

Designing for Mobile

Nathaniel T. Schutta
@ntschutta

Mobile - next big thing.

Why do we care?

Mobile first.

Mindsets, constraints,
capabilities.

Look at some examples.

Mobile is a big deal.

Bit of growth there.



Android activations
outpacing baby births.

[http://www.telegraph.co.uk/technology/ces/9013487/
CES-2012-Android-activations-outpacing-baby-births.html](http://www.telegraph.co.uk/technology/ces/9013487/CES-2012-Android-activations-outpacing-baby-births.html)



@lukew
Luke Wroblewski

There are more iPhones sold per day (402k) than people born in the World per day (300k). [twitter.com/#!/asymco/stat...](https://twitter.com/#!/asymco/status/161943568024469504)



@asymco
Horace Dediu

24 Jan : 37 million iphones

[http://news.cnet.com/8301-17938_105-57365767-1/
apple-makes-more-iphones-than-humans-make-babies/](http://news.cnet.com/8301-17938_105-57365767-1/apple-makes-more-iphones-than-humans-make-babies/)

<https://twitter.com/#!/lukew/statuses/161943568024469504>

Might be a natural cap
there somewhere...



Horace Dediu
ASYMCO
@asymco



Android will reach a billion users in half the time it took Facebook.

[Reply](#) [Retweet](#) [Favorite](#)

<https://twitter.com/asymco/statuses/254124178024833026>

iOS - a billion units in late 2014 or early 2015.

<http://www.asymco.com/2012/09/17/projecting-ios-devices-through-itunes-account-growth/>

In 2011, Apple sold more iOS devices...

Than all Macs sold in *28* years.

<http://www.asymco.com/2012/02/16/ios-devices-in-2011-vs-macs-sold-it-in-28-years/>

400 million iOS devices sold.

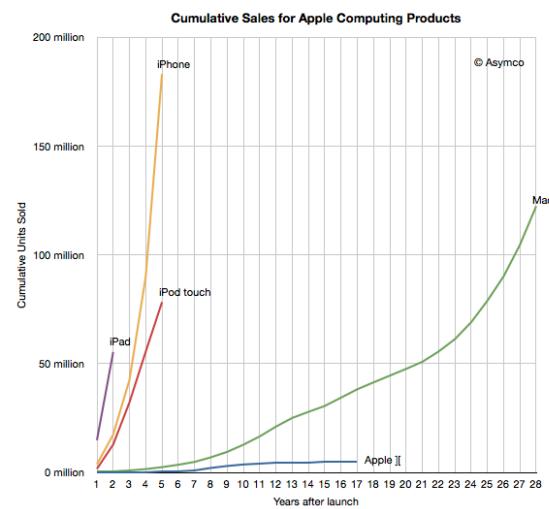
480 million Android activations.

To put that in perspective...

1 billion Windows PCs.

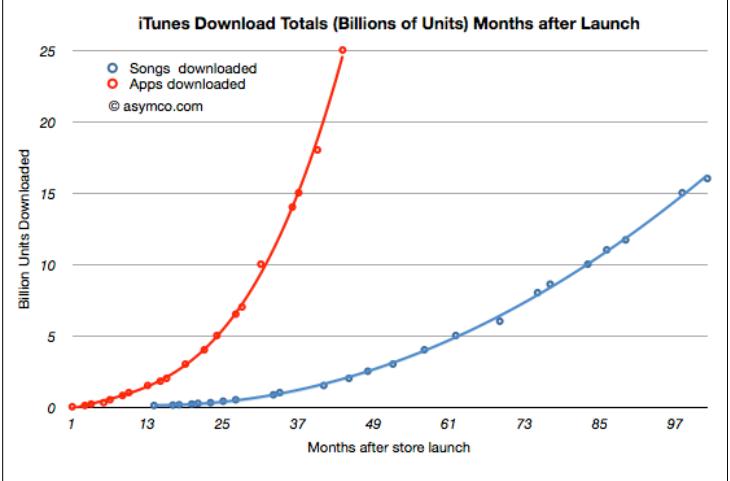
2.2 billion Internet users.

<http://www.lukew.com/ff/entry.asp?1626>



App developers receive \$12 for each iOS device sold.

<http://www.asymco.com/2012/02/19/app-developers-get-12-for-each-ios-device-sold/>



Facebook: half the user base is mobile.

<http://techcrunch.com/2012/02/01/facebook-s-1-845-million-users-every-month-more-than-half-daily-and-nearly-half-mobile/>

Amazon > \$1 billion via mobile devices.

<http://www.business-opportunities.biz/2010/07/23/1-billion-via-mobile-devices/>

Smartphone sales passed computer sales...

A year ago.

<http://www.smartononline.com/smarton-products/smarton-mobile-smartphones-pass-pc-sales-for-the-first-time-in-history/>

What happens when most of us carry smartphones?

When will that happen?

Nielsen says it already has...

http://blog.nielsen.com/nielsenwire/online_mobile/smartphones-account-for-half-of-all-mobile-phones-dominate-new-phone-purchases-in-the-us

When will we
reach saturation?

<http://www.asymco.com/2012/04/11/when-will-smartphones-reach-saturation-in-the-us/>

Faster than nearly every
other innovation...

When will the tablet
market be bigger than PCs?

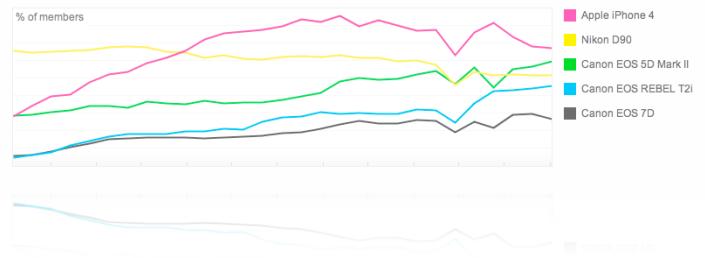
Fall of 2013...

<http://www.asymco.com/2012/03/02/when-will-the-tablet-market-be-larger-than-the-pc-market/>

Most popular
camera on Flickr?

iPhone.

Most Popular Cameras in the Flickr Community



<http://www.flickr.com/cameras/>



Follow

About 75 apps have been downloaded for every iOS device ever sold.

4:04 PM - 17 Feb 12 via Twitter for Mac - Embed this Tweet
Reply Retweet Favorite

<http://twitter.com/#!/asymco/status/170629806810083328>



Follow

iTunes App download rate is approximately 49 million per day (average since October 2011).

3:51 PM - 17 Feb 12 via Twitter for Mac - Embed this Tweet
Reply Retweet Favorite

<http://twitter.com/#!/asymco/status/170626394831863809>

The average person looks at their phone 150 times...

A DAY!

<https://twitter.com/#!/grigs/status/166882533781422082>

Get's people's attention.

Want more stats?

<http://www.lukew.com/ff/entry.asp?1131>

<http://www.lukew.com/ff/entry.asp?1188>

The PC...isn't very personal.

Your phone is.

Always with you.

What would I know about
you if I had your phone?

Schedule, email,
texts, apps...

Location.

Interesting privacy
concerns there...

People use their mobile
devices constantly.

At home.

Waiting in line.

At work...

When do you use your mobile devices?

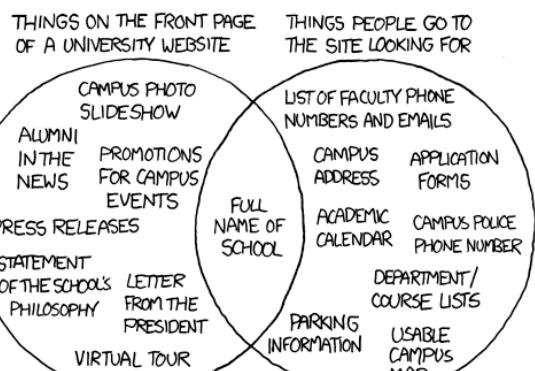
Turns out...all the time.

OK.



Shrink ray isn't
going to cut it.

Need to rethink
the experience.



Mobile first?

<http://xkcd.com/773/>

You bet!

Constraints.

Shall set you free...

Size.

Power.

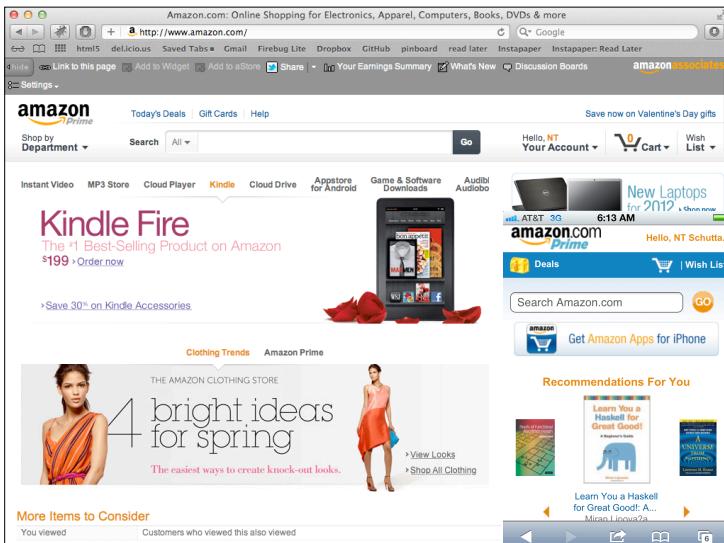
Connectivity.

Usage patterns.

“One eye, one thumb.”

Forces you to focus.

What's important?



1024 x 768

320 x 480

Essentials.

Can't have it all.

How do you know?

Starts with the users.

Ethnography.

Study people in
their environment.

What are they doing?

What do they want to do?

Where are they?

Makes it easier to build
the desktop version.

Can the mobile experience
surpass the “normal” app?

<http://csswizardry.com/2011/11/sam-penrose-design-process-and-write-up/>

Focus on what you need.



Apps are like goldfish...



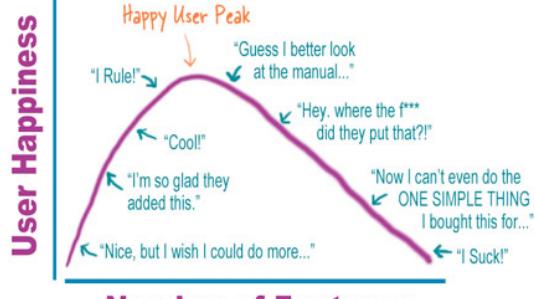
"We have a few pixels over here we could use..."

Can't do that with mobile.

What are the top 3 tasks?

The 20%.

The Featuritis Curve



http://headrush.typepad.com/creating_passionate_users/2005/06/featuritis_vs_t.html

Too many features... encumbers users.

What is the single most important task?

Helps your desktop users too.

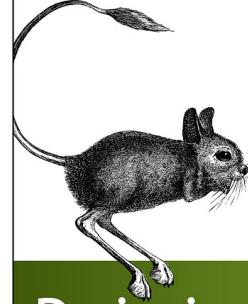
Like accessibility.

Better for everyone.

Thought of the day: we'll know
the mobile web is "ready"
when links to the desktop
version are understood to be
unnecessary.

—Jason Grigsby

<https://twitter.com/#!/grigs/status/43803826242859008>



Designing for Mobile First

Luke Wroblewski

VIDEO

AUTHD

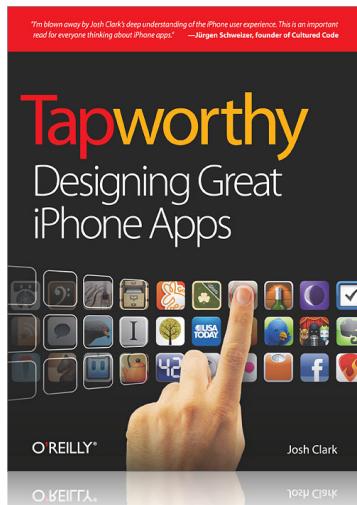
<http://shop.oreilly.com/product/0636920020776.do#>

[http://www.lukew.com/
presos/preso.asp?26](http://www.lukew.com/presos/preso.asp?26)

Mobile mindsets.

Why do they “hire” your
mobile experience?

What are they trying to do?



Microtasking.

Boredom.

Local.

Google has similar concepts.

Repetitive now.

Bored now.

Urgent now.



<http://www.lukew.com/>

Lookup/Find.

Explore/Play.

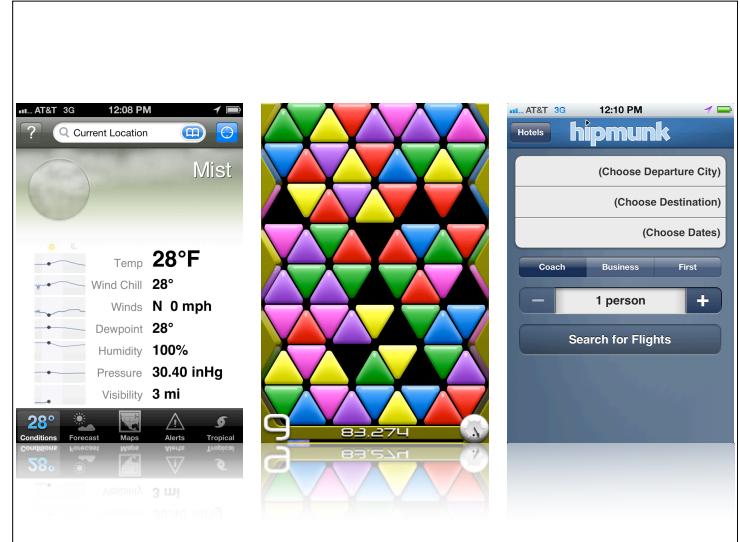
Check in/Status.

Edit/Create.

WHY does someone
launch your app?

WHAT is the context?

Let's look at some apps...





Who, Why, Where.

Amazon.

We've all used Amazon.

Pretty good website.

Amazon.com: Online Shopping for Electronics, Apparel, Computers, Books, DVDs & more

Shop by Department

Search the girl

the girl with the dragon tattoo

the girl with the dragon tattoo in Books

the girl with the dragon tattoo in Kindle Store

the girl with the dragon tattoo in Movies & TV

the girl who kicked the horns nest

the girl who played with fire

the girl who kicked the horns nest paperback

the girl with the dragon tattoo soundtrack

the girl with the dragon tattoo trilogy

the girl with the dragon tattoo dvd

Books

Movies, Music & Games

Electronics & Computers

Home, Garden & Tools

Grocery, Health & Beauty

Toys, Kids & Baby

Clothing, Shoes & Jewelry

Sports & Outdoors

Automotive & Industrial

Full Store Directory

THE AMAZON CLOTHING STORE

DENIM SHOP

THE BEST
SHOP FROM
YOUR FAVORITE
BRANDS

Shop Denim

Shop All Clothing

who viewed this also viewed

Denim Tech Chinos \$74.99 | Denim Tech Trouser \$74.99 | Denim Tech Chinos \$74.99 | Kaliwell MC Denim \$74.99 | Kaliwell MC Denim \$74.99

Amazon.com: the girl with the dragon tattoo

Hello, NT Your Account

Cart Wish List

Search All the girl with the dragon tattoo

"the girl with the dragon tattoo"

Related Searches: the girl who played with fire, the girl with the dragon tattoo dvd, the girl with the dragon tattoo soundtrack.

Showing 1 - 16 of 814 Results

1. **The Girl with the Dragon Tattoo (Movie Tie-in Edition) (Vintage Crime/Black Lizard)** Larsson (Mass Market Paperback - Nov 22, 2011)
Buy new: \$9.99
50 new from \$5.14 31 used from \$4.84
Get it by Wednesday, Feb 1 if you order in the next 23 hours and choose one-day shipping.
★☆☆☆☆ (3,163) Prime
Excerpt - Front Matter "... Praise for Stieg Larsson's THE GIRL WITH THE DRAGON TATTOO "Exceptional random page in this book.
Sell this back for an Amazon.com Gift Card
Books: See all 317 items

2. **Parker 5TH Technology** The next generation in pens
Experience Parker 5TH Technology
Best Sellers
Movies & TV: Blu-ray
Updated hourly
1. In the Heat of the Night (+ UltraViolet Digital Copy)
\$34.99 \$19.99
2. The Twilight Saga: Breaking Dawn Part 1 [Blu-ray]
\$33.99 \$22.99

3. **The Girl with the Dragon Tattoo (Millennium Trilogy)** by Stieg Larsson and Reg Keeland (Kindle Edition - Sep 16, 2008) - Kindle eBook

Amazon.com: The Girl with the Dragon Tattoo (Movie Tie-in Edition) (Vintage Crime/Black Lizard) (9780307949486): Stieg Larsson: Books

Shop by Department

Search Books

Books Advanced Search

Browse Subjects Best Sellers The New York Times® Best Sellers Children's Books Textbooks Sell Your Books

Prime Member: NT Schutta

NT Schutta: This item is eligible for Amazon Prime. Click here to learn on 1-Click and make Prime even better for you. (With 1-Click enabled, you can always use the regular shopping cart as well.)

The Girl with the Dragon Tattoo (Millennium Trilogy) and over one million other books are available for Amazon Kindle. Learn more

Click to LOOK INSIDE!

THE GIRL WITH THE DRAGON TATTOO STIEG LARSSON

The Girl with the Dragon Tattoo (Movie Tie-in Edition) (Vintage Crime/Black Lizard) (Mass Market Paperback)

Stieg Larsson (Author)

★★★★★ (3,163 customer reviews) | [Write a review](#) (101)

Price: **\$9.99** Prime Special Offers Available

In Stock.

Ships from and sold by Amazon.com. Gift-wrap available.

Want it delivered Wednesday, February 1? Order it in the next 23 hours and 4 minutes, and choose One-Day Shipping at checkout. Details

\$0 new from \$5.14 31 used from \$4.83 1 collectible from \$150.00

Formats	Amazon Price	New from	Used from
Kindle Edition	—	\$9.99	—
Hardcover, Deckle Edge	\$17.79 Prime	\$16.00	\$11.11
Perfect Paperback, Print	\$9.57 Prime	\$6.00	\$0.20
Mass Market Paperback	\$9.99 Prime	\$6.09	\$5.88
Audio CD, Audiobook, Unabridged	\$26.40 Prime	\$21.71	\$18.74
Unknown Binding	—	\$11.00	\$8.34
Audible Audio Edition, Unabridged	\$26.95 or Free with Audible 30-day free trial		

Share your own customer images

Start reading The Girl with the Dragon Tattoo (Millennium Trilogy) on your Kindle in under a minute.

Don't have a Kindle? Get your Kindle here, or download a FREE Kindle Reading App.

Works great in the browser!

Not so much for mobile.

What would you change?

Which mindsets?

Let's see what Amazon did.

The screenshot shows the Amazon homepage with a "Kindle Fire" deal at \$199. It features sections for "Deals", "Recommendations For You", "Gold Box Deal of the Day" (LG Kompresor LU400T Total Care Upright Refrigerator), and "Today's Deals" (TurboTax 2011). There are also sections for "Clothing Trends" and "Best Sellers".

Little different!

The screenshot shows the product page for "Learn You a Haskell for Great Good!: A Beginner's Guide" by Miran Lipovaca. It includes the book cover, a "Look Inside" preview, and purchase options. The page highlights that it's a "Prime" member benefit and offers "One-Day Shipping".

The screenshot shows the same product page on a mobile device. The interface is adapted for touch, with large buttons for "Product Description" and "Product Details". The book cover and title are clearly visible.

How'd they do?

Constraints.

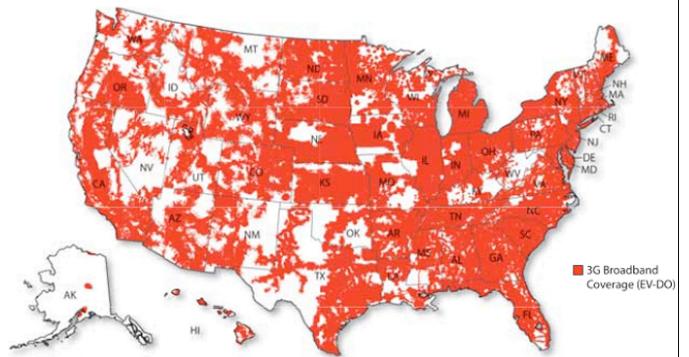
Pixels are precious.

What is required?

What can you eliminate?

Cut more.

3G, LTE...



We don't have perfect
cell coverage!

5 to 2 to searching to 5.

It isn't a cat5 cable.

Or a wifi connection.

What do we do about that?

Sprites, minify, HTML5.

Canvas over images.

Do you need a huge library?

Lazy load.

Application cache.

Again, makes for a better desktop experience.

Bonus.

Milliseconds matter.

Amazon: 100ms delay reduces sales by 1%.

500ms extra on Google?

Drops traffic by 20%.

Users are distracted.

Not their focus.

(Is your desktop app the
focus of attention?)

Even if it is, consider
the environment.

Hopefully not while driving...

Usage tends to be choppy.

Sprints, not marathons.

One handed use.

Fingers != mouse pointer.

The one thumb test.

Which thumb?

Left or right hand?

About 1/3 of the screen is easy to get to.



Activity zones.

<http://www.kickerstudio.com/blog/2011/01/activity-zones-for-touchscreen-tablets-and-phones/>

Where are the toolbars?



Where are they on most apps?

Hint: not the bottom.

People are often oscar mike.

Targets must be obvious.

Clark calls this the “blurry vision” of your app.

Gestures are often ignored.

Not easily discoverable.

Many interface
elements are hidden.



How do you email a tweet?

Press and hold of course!



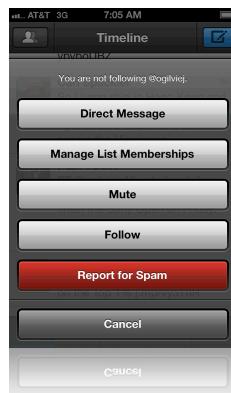
Would you have tried that?



Not all that's hidden...



Press and hold does
different things...



Good? Bad?

Capabilities.

Mobile isn't just what
you can't do...

Mobile devices can do
things "PCs" can't.

"PC" sales are declining.

<http://www.asymco.com/2012/01/12/is-the-ipad-a-pc/>

<http://www.asymco.com/2012/01/26/the-year-of-the-ipad-for-the-second-year-in-a-row/>

Orientation.

Most apps change based
on orientation.

Gyrosopes, accelerometers.

Location.

Generally more accurate
than your PC.

Touch.

Multi touch gestures.

Becoming the dominate
interaction paradigm...

Apple, Q4.

>17 million iPhones,
>11 million iPads.

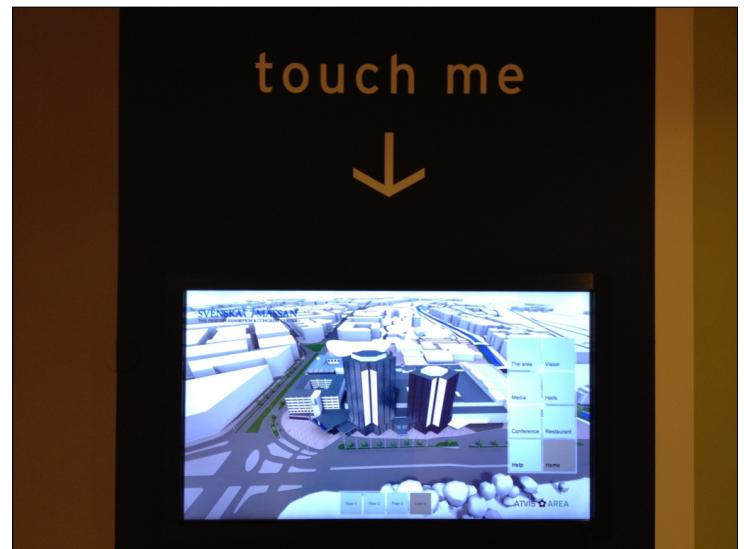
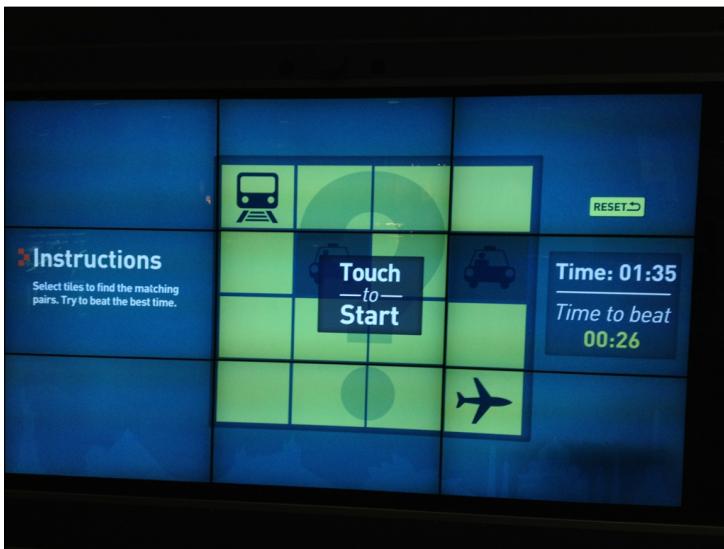
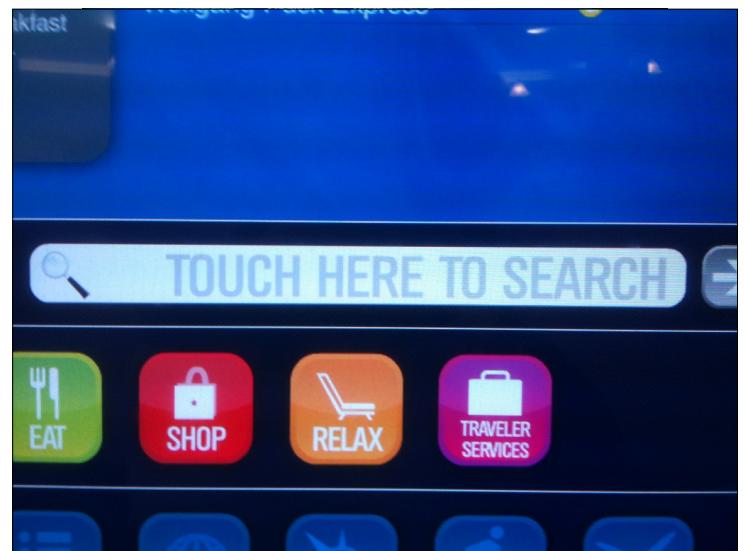
Android activations...

Windows Phone 7.

Nokia and RIM are shifting...

Think of our kids...

Isn't just mobile...



When will touch
be assumed?

Audio.

Camera - video, pictures.

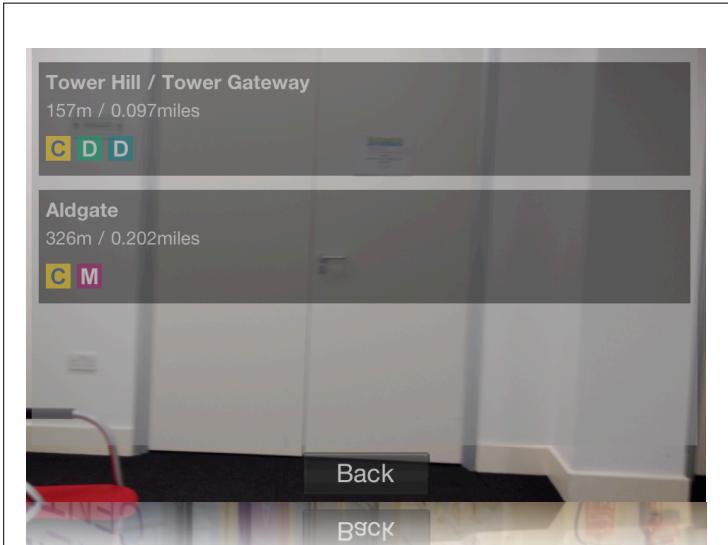
Connections - Bluetooth.

Proximity.

Email, contacts, apps.

Just because you
can do something...

Augmented reality!



Try doing that with
your laptop.

Some of these capabilities
aren't exposed in browser.

TED.

Amazing talks.

Inspirational, educational.

TED: Ideas worth spreading

Riveting talks by remarkable people, free to the world

Try our new platform

Resize by:

- Newest releases
- Date filmed
- Most viewed
- Most emailed this week
- Most comments this week
- Most jaw-dropping
- ... persuasive
- ... courageous
- ... ingenious
- ... fascinating
- ... inspiring
- ... beautiful
- ... funny
- ... informative

to:

- All
- Technology
- Entertainment
- Design
- Business
- Science
- Global issues

[View all tags >](#)

TED Ideas worth spreading

Riveting talks by remarkable people, free to the world

Try our new platform for sharing ideas: [TED Conversations](#) »

Resize by:

- Newest releases
- Date filmed
- Most viewed
- Most emailed this week
- Most comments this week
- Most jaw-dropping
- ... persuasive
- ... courageous
- ... ingenious
- ... fascinating
- ... inspiring
- ... beautiful
- ... funny
- ... informative

Show talks related to:

- All
- Technology
- Entertainment
- Design
- Business
- Science
- Global issues

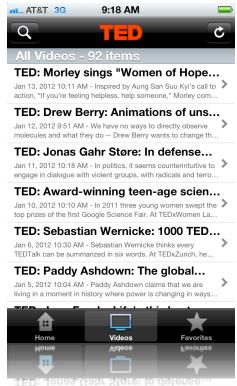
[View all tags >](#)

What mindsets bring you to the TED app?

What changes would you make?

What capabilities would you leverage?

Let's see what they did!



That's simpler!

What about the iPad?

A screenshot of a TED talk page. At the top, there's a header with "8:08 PM", "Featured Talks", and "A.J. Jacobs". Below the header is the TED logo and the tagline "Ideas worth spreading". The main content features a video thumbnail of A.J. Jacobs speaking on stage. His name, "A.J. JACOBS", is displayed below the thumbnail with the text "(click to play)". To the left of the video, there's a "TALKS" section with "A.J. Jacobs: How healthy living nearly killed me" and "TEDMED 2011. Filmed Oct 2011; Posted Jan 2012". To the right, there are sections for "About this talk & speaker", "What to watch next", and "Related themes & tags". At the bottom of the page, there's a navigation bar with links for "TED", "Featured", "Sign in", "Themes", "Tags", and "Search talks".

What do you think?

Design considerations.

Space is at a premium.

Resist the urge to
use every pixel.

Fingers != mouse pointer.

They aren't precise.

And people are distracted.

Inadvertent presses.

Half of ad clicks - mistakes.

Think BIG targets.

44 x 44.

In theory, can go to 44 x 30.

And leave space...

Design for one handed use.

Discoverability.

Gestures aren't
discoverable.

Think of them as shortcuts.

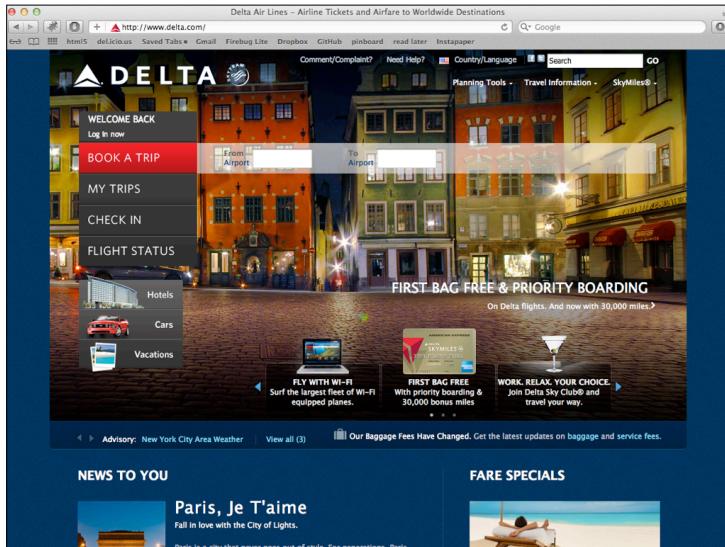
Capabilities!

Delta.

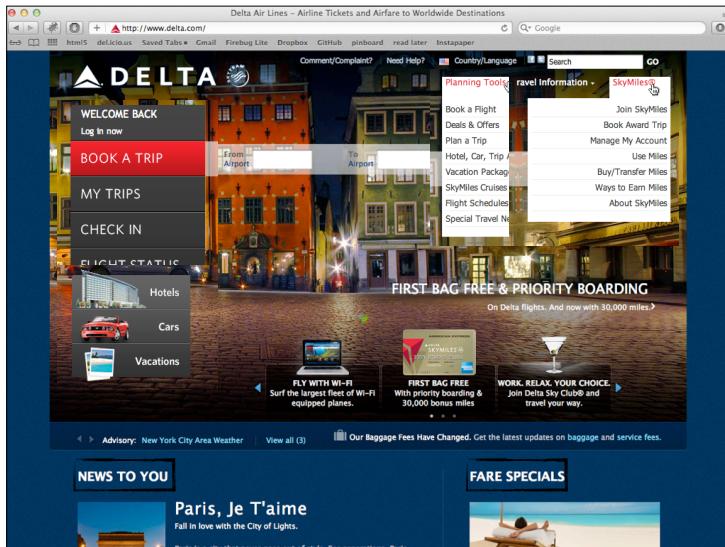
I travel a fair amount.

I'm a Delta guy.

Use the website often.



Lot going on there!



What is important here?

What are the top tasks?

What about mobile?

What would you change?

Which mindsets?

Where would it be used?

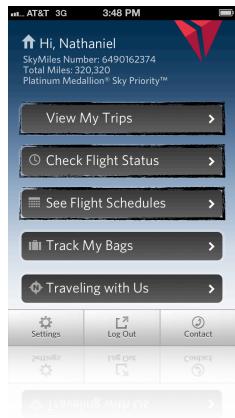
What are the top 3 tasks in
a mobile context?

What capabilities could they leverage?

Let's see what Delta did.



What is the most important thing?



What do you think?

Mobile web? Native app?

It depends.

Seriously!

Apps - better usability?

<http://www.useit.com/alertbox/mobile-sites-apps.html>

Shift afoot...

Mobile web sites...easier?

Trade offs.

Certain features aren't surfaced in the browser.

Yet.

Can be harder to monetize a web asset.

Apple and Amazon - earned your trust.

What about random 3rd party developer?

Who are you more likely
to give your CC number?

Discoverability is a
challenge in both arenas.

Market may *expect* you
to have an app.

Nothing says you
can't have both...

Brave new world!

Exciting times.

Options - and decisions.

Cannot ignore mobility.

Image Credits

- <http://www.flickr.com/photos/wolfsavard/5569859865/>
- <http://www.flickr.com/photos/joost-ijmuiden/4063645164/>
- <http://www.flickr.com/photos/24710622@N05/3230447306/>

Thanks!

Nathaniel T. Schutta
@ntschutta