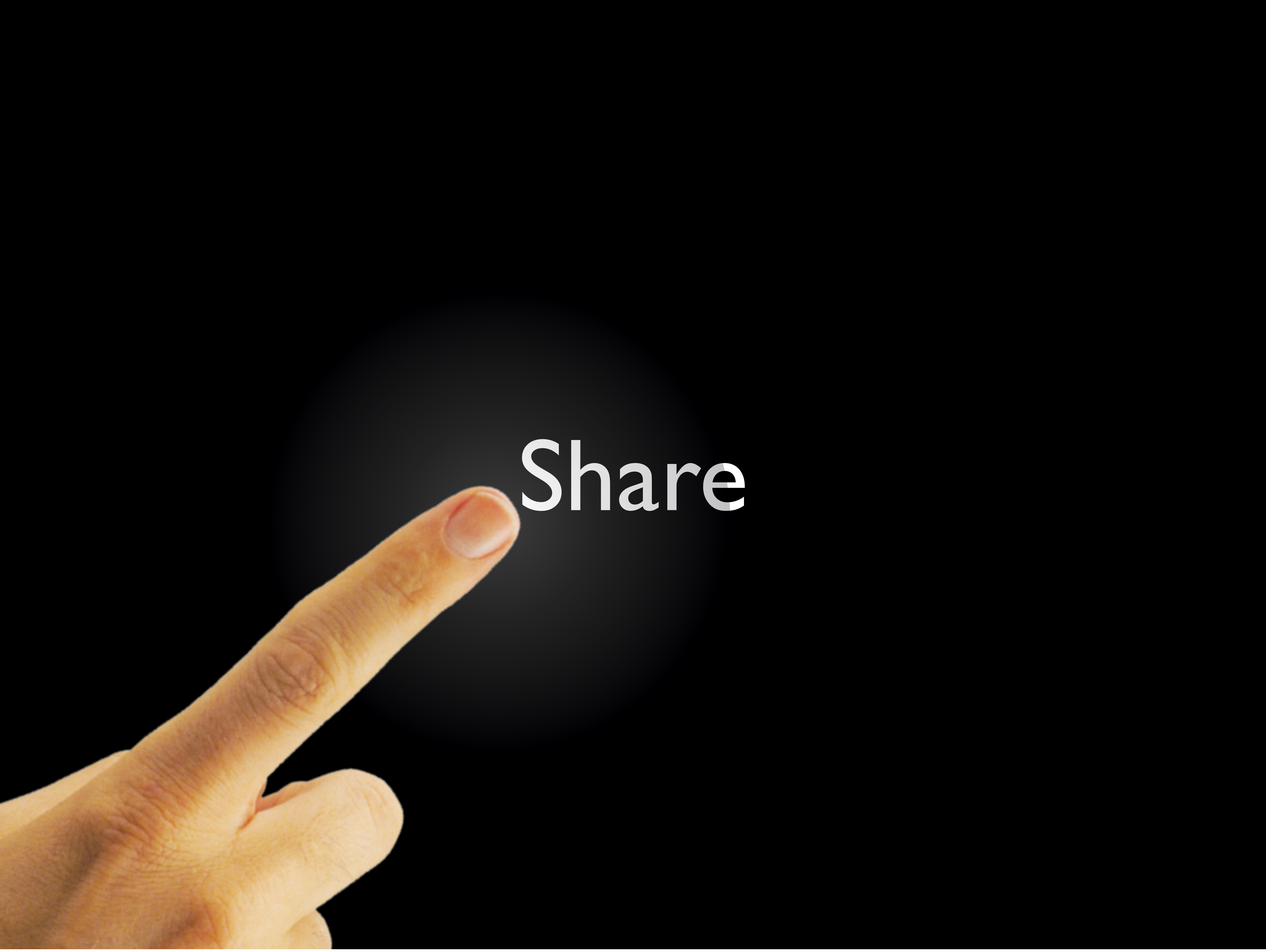
Toys are useful. Toys teach children how to interact with the world, teach cause and effect. Toys like uzu can teach us to use these devices and gestures. Train ourselves in new culture, in gesture vocabulary.

This is another salt and pepper issue. 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.



Share

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.

This is a time to be generous.

Exciting!

New platforms don’t come along very often. Just inventing what this thing does, what iPhone does. Be expansive, let imagination roam.

Important to try new things, throw everything we’ve got at the drawing board.

But be aware that our enthusiasm for the new is also an achilles heel. Some sober moments to ask: does this make sense?

Designers need to know this: insightful work is part technical know-how, but empathy, imagination, expansive world view generate breakthrus.

We have the coolest job in the world. We’re inventing the future, together. Go make something amazing.

I love you guys.

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