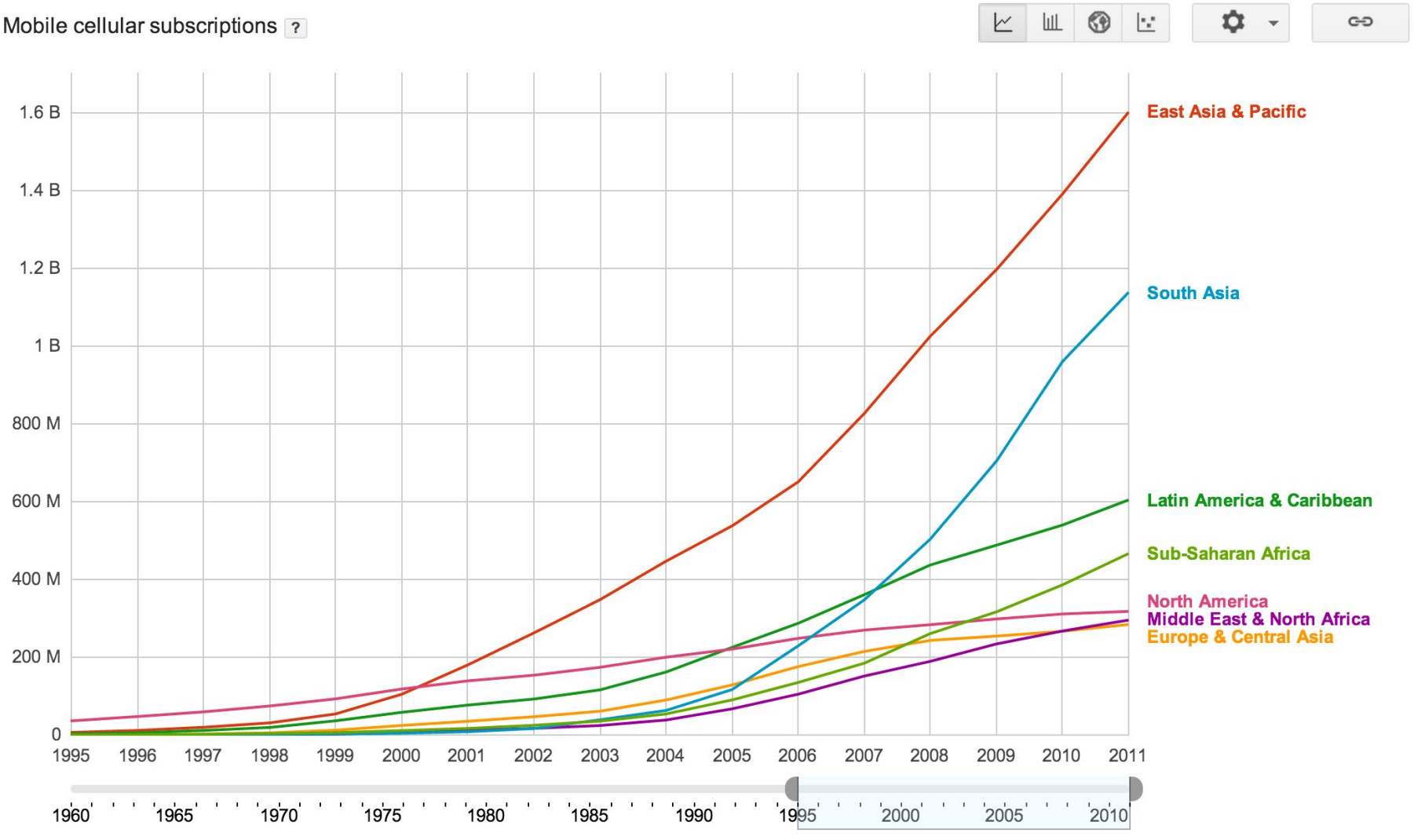
Mobile Web

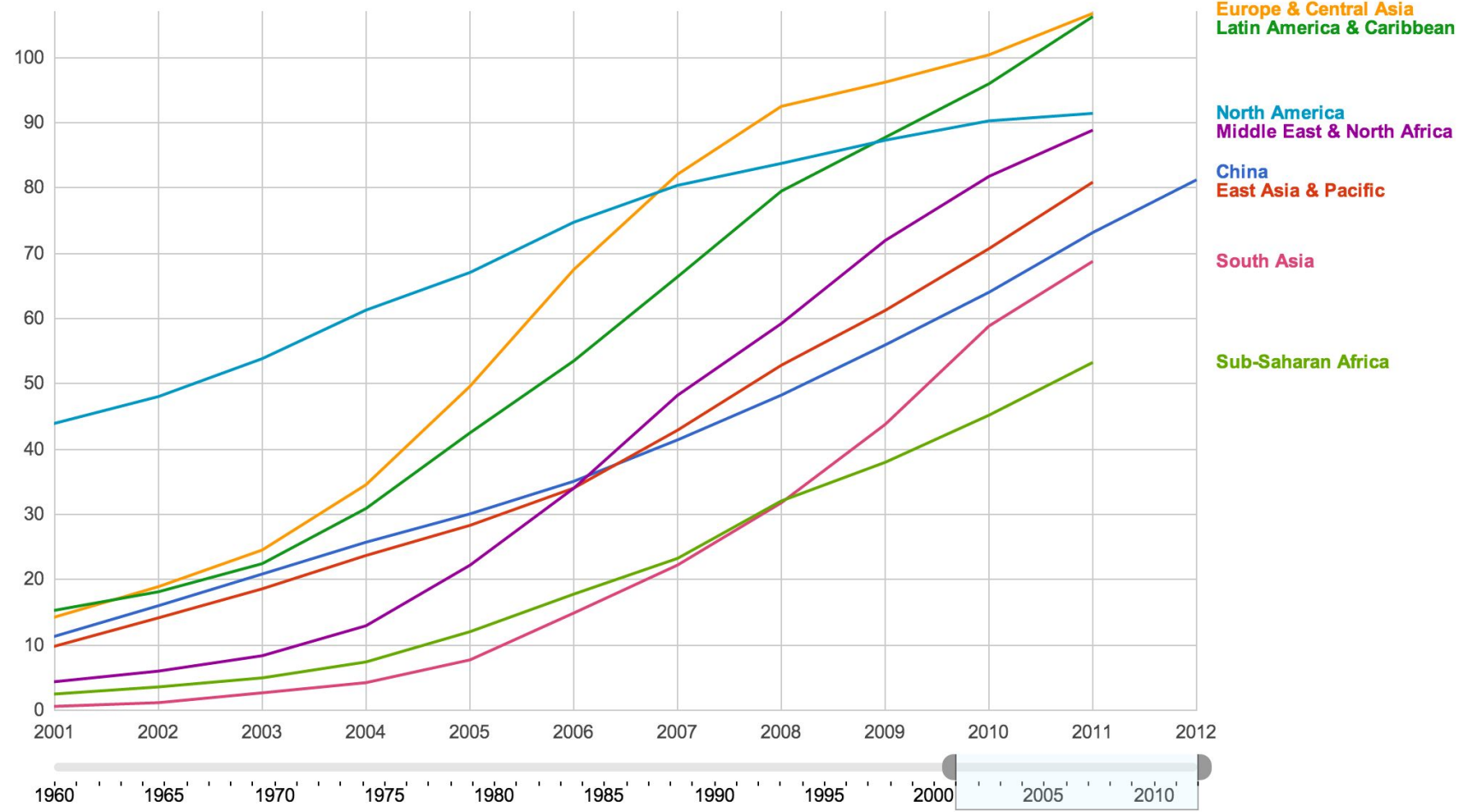
15/11/2013

Jon Madden, Arnaud Brousseau

Why Mobile?

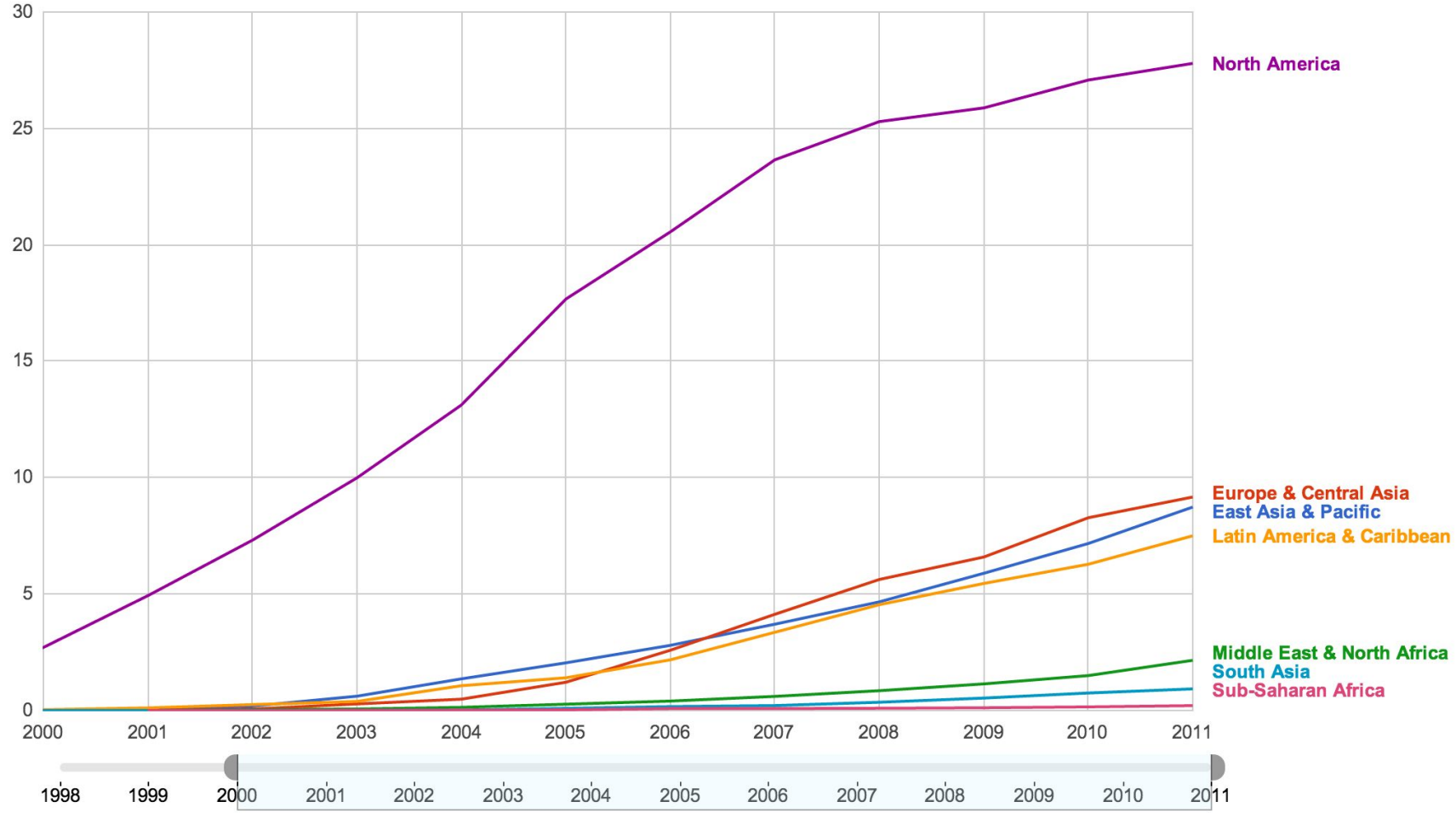

Mobile cellular subscriptions
?
1.6 B
1.4 B
1.2 B
1 B
800 M
600 M
400 M
200 M
0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
East Asia & Pacific
South Asia
Latin America & Caribbean
Sub-Saharan Africa
North America
Middle East & North Africa
Europe & Central Asia
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010

Mobile cellular subscriptions (per 100 people) ?



Data from World Bank Last updated: Sep 7, 2013

Fixed broadband Internet subscribers (per 100 people) ?



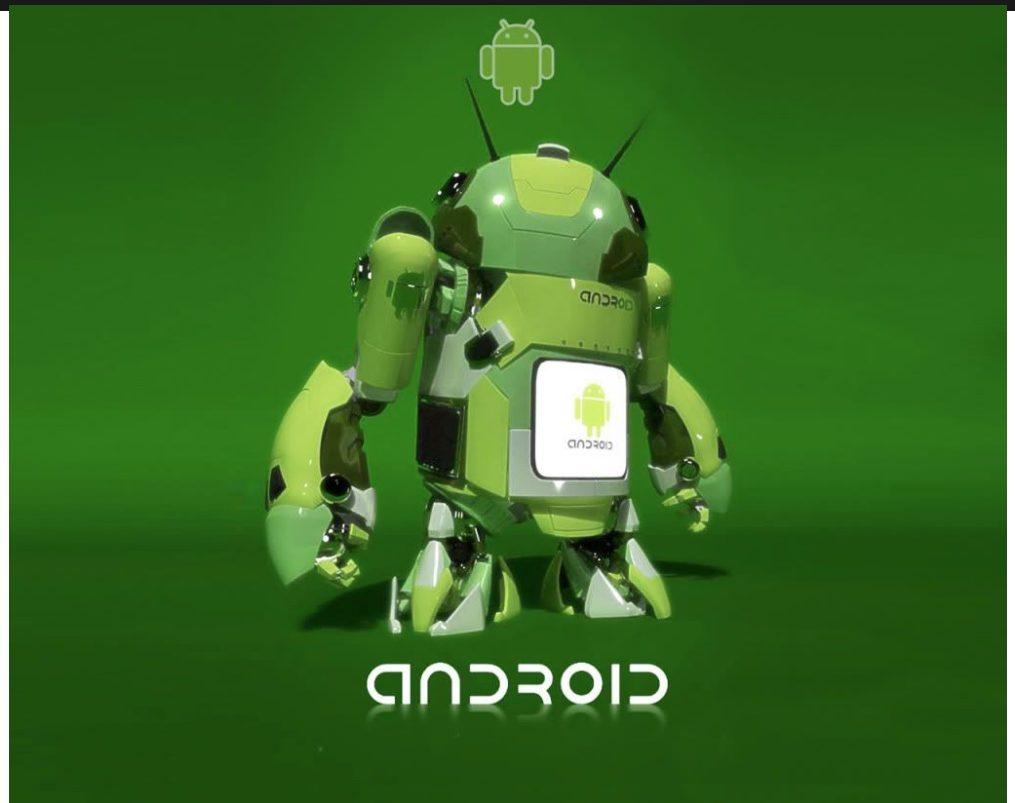
Data from World Bank Last updated: Sep 7, 2013

What does “mobile” mean?

Before iPhone

What does “mobile” mean?

What does “mobile” mean?



What does “mobile” mean?

Apps vs. Web

Apps

- UI control
- deep integration
- native == ‘natural’
- implementation is platform specific
- marketplaces

Web

- HTML5
- often ‘slow’, ‘unintuitive’
- platform agnostic
- no barriers to access

Apps vs. Web (users)

Apps

- high level of engagement
- trendsetters

Web

- varying engagement
- googlers

Web: ‘page’ vs ‘app’

Web page (traditional)

- read
- information oriented
- multiple stand alone pages
- wikipedia

Web app

- read/write
- “does” something
- often a single page app
- twitter

The other mobile web

There is also an internet for dumb phones

- WAP
  - uses special protocols
- SMS widely used in the developing world

Embracing Mobile

Some mobile sites

- Food network
- Flickr
- Twitter
- Apple
- m.yelp

What Does It Mean?

Time to rethink design/engagement/market strategies

- Options:
  - Mobile first
  - Responsive
  - Separate (but equal?) sites
- Markets are still figuring this out

Mobile first

- generally pertains to apps
- forces focus to MVP
- very quick iterations/feedback loops
- graduate via progressive enhancement to become full product

Mobile firster: Rovio

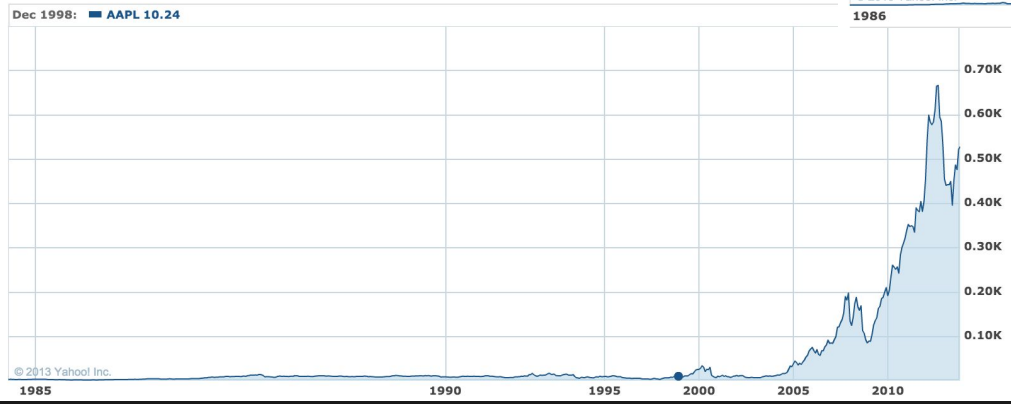
Mobile firster: Instagram (1bn)

Apple Inc. (AAPL) - NasdaqGS Follow

525.71 2.45(0.46%) 11:23AM EST - Nasdaq Real Time Price

Add to

Enter name(s) or symbol(s) | GET CHART | COMPARE | EVENTS | TECHNICAL INDICATORS | CHART SETTINGS | RESET



Microsoft Corporation (MSFT) - NasdaqGS Follow

Add to Portfolio | Like 1.4k

37.90 0.12(0.32%) 11:23AM EST - Nasdaq Real Time Price

Enter name(s) or symbol(s) | GET CHART | COMPARE | EVENTS | TECHNICAL INDICATORS | CHART SETTINGS | RESET

Mobile impact: Apple vs. Microsoft

It’s hard to get right

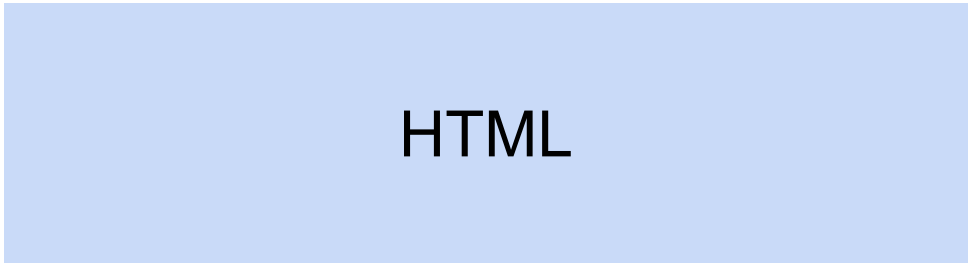
The Mobile Web Platform

- standards based expression of content
- the most correct answer (for now)
- HTML5 - so awesome
- We've been here before

How To: Adapt Content

Fluid defaults

(through browsers' default stylesheet)



Simple Page

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software like Aldus PageMaker including versions of Lorem Ipsum.

- It's beautiful
- It scales
- Get up to speed in minutes

Simple Page

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software like Aldus PageMaker including versions of Lorem Ipsum.

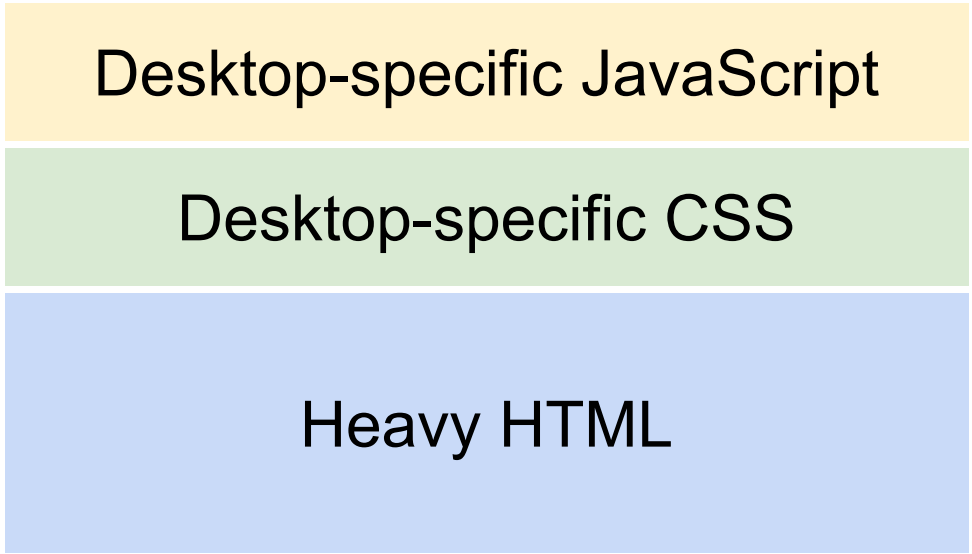
- It's beautiful
- It scales
- Get up to speed in minutes

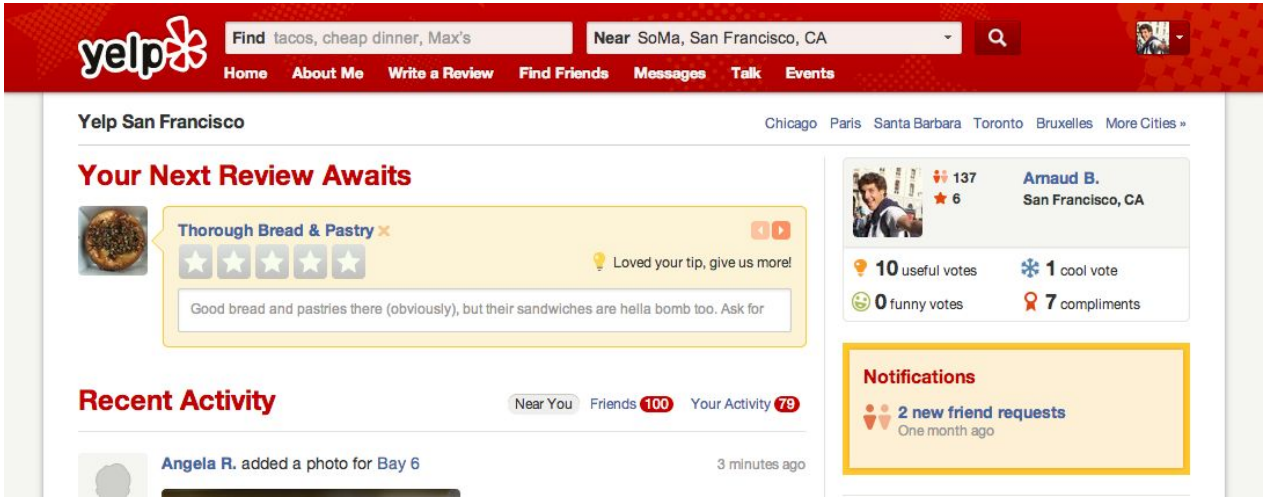
Simple Page

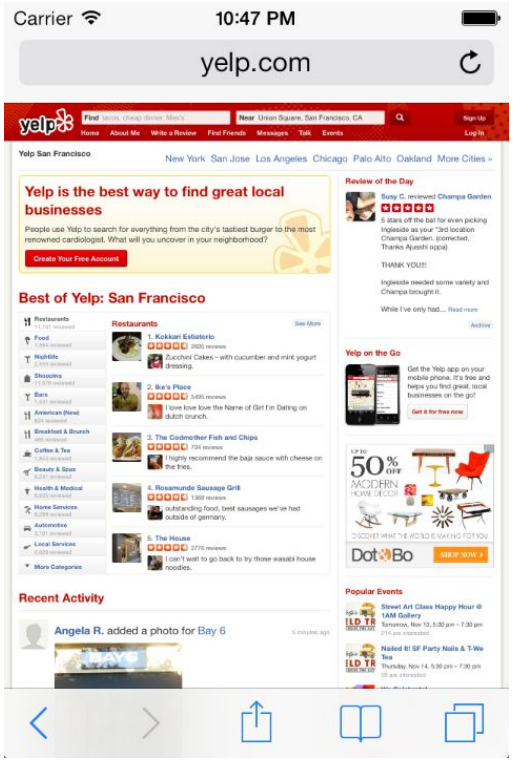
Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software like Aldus PageMaker including versions of Lorem Ipsum.

- It's beautiful
- It scales
- Get up to speed in minutes

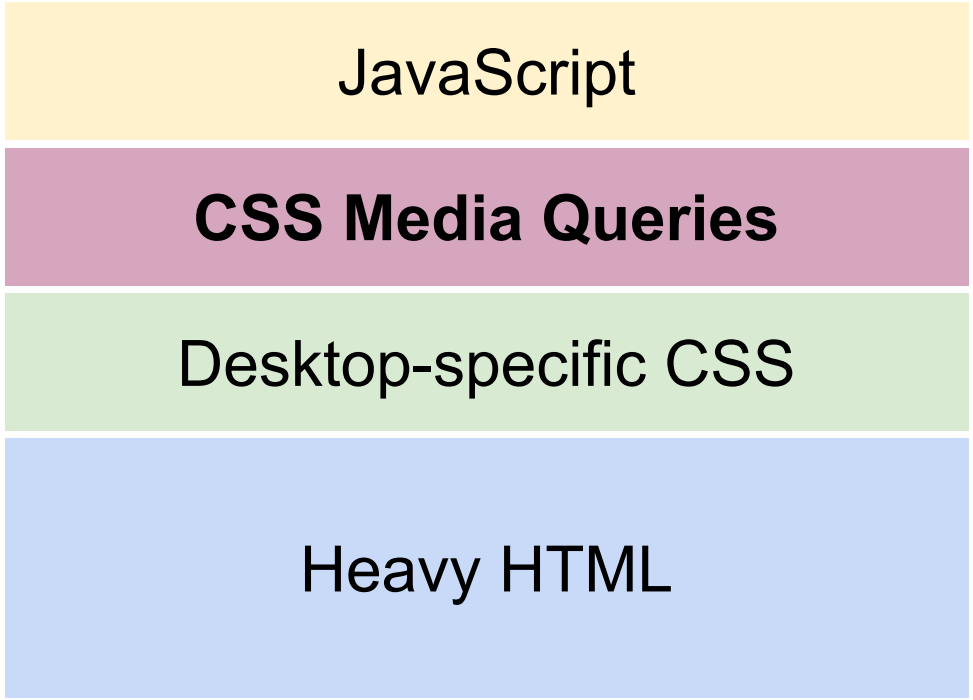
Reality


Desktop-specific JavaScript
Desktop-specific CSS
Heavy HTML


yelp
Find tacos, cheap dinner, Max's
Near SoMa, San Francisco, CA
Home
About Me
Write a Review
Find Friends
Messages
Talk
Events
Yelp San Francisco
Chicago
Paris
Santa Barbara
Toronto
Bruxelles
More Cities »
Your Next Review Awaits
Thorough Bread & Pastry
Loved your tip, give us more!
Good bread and pastries there (obviously), but their sandwiches are hella bomb too. Ask for
137
6
Arnaud B.
San Francisco, CA
10 useful votes
1 cool vote
0 funny votes
7 compliments
Notifications
2 new friend requests
One month ago
Recent Activity
Near You
Friends 100
Your Activity 79
Angela R. added a photo for Bay 6
3 minutes ago


Carrier
10:47 PM
yelp.com
Yelp is the best way to find great local businesses
Create Your Free Account
Best of Yelp: San Francisco
Restaurants
Recent Activity
Angela R. added a photo for Bay 6

Responsive web design

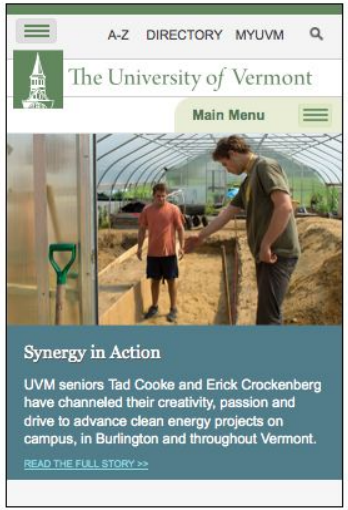


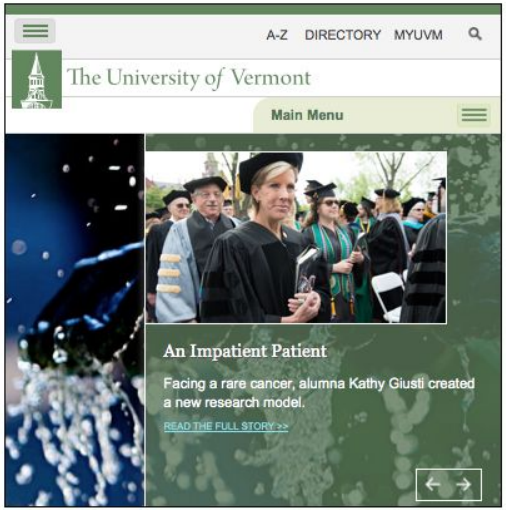
```
/* desktop-specific styles */
#content { padding: 10px; }

@media screen and (max-width: 320px) {
  #content { padding: 5px; }
  #sidebar { display: none; }
}
```

Live Demo

<link rel='stylesheet'
href='css/styles.css' />
<link rel='stylesheet'
media='screen and (max-width: 320px)'
href='css/mobile.css' />
#content { padding: 10px; }
#content { padding: 5px; }
#sidebar { display: none; }

A-Z DIRECTORY MYUV
The University of Ver
Main Menu
PLAY
Behind the Scenes at the 'Cynic
Generations of UVM students have lea
about reporting and editing, photograp
layout, late nights and immovable dead
and the thrill of a byline at the Vermont
READ THE FULL STORY >>

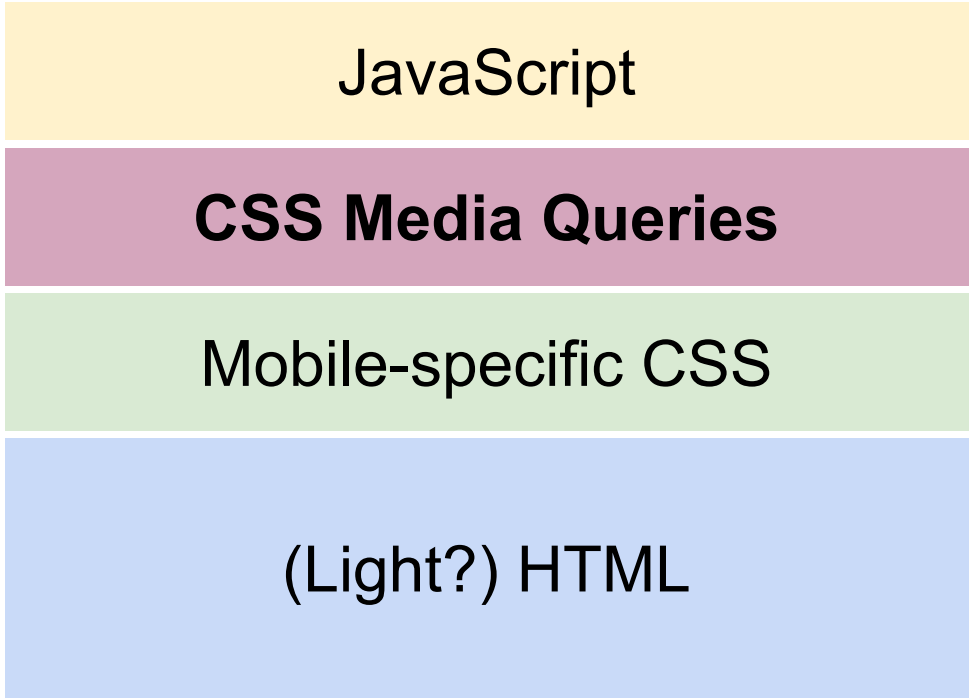

A-Z DIRECTORY MYUVM
The University of Vermont
Main Menu
Synergy in Action
UVM seniors Tad Cooke and Erick Crockenberg have channeled their creativity, passion and drive to advance clean energy projects on campus, in Burlington and throughout Vermont.
READ THE FULL STORY >>


A-Z DIRECTORY MYUVM
The University of Vermont
Main Menu
An Impatient Patient
Facing a rare cancer, alumna Kathy Giusti created a new research model.
READ THE FULL STORY >>

Students | Faculty | Staff | Parents | Alumni
A-Z | DIRECTORY | MYUVM
Google™ Custom Search
The University of Vermont
ABOUT UVM ADMISSIONS ACADEMICS STUDENT LIFE RESEARCH ATHLETICS OFFICES OUTREACH
Interview: Jody Williams
It's been twenty years since the founding of the International Campaign to Ban Landmines, and fifteen years since the morning alumna Jody Williams' phone rang with the news that she and the ICBL had been selected for the Nobel Peace Prize

Live Demo

Mobile first



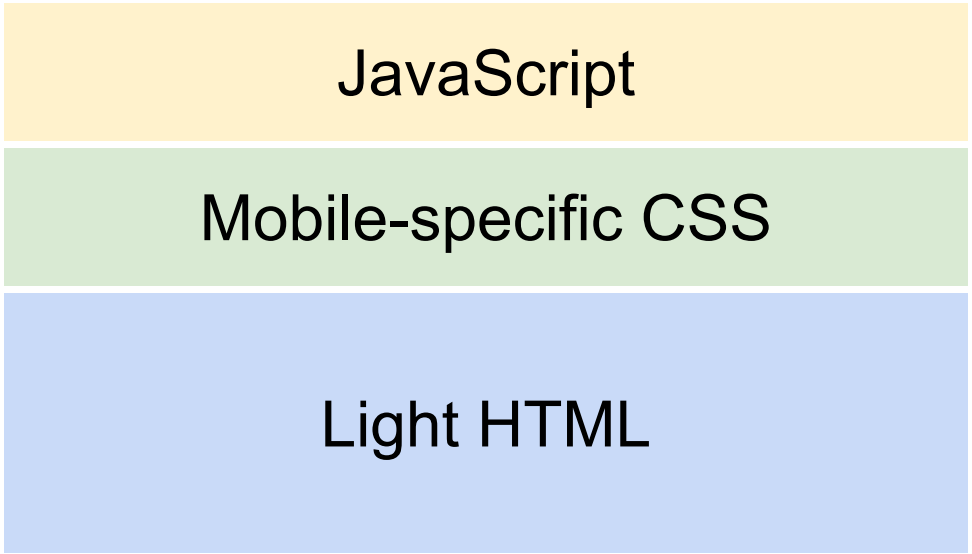
```
/* mobile-specific styles */
#content { padding: 5px; }
#sidebar { display: none; }

@media screen and (min-width: 320px) {
  #content { padding: 10px; }
  #sidebar { display: block; }
}
```

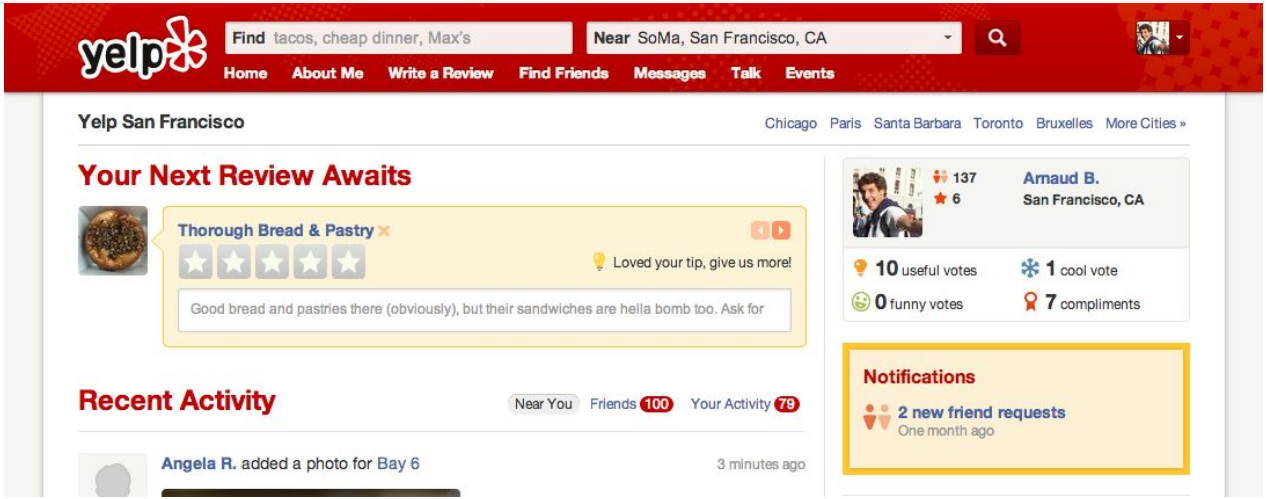
Live Demo

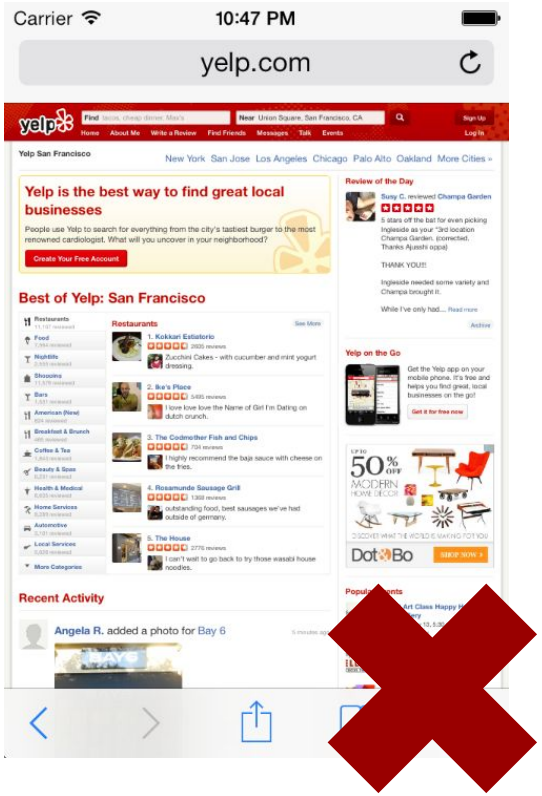
<link rel='stylesheet'
href='css/styles.css' />
<link rel='stylesheet'
media='screen and (min-width: 320px)'
href='css/desktop.css' />
#content { padding: 5px; }
#sidebar { display: none; }
#content { padding: 10px; }
#sidebar { display: block; }

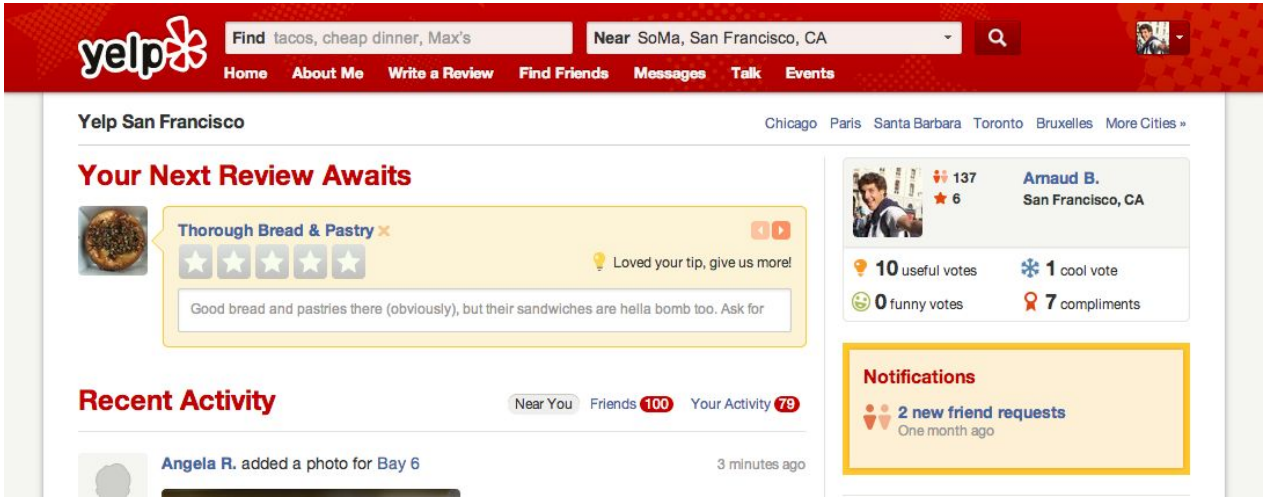
Mobile first	Responsive web design
JavaScript	JavaScript
CSS Media Queries	**CSS Media Queries**
Mobile-specific CSS	Desktop-specific CSS
(Light?) HTML	Heavy HTML

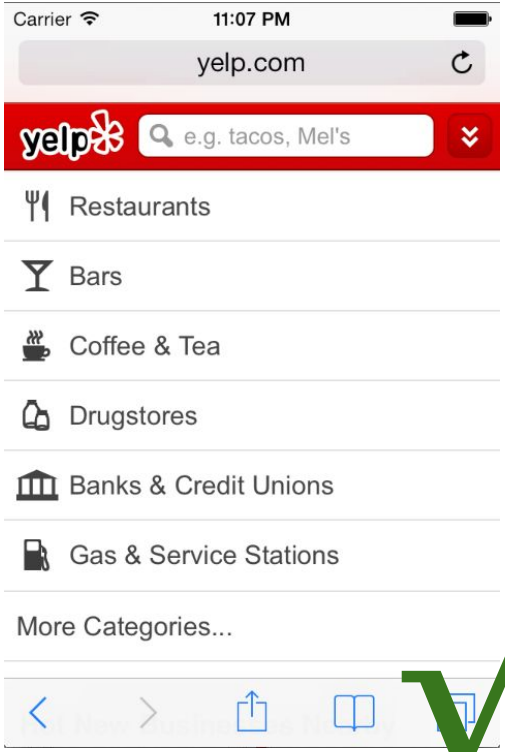
Dedicated
mobile site




yelp
Find tacos, cheap dinner, Max's
Near SoMa, San Francisco, CA
Home
About Me
Write a Review
Find Friends
Messages
Talk
Events
Yelp San Francisco
Chicago
Paris
Santa Barbara
Toronto
Bruxelles
More Cities »
Your Next Review Awaits
Thorough Bread & Pastry
Loved your tip, give us more!
Good bread and pastries there (obviously), but their sandwiches are hella bomb too. Ask for
137
6
Arnaud B.
San Francisco, CA
10 useful votes
1 cool vote
0 funny votes
7 compliments
Notifications
2 new friend requests
One month ago
Recent Activity
Near You
Friends 100
Your Activity 79
Angela R. added a photo for Bay 6
3 minutes ago


Carrier
10:47 PM
yelp.com
Yelp is the best way to find great local businesses
Create Your Free Account
Best of Yelp: San Francisco
Restaurants
Recent Activity
Angela R. added a photo for Bay 6


yelp
Find tacos, cheap dinner, Max's
Near SoMa, San Francisco, CA
Home
About Me
Write a Review
Find Friends
Messages
Talk
Events
Yelp San Francisco
Chicago
Paris
Santa Barbara
Toronto
Bruxelles
More Cities »
Your Next Review Awaits
Thorough Bread & Pastry
Loved your tip, give us more!
Good bread and pastries there (obviously), but their sandwiches are hella bomb too. Ask for
137
6
Arnaud B.
San Francisco, CA
10 useful votes
1 cool vote
0 funny votes
7 compliments
Notifications
2 new friend requests
One month ago
Recent Activity
Near You
Friends 100
Your Activity 79
Angela R. added a photo for Bay 6
3 minutes ago


Carrier
11:07 PM
yelp.com
yelp
e.g. tacos, Mel's
Restaurants
Bars
Coffee & Tea
Drugstores
Banks & Credit Unions
Gas & Service Stations
More Categories...

User agents (UAs)

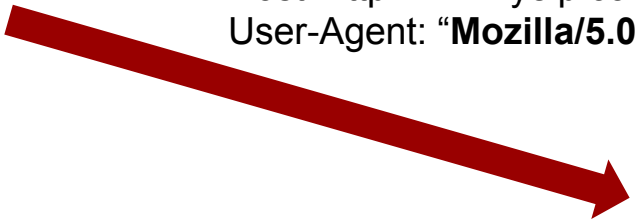
When a software agent operates in a network protocol, it often identifies itself [...] by submitting a **characteristic identification string to its operating peer**. In HTTP [...] this identification is **transmitted in a header field User-Agent**.

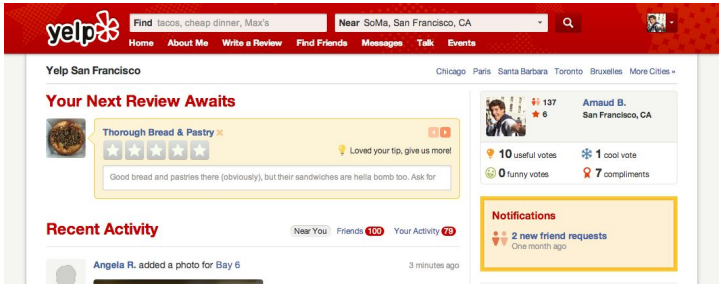
```
Mozilla/5.0 (Macintosh; Intel Mac OS X 10_8_5) AppleWebKit/537.36 (KHTML, like
Gecko) Chrome/30.0.1599.101 Safari/537.36
```

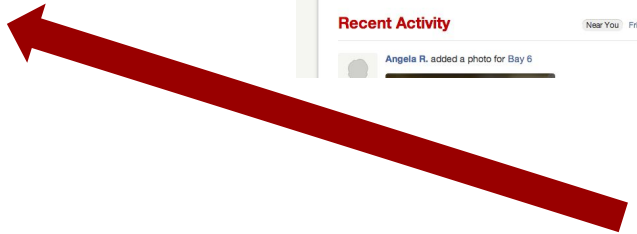
```
mozilla/5.0 (iphone; cpu iphone os 7_0_2 like mac os x) applewebkit/537.51.1
(khtml, like gecko) version/7.0 mobile/11a501 safari/9537.53
```

Funny blog post about UA...

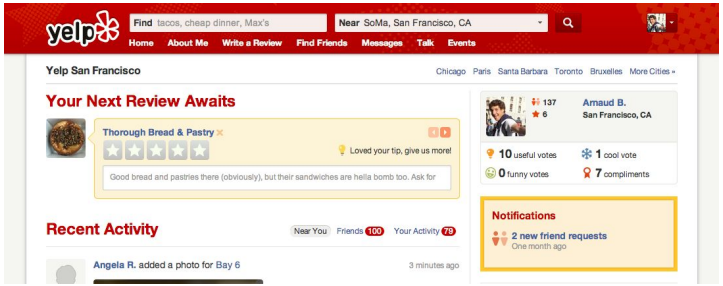
GET / HTTP 1.1
Host: http://www.yelp.com
User-Agent: “**Mozilla/5.0 (Windows NT 6.2; Win64;...**”



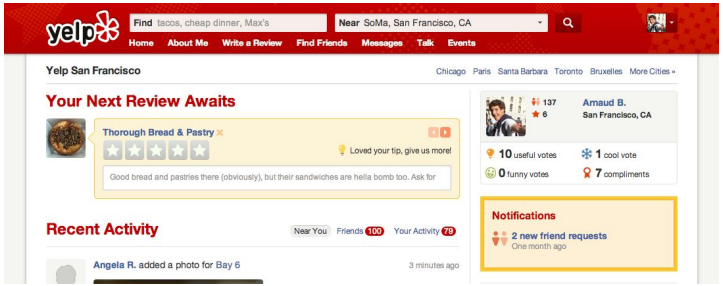

yelp
Find tacos, cheap dinner, Max's
Near SoMa, San Francisco, CA
Home
About Me
Write a Review
Find Friends
Messages
Talk
Events
Yelp San Francisco
Chicago
Paris
Santa Barbara
Toronto
Bruxelles
More Cities »
Your Next Review Awaits
Thorough Bread & Pastry
Loved your tip, give us more!
Good bread and pastries there (obviously), but their sandwiches are hella bomb too. Ask for
137
6
Arnaud B.
San Francisco, CA
10 useful votes
1 cool vote
0 funny votes
7 compliments
Notifications
2 new friend requests
One month ago
Recent Activity
Near You
Friends 100
Your Activity 78
Angela R. added a photo for Bay 6
3 minutes ago



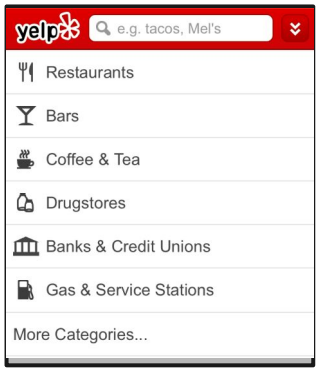
yelp®



GET / HTTP 1.1
Host: http://www.yelp.com
User-Agent: "**Mozilla/5.0 (iPhone; CPU iPhone OS…**"


yelp
Find tacos, cheap dinner, Max's
Near SoMa, San Francisco, CA
Home
About Me
Write a Review
Find Friends
Messages
Talk
Events
Yelp San Francisco
Chicago
Paris
Santa Barbara
Toronto
Bruxelles
More Cities »
Your Next Review Awaits
Thorough Bread & Pastry
Loved your tip, give us more!
Good bread and pastries there (obviously), but their sandwiches are hella bomb too. Ask for
Arnaud B.
San Francisco, CA
137
6
10 useful votes
1 cool vote
0 funny votes
7 compliments
Notifications
2 new friend requests
One month ago
Recent Activity
Near You
Friends 100
Your Activity 78
Angela R. added a photo for Bay 6
3 minutes ago

yelp


yelp
e.g. tacos, Mel's
Restaurants
Bars
Coffee & Tea
Drugstores
Banks & Credit Unions
Gas & Service Stations
More Categories...

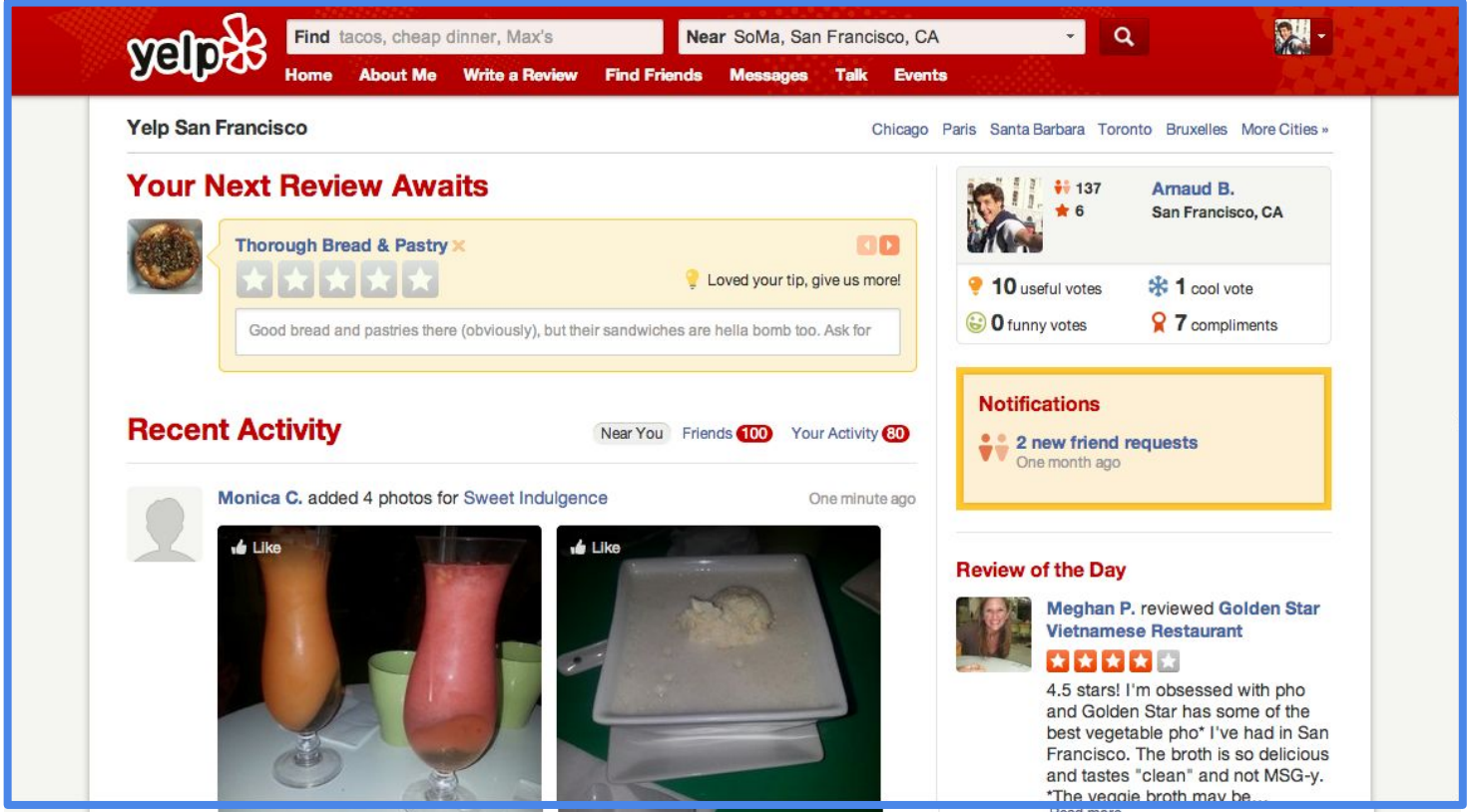
Live Demo

- Different screen sizes
- Different screen densities
- Slow mobile networks (performance headache)

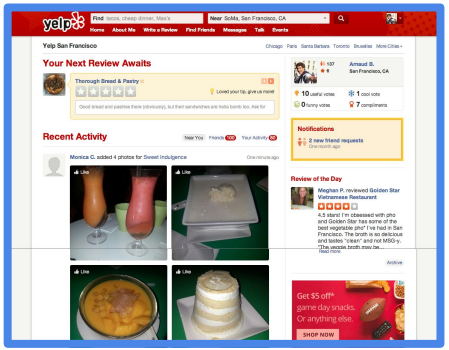
Article on existing solutions
Serious proposal: Client-Hints

How To: Master Viewport

Desktop

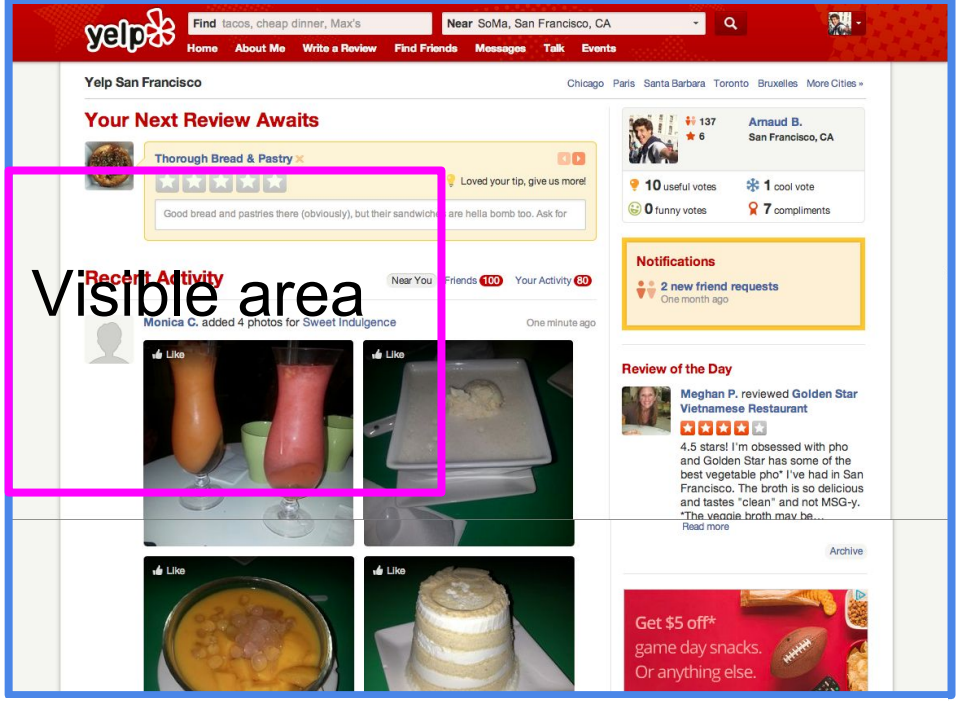

yelp
Find tacos, cheap dinner, Max's
Near SoMa, San Francisco, CA
Home
About Me
Write a Review
Find Friends
Messages
Talk
Events
Yelp San Francisco
Chicago
Paris
Santa Barbara
Toronto
Bruxelles
More Cities »
Your Next Review Awaits
Thorough Bread & Pastry
Loved your tip, give us more!
Good bread and pastries there (obviously), but their sandwiches are hella bomb too. Ask for
Recent Activity
Near You
Friends 100
Your Activity 80
Monica C. added 4 photos for Sweet Indulgence
One minute ago
Like
Like
Like
Like
137
6
Arnaud B.
San Francisco, CA
10 useful votes
1 cool vote
0 funny votes
7 compliments
Notifications
2 new friend requests
One month ago
Review of the Day
Meghan P. reviewed Golden Star Vietnamese Restaurant
4.5 stars! I'm obsessed with pho and Golden Star has some of the best vegetable pho* I've had in San Francisco. The broth is so delicious and tastes "clean" and not MSG-y. *The veggie broth may be...
Read more
Archive
Get $5 off*
game day snacks.
Or anything else.

Mobile



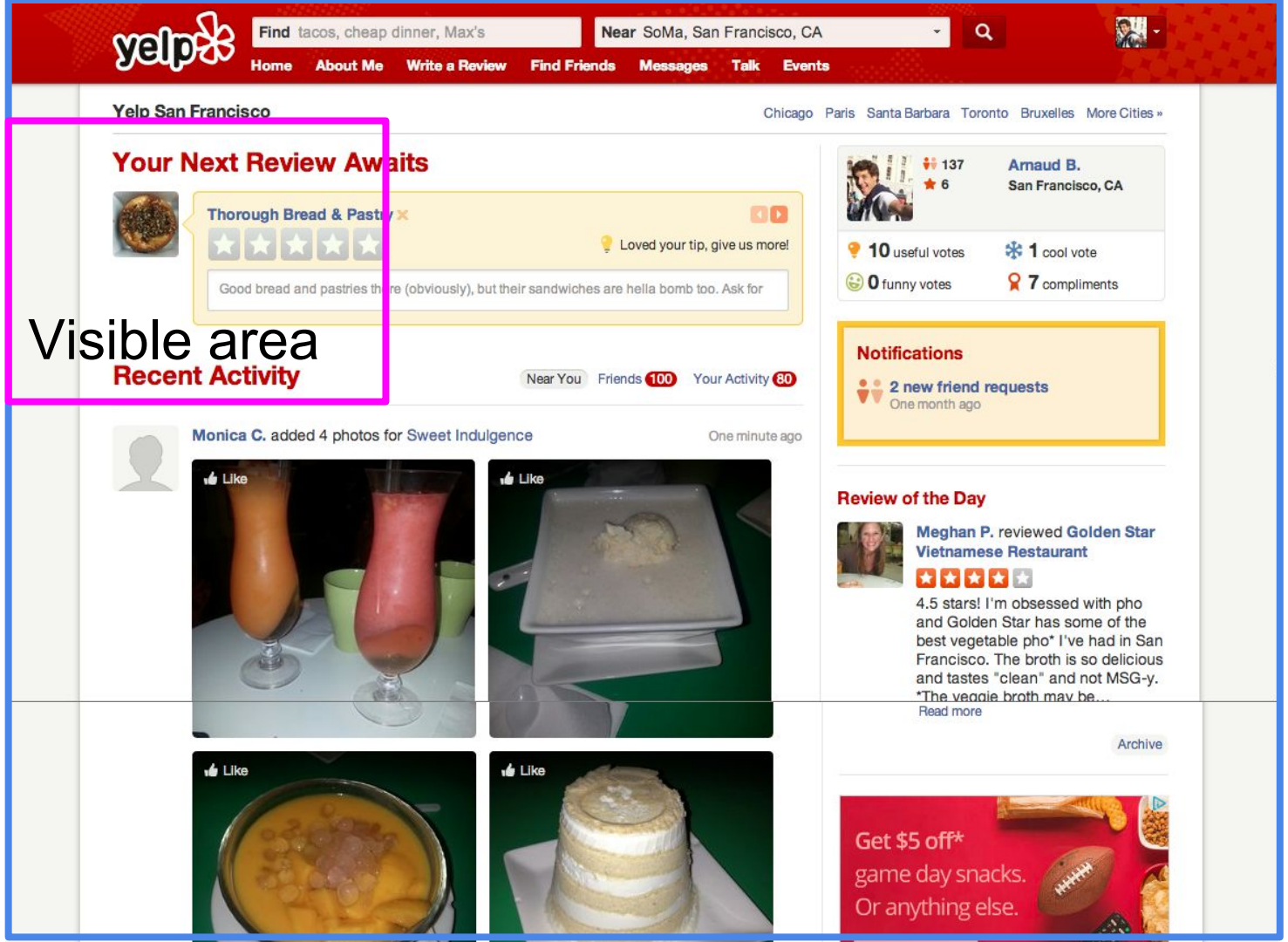
Initial viewport

Mobile



When you zoom in

Mobile



```
<meta name="viewport"
content="width=device-width">
```

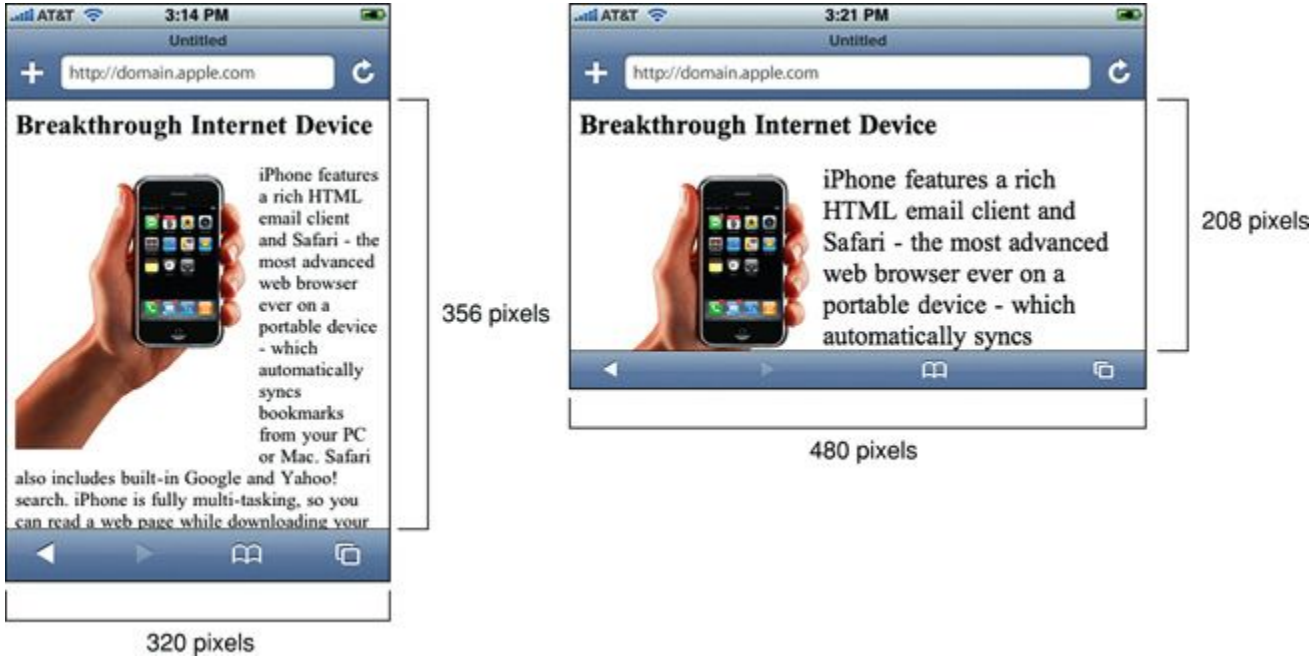
Default width

980 pixels

Width set to `device-width`

320 pixels

```
<meta name="viewport" content="initial-scale=1,
user-scalable=no">
```



How To: Access Hardware

- Camera
- GPS
- Touch/Gestures
- Battery Status
- Vibrations
- File System
- Even Ambient Pressure!
- ...and more

How?

JS

```
navigator.geolocation.getCurrentPosition(function(pos) {
    // YOU NOW KNOW WHERE THE USER IS. Look at:
    // pos.coords.latitude
    // pos.coords.longitude
});
```

Live Demo

```
navigator.getUserMedia('video', function(stream) {
    // Access to a stream, straight from the camera
});
```

Live Demo

Gonk

Kernel, core OS (Linux based)

Gecko

Rendering engine,
Also found in Firefox.

Gaia

Interface of this phone.
Gaia is a WEB APP

HTML CSS JS

How To: Deal With Touch

→ Click
→ Hover
→ Keyup

```
myElem.addEventListener(‘click’, function(e) {
    // will execute when myElem is clicked
});
```

→ pinch/zoom
→ swipe
→ rotate

```
myElem.addEventListener(‘touchstart’, function(e) {
    // will execute when myElem is touched
});
```

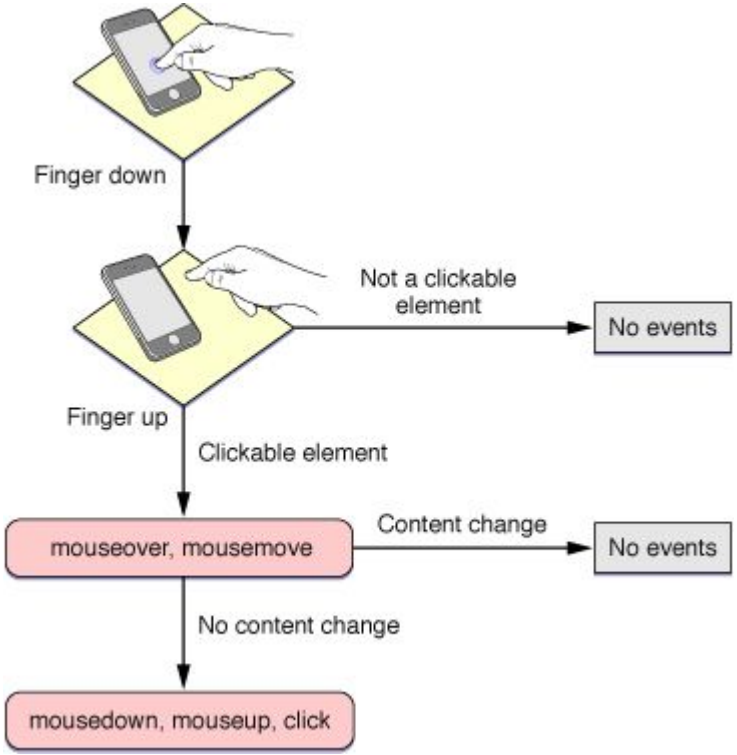
Live Demo

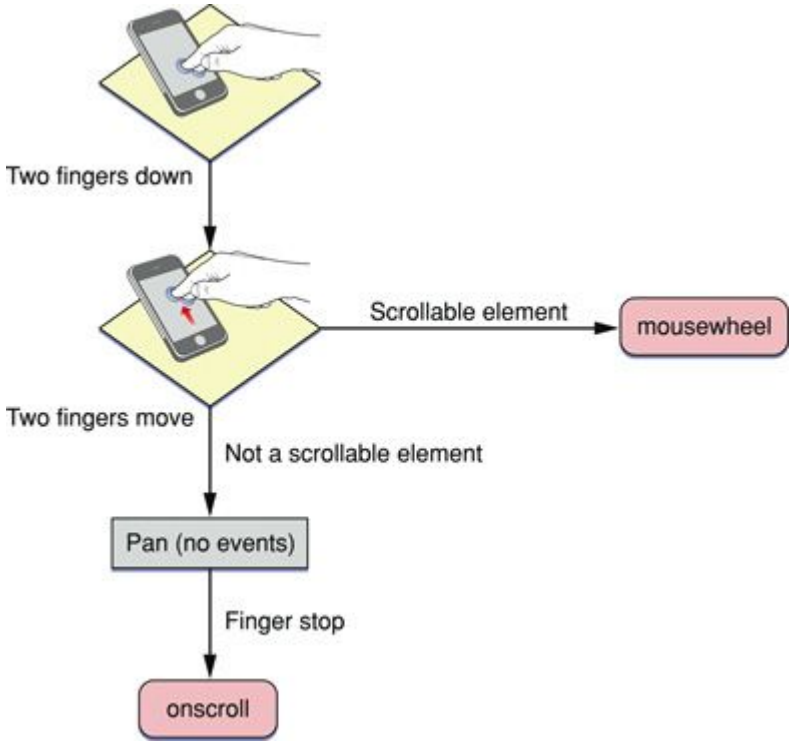
Antipatterns:

- Hover menus
- Keyboard-driven interactions
- Rely on ‘click’, ‘mousedown’, ‘mouseup’

^^ That’s how the web was build before touch interactions were around!

How Mobile Browsers “Fixed” The Web:





Touch? Click?
Both!

```
myElem.addEventListener(‘pointermove’, function(e) {
    // will execute when myElem is moved:
    // - with a mouse
    // - with a finger
    // - through a Kinect
});
```

The Future

Want To Know More?

- Google's Mobile Web Guidelines
- Apple Documentation on Viewport
- Summary of responsive images solutions
- Mozilla Developer Network on Mobile Web
- To get iOS Simulator: Xcode
- Debugging on mobile: weinre

Questions?

Nope. We don’t bite.