

DEMO Fall 2014
San José, CA
November 18-20, 2014

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Executive Summary

DEMO, as always, holds excellent content-rich events. This event introduced products from over 40 companies in the areas of Bitcoin, cloud, Internet of Things, messaging, and personal finance. Five of these products, as selected by the judges and the audience, were awarded the DEMO Gods awards. The event also included interviews with Silicon Valley icons Steve Wozniak and Peter Thiel.

Introduction

DEMO in the U. S. is held every Spring and Fall and is a fascinating event. As the very name implies, it's where startups demonstrate new and exciting products covering a variety of topics—mobile, healthcare, wearable, enterprise, and smart data. These are products that ARE shipping or are in beta, and not a bunch of boring, never-ending PowerPoint decks with vendors peddling slideware, vaporware, or vacuumware.

The event attracted over 1,000 attendees and 40 companies. We'll discuss below a few of the more interesting ones.

One advice to entrepreneurs given by Neal Silverman, Senior Vice President & General Manager, DEMO, was, "If you want go fast, run alone. If you want to go far, run with a team."

You can watch all the presentations at <http://demo.ottw.net>.

Conversations

Q&A with Steve Wozniak

DEMO: You started with the consumer market (Apple) and now you are in the enterprise market (sold Fusion-io to SanDisk and is now Chief Scientist at [Primary Data](#)). How are the two different?

Steve: The general engineering principles are the same. Applying the art and coming up with better ideas are more important than engineering.

D: What area or sector will add the most value or get the most visibility in the next 5 years?

S: Drones, self-driving cars, voice recognition, and eventually, image recognition, which all require Big Data and Artificial Intelligence.

D: Silicon Valley was built by engineers. What do you think of engineers' role in building companies in the coming years?

S: Try new things, fail, learn, and move forward. Engineers should be taught to make things that don't fail. Apple was started by engineers and, after years of success, we had almost 10 years of failure, after failure, after failure, because we had lousy marketing.

D: Why are you not wearing an Apple watch?

S: Because it's not shipping yet. (Duh!)

Mobile is Eating the World

Benedict Evans, Andreessen Horowitz

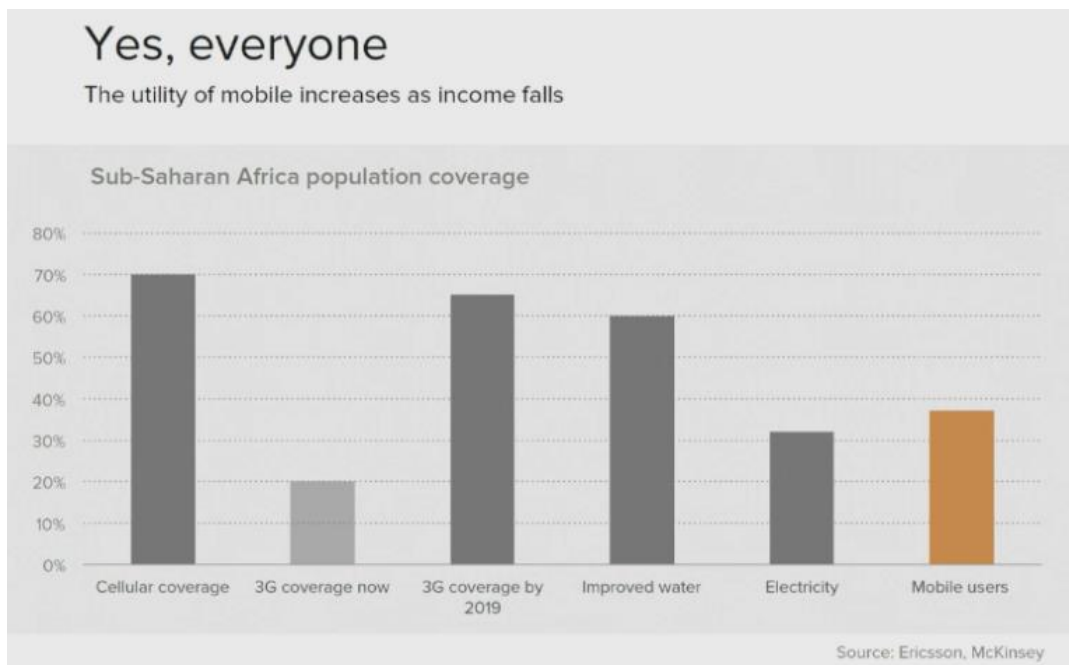
The modern mobile era is already 7 years old. Although it still has legs, we are already seeing its impact on wearables, the Internet of Things, and Virtual Reality. In this deep dive, mobile analyst Benedict Evans gave us a glimpse of what the next 7 years might look like.

There are over 3 billion people in the world online now and there will be an additional one billion in the next couple of years. What is interesting is not the growth of the online population, but the shrinkage of those who are offline. By 2020, over 5 billion will be online.

What has driven this remarkable trend? Increasing computing power, dramatically decreasing computing costs, and rapid growth in communications, accompanied by declining prices:

- A new iPhone CPU has 625 times more transistors than a 1995 Pentium.
- In the first iPhone launch weekend Apple sold 25 times more CPU transistors than were in all the PCs on Earth in 1995.
- Eventually, everyone gets a supercomputer.

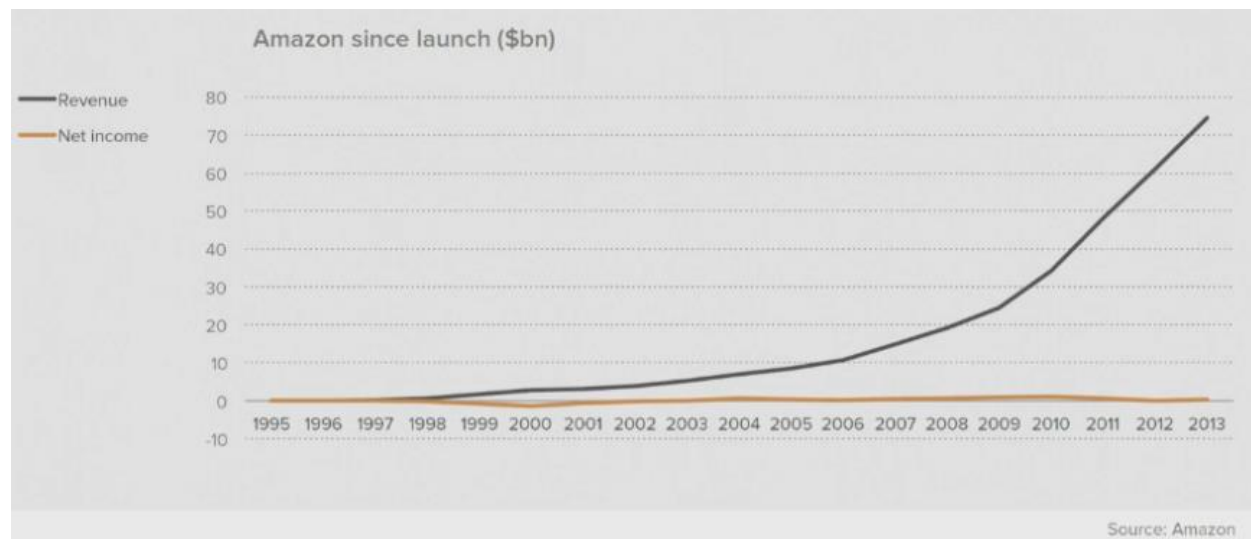
By 2019 in sub-Saharan Africa more people will have mobile access to than will have access to better water and electricity.



Each new technology builds a new kind of company:

- Railways and steam press → Hearst
- Broadcast → NBC
- Color printing → Condé Nast
- Internet and Social → BuzzFeed

Technology also breeds companies like Amazon, the *Sears of the 21st Century*. (That's probably an insult to Jeff Bezos.) Yet, Amazon's revenue is less than 0.5% of the U. S. economy.



How to Build the Future

Peter Thiel

Entrepreneurship is an extremely tricky subject to teach. Thiel recently published the book [Zero to One](#) based on a course about startups he taught at Stanford in 2012. The next Zuckerberg will not build a social network; the next Sergey Brin-Larry Page will not build a search engine, the next Bill Gates will not build an operating system...so, if you just copy them, you are not learning from them. It is easier to copy a model than to make something new. What is a great company that nobody is building?

Our education system is screwed up, our healthcare needs better IT are not good answers, we all know it. We need better answers. About the uniqueness of great companies, the opening line in *Anna Karenina* is, "All happy families are alike, all unhappy families are unhappy in their own special way." Similarly, all happy companies are different because they found something unique; all unhappy companies are alike because they failed to find something unique. Great companies are monopolies, others are just competing. If you really want to compete, you should open a restaurant. Google is a great monopoly in search, but they no longer claim to be just a search company. It is a *technology* company competing against Amazon and Microsoft in cloud computing, Apple in smartphones and tablets, Facebook in ad revenues, Microsoft in operating systems and applications, Detroit in self-driving cars...yet it is not a monopoly that the U. S. government is after, although the EU just started looking into breaking up Google.

So, if you are an entrepreneur, walk out of this conference, and wanted to open an only one-of-a kind British Napoli restaurant [isn't English Cuisine an oxymoron?] in San José, VCs will laugh at you. This is an artificially defined narrow market. When you are starting a company, you don't want to go after giant large markets, but go to a small market and take it over quickly. PayPal entered the payment market and grew from 0 to 35% market share in 3 months. Facebook started with 10,000 users at Harvard and went from 0 to 60% market share in 10 days. On the other hand, the clean-tech companies in the last decade failed miserably. They all started with PowerPoint presentations with the first slide showing the market potential of hundreds of billions, if not trillions, of dollars. It was a red flag. What they didn't realize is they had to beat the thin-film vendors, hundreds of solar panel companies, wind, fracking, and scores of cheap Chinese manufacturers.

Many startups in Silicon Valley are horribly managed, but still successful. That's because you don't have to beat your competition at every step of the way, as long as you carve out your niche. By the way, "When you hear Cloud Computing and Big Data, you should run away because it's fraud." The same is true of *SaaS in the Enterprise*; it's like opening the thousandth restaurant in San José or starting the next company doing search. Engineers are lousy salesmen, scientists are sociopaths. What we need is combining great scientists with businessmen.

Thiel joined a law firm in New York after getting his law degree from Stanford. He left the firm—a Roach Motel, you can check in, but you can't check out—after 7 months and 3 days; it was like Escape from Alcatraz.

Founding members and moments of a company are really crucial for the company's survival. The most successful companies are those where the founding members are still at the helm or at least on the Board. Google, Facebook, and Amazon are great examples. Apple did great under Jobs, but Steve was fired and consecutively succeeded by 5 clueless CEOs, including one who preferred peddling sugar water over changing the world. Jobs' return to the company he started resurrected it and changed the picture. Even now, his legacy seems to thrive within the company

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Hewlett Packard pretty much built Silicon Valley and was a great company as long as a Hewlett or a Packard led or played a major role in running the company. The same thing is still true of Walmart and Ford. But HP was ruined successively by a bunch of worthless leaders. Sun was great under Scott McNealy, but...want more bad examples? Here you go:

- *Chrysler-Fiat (Fix It Again, Tony)*
- *GM (When is your next recall?)*
- *K-Mart/Sears (two losers don't a winner make)*
- *J. C. Penney (Penny-less)*
- *Monkey-Ward (which died years ago)*
- ...

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The meaning of the word *technology* has unfortunately changed in the past few decades. In the 1960s it meant space exploration, supersonic aircraft, underwater cities, desalination plants, fantastic new medicines, etc. Today, it almost always means *information technology*, the result of a weird semantic transformation. It takes about \$100,000 to start a new software company, but almost \$1 billion and over 7 years to bring a new drug to market. So, where would you invest? Then there are risk takers like Elon Musk and Richard Branson who venture into areas where others fear to tread. When asked why he started a new car company (in Silicon Valley of all places), Elon rhetorically asked, "Can you name the last successful car company founded in America? It was Jeep in 1941." So, the conventional wisdom would be, you shouldn't start a new car company since not one has been founded in over 70 years. Richard Branson's secret is branding. Any new venture he starts with the word *Virgin* in its name seems to succeed.

Generic Discussions

Why is Silicon Valley so successful? We all have heard it's because of great schools, awesome weather, and the cultural mix. In addition, it's trying new things and the lack of fear of failing.

There are many developing countries who've leap-frogged; for instance, Kenya where cash transactions using SMS are very common. Are these threats to the Valley and the U. S.?

Not really. Sure, the U. S., for instance, lags behind in high-speed rail transport. And, countries like China and India have leapfrogged from nothing to where they are now. In telecommunications, they have gone from

wired-less (very few people had telephones) to wireless. These two countries together have close to 2 billion cell phones. But we see very little game-changing innovation coming out of these countries—at least not yet. Look how Google (search), Facebook (social), YouTube (streaming), twitter (chatting), and Amazon (retail) have changed the world. To quote Mark Andreessen, “Silicon Valley is the only in the world that is not trying to copy Silicon Valley.”

Company Presentations

Create Your Own Creatures by Printing DNA

[Cambrian Genomics](#)

It now costs less than \$1,000 to sequence a human's DNA, compared to \$10 million less than a decade ago. Cambrian Genomics is a startup that has come up with a way to "laser print" DNA at a cost of tens of thousands of dollars per genome and dropping. As the price to print DNA comes down, it may be possible to change the properties of plants and people. [Austen Heinz](#), CEO, described how you could create a DNA, print the DNA, grow plants, create animals, and make other interesting products. The company is also into [Petomics](#) and some [human aspects](#), which we won't discuss here.

Defying Conventional Wisdom: America's Most Overlooked Talent Pool

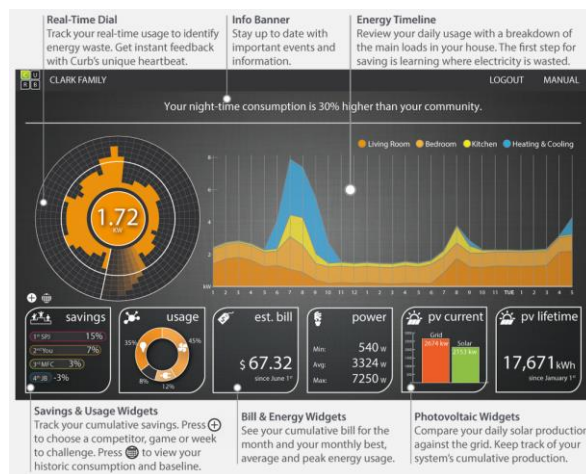
Catherine Hoke

Over 100 million Americans have some kind of criminal record. Of the 23-year olds, 30% already have a criminal record. [Defy Ventures](#) helps former drug dealers and the incarcerated get back into society by mentoring them, help find funding, and enter a clean, crime-free world. The program is being supported by Tim Draper and Harvard professors that are mentoring the ex-criminals. Defy has financed and incubated 71 start-ups in the past two years, and hosts Shark Tank-style business plan competitions, in which Defy's Entrepreneurs-in-Training compete for \$100,000 in start-up financing. Defy has just expanded from NYC to the Bay Area and is recruiting executive mentors and judges. Overall, it's a fascinating program deserving support. If you are interested in supporting this organization in any way, please contact Catherine at cat@defyventures.org.

Wearables and Hardware

[Curb](#)

Curb gives users tips and alerts about their home energy use, down to individual rooms and appliances (every appliance in your home has a 'signature'). With just a single sensor, you get mobile notifications if you accidentally left something on, making all of your devices smarter and your home safer, as the following figures show.





[Umbrela](#)

Umbrela is the world's first all-in-one, fully integrated DIY smart home device. Its high-definition touch-screen system is packed with powerful technology with a number of rich features for the users. Umbrela has built-in day and night cameras, noise-cancelling microphones, power metering, high-fidelity stereo speakers, and motion and environmental sensors.

[Healium](#)

Founded by an emergency physician and a former CIO at a local hospital, the CEO meant to demonstrate his product for remote trauma care, which is middleware that ties into existing EHR/EMR in hospitals. But the device he was using was a Google Glass which crashed (or should we say shattered?) during the demo. Even rebooting (or should we say refilling?) the Glass twice didn't help. BTW, this is not the first we have seen Google Glass fail. So much for GG.

[LikeAGlove](#)

Retailers experience 30% to 50% return rate of online purchases, mostly on issues related to fits. LikeAGlove has developed a smart, wearable garment with conductive fiber that, once you wear, measures the wearer's key measurements within a 2-mm accuracy and sends the results to your smartphone by Bluetooth or Wi-Fi. You can then shop online and purchase the product that most closely fits your measurements.

Enterprise

[MakeTime](#)

Despite all the gloom and doom we read about America's declining manufacturing prowess, this sector is still the world's 8th largest economy. However, one area that needs attention is underutilized infrastructure—machines sitting idle for lack of demand. MakeTime is a marketplace for manufactures that matches those needing extra capacity, e. g., lathes, CNC, milling machines, with the underutilized ones, by buying and selling

machine hours. You post your machine-hour needs online and companies in your neighborhood with idle machine time bid for your tender. This is what we call *distributed manufacturing*. Based in Kentucky, the company is serving customers in neighboring states and eventually plans to expand around the country.

DEMO God Winners

The five winners were:

1. [celect](#), a big data predictive analytics platform that allows retailers to understand how a specific customer shopping at a specific location chooses from an assortment of products.
2. [Curb](#), already discussed on page 5.
3. [Ghostery](#), an enterprise cloud management software platform that enables enterprises to see and control their marketing clouds, improving security, governance, and website performance.
4. [PathSense](#) provides precise location with 90% less battery drain than GPS or SDK for any iOS or Android app.
5. [Student Loan Benefits](#) is a 401k-type employee-benefit program that employers can implement to attract and retain employees and help them pay off student loans, which in the U. S. exceed \$1 trillion, growing 10% annually.