

Thinking Outside The Little Black Box: Interaction Design in The Post-Mobile Era
Objective: To inspire web professionals to think bigger about their potential impact on the world
Target Audience: Web professionals
Five Things Audience Members Will Learn:

- Likely winners —and losers— in the coming networked society
- How to transition web skills to broader application space
- What the web might look like in 3D virtual space
- Approaches to designing front-ends for screen-less devices
- Implications of extending back-end code into physical space

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- I help companies like CVS, Staples, Nokia, Intel make the leap to mobile.
- I've written three books on mobile and web development, most notably "Building iPhone Apps with HTML, CSS, and JavaScript" which has been translated in to 7 languages.
- I do a few dev projects every year to make sure my consulting advice stays fresh. Most recently I did the javascript for responsive redesigns of EW, Techcrunch, and some parts of Time Inc. In the fall of 2014, co-developed a Rails app called Castbacker which is a crowdfunding platform for podcasters.
- CTO of a bootstrapped SaaS startup called StickyAlbums that helps photographers market themselves with responsive HTML5 web apps.
- Business coaching for software developers to help them attract bigger clients, increase their profits, create recurring revenue, etc. at expensiveproblem.com

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On Jan 9, 2007, Steve Jobs introduced the world to the iPhone.



https://www.youtube.com/watch?v=GE1pd3HktwA



We all know what happened next. This is a graph of iPhone sales since 2007. Apple overshot their initial goal of 1% marketshare by about 40 percentage points.



The iPhone infiltrated every aspect of our daily lives. On a good day, sometimes twice ;-)



Before long, smartphones were everywhere you looked.

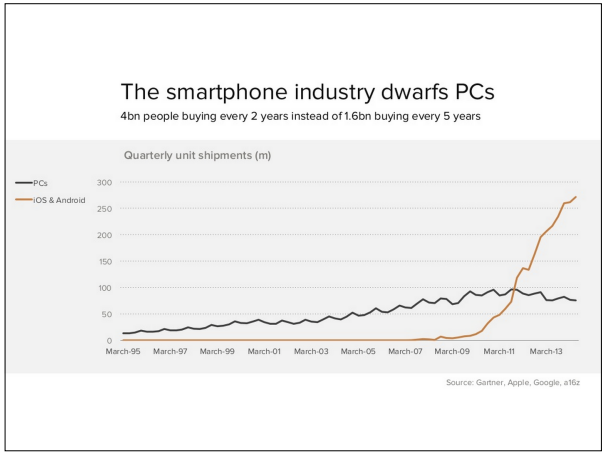
2015

By 2015, smartphones had surpassed desktop-class devices in several important ways:

2015

- Number of devices in use
- Time spent on device
- Volume of internet traffic
- % of email opens
- Facebook usage
- Google searches

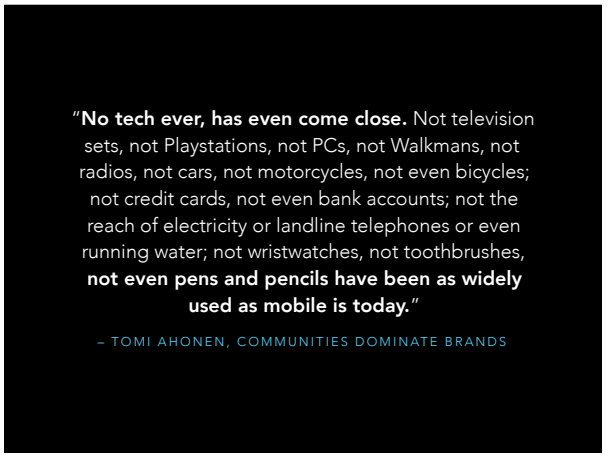
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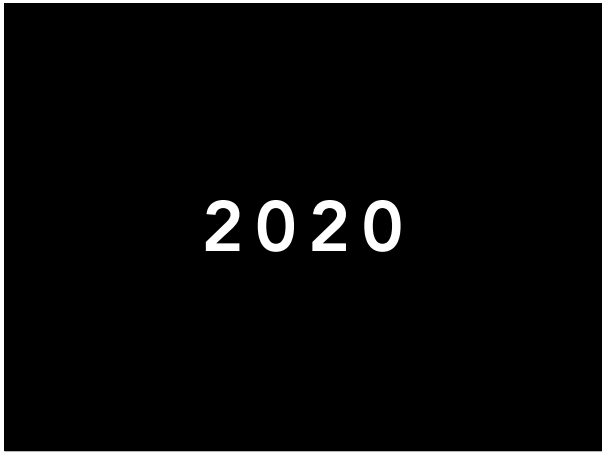
Pretty much however you slice it, the smartphone industry dwarfs the PC industry.



In less than a decade, the smartphone became the primary computing platform on Earth.



"This is unprecedented in the human history of technology. No tech ever, has even come close. Not television sets, not Playstations, not PCs, not Walkmans, not radios, not cars, not motorcycles, not even bicycles; not credit cards, not even bank accounts; not the reach of electricity or landline telephones or even running water; not wristwatches, not toothbrushes, not even pens and pencils, have been as widely used as mobile is today."
-- Tomi Ahonen, Communities Dominate Brands in 2012



By 2020, it is projected that the number of smartphones in use will double to 4B, while desktops remain around 1.5B



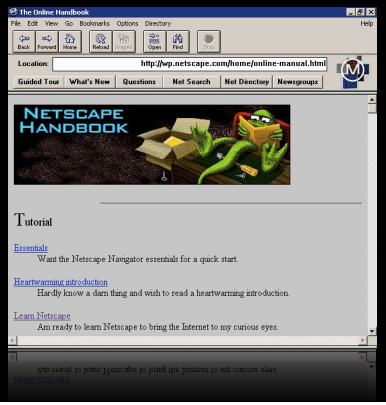
This means that 80% of adults worldwide will have a connected supercomputer in their pocket that has more computing power than NASA used to put men on the moon.



So ... the desktop is dead. Not dead in the sense of "disappearing overnight" but dead in the sense that it has stopped growing. It has both peaked and been drastically surpassed. It's like radio was once TV caught on.

BROWSER IS CASUALTY

The general purpose web browser (GPWB) and the behaviors that it enabled - and in fact encouraged - were designed for a desktop class device: big screen, physical keyboard, pointing device, consistent power, and stable connectivity. So, as the desktop dies off, the GPWB will be a casualty.



Farfetched? Imagine the UI of your favorite mobile browser. I'm willing to bet it has all the same core stuff as Netscape Navigator had over 20 years ago:

- address bar
- back forward buttons
- new window/tab button
- page loading progress indicator
- history
- bookmarks
- cookies

~~SHOEHORNING~~

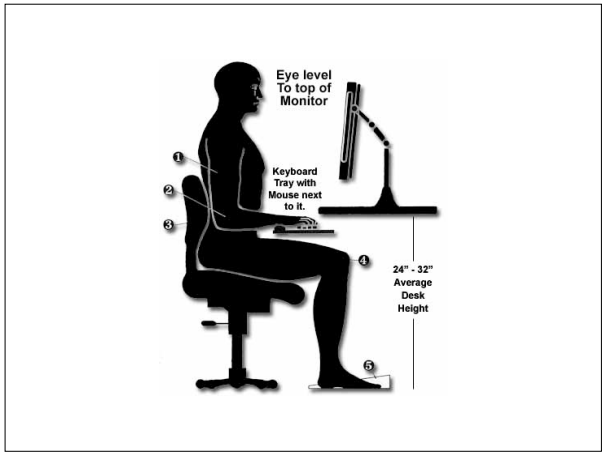
As we all (hopefully) know by now, shoehorning a desktop UI down for small touchscreen devices doesn't work very well. And the GPWB is a desktop UI for a desktop activity. Think about your web activity on mobile. If you're like me, a link is presented to you (as the result of a search, a feed, a message, etc), you click on it, you read it for a minute or two (or less) and you close the page and go back to what you were doing. We don't really surf the web that much anymore... it's more of a toe dipping exercise now.



Mobile is fundamentally different. We need a different interaction model for the web on mobile.



Q: What's radical about this picture?
A: Computing while standing up, with one hand.



In the entire history of computing up to 2007, we did our computing sitting down with two hands.



Once the iPhone hit the scene, we stood up and started grabbing stuff. The new posture was standing with one hand - or perhaps more accurately, with one thumb and one eye.



Hooray! At last, we can finally compute from anywhere... Right?



Nope. As awesome as the iPhone and it's friends are, smart phones have significant limitations.



You can't use them when your hands are wet.



You can't use them when your hands are full.











You have to look at it to do most things.



You need at least one hand free to operate it for most things.



Smart phones have been around for almost a decade. I think they've reached a plateau. The next wave of innovation is going to be focused on the next computing posture: hands-free, eyes-free.



We're going to want to be connected more. The smartphone isn't the end of the line in personal computing devices and I don't think it's not going to get much better (without turning into something fundamentally different).



The smartphone is just the first killer app of a much bigger trend with is wireless computing. Here's a short concept video that demonstrates some potential use cases for an even more mobile, more personal computing device. Of course, this is sci-fi. A contact lens based visual AR is decades off at best, but hands-free, eyes free computing is moving into consumer-land.

http://vimeo.com/46304267



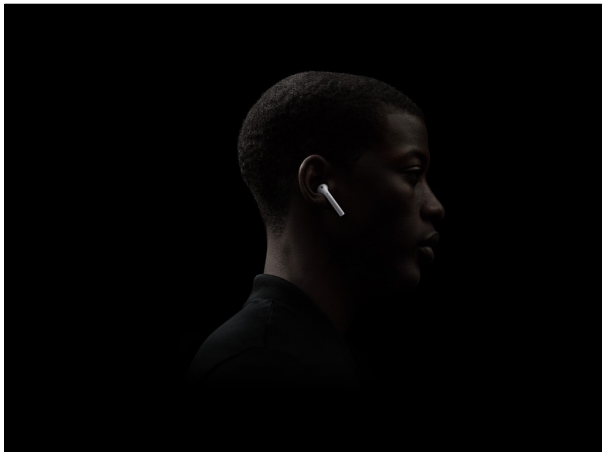
Amazon Echo + Alexa



Amazon Echo + Alexa



Google Home + Assistant



Apple AirPods + Siri



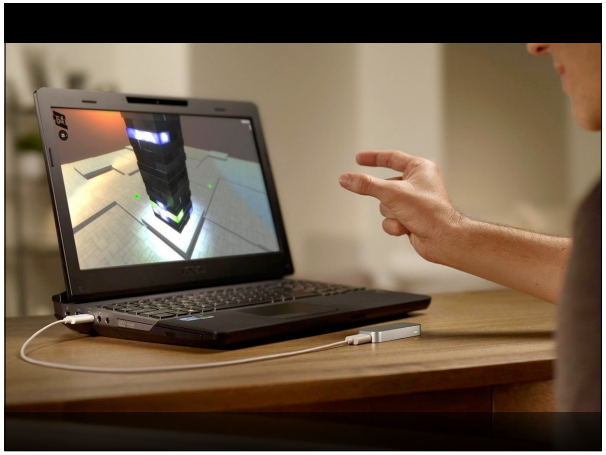
But wait, there's more! There are all sorts of new I/O devices making their way into commercial production that will further blur the lines between man and machine.



Oculus Rift



Kinect



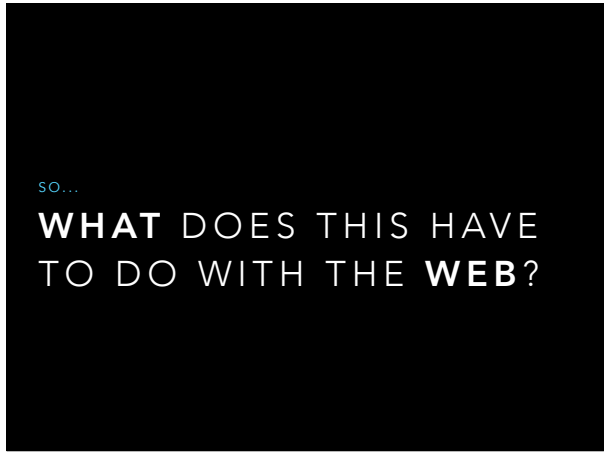
Leap Motion



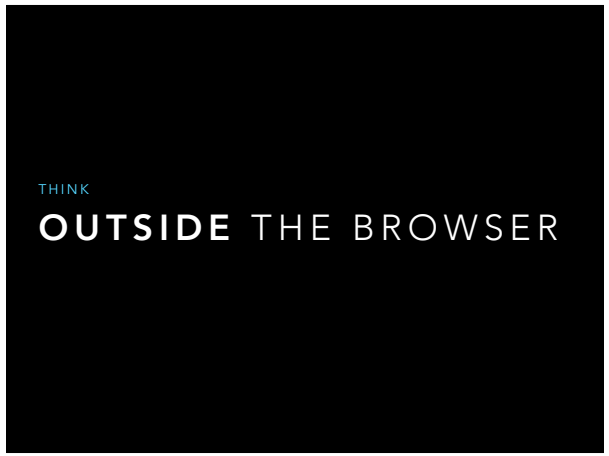
Myo Armband



http://www.amazon.com/Mattel-T8498-Mindflex-Duel-Game/dp/B004GHNFKK/ref=sr_1_1?ie=UTF8&qid=1403197217&sr=8-1&keywords=mindflex+brainwave+game



Decades of designing and developing for the distributed architecture of the web has uniquely positioned web professionals to thrive the fragmented, volatile, connected future that is fast approaching.



But... it means we have to think outside the browser.



Our web "stuff" is breaking out any native apps and bleeding up into the mobile OS itself:

* Push notifications on iOS and Android
* iOS notification center widgets
* Android home screen widgets
* Siri results
* Google Now Cards



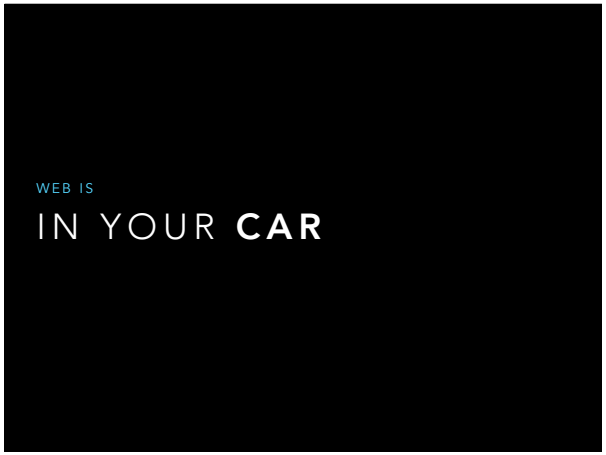
Smart watches are catching on fast:

* Apple Watch
* Android Wear
* Pebble



Set top boxes:

* Roku - 10 million sold
* Apple TV - 20 million sold
* Fire TV - a half million in one day
* Chromecast - 14 million sold



Set top boxes:

* Android Auto - 50+ manufacturers
* Apple Carplay - 100+ models



Let's not forget the home:

* Lights
* Thermostats
* Smoke detector
* Locks



From a career standpoint, we have little choice but to specialize if we want to remain relevant and valuable as the domain space expands. Remaining a generalist in a sea of diversity will almost certainly result in decreased impact (and income) over time. There are many ways to specialize (vertical, horizontal, demographic, platform), but I'll describe the big ones...



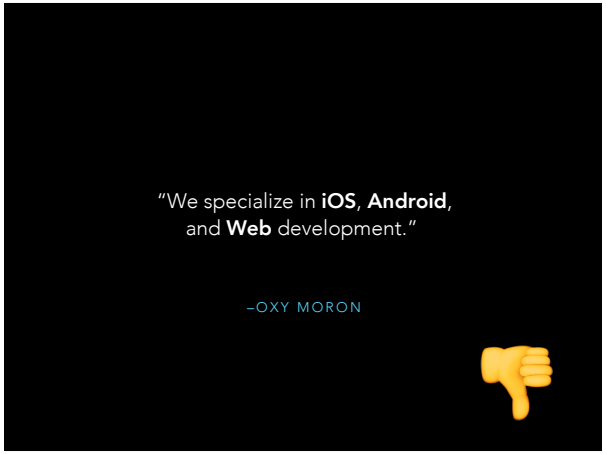
Specializing horizontally means getting really good at a very specific skill that is of use to a very wide range of client types. i.e., you do one thing well.

For example:

- React development
- Web fonts
- Canvas games



You can't specialize in multiple things (e.g., "We specialize in iOS, Android, and Web development" is an oxymoron).





Also, specializing in something overly general is not really specializing (e.g., "We build elegant solutions to complex problems")



Yes, betting on the wrong horse can be dangerous - as Flash devs can attest - but there are certain web design and development skills which will almost certainly be valuable in a broad range of new situations.



JavaScript - Atwood's law is coming true: "Anything that can be written in JavaScript, will be written in JavaScript". Simply put, javascript is everywhere - if you are good at it, you will be in demand.

Content Management Systems (i.e., CMS) - Our popular CMSs are not really for managing content - they're for publishing web pages (and often desktop-specific pages at that). As such, they're commonly polluted with context specific layout instructions (e.g., BR tags). We need systems, processes, and workflows that are truly content centric and agnostic of output context (e.g., desktop web browser, native iOS app, track info in iTunes, eInk display on a smartwatch, LCD screen on a car stereo, etc).

Web Services (e.g., REST, SOAP, XML-RPC, etc) - Mobile has created a "real time, all the time, from anywhere, on anything" expectation in end users. This kind of experience is impossible to provide when your organization is full of silo'd information. Providing self-service APIs over the network is the best way to break down those silos. That said, it's a lot of work when you really do it right: security, throttling, monitoring, caching, paging, testing, documentation, versioning... the list goes on and on.



Typography - Type is the primary design element of the Web (and many other mediums).

RWD - Responsive Wed design allows us to markup content in a way that will allow it to format itself appropriately based on its context. As platform and device fragmentation continue to rise, RWD will become more important.

UX - The line between cyberspace and meatspace is getting blurrier every day. Digital experiences are starting to combine with physical objects. Designing cross-device and cross-mode experiences is brand new territory so we need lots and lots of input from end users while we stumble toward some early best practices. This will be a decades long process.



Specializing vertically means picking a target market and getting really good at solving their most expensive problems with a wide array of skills.

- I'm a mobile developer who helps dentists decrease the number of patients who forget their appointments.
- I'm a web designer who helps Fortune 500 retailers decrease cart abandonment on their e-commerce sites.
- I'm a graphic designer who helps podcasters stand out from the crowd.

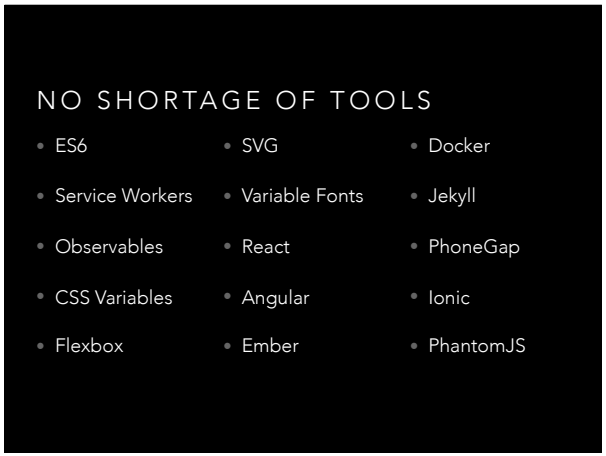


I know from my work as a software business coach that that virtually all web designers and developers recoil at the notion of specializing, especially vertically).

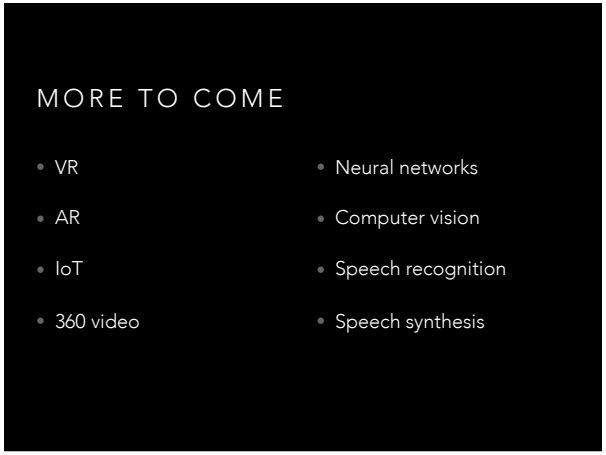
They fear that they'll be:

- Turning away desirable clients
- Bored by the narrow focus (i.e., "But I like learning new things!")
- Revealed as "not an expert" (i.e., imposter syndrome)

I can tell you from much personal experience that none of these risks come to pass. Everyone I've worked with who has made the leap from generalist to specialist has found them to be baseless, even ridiculous in retrospect.



Web professionals have no shortage of tools, techniques, or technologies to choose from. At this conference, you will learn from world class experts about some amazing things that are available to you. ES6, Service Workers, Observables, CSS Variables, Flexbox, SVG, Variable Fonts, React, Angular, Ember, Docker, Jekyll, PhoneGap, Ionic, PhantomJS, etc...



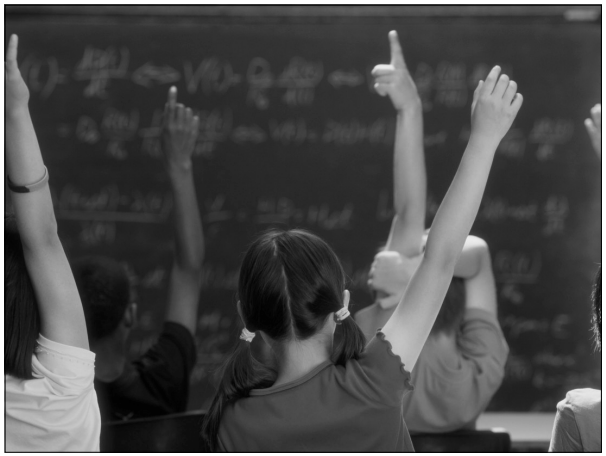
Over the next few years, this list will continues to expand into areas previously unimagined. We'll have tools for VR, AR, IoT, 360 video, and more. Computer vision, speech recognition, and neural networks will be available to everyone at virtually no cost.



Our tools are important. You should learn and perhaps even master your tools. But do not worship your tools. Your tools are not the source of your superpower; they merely amplify your intent. Without intent - without purpose - work lacks direction. It has no soul. No power to change. So... as you learn about all the amazing tools that we have at our disposal today, and those that are soon to come, ask yourself first:

- "What change do I want to make in the world?"
- "How can I improve peoples lives with my expertise?"
- "Will I have the courage to act in service of this mission?"

Because without a mission, all the tools in the world won't change a thing.



Questions? I put together a resources page for WebU attendees with all sorts of info about how to maximize your impact (and income) through specialization. My email address is there as well. Cheers!

https://expensiveproblem.com/webu