# DESIGN IN TECH REPORT

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Design Partner | Kleiner Perkins Caufield & Byers

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2016

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With Special Thanks to // Michael Abbott, Juliet de Baubigny, Scott Ryles, Lynne Chou, Christina Lee, Andy Chen, Muzzammil Zaveri, Arielle Zuckerberg

Designed By // Luna Chen 陈清源, Danqing Wang 王丹青 // China Design 中国设计

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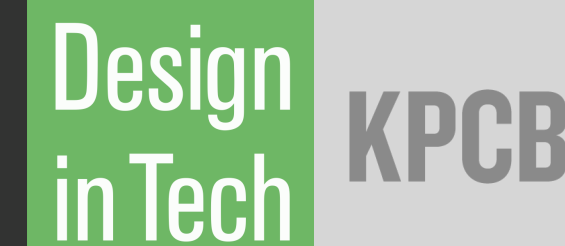
2016

- Design isn't just about beauty; it's about market relevance and meaningful results.

- M&A activity continues in the design space, and it's increased.

- Increasing the designers needed in the tech industry requires rethinking education.

- The adoption of design by public companies is only growing.

- Designers bring needed critical thinking/making in the economic case for inclusion.

- Work in the research labs from decades ago drives today's startups. Be aware.

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"89%

of companies believes that customer **experience** will be their primary basis for competition by 2016, versus 36% four years ago."
— **Gartner**

"81%

of executives surveyed place the personalized customer **experience** in their top three priorities for their organization, with 39% reporting it as her top priority."
— **Accenture**

"90%

of executives surveyed agreed that customer **experience** and engagement are objectives of their corporation's digital strategy."
— **MIT Sloan / Deloitte**

"6x

more likely to buy with a positive emotional **experience**, 12x more likely to recommend the company, and 5x more likely to forgive a mistake."
— **Temkin Group**

EXPERIENCE Matters A Lot, Because We Experience Digital Products A Lot

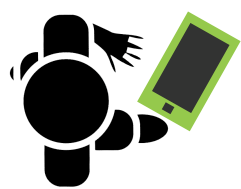early desktop users checked their computers

" Ouch!

Once in the morning

" Ouch!

Once in the evening

all day long and whenever they can

today mobile users check their smartphones

Reports from Gartner, Accenture, Deloitte, Temkin all indicate that *experience* matters. Linda Holliday calls the new kind of design as "multi-dimensional" — it crosses social science, computer science, into something new and necessary.

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THE 1ST DESIGN INTECH REPORT

Beat Expectations, with Room for Improvement

875K cumulative views across all
English, Spanish, Chinese, Japanese editions

and 1 redesign...

Simplified & Redesigned

The inaugural 2015 #DesignInTech Report received way more views than we initially projected at 50K in the first year. We also received a helpful re-design from our new friends in Canada.

Source // @kpcb #DesignInTech @slideshare @stinsondesign

slideshare.net/stinsondesign/kpcb-design-in-tech-report-2015-simplified-and-redesigned

PREDICTIONS
From Last Year's Report

M&A activity of designer-led businesses will likely grow.

Older user experiences will improve.

1

Designer-led startups will have increased access to capital.

Designers will grow as executives.

2

Design in VC is not about *pretty* — it's about relevance. experience

Design's business value will evolve.

3

DESIGN ➡ DE$IGN

Fortunately, 100% of last year's report's predictions have come true. So that means we need new ones.

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2 The New Kind of Designer is TBD

4 Design Quality is $\propto$ to Caring

SECTIONS

1 #DesignInTech By The Numbers

5 Final Thoughts

3 Public Company Trends

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1 #DesignInTech By The Numbers

■ Design firm acquisitions continue: 42 design firms have been acquired since 2004, ~50% of which have been acquired in the last year alone.

■ Designer co-founded companies exhibit funding success: 36% of top 25 funded startups are co-founded by designers, up from 20% in 2015.

■ Designers in venture capital have increased: More designers entered VC in the last two years than the previous four years combined.

Design in Tech KPCB

Timeline of #DesignInTech M&A Activity | Version2.0

2004 – 2012

- **FLEXTRONICS**
  +acq. Frog Design 2004
- **MONITOR**
  +acq. DOBLIN 2007
- **RIM**
  +acq. TAT 2010
- **FACEBOOK**
  +acq. Sofa 2011
- **GLOBALLOGIC**
  +acq. Method 2011
- **ONE KING'S LANE**
  +acq. Helicopter 2011
- **GOOGLE**
  +acq. Mike & Maaike 2012
- **FACEBOOK**
  +acq. Bolt Peters 2012
- **SQUARE**
  +acq. 80/20 2012
- **GOOGLE**
  +acq. Cuban Council 2012

2013

- **FACEBOOK**
  +acq. Hot Studio 2013
- **ACCENTURE**
  +acq. Fjord 2013
- **SHOPIFY**
  +acq. Jet Cooper 2013
- **DELOITTE**
  +acq. Banyan Branch 2013
- **INFOR**
  +acq. Hook & Loop 2013
- **GOOGLE**
  +acq. 17FEET 2013
- **GOOGLE**
  +acq. Hattery 2013

2014

- **OCULUS / FACEBOOK**
  +acq. Carbon Design 2014
- **GOOGLE**
  +acq. Gecko Design 2014
- **CAPITAL ONE**
  +acq. Adaptive Path 2014
- **ACCENTURE**
  +acq. Reactive 2014
- **DELOITTE**
  +acq. Flow Interactive 2014
- **PWC**
  +acq. Optimal Experience 2014
- **KPMG**
  +acq. Cynergy Systems 2014
- **BCG**
  +acq. S&C 2014

2015

- **FACEBOOK**
  +acq. Teehan+Lax 2015
- **BBVA**
  +acq. Spring Studio 2015
- **MCKINSEY**
  +acq. Lunar Design 2015
- **CAPITAL ONE**
  +acq. Monsoon 2015
- **WIPRO**
  +acq. DesignIt 2015
- **ERNST & YOUNG**
  +acq. Seren 2015
- **DELOITTE**
  +acq. Mobiento 2015

- **AIRBNB**
  +acq. Iapka 2015
- **COOPER *consolidation**
  +acq. Catalyst 2015
- **SALESFORCE**
  +acq. Akta 2015
- **ACCENTURE**
  +acq. Chaotic Moon 2015
  +acq. PacificLink 2015
- **FLEX *medical design**
  +acq. Farm Design 2015

2016

- **PIVOTAL**
  +acq. Slice of Lime 2016
- **IBM**
  +acq. Resource/Ammirati 2016
  +acq. ecx.io 2016
  +acq. Aperto 2016
- **KYU COLLECTIVE *minority**
  +min. IDEO 2016
- **CAPGEMINI**
  +acq. Fahrenheit 212 2016
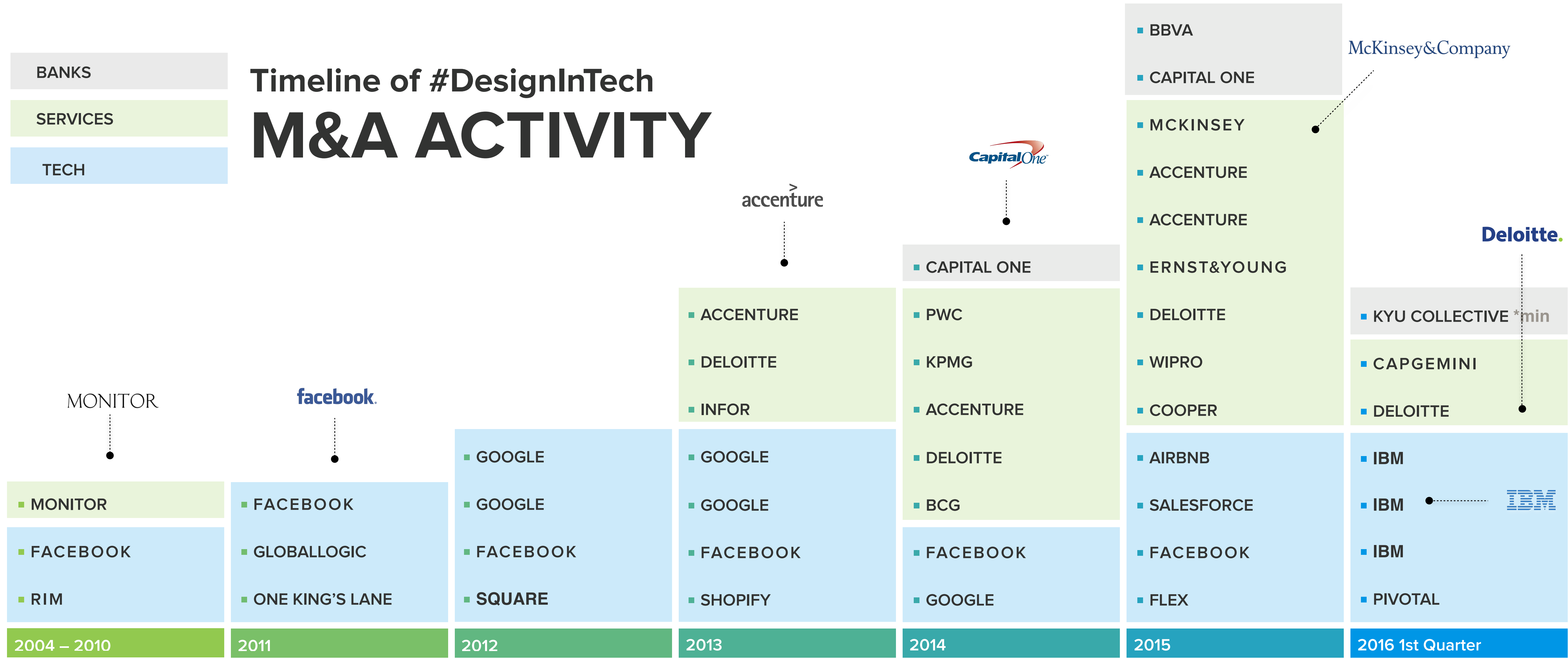- **DELOITTE**
  +acq. Heat 2016

A total of **42** design firms have been acquired since 2004. **~50%** of which have been acquired within the last year with Accenture, Deloitte, IBM, Google, and Facebook as the most acquisitive.
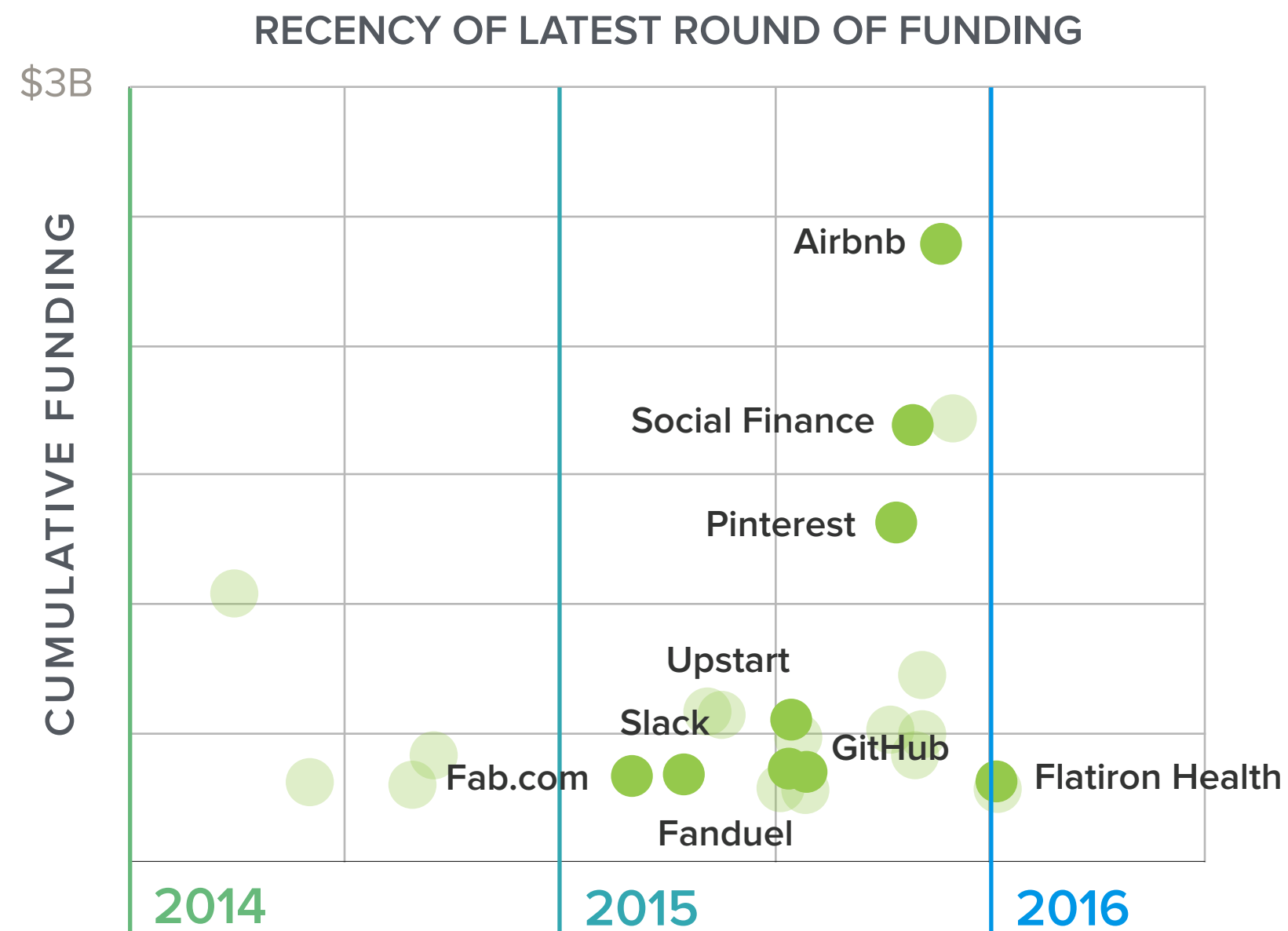
Timeline of #DesignInTech
M&A ACTIVITY

BANKS

SERVICES

TECH

2004 – 2010	2011	2012	2013	2014	2015	2016 1st Quarter
					BBVA	
					CAPITAL ONE	
					MCKINSEY	
					ACCENTURE	
					ACCENTURE	
				CAPITAL ONE	ERNST&YOUNG	
		ACCENTURE	PWC	KPMG	DELOITTE	KYU COLLECTIVE *min
		DELOITTE	KPMG	ACCENTURE	WIPRO	CAPGEMINI
		INFOR	ACCENTURE	DELOITTE	COOPER	DELOITTE
		GOOGLE	GOOGLE	DELOITTE	AIRBNB	IBM
MONITOR	FACEBOOK	GOOGLE	GOOGLE	BCG	SALESFORCE	IBM
FACEBOOK	GLOBALLOGIC	FACEBOOK	FACEBOOK	FACEBOOK	FACEBOOK	IBM
RIM	ONE KING'S LANE	SQUARE	SHOPIFY	GOOGLE	FLEX	PIVOTAL

A total of **42** design firms have been acquired since 2004. **~50%** of which have been acquired within the last year with Accenture, Deloitte, IBM, Google, and Facebook as the most acquisitive.

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Successful Startups Co-Founded by Designers Are Not Uncommon

36% of the 25 startups with a recent fundraise in CB Insight's "Internet Sector" category are designer co-founded

21% of the so-called global "unicorn" startups across all sectors have co-founders who have embraced design or come from a design, arts, or human-centered background including architecture, design, music, visualization, fine arts, media arts.

RECENCY OF LATEST ROUND OF FUNDING

$3B

CUMULATIVE FUNDING

Airbnb
Social Finance
Pinterest
Upstart
Slack
Fab.com   GitHub
Fanduel   Flatiron Health

2014   2015   2016

via CB Insights, "Since January 1 2013 to February 29, 2016, in the U.S. Internet-Only category top 25 recently funded VC-backed companies."

23andMe, ActiFio, Adyen, African Internet Group, AirBnB, Aiwujiwu, Anaplan, AppDirect AppDynamics, AppNexus, Apttus, Apus Group, Atlassian, Auto1 Group, Automattic, Avant, AVAST Software, Avito, BeiBei, Beijing LaKala Billing Services, BlaBlaCar, Bloom Energy, Blue Apron, Buzzfeed, Carbon3D, China Rapid Finance, CJ Games, Cloudera, CloudFlare, ContextLogic/Wish, Coupa Software, Coupang, Credit Karma, Dada, Datto, Decolar, Deem, Delivery Hero, Dianping, Didi Kuaidi, DJI Innovations, Docker, DocuSign, Domo Technologies, DraftKings, Dropbox, Ele.me, Eventbrite, Evernote, Fanatics, FanDuel, Fanli, FarFetch, Flipkart, Forescout, Funding Circle, Gilt Groupe, GitHub, Global Fashion Group, GrabTaxi, Greensky, Guahao Technology Co., Gusto, HelloFresh, Home24, Hootsuite, Houzz, Illumio, Infinidat, InMobi, InsideSales.com, Instacart, Intarcia Therapeutics, IronSource, Jasper Technologies, Jawbone, jet.com, Jiuxian, JustFab, Kabam, Kabbage, Kik Interactive, Klarna, Koudai Gouwu, Lazada, Legendary Entertainment, Lookout, Lufax, Lyft, Magic Leap, MarkLogic, Medallia, Meituan, Mercari, MindMaze, Moderna, Mogujie, MongoDB, Mozido, Mu Sigma, MuleSoft, NantHealth, Nextdoor, Nutanix, Okta, Olacabs, One97 Communications, Oscar Health Insurance Co., Palantir Technologies, Panshi, Pinterest, Pluralsight, Powa Technologies, Prosper Marketplace, Proteus Digital Health, Pure Storage, Qualtrics, Quikr, Razer, Rong360, Shazam, SimpliVity, Skyscanner, Slack Technologies, Snapchat, Snapdeal, Social Finance, Souq, SpaceX, Spotify, Sprinklr, Square, Stemcentrx, Stripe, SurveyMonkey, TangoMe, Tanium, The Honest Company, Theranos, Thumbtack, TransferWise, Trendy Group International, TuJia Online Information Technology, TutorGroup, Twilio, Uber, Udacity, Ucar Group, Uptake, VANCL, Vice Media, Vox Media, Warby Parker, WeWork, Xiaomi, Xuanyuxia, Yello Mobile, Zenefits, Zeta Interactive, Zhangyue, ZocDoc, Zomato Media, Zscaler

via CBInsights, "Private VC-Backed Companies with Valuations Over $1B"

Last year **20%** (5 out of 25) of the top venture-backed startups had designer co-founders. We check one year later and that number moves to **36%** (9 out of 25).

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Kleiner Perkins Caufield & Byers
Michael Abbott
2012 created KPCB Design Council

New Enterprise Associates
Dayna Grayson
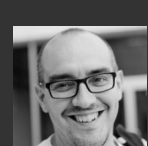2013 created NEA Design Studio

True Ventures
Om Malik
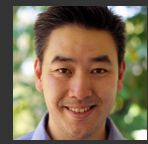2011 created GigaOm Roadmap Conference
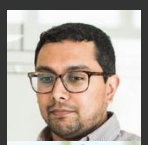
Accel Partners
Vas Natarajan
2014 created Accel Design Conference

Andrew Braccia
2014 created Accel Design Conference

500 Startups
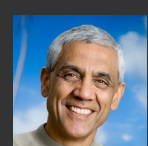Dave McClure
early advocate for design in startups

Bloomberg Beta
James Cham
early advocate for design in startups

Y-Combinator
Paul Graham
early advocate for design in startups

Jessica Livingston
early advocate for design in startups

Khosla Ventures
Vinod Khosla
early advocate for design in startups

Source // @kpcb #DesignInTech @johnmaeda

kpcb.com/design

Where do Designers Live in the
VENTURE CAPITAL ECOSYSTEM?

Designers are working at VC firms in a variety of capacities: from operating support roles to investing roles to founding their own venture capital funds. A key factor in their growth has been GPs who understand the need for design.

2009
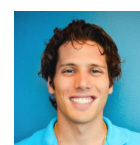
Bessemer Ventures
Jason Putorti
1st designer in residence
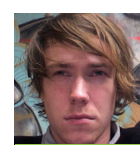
Slow Ventures
Dave Morin
co-founders of fund

Aaron Sittig
co-founders of fund

2010
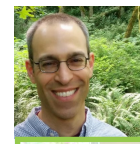
Google Ventures
Braden Kowitz
1st design partner

Michael Margolis
1st researcher

Y-Combinator
Garry Tan
1st YC partner as designer

2011

Google Ventures
John Zeratsky

2012

Designer Fund
Enrique Allen
co-founders of fund

Ben Blumenfeld
co-founders of fund
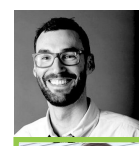
Google Ventures
Jake Knapp

Daniel Burka
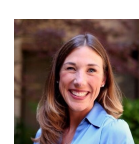
Andreessen Horowitz
Elizabeth Weil
co-founders of fund
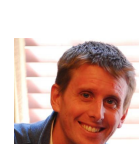
Felicis Ventures
Nick Baum
2nd designer in residence

2013

Y-Combinator
Kevin Hale

2014

KPCB
John Maeda

Khosla Ventures
Irene Au
pioneering UX leader

Google Ventures
Tom Hulme
first GP in marquee fund

Sequoia Capital
James Buckhouse
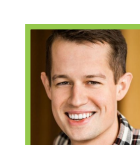
Greylock
Bobby Goodlatte
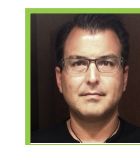
Sutter Hill Ventures
Andrei Herasimchuk

Expa
Bruno Bergher
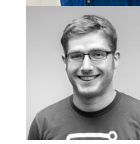
Kyle Doherty

2015

Rivet Ventures
Christina Brodbeck
co-founder of fund

Accel Partners
Jason Mayden

True Ventures
Jeffrey Veen

Expa
Anshu Agarwal

New Enterprise Associates
Albert Lee

2016

Benchmark
Scott Belsky
GP

Google Ventures
Jake Knapp
New book "Sprint"
with John Zeratsky and
Braden Kowitz

Note that some of these folks have left to join companies, or to start them.

KPCB Design Council

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11

#DesignInTech by the
NUMBERS

42 design firms have been acquired since 2004. Roughly half of which have been acquired within the last year.

We're reaching a peak.

1

9 of the **25** top VC-funded startups have designer co-founders. Up from **5** in 2015.

Designer co-founded companies are here to stay.

2

More designers entered VC in the last **2** years than the previous **4** years combined.

There are many at accelerators as well.

3

Major corporations are investing in design as a core competency through M&A activity, designer co-founded startups continue to raise billions of dollars in capital, and VCs increasingly see the importance of design.

Source // @kpcb #DesignInTech @johnmaeda

kpcb.com/design

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#DESIGNINTECH PREDICTIONS
Further Out (5 Year Prediction)

The large influx of designers into top services companies through M&A activity will reboot the design industry.

Fueled by greater access to the board room.

1

We will see more designers becoming investing partners at VC firms, and eventually starting their own funds.

Many designers in tech are active angels.

2

The general word "design" will come to mean less as we will start to qualify the specific kind of design we mean.

Classical Design vs Design Thinking vs Computational Design

3

Since last year's predictions happened too early, we set our sights out much further …

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2 The New Kind of Designer is TBD

- Currently design education lags the technology industry's needs for data-oriented, coding-enabled graduates with business acumen.

- Many resources are available on the internet to supplement formal education in design. Becoming a skilled self-learner is a critical skill for the new designer.

- Coding and testing are table stakes knowledge for designers today. Designing systems and designing culture are strategic skills for designers.

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#DesignInTech is Related, Yet
RADICALLY DIFFERENT
From Classical Design

CLASSICAL DESIGN DISCIPLINES

Architecture
The bigger built environment

Interior Design
What surrounds us up close

Fashion Design
What we wear

Landscape Architecture
What surrounds our buildings

Communication Design
What we see

Industrial Design
What products we buy

LIVING SYSTEMS LIKE FACEBOOK ARE NEVER FINISHED

TED   Watch   Discover   Attend   Participate   About   Search...

Margaret Gould Stewart:
How giant websites design for you (and a billion others, too)
TED2014 · 12:56 · Filmed Mar 2014
24 subtitle languages
View interactive transcript
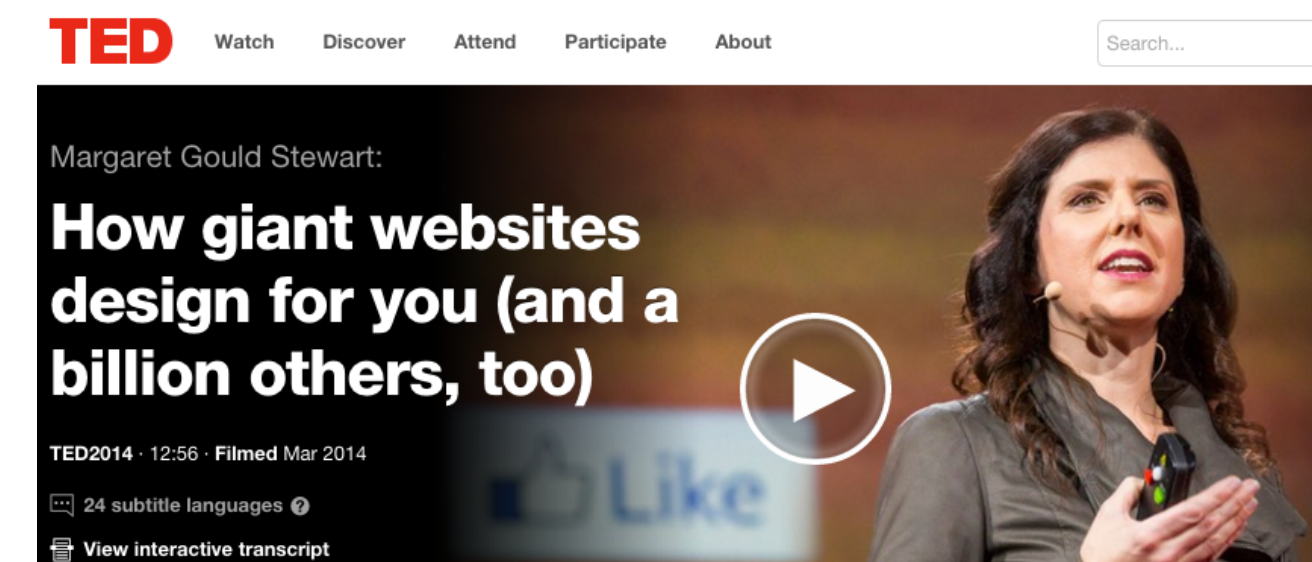
" Design of digital experiences **change all the time** and live inside your pocket... Design of systems that are **so big that their scale can be hard to comprehend.**"

— Margaret Stewart @TED 2014

Computational design has been around since the 70s and grew from collaborations between architects and computer graphics folks.
In 1996, I founded the MIT Media Lab Aesthetics and Computation Group to further the frontier.

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Classical Design Principles vs. #DesignInTech Principles

	CLASSICAL DESIGN	VS	DESIGN IN TECH
Number of Active Users	Few to Millions		Few to Hundreds of Millions
Time Needed to Deploy Completed Product	Weeks to Months through Distribution Channels		Instantaneously Delivered Over the Net
"Perfection" is Achievable	**Yes** There's a final state.		**No** It's always evolving.
Designer's Level of Confidence	Absolute, and Self-Validating		Generally High, but Open to Analyzing Testing/Research

The notion of making something perfect, as classical designers want to achieve, runs counter to how computational systems exist. The instinct and inclination to pursue perfection is a good one, but its definition has had to evolve.

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CHALLENGE #1
BUSINESS AND FINANCES AREN'T PRIORITIZED

Current design education biases:
Which of these attitudes are pillars of your design curriculum?

1. Communicating and/or articulating your design	86%
2. Using empathy to design	66%
3. Rationalizing and/or defending your design	63%
4. Using research and analytics to design	61%
5. Leadership and teamwork	51%
6. Understanding business and finances	21%

via a KPCB study of 329 current and former design students

CHALLENGE #2/
RESEARCH AND ANALYTICS NEED PRIORITIZATION

Desired biases by past design graduates:
Which of these attitudes **do you wish** were pillars of your design curriculum?

1. Understanding business and finances	68%
2. Using research and analytics to design	60%
3. Leadership and teamwork	53%
4. Communicating and/or articulating your design	47%
5. Using empathy to design	47%
6. Rationalizing and/or defending your design	38%

via a KPCB study of 329 current and former design students
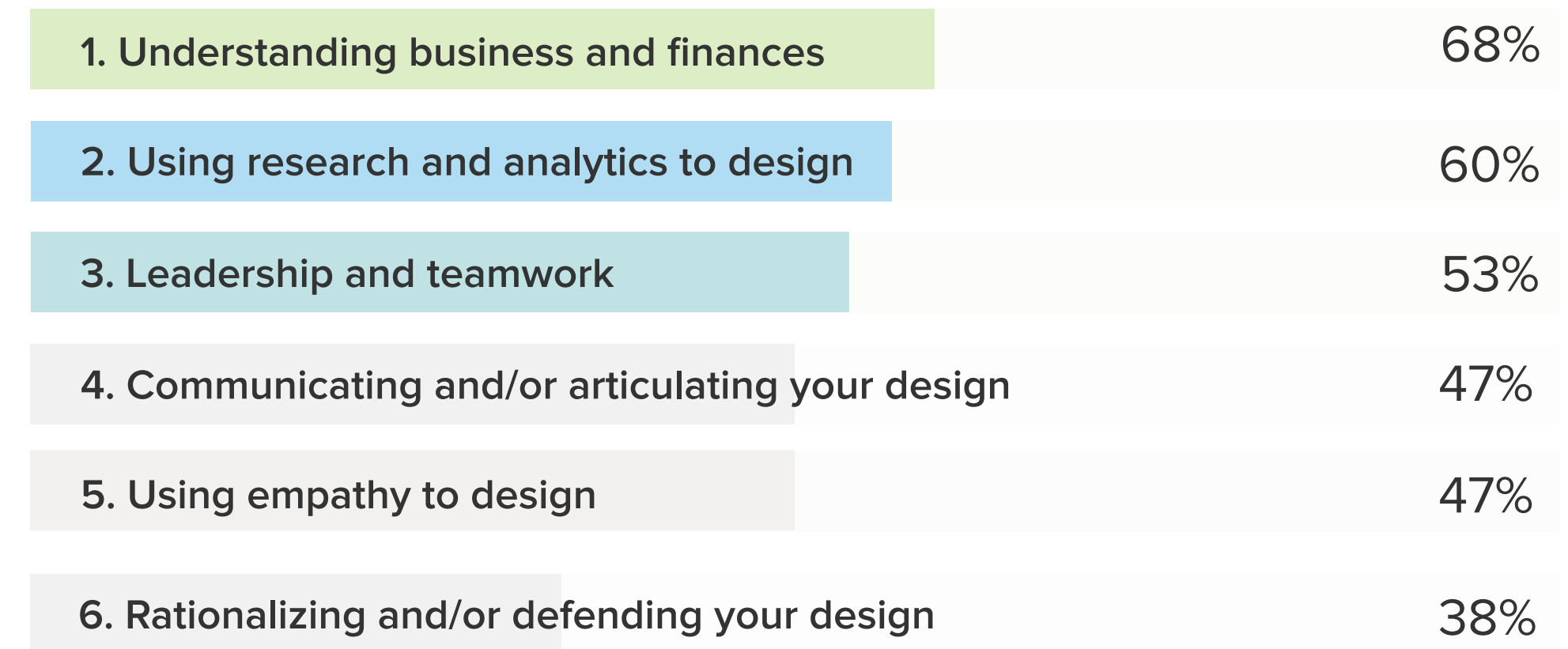
Should You Send Your Kid To
DESIGN SCHOOL? YES
— And Encourage Internships

Internship Example

When working on a project in school, the final step was always prototypes, but we didn't have time to test the project before moving on to another one. Once I was in the KPCB fellows program and working at a startup, I saw how the testing phase was invaluable.
— **Kaleigh Yang** / 2015 Design Fellow at Spruce Health

For #DesignInTech to scale today, a fundamental challenge lies in the difference between the kind of talent produced by engineering programs vs design programs. New engineers are ready for tech; new designers are less so.

Source // @kpcb #DesignInTech @jshoee @ellenchisa @kaleighyang @johnmaeda
queue.acm.org/detail.cfm?id=2683579   medium.com/the-year-of-the-looking-glass/how-to-work-with-designers-6c975dede146#.2qih40qzq

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86%

of current design students surveyed said that they learned their digital skills from resources outside their coursework.

MAKE IT NEW

THE HISTORY OF SILICON VALLEY DESIGN

Barry M. Katz

foreword by John Maeda
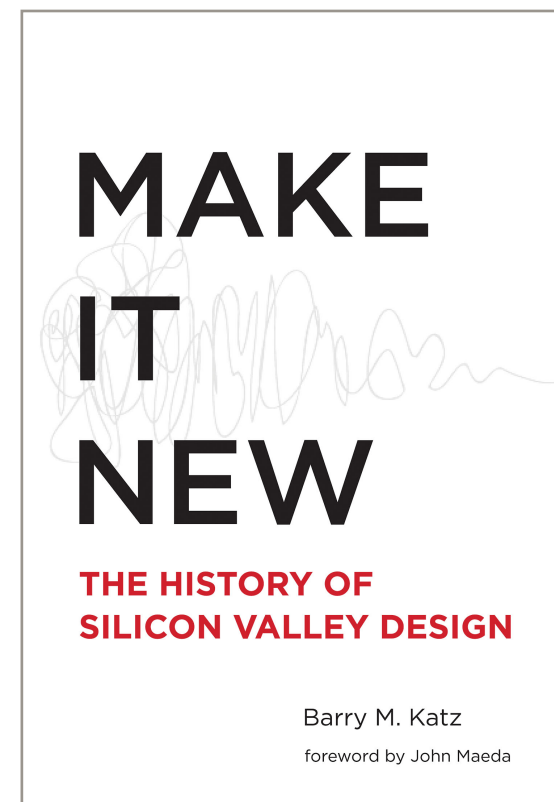
Barry Katz of Stanford and CCA has written a concise history of #DesignInTech
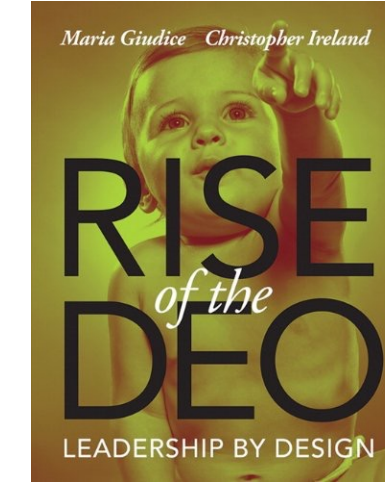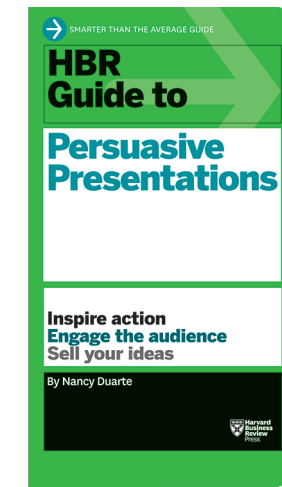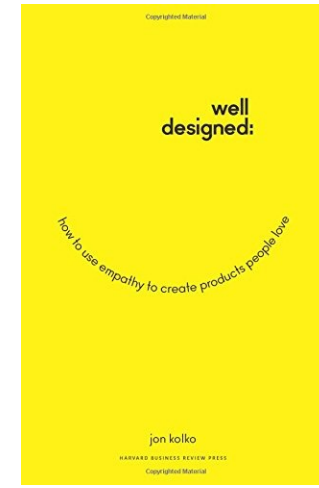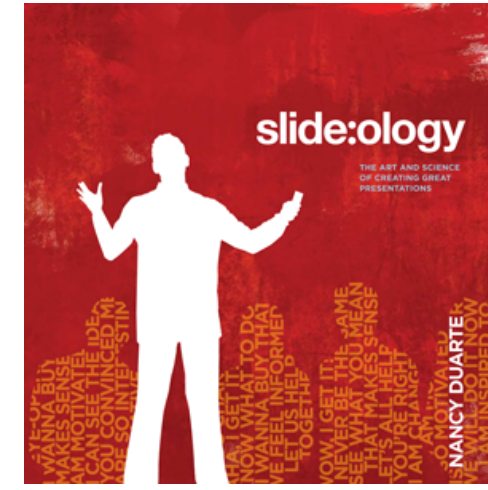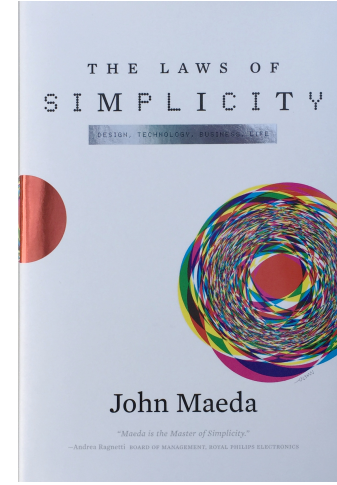
How Does One Go About

LEARNING

This New Kind of Design?
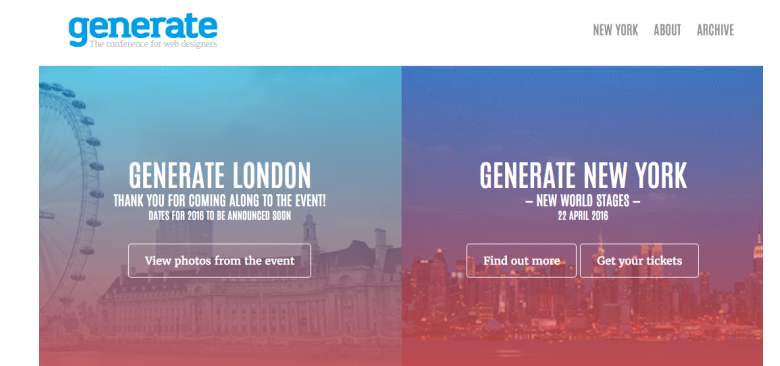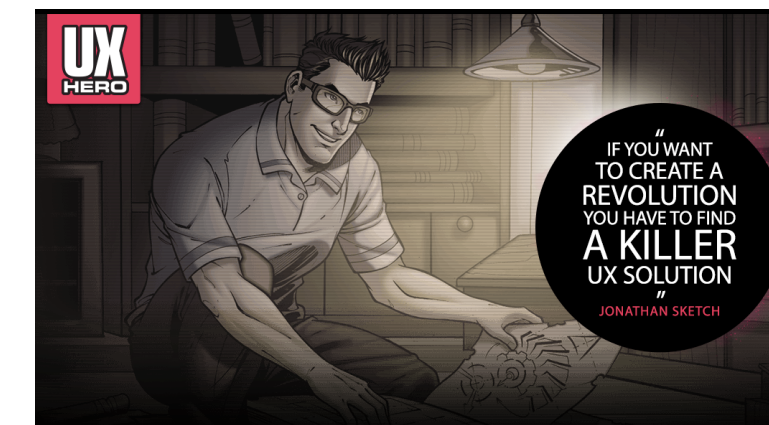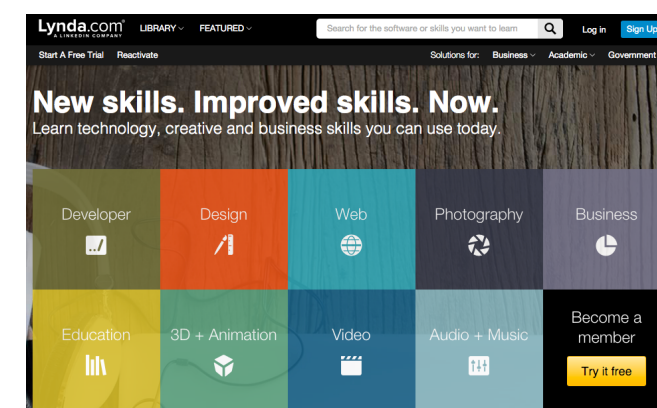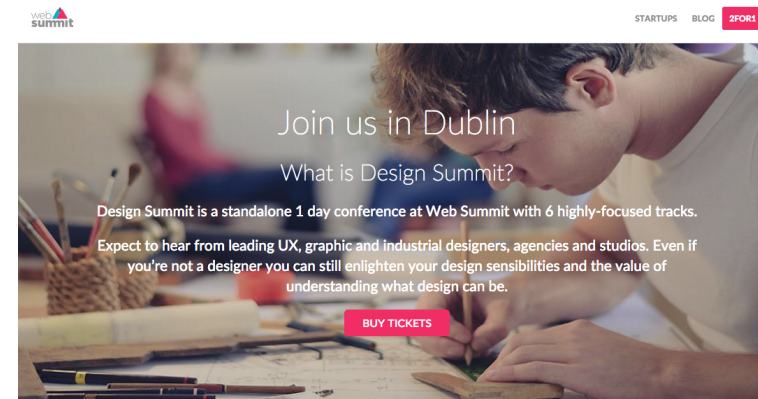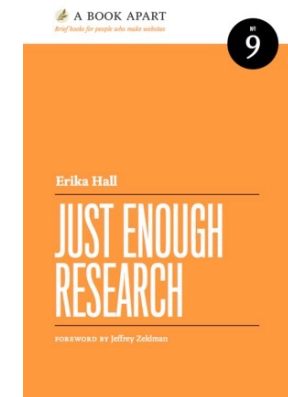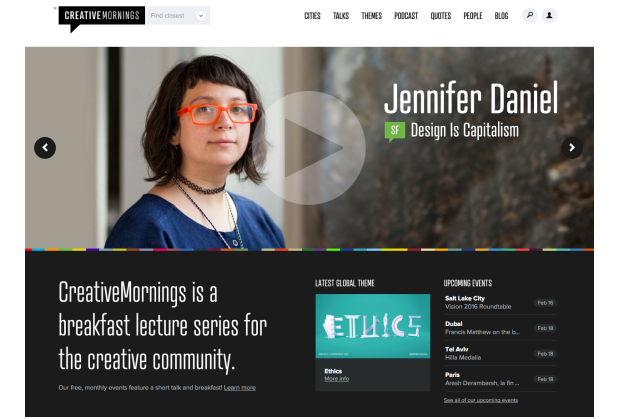
From Lynda's complete collection of videos, to O'Reilly books on design, to the incomparable A Book Apart library, to events all around the world, to a comic book, to a full-length documentary film by InVision—there's lots to learn.

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IS CODING

Necessary as A Designer In Tech?

"Coding skills can be useful."

"Coding skills are absolutely essential."

+

−

"Coding skills are unnecessary."

"Coding skills aren't important."
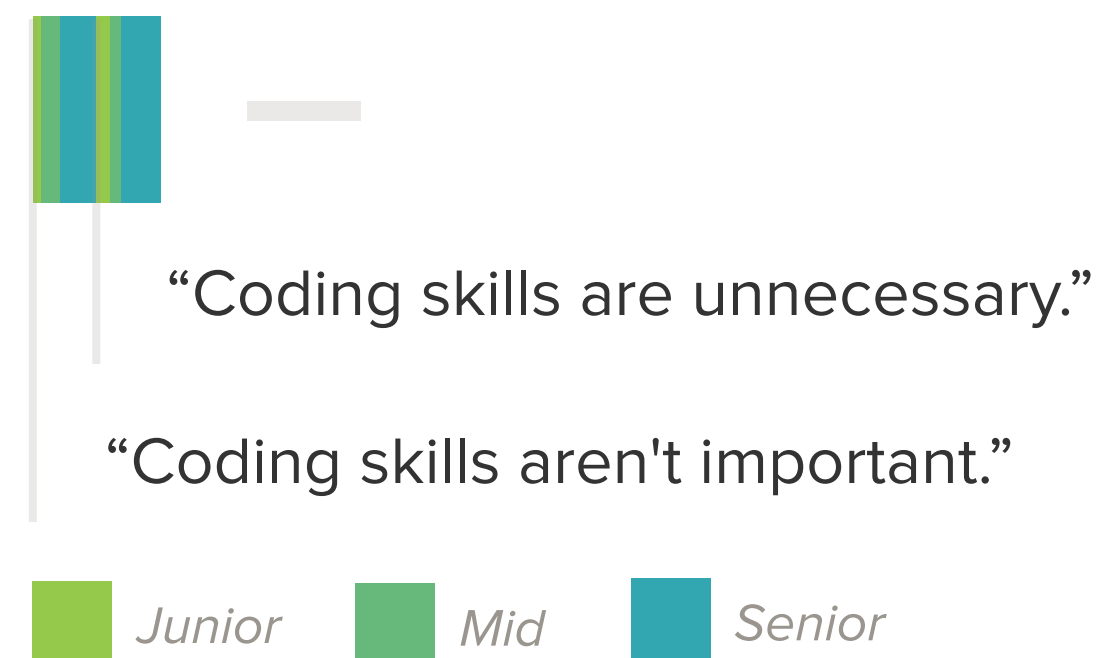
93.5%

of 370 designer respondents were overall in favor of coding

■ *Junior* ■ *Mid* ■ *Senior*

"You need to be curious about AND have a basic understanding of the technology that is being used to build your design."
— **Rochelle King** / Spotify

"Skills you need: learn to code, deep knowledge of interaction design, and basics of visual design."
— **Maria Giudice** / Autodesk

"Learn how to write good code. Don't take just one or two classes, take a lot of classes so that you can think like a programmer."
— **David Dat Nguyen** / Gusto

"Make sure to learn to code. Design is becoming more and more complex with each technological cycle."
— **Sash Catanzarite** / Tradesy

Being literate in code is important, but being an expert is not necessarily in your favor.

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GOOGLE SEARCH

SNAPCHAT

Examples of Design Innovations in Everyday
DIGITAL TOOLS

Key design concept:
Hide complexity behind a simple door.

Longstanding discipline by Google to keep the homepage limited to a single search box has been key to maintaining its simplicity. Once a search term is typed into Google, it gets complex really quickly — but you don't notice it at first.

Analogy: The Motorola Startac phone introduced a clamshell design that hid all the complexity — to be revealed only when used.
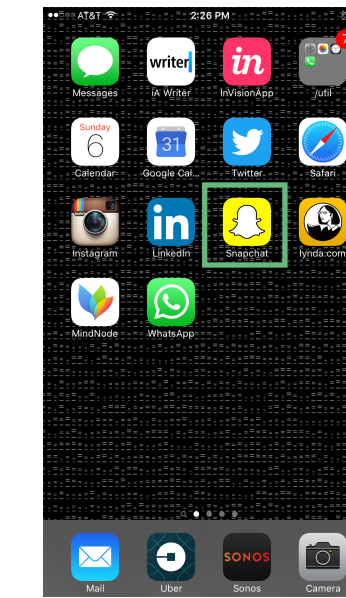
Key design concept:
Start with the activity to bias towards.

Most imaging applications asked to turn on the camera, whereas SnapChat began the interaction in live camera mode. The invitation to snap a photo was immediate; and the secretive, self-destruct feature completed the addictive loop.

Analogy: A hammer's handle invites you to grasp it. In the design world thats called an objects 'affordance' — it primes how you might use it.

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Common Q: How Much Difference Can Design Make? It Depends.

MAJOR DESIGN CHANGES WILL USUALLY IMPACT USAGE BEHAVIOR, SOMETIMES DRAMATICALLY

GRAPHIQ

Simple Example: Graphiq conducted 3 product design tests for ad placements that led to one clear winner with a 12% increase in user engagement.
"We design and manage all user experiences through a heavily tested quantitative and qualitative validation process."   —@graphiq
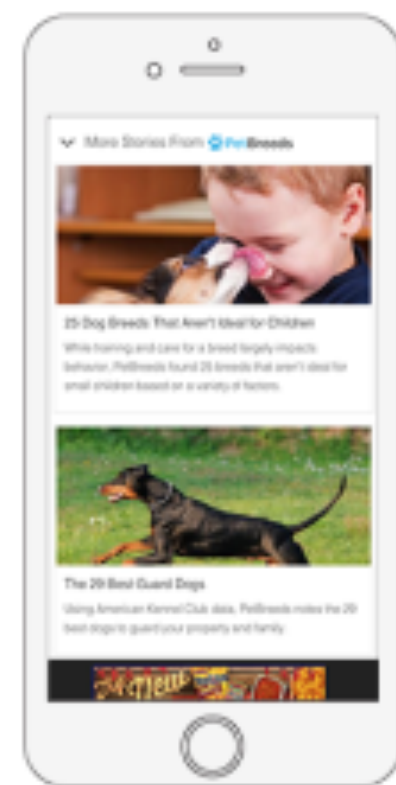
Baseline	All Text	2 Column	Image Card
0%	-6.5%	-6.5%	12%
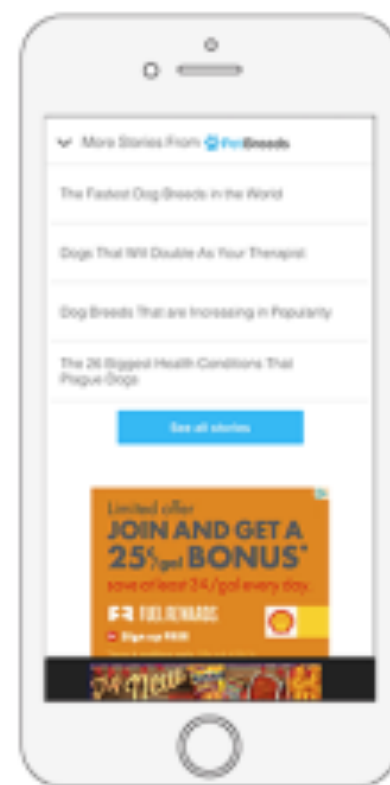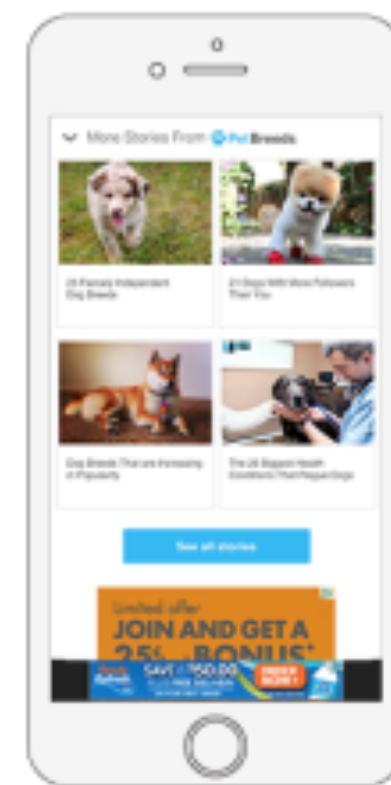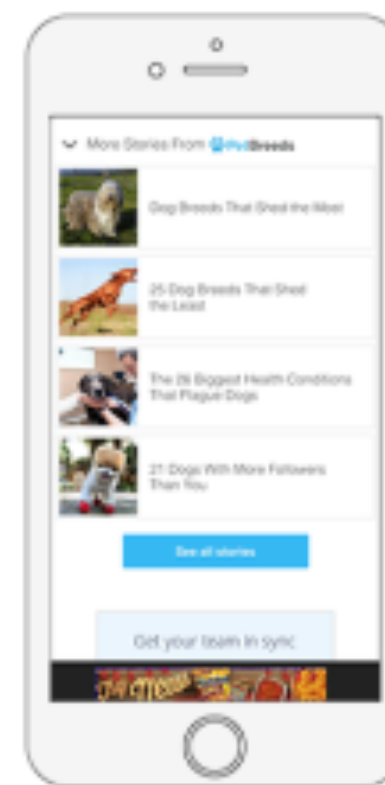
GUSTO

Example: Gusto designed a more discoverable employee self-onboarding process for businesses which made the employee experience more delightful and increased use of the tool by 10X.

1000%

employee self-onboarding

Save time and have your employee enter their own personal information!

Allow self-onboarding?   ● Yes. Email the employee requesting their details   ⓘ The employee will enter their SSN, address, tax
                          ○ No. I will input the employee details myself   withholding and bank information on ZenPayroll.
                                                                                       You will then review and approve the information.

✔ SAVE AND CONTINUE   ✖ CANCEL

Design at the feature level is in isolation, but can be measured. Design at the system level is bolder and holistic, but harder to measure.

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How Do Bigger Changes Happen With Design? By DESIGNING SYSTEMS.

KPCB Brand Assets

About Kleiner Perkins Caufield & Byers

Kleiner Perkins Caufield & Byers (KPCB) partners with the brightest entrepreneurs to turn disruptive ideas into world-changing businesses. The firm has helped build and accelerate growth at pioneering companies like Amazon, Google, Lending Club, Nest, Twitter, Uber, and Mandiant. KPCB offers entrepreneurs years of operating experience, puts them at the center of an influential network, and accelerates their companies from success to significance.

For more information, visit www.kpcb.com and follow us @kpcb.

Logos
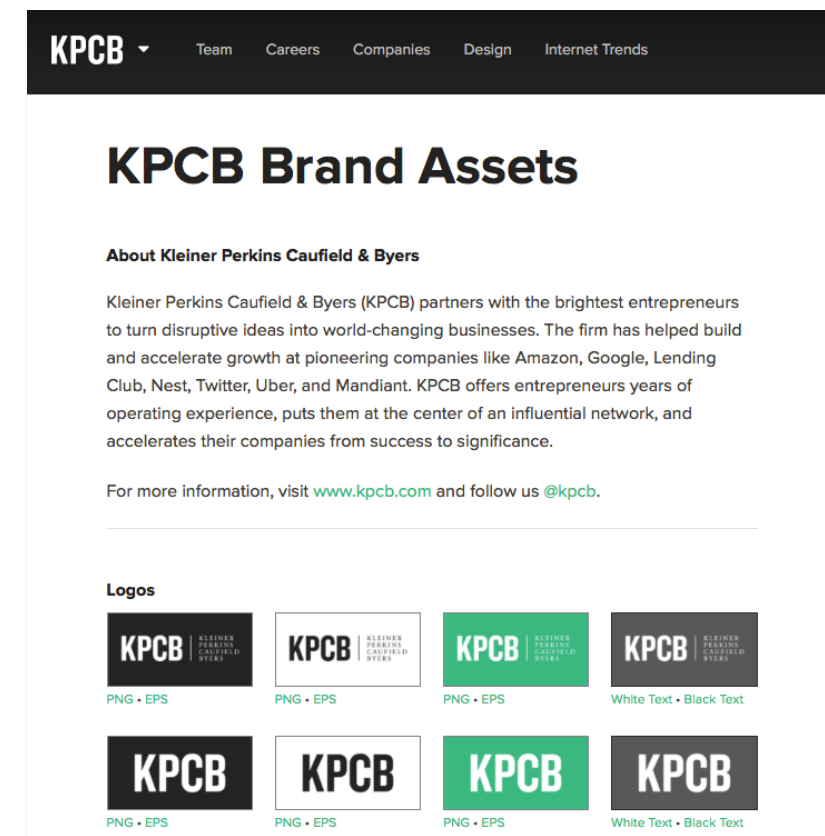
DESIGNING SYSTEMS

Guidelines enable all kinds of people to create better designs on their own. This kind of "meta design" has been around since the age of corporate identity manuals.

Think of brand manuals and repositories as the most basic instance of this kind of design for repeatability.

EXAMPLE: ANDROID MATERIAL DESIGN LANGUAGE

Unified Look For Apps
Created better consistency

Premium Experience
Raised to modern standards

Made Design A Priority
Design as a conscious act

EXAMPLE: HEALTHCARE.GOV AND USDS WEB DESIGN STANDARDS

55% of users completed the sign up process for healthcare.gov 1.0 with 76 pages using these repeatable standards with consistency

85% of users completed the sign up process for healthcare.gov 1.0 with 16 pages

// Do more with less.

// Consistency leads to less confusion

Designing reusable systems is an old technique for achieving scale — it is still effective.

How Do Bigger Changes Happen With Design? By DESIGNING CULTURE.

DESIGNING CULTURE

Principles enable a company's culture to understand how design can be used the most effectively, but most importantly, enable them to work from a common playbook.

Brian Chesky's memo to the Airbnb team says it all ...
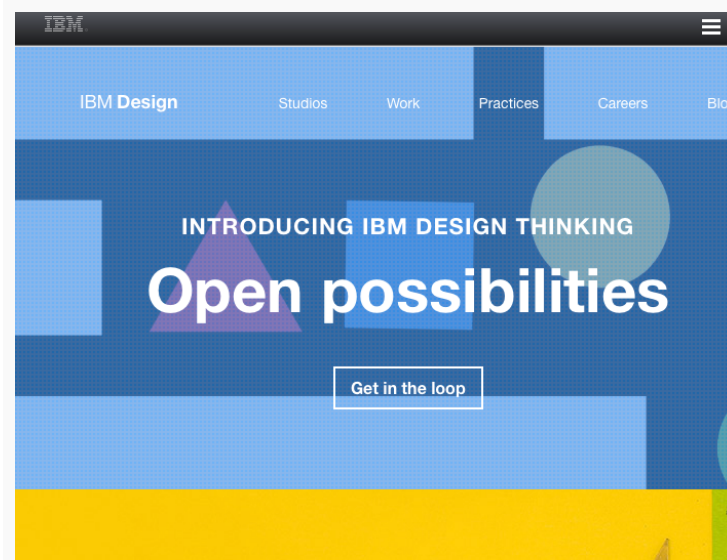
IBM
Design thinking at ambitious scale
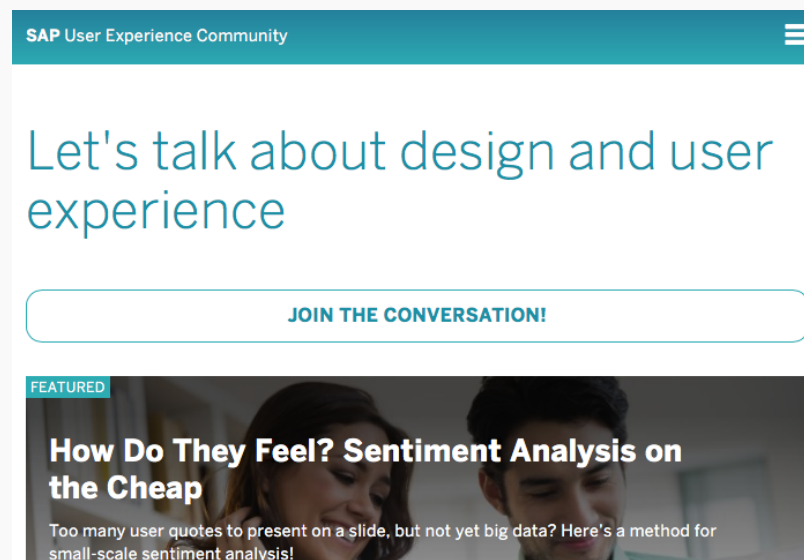
SAP
Longtime leader in design thinking

DON'T **** UP THE CULTURE

Brian Chesky
Apr 20, 2014 · 3 min read

Don't   Up the Culture
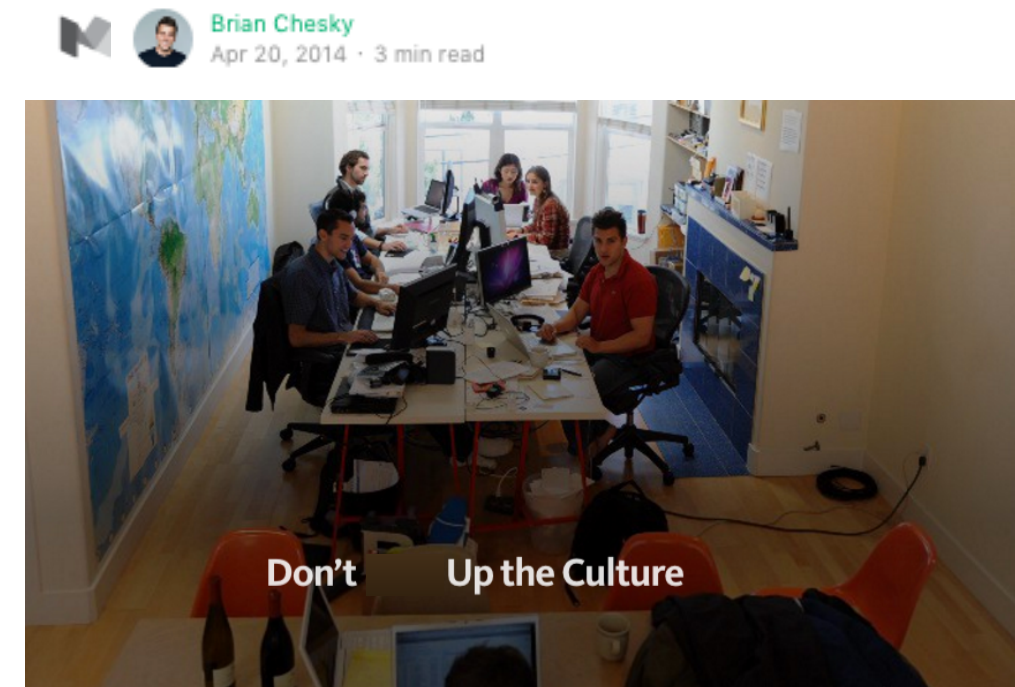
This photo was taken in the original apartment where Airbnb started.

On Monday, October 21, 2013, I sent this letter to our entire team at Airbnb. I have decided to publish this in the event it is helpful to entrepreneurs building their cultures.

· · ·

Hey team,

Our next team meeting is dedicated to Core Values, which are essential to building our culture. It occurred to me that before this meeting, I should write you a short letter on why culture is so important to Joe, Nate, and me.

After we closed our Series C with Peter Thiel in 2012, we invited him to our office. This was late last year, and we were in the Berlin room showing him various metrics. Midway through the conversation, I asked him what was the single most important piece of advice he had for us.

He replied, "Don't fuck up the culture."

Curtis

AIRBNB USES DESIGN TO GROUND ITS CULTURE
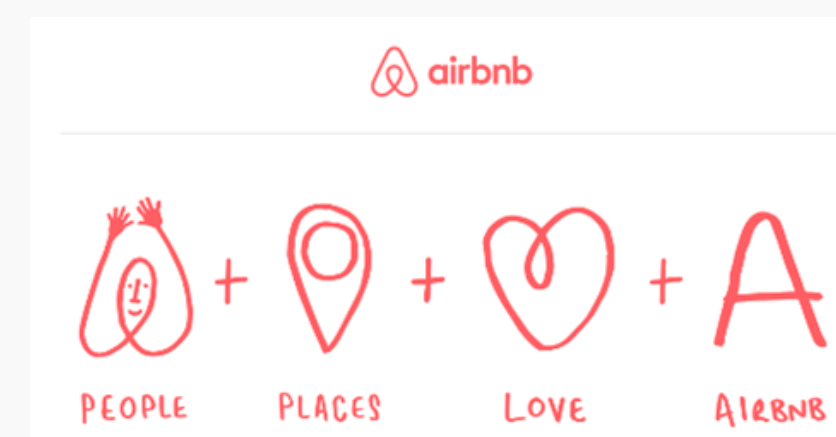
The Airbnb logo was less used as a traditional corporate symbol, and more as a narrative element to bind their hosts together as a community. They later designed an event series called Airbnb Open that spread their values at scale to their hosts.
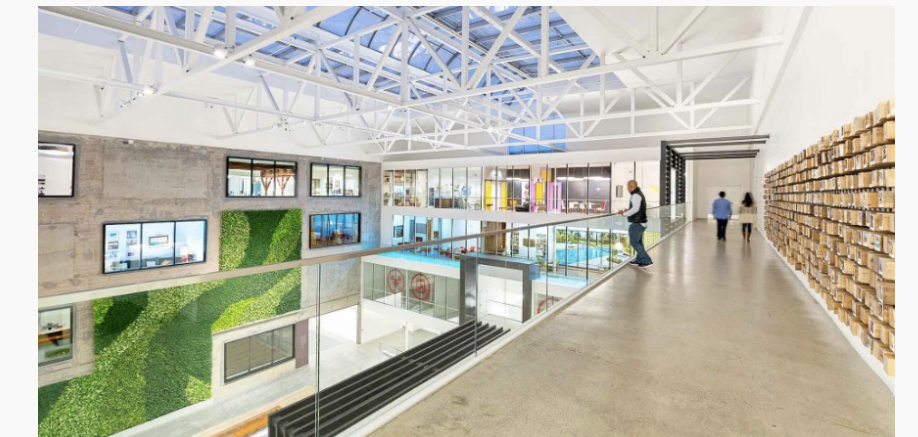
Space Design as Culture Design

- Conference rooms modeled after Airbnb listings
- Community photo gallery with photos of hosts and guests

Architect: @GenslerOnCities

Products are products of a company's culture, and not just some magical switch where "design" gets turned on inside a company. It's a conscious effort on behalf of the CEO and their executive team to make design matter.

Design in Tech | KPCB

WILL BUSINESS SCHOOLS

Be The Next Largest Producer of Designers?

Last year, both *BusinessWeek* and *Harvard Business Review* had cover issues on **Design**

MAY 2015

SEPTEMBER 2015

US News & World Report
2015 Top 10 Business Schools

1   Stanford Graduate School of

2   Harvard Business School

3   University of Pennsylvania Wharton

4   University of Chicago Booth

5   MIT Sloan

6   Northwestern University Kellogg

7   UC Berkeley Haas

8   Columbia University

9   Dartmouth Tuck

10 University of Virginia Darden

100%
of the top 10 business schools have student-led design/innovation clubs

78%
of design, engineering, and product leaders say that at their company, the stakeholder that drives ultimate product decisions is **Product**. In 2nd place was Engineering at 16%.

6-7%
of the 2015 graduating class of Harvard Business School took product management jobs.

In last year's report, we noted 7 of the top 10 business schools as having Design/Innovation Clubs that are organized by students.
This year **100%** of the top business schools have student-led design organization.

3 Public Company Trends

■ SAP was one of the earliest stakeholders in the design-thinking world.
IBM's new design-thinking efforts are comprehensive and noteworthy.

■ Google has risen in its perception for design quality due to a series of actions that have been ongoing over the last decade.

■ Fortune 100 companies are elevating design as a priority at the executive level. The many new design-enabled services firms will certainly help too.

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"Good design is good business." Has Been, And Will Continue Evolving

Time →

Birth of Traditional Design for Large Corporations	Birth of Modern Product Design Firms	Birth of "Design Thinking" and Design Strategy	"Design Thinking" Mainstreams as Whole Business Strategy
Corporate Identity+Image and Product Styling	From Traditional Design, to Design of Systems+Services	Harnessing the Creative Problem Solving Skills of Designers	Re-contextualizing Design, Making B-Schools into D-Schools

1950s / GM

1966 / IBM

Good design is good business.
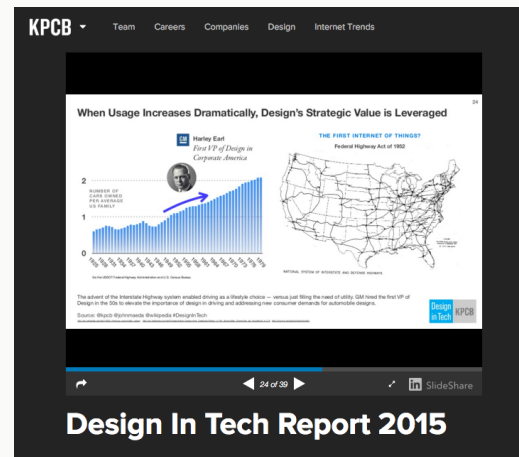
GM's CEO makes the first executive position in design with **Harley Earl** elevated to VP.
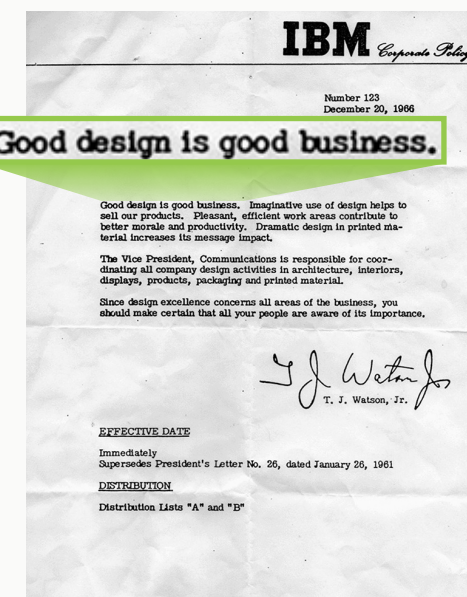
Memo to IBM employees by CEO **TJ Watson Jr.** about the emerging importance of design to the company.

1969

frog ······· ▶ 🍎

From **1982** Apple's design language begins to form with Hartmut Esslinger's direction.

1991

IDEO

David Kelley, **Bill Moggridge**, **Mike Nutall** join forces and change the course of design by co-founding IDEO.

2005

HASSO PLATTNER
Institute of Design at Stanford

····· ▶ Hasso Plattner = Co-Founder of **SAP**

2008 - 2009

THE DESIGN OF BUSINESS
WHY DESIGN THINKING IS THE NEXT COMPETITIVE ADVANTAGE
ROGER MARTIN
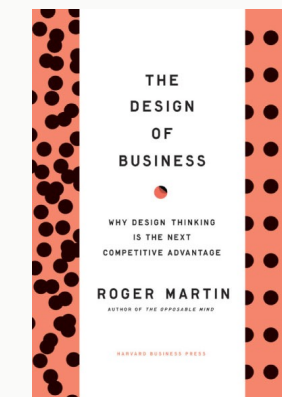
Innovation & Design
P&G Changes Its Game
By Jeneanne Rae | July 28, 2008

Roger L. Martin describes design thinking at the CEO level with P&G's AG Laffley and his book on *The Design of Business*.

2015

IBM

The New York Times
Sunday Business
Setting Free the Squares

Phil Gilbert leads IBM's $100M bet to bring design back to IBM.

2015

Harvard Business Review
THE EVOLUTION OF DESIGN THINKING
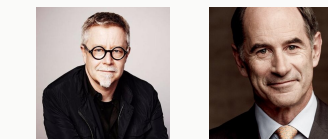
Tim Brown and **Roger L. Martin** open the introductory issue for HBR on "The Evolution of Design Thinking."

SAP and P&G were a few of the early executive adopters of "Design Thinking," but looking back in time, CEOs of companies like GM and IBM took strong interest in design as a competitive advantage as far back as the 1950s.

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1 Walmart, 2 Exxon Mobil, 3 Chevron, 4 Berkshire Hathaway, 5 Apple, 6 General Motors, 7 Phillips 66, 8 General Electric, 9 Ford Motor, 10 CVS Health, 11 McKesson, 12 AT&T, 13 Valero Energy, 14 UnitedHealth Group, 15 Verizon, 16 AmerisourceBergen, 17 Fannie Mae, 18 Costco, 19 HP, 20 Kroger, 21 JP Morgan Chase, 22 Express Scripts Holding, 23 Bank of America Corp., 24 IBM, 25 Marathon Petroleum, 26 Cardinal Health, 27 Boeing, 28 Citigroup, 29 Amazon.com, 30 Wells Fargo, 31 Microsoft, 32 Proctor & Gamble, 33 Home Depot, 34 Archer Daniels Midland, 35 Walgreens, 36 Target, 37 Johnson & Johnson, 38 Anthem, 39 MetLife, 40 Alphabet, 41 State Farm Insurance Cos., 42 Freddie Mac, 43 Comcast, 44 PepsiCo, 45 United Technologies, 46 AIG, 47 UPS, 48 Dow Chemical, 49 Aetna, 50 Lowe's, 51 ConocoPhillips, 52 Intel, 53 Energy Transfer Equity, 54 Caterpillar, 55 Prudential Financial, 56 Pfizer, 57 Walt Disney, 58 Humana, 59 Enterprise Products Partners, 60 Cisco Systems, 61 Sysco, 62 Ingram Micro, 63 Coca-Cola, 64 Lockheed Martin, 65 FedEx, 66 Johnson Controls, 67 Plains GP Holdings, 68 World Fuel Services, 69 CHS, 70 American Airlines Group, 71 Merck, 72 Best Buy, 73 Delta Air Lines, 74 Honeywell International, 75 HCA Holdings, 76 Goldman Sachs Group, 77 Tesoro, 78 Liberty Mutual Insurance Group, 79

Of the 2015 Fortune 100, Over 10% Place Design as an Executive Priority

Warner, 105 Macy's, 110 Nike, 107 Tech Data, 108 Avnet, 109 Northwestern Mutual, 110 McDonald's, 111 Exelon, 112 Travelers Cos, 113 Qualcomm, 114 International Paper, 115 Occidental Petroleum, 116 Duke Energy, 117 Rite Aid, 118 Gilead Sciences, 119 Baker Hughes, 120 Emerson Electric, 121 EMC, 122 USAA, 123 Union Pacific, 124 Northrup Grumman, 125 Alcoa, 126 Capital One Financial, 127 National Oilwell Varco, 128 US Foods, 129 Raytheon, 130 Time Warner Cable, 131 Arrow Electronics, 132 Aflac, 133 Staples, 134 Abbott Laboratories, 135 Community Health Systems, 136 Fluor, 137 Freeport-McMoRan, 138 U.S. Bancorp, 139 Nucor, 140 Kimberly-Clark, 141 Hess, 142 Chesapeake Energy, 143 Xerox, 144 ManpowerGroup, 145 Amgen, 146 AbbVie, 147 Danaher, 148 Whirlpool, 149 PBF Energy, 150 HollyFrontier, 151 Eli Lilly, 152 Devon Energy, 153 Progressive, 154 Cummins, 155 Icahn Enterprises, 156 AutoNation, 110 Kohl's, 158 Paccar, 159 Dollar General, 160 Hartford Financial Services Group, 161 Southwest Airlines, 162 Anadarko Petroleum, 163 Southern, 164 Supervalu, 165 Kraft Foods Group, 166 Goodyear Tire & Rubber, 167 EOG Resources, 168 CenturyLink, 169 Altria Group, 170 Tenet Healthcare, 171 General Mills, 172 eBay, 173 ConAgra Foods, 174 Lear, 175 TRW Automotive Holdings, 176 United States Steel, 177 Penske Automotive Group, 178 AES, 179 Colgate-Palmolive, 180 Global Partners, 181 Thermo Fisher Scientific, 182 PG&E Corp, 183 NextEra Energy, 184 American Electric Power, 185 Baxter International, 186 Centene, 187 Starbucks, 188 Gap, 189 Bank of America New York Mellon Corp., 190 Micron Technology, 191 Jail Circuit, 192 PNC Financial Services Group, 193 Kinder Morgan, 194 Office Depot, 195 Bristol-Myers Squibb, 196 NRG Energy, 197 Monsanto, 198 PPG Industries, 199 Genuine Parts, 200 Omnicom Group

But with the many acquisitions of design firms into the client services sector, it's not impossible to imagine that design will enter these organizations now through the board room.

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GOOGLE'S PRODUCTS Are Perceived as Improving the Most in Design

"Which of these company's products are in significant need of improvement in design?"

"Which of these company's products have seen a marked, recent improvement in design?"

Company	Need improvement	Recent improvement
Google	9%	64% ?
Microsoft	33%	40%
Apple	17%	33%
amazon	34%	20%
Facebook	28%	21%
SAMSUNG	24%	22%
Lenovo	26%	19%
hp	52%	8%
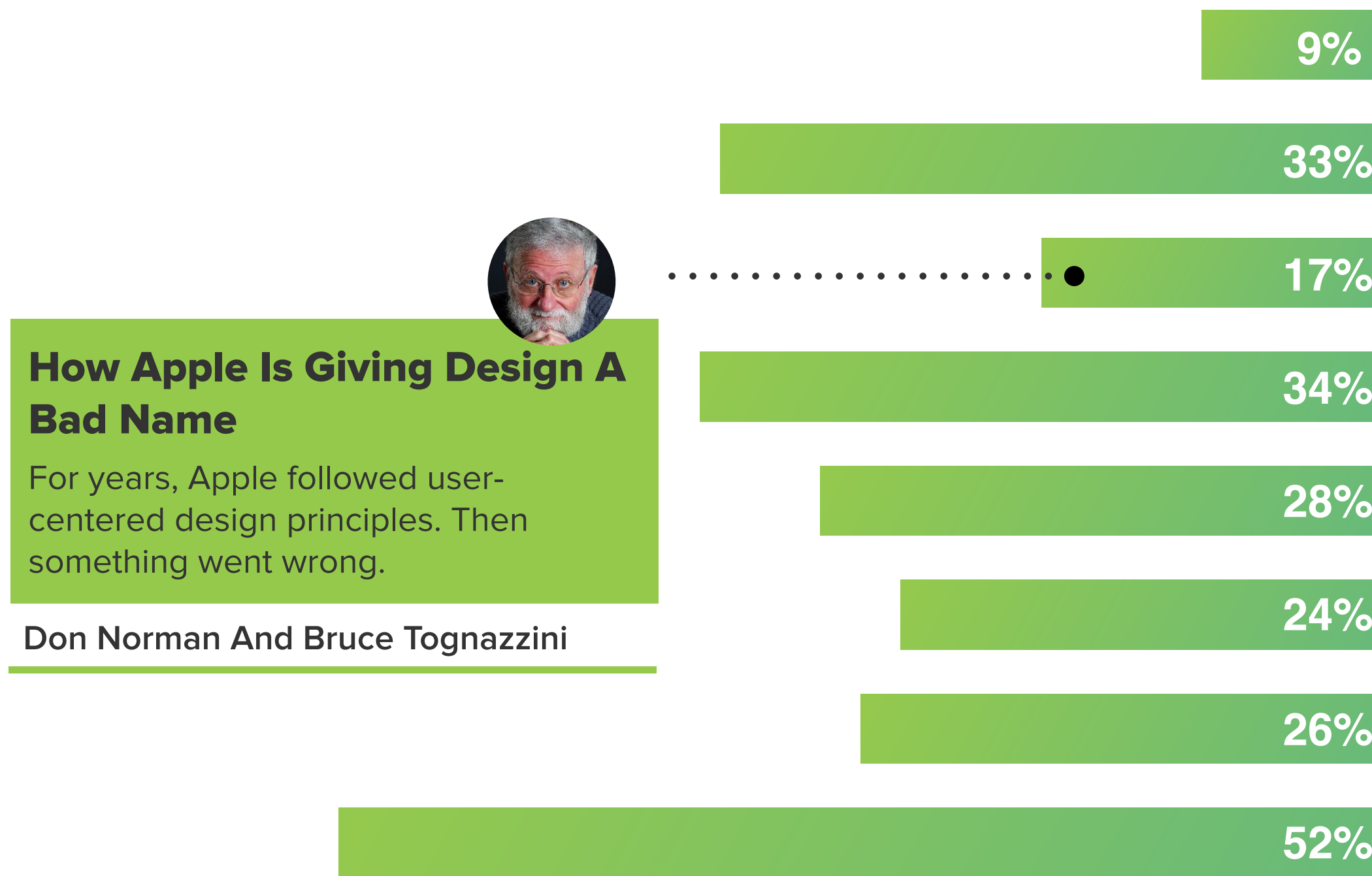
How Apple Is Giving Design A Bad Name

For years, Apple followed user-centered design principles. Then something went wrong.

Don Norman And Bruce Tognazzini
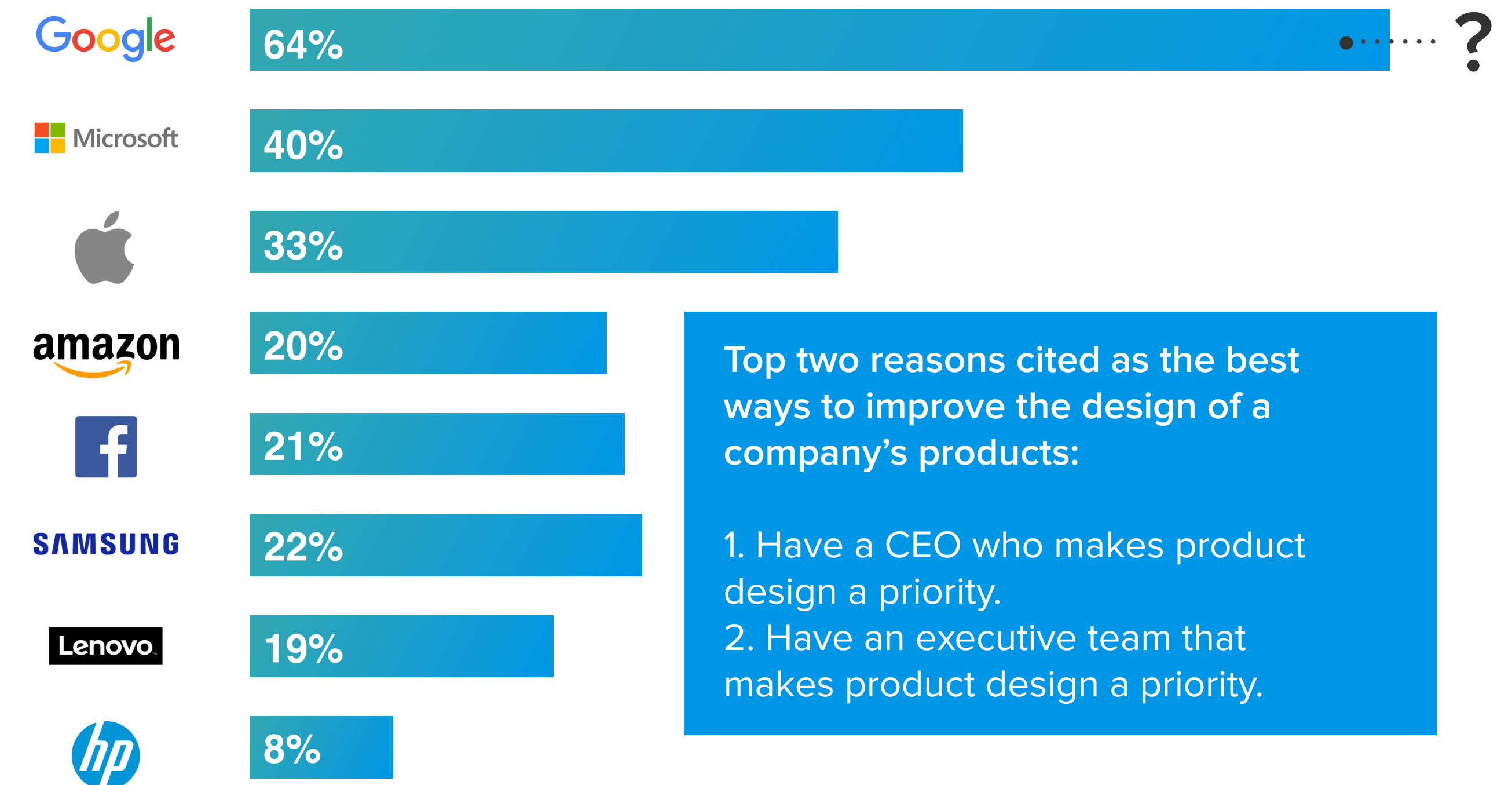
Top two reasons cited as the best ways to improve the design of a company's products:

1. Have a CEO who makes product design a priority.
2. Have an executive team that makes product design a priority.

In two separate studies we ran, Apple is always the outlier with regards to strong perception around product design quality. However, when asked which companies are improving in design (vs needs improvement), Google shows up.

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WHY IS GOOGLE

Succeeding at Design?

LARRY PAGE'S FOCUS ON DESIGN IS LARGELY CREDITED

"Significant investment in design in the last few years. With examples like Material Design and Inbox, they appear to be taking a solid stab at solving old problems with innovative design."

"The shift from design as an afterthought to design as a central driving force has unbelievably fast and seems to have touched just about all of their products."

— via KPCB Design, Product, Engineering Leader Study

DESIGN.GOOGLE.COM CELEBRATES ITS DESIGN CULTURE

GOOGLE ATAP PROJECT ARA

GOOGLE CREATIVE LABS / CHROME EXPERIMENTS / 30 WEEKS

GOOGLE VENTURES DESIGN TEAM PIONEERED DESIGN IN VC

MATERIAL DESIGN LANGUAGE'S IMPACT IS HUGE
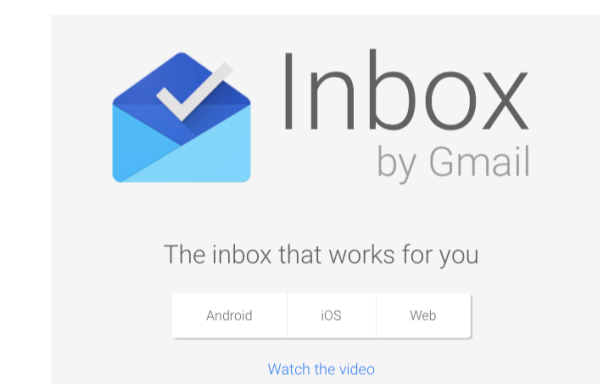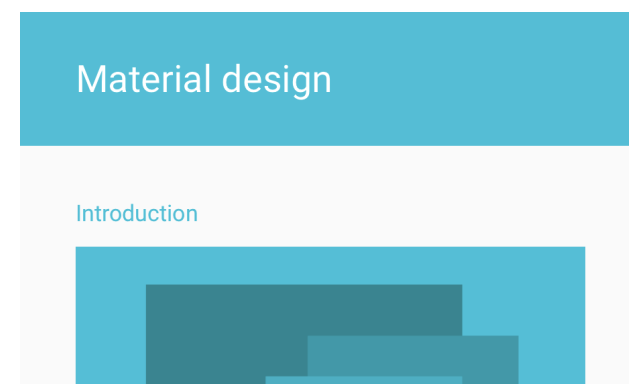
When listing Google's efforts in the design arena, the range is impressive: from the Material design language, to the design leadership at Google Ventures, to Google Creative Labs' and Google ATAP' technocreative wizardry.

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Factors that Contribute to Perception of Great Design

Talent	Willing to Invest	Exec/Board Support	Innovation	Strategic
Known to attract rockstar design talent.	Design is seen as a profit center.	CEO, executive team and board value design.	Design drives innovation.	Design is a central driving force for product strategy; not an afterthought.
■ FACEBOOK	■ APPLE	■ APPLE	■ APPLE	■ APPLE
■ GOOGLE	■ GOOGLE	■ GOOGLE	■ GOOGLE	■ GOOGLE
	■ FACEBOOK	■ FACEBOOK	■ TESLA	■ FACEBOOK
	■ IBM	■ SQUARE		■ SQUARE
	■ NETFLIX			■ TESLA
	■ SQUARE			
	■ TESLA			

We surveyed over 50 design, engineering and product leaders. They were asked to list two public companies that valued design. Other companies that came up include Nike, Virgin, Porsche, Target, Disney.

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4 | Design Quality is ∝ to Caring

■ Thinking critically about design means considering the broader human impact of a product and service that goes beyond profitability.

■ The next generations of designers aspire to design a world that reimagines the status quo with empathy for their fellow human beings.

■ Instead of seeing diversity as a problem that needs solving, designing for inclusion is both an economic opportunity and cultural responsibility.

Imitation is the Sincerest Form of Flattery. But When is Copying Okay?

An Innocent Homage to a great artist …
brilliantly becomes "Chess with Mustaches" as a parody art by
Scott Kildall and Bryan Cera as available to anyone on
Thingiverse to 3D print.

CHESS WITH MUSTACHES AND PARODY / KILDALL + CERA
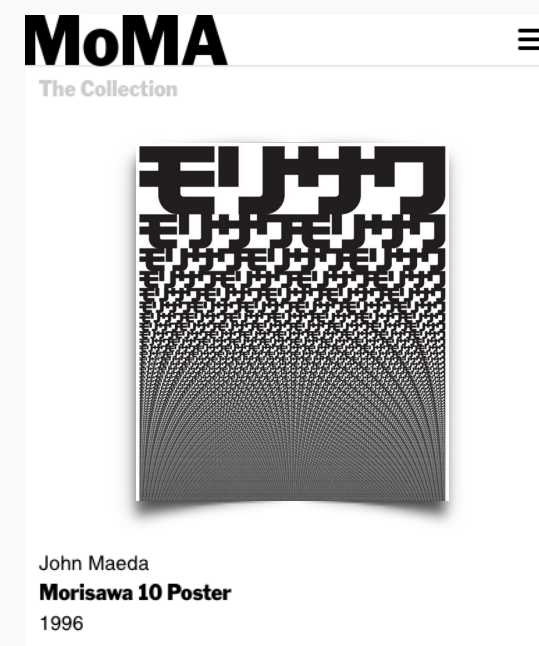
An idea I had twenty years ago has been used twice by Diesel, as
in this newer Diesel Thalia Repeat Print Logo T-Shirt
via Polyvore
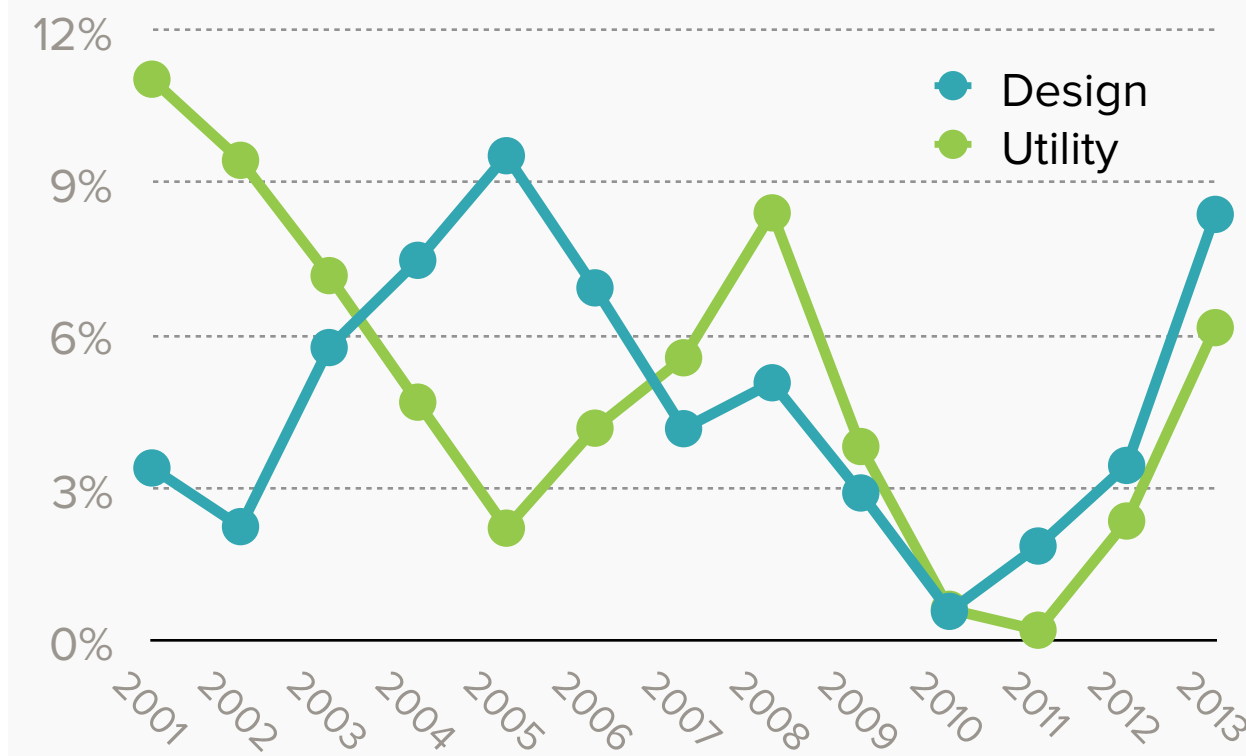
3-year Rolling Average of Percentage of Change in Number of Design Patents vs Utility Patents Filed

Design Patent application files have been increasing faster than utility patent applications. But utility patents generally outnumber design patents by eight times.

DESIGN PATENTS

USPTO D746029
Hermès Lions sneakers
awarded December 29, 2015
via @thefashionlaw

In fashion, design patents have been common. Just take a look at the law case where Louboutin won and you can know the stakes are high.
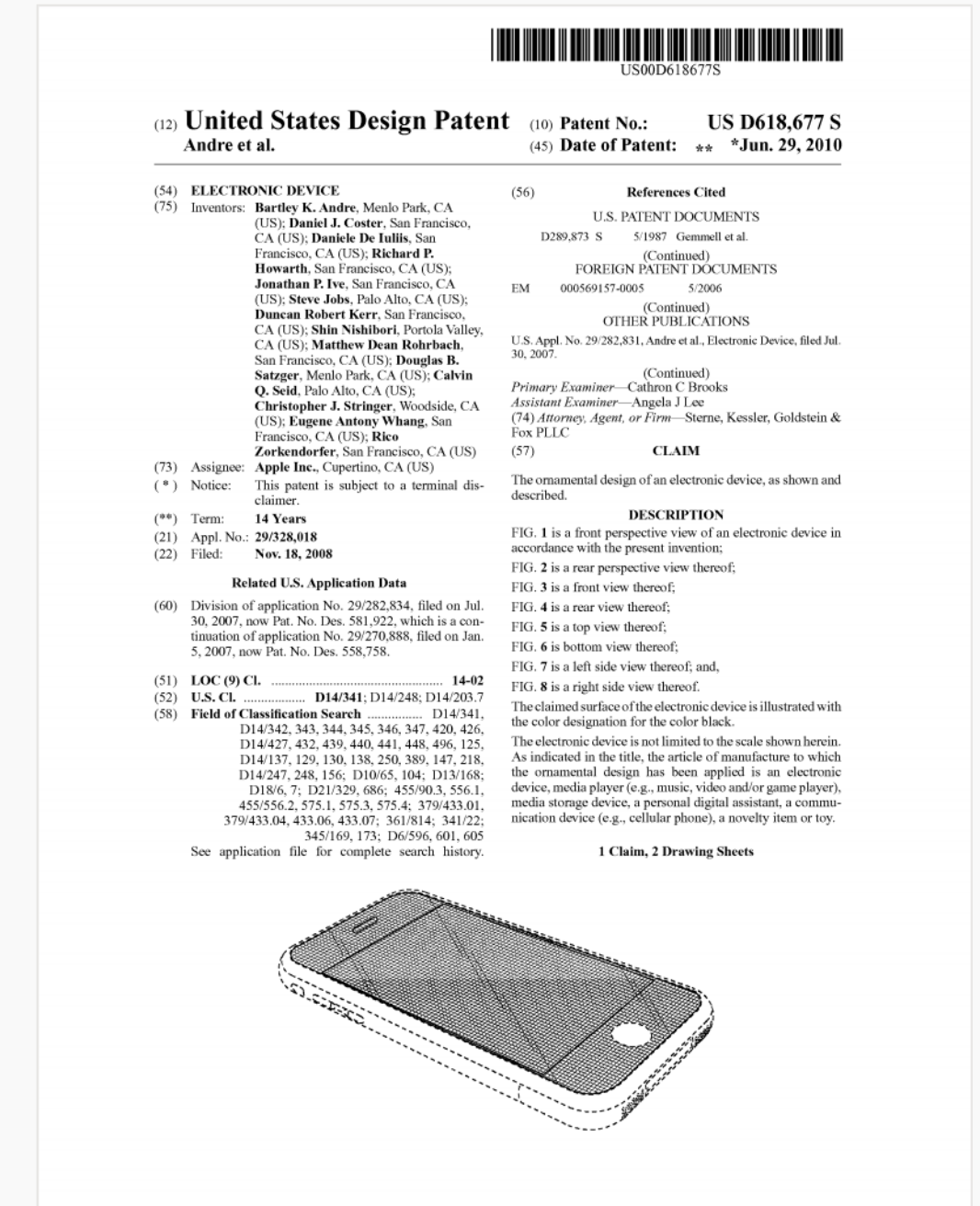
SAMSUNG V APPLE PATENT DISPUTE

US Patent D618,677 laid a claim on the famous "rounded corners" matter in a design patent dispute in 2012 between Apple and Samsung, winning Apple a nearly $1B jury award.

Artists and designers have a history of copying each other (think evolution and gene mutations), but given the Apple vs Samsung (2012) case, the value of the appearance of a product/service is increasing.

darkpattern.org

"A Dark Pattern is an interface that has been carefully crafted to trick users into doing things, such as buying insurance with their purchase or signing up for recurring bills."

Ethical Questions Are Embedded in How We Design For
ADDICTION

- Bait and Switch
- Misdirection
- Trick Questions
- Disguised Ads
- Faraway Bill
- Forced Continuity
- Hidden Costs

- Sneak into Basket
- Forced Disclosure
- Friend Spam
- Road Block
- **Roach Motel**
…

AWARENESS

OPINION

CONSIDERATION

PREFERENCE
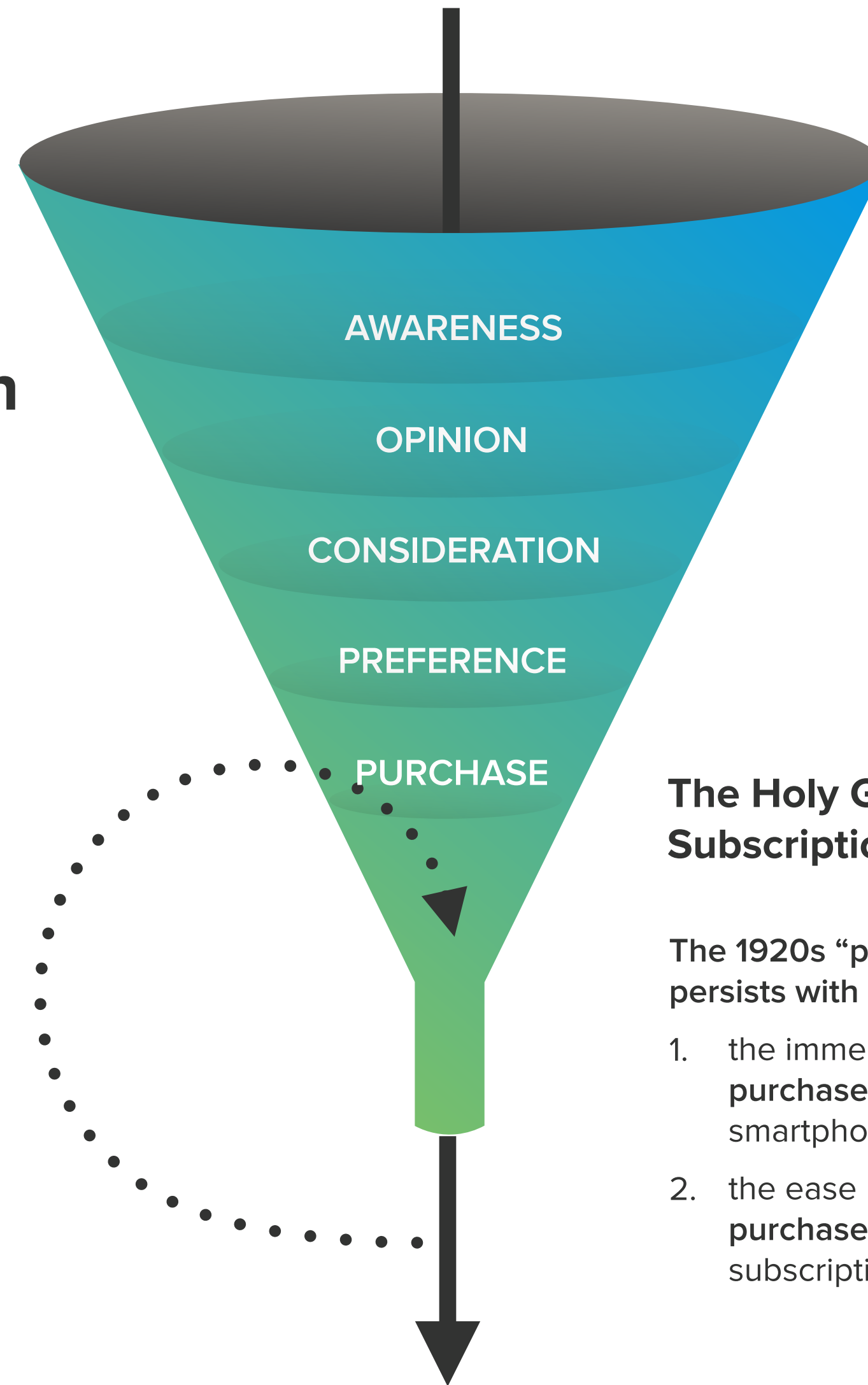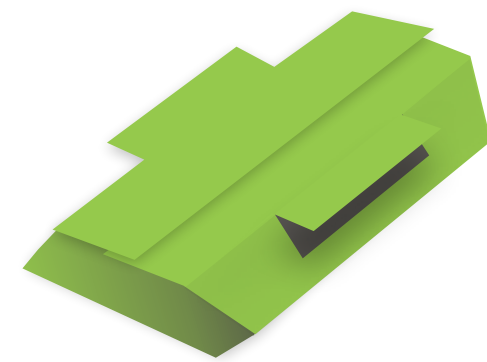
PURCHASE

**The Holy Grail:
Subscription Purchasing**

The 1920s "purchase funnel" model persists with **two differences**:

1. the immediacy with which a **purchase** can be made from a smartphone

2. the ease by which a recurring **purchase** can be setup as a subscription. There's a line.
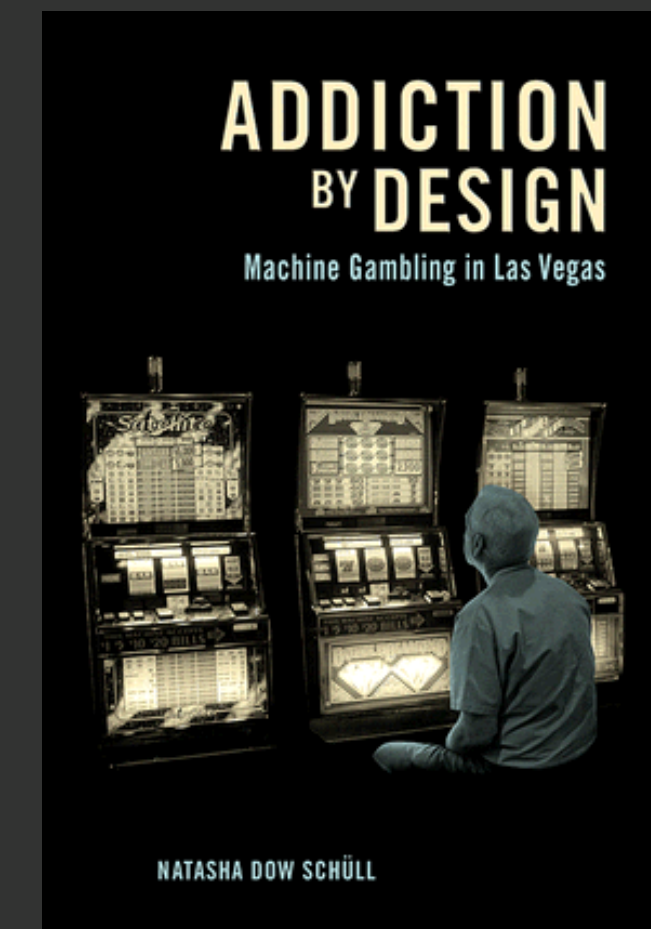
ADDICTION BY DESIGN
Machine Gambling in Las Vegas

Natasha Dow Schüll
Princeton University Press, September 2012
Winner, Sharon Stephens Prize, American Ethnological Association

Design in Tech | KPCB

Points and Leveling.
93% of users said they were likely to keep using the app.

Spontaneous Rewards.
Users rack up points that can unlock the chance to win rewards (i.e. a giftcard from Target).

Social Comparison.
84% said they are likely to recommend the app to friends and family.
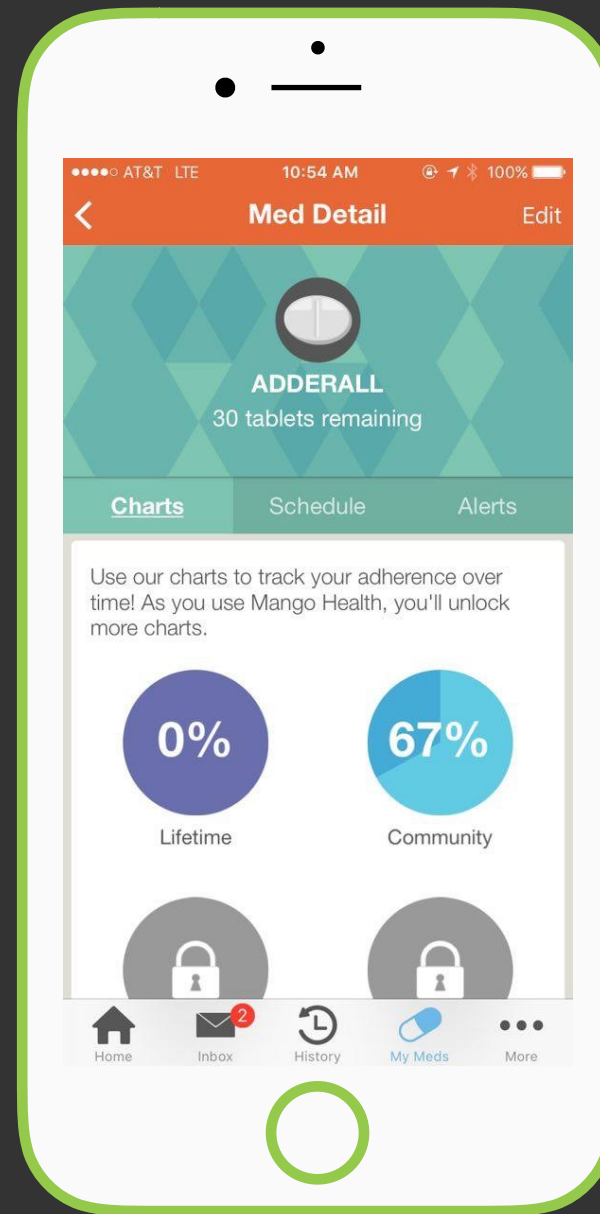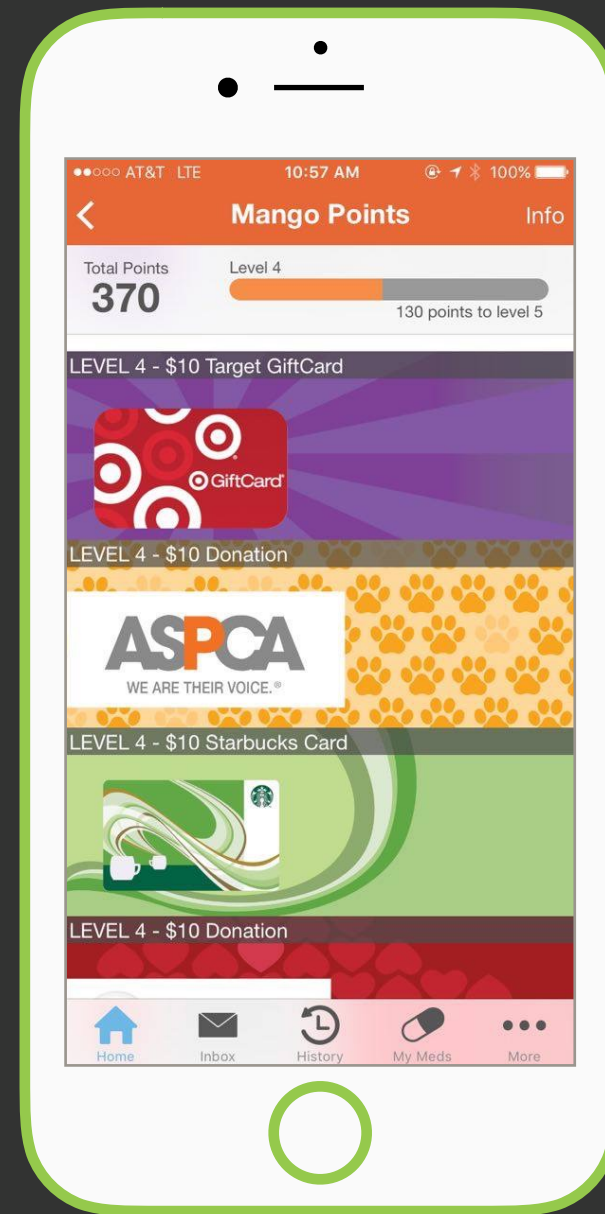
Mango Health uses gamification techniques to make the routine of taking your medication more fun and interesting, ultimately affecting standard engagement, adherence to drug regimens, and clinical outcomes over time.

However, in the Health-Tech Arena, Some Addiction Is Good. By Design.

" In the U.S., 75% of adults don't take medications as prescribed. The result is a $300 billion burden on the health care system. Mango Health's app aims to change that."

—Ariel Schwartz @fastcompany

"CEO's first hire"

Mango Health's first hire was a designer.

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Design Is Being Put to Use In The

PUBLIC SECTOR

Government Digital Service
Design Principles

Listed below are our design principles and examples of how we've used them so far. These build on, and add to, our original 7 digital principles.

1. **Start with needs***
2. **Do less**
3. **Design with data**
4. **Do the hard work to make it simple**
5. **Iterate. Then iterate again.**
6. **This is for everyone**
7. **Understand context**
8. **Build digital services, not websites**
9. **Be consistent, not uniform**
10. **Make things open: it makes things better**

£1.7 billion

Savings generated by one year of work by the UK's GDS at a cost of £58 million as reported in 2015. That's an impressive ROI of **27.3X**. Adding in the two years prior, GDS has achieved a savings of **£3.56** billion for the UK government by bringing the science and art of digital service design to the government and citizens.

"The reason I'm here is to recruit all of you. We can start coming up with new platforms across disciplines and across skill sets to solve some of the big problems we're facing today."
— **President Barack Obama** / SXSW 2016
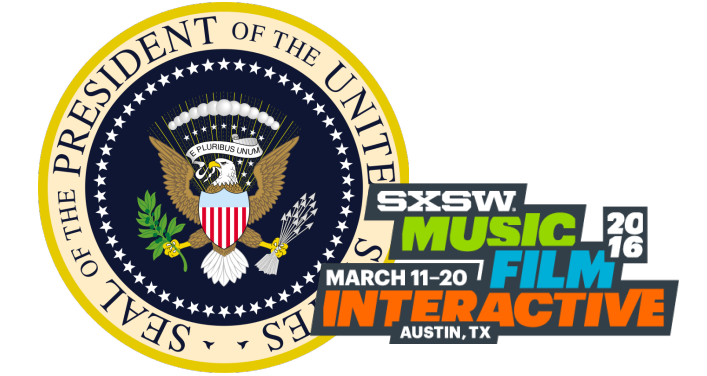
U.S. Web Design Standards

Open source UI components and visual style guide to create consistency and beautiful user experiences across U.S. federal government websites

18F, the U.S Federal Govt's Digital Consultancy

Launched draft of U.S. Web Design Standards - open source UI components and visual style guides to create consistent and beautiful UX across government websites.

Meet The U.S. Digital Service

The United States Digital Service is transforming how the federal government works for the American people. And we need you.

USDS, product teams embedded in the Govt

Actively recruiting product designers and engineers to transform the way government works. Teams tackle big problems in healthcare, student loans, veteran affairs, etc.

The groundbreaking work of the UK's GDS team and the rescue of healthcare.gov have spurred a movement to build a 21st century digital government in the U.S. This has led to similar efforts in Australia and New Zealand.

Design's Fundamental Impact
Rests In The Ability to
ENGENDER TRUST

" If the purpose of smart systems is to make sophisticated subtle decisions so people don't have to, it is pointless if people can't trust them to do so. This means that crafting the relationship between people and the technology we use becomes as critical as building faster processors."

— **Patrick Mankins** / Fast Company

BIASING TOWARDS CLEARER CYBERSECURITY REPORTING

" Security is messy. With design we're able to transform chaos into insight and change outcomes. It's how we change our angle of vision on a vastly complicated problem."

— **Oren Falkowitz** / Co-Founder & CEO / Area 1 @ KP Security Salon

BIASING TOWARDS VALUABLE RATINGS AND REVIEWS

BIASING TOWARDS THE FIRST IMPRESSION AS WHAT MATTERS

" Alfreds are in your home. So we had to design a brand that you really ****ing trust."

— **Marcela Sapone** / Co-Founder & CEO / Alfred @ SXSW 2016
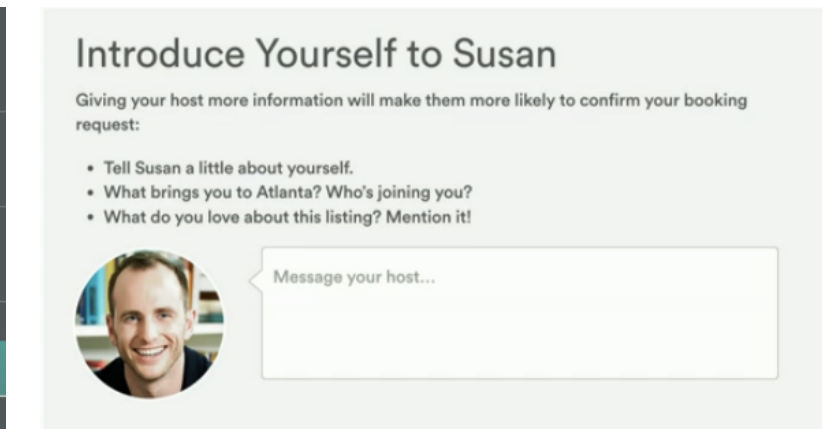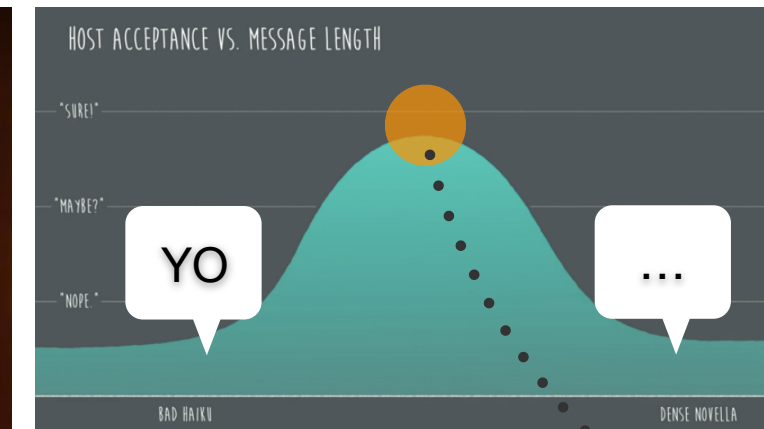
" Design is much more than objects. It's the whole experience. Could we use design to create trust?"

— **Joe Gebbia** / Co-Founder / Airbnb

HOST
ACCEPTANCE
VS MESSAGE
LENGTH

5 other design-focused security startups in addition to Area1 include Better Cloud, Ionic Security, ProtectWise, Red Canary, SentinelOne according to security experts.

Design in Tech KPCB

Designers Seek The Truth Through Broadened Discourse

EDELMAN TRUST BAROMETER 2015 / 2016

Q353 "From the list below, what do you believe are the top three drivers of change in business and industry?"

1 Technology	**70%**
2 Business Growth Targets	**66%**
3 Greed / Money	**54%**
4 Personal Ambition	35%
5 Improve People's Lives	**30%**
6 Make the World a Better Place	**24%**

Q330-331 "For which of the following reasons, if any, has your trust in each institution decreased over the past year?"

1 Fails to contribute to the greater good	**50%**
2 Lacks economic growth	**39%**
3 No public service	**36%**

Q328-329 "For which of the following reasons, if any, has your trust in each institution increased over the past year?

1 Produce economic growth	**59%**
2 Contributes to the greater good	**45%**
3 Allows me to be a productive member of society	**40%**

UNCONSCIOUS BIAS ROUNDUP BY STEPHANIE ENGLE AND CHEN YE

Introducing Blind by Design
Blind by Design is a series focused on addressing systemic biases within design. Join us.

We're all human. We carry with us contexts—from our childhood, from the people we interact with, and from the scenarios that exist in our day-to-day lives. We rightly celebrate the diversity of these contexts, marveling at our collective differences and our fundamental similarities.

But, our differences can also bias us, causing us to make assumptions, fail to take into account other perspectives, and systemically favor certain choices over others. These biases are particularly felt in a field as subjective, as personal, and as bound to the human condition as design.

Just a Brown Hand
On August 25th, Slack unveiled a new way for developers to connect to Slack, the "Add to Slack" button. It was the culmination of a great deal of work from many Slack employees, and just the beginning of what we have in store for Slack in the near future. Today, though, I want to talk about a seemingly small detail that has been more important to me than I would have expected: the skin color of the hand in the launch graphics.

Slack's people of color group (#earth-tones) was the first to say something.

The World is Designed for Men — how bias is built into our daily lives

Five Goofy Things Medium Did That Break Accessibility
Medium Engineering recently had an accessibility fixit. We found some goofy things! But we're trying to do better. We wanted to share some of what we found.
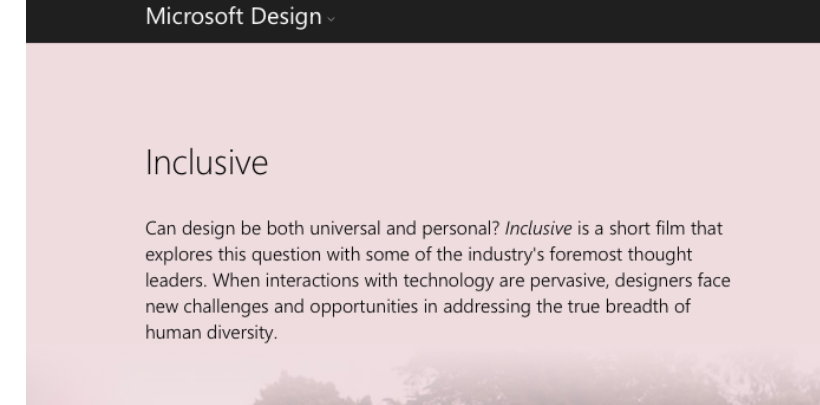
Inclusive
Can design be both universal and personal? Inclusive is a short film that explores this question with some of the industry's foremost thought leaders. When interactions with technology are pervasive, designers face new challenges and opportunities in addressing the true breadth of human diversity.

How Bad UX Killed Jenny
Or why we need more UX designers in "untouched" fields
Image via Kai Schreiber

#BUILDFORGOOD @KPCBFELLOWS
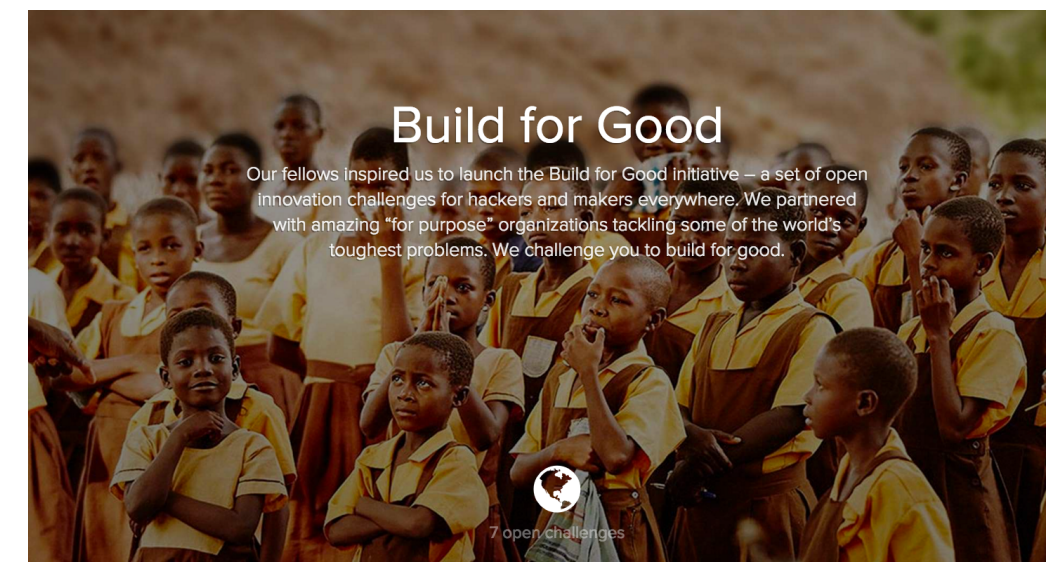
Build for Good
Our fellows inspired us to launch the Build for Good initiative – a set of open innovation challenges for hackers and makers everywhere. We partnered with amazing "for purpose" organizations tackling some of the world's toughest problems. We challenge you to build for good.

In 2015, the KPCB Fellows Program launched **#BuildforGood** challenges are posed at collegiate hackathons across the country, the hope is to inspire and help promote hacking/building things that make an impact and that matter.

The younger generation tends to brings us back to the sense of hope that we all need for the future, but with a critical eye. And a willingness to do the hard work to make the world a better place by design.

Products Designed With More Inclusive Biases Can Be More Profitable

AIGA NEWS
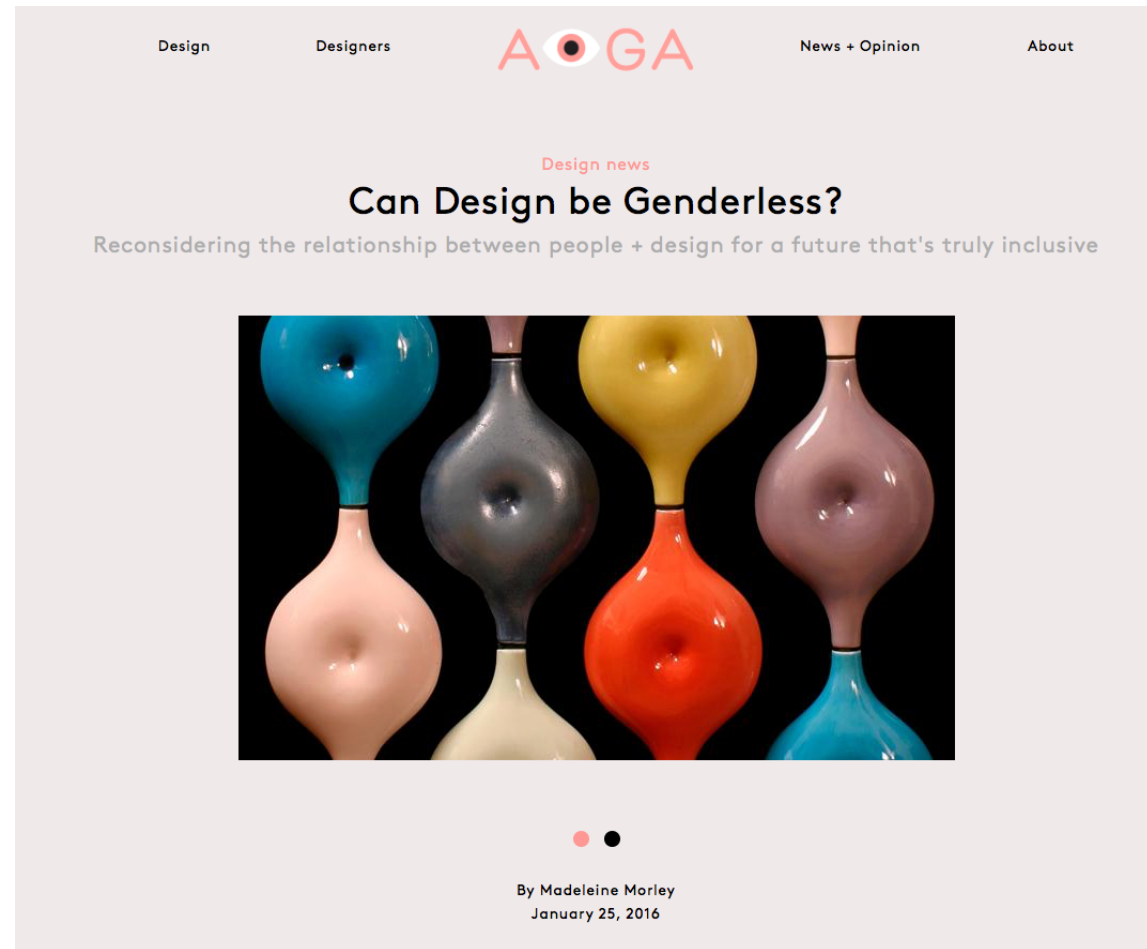
"Design has to find new ways of enabling individuals to express an increasingly fluid and nuanced multiplicity of gender identities, not just in fashion and graphics, but in objects, spaces, software, and so on."

— @alicerawsthorn

TOCA CHARACTERS ARE GENDERLESS
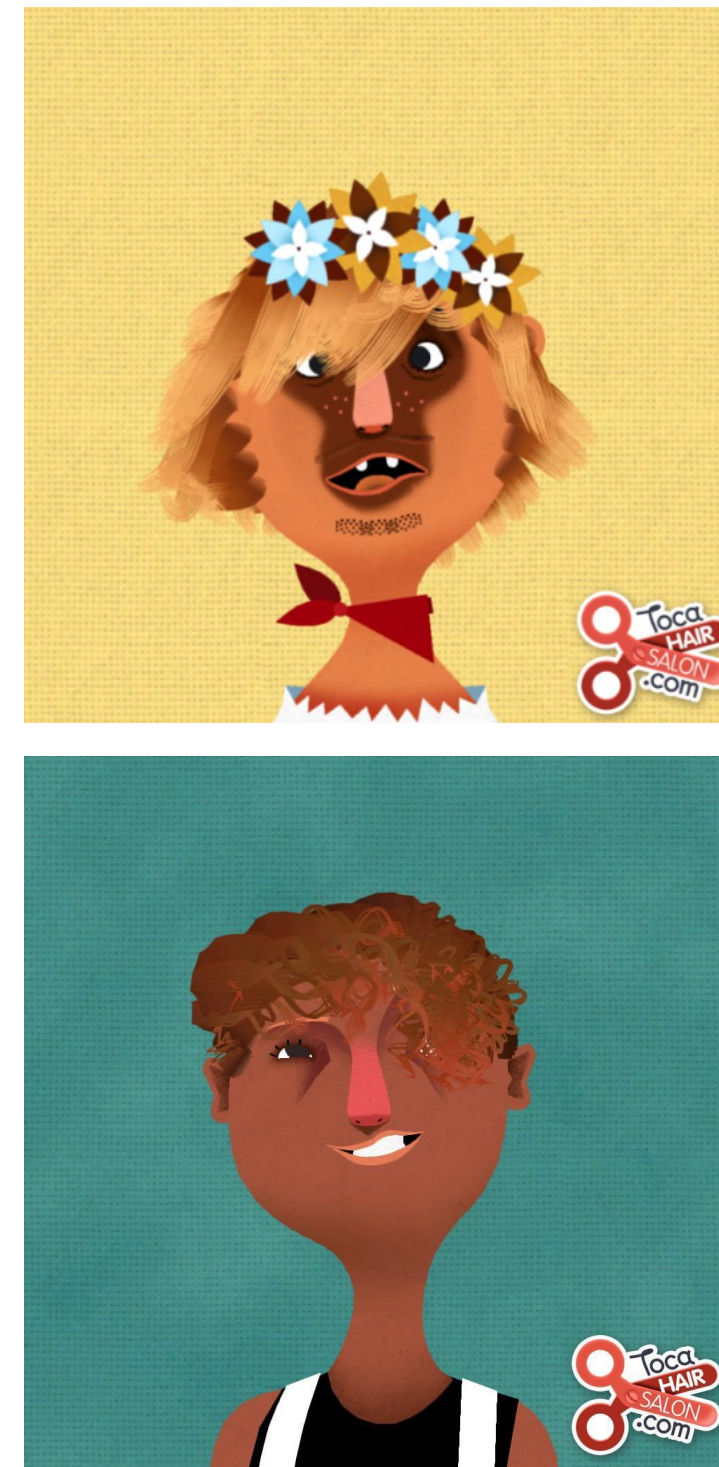
TOP PERFORMERS IN PAID APPS FOR KIDS

iOS App Store Revenue per month in USD net of platform commission via AppAnnie

iOS App Highest Peak Download Day via AppAnnie

14689 downloads on peak day

*V1 launched 11/30/12

2581 downloads on peak day

*V1 launched 6/19/13

1159 downloads on peak day

*V1 launched 12/19/14
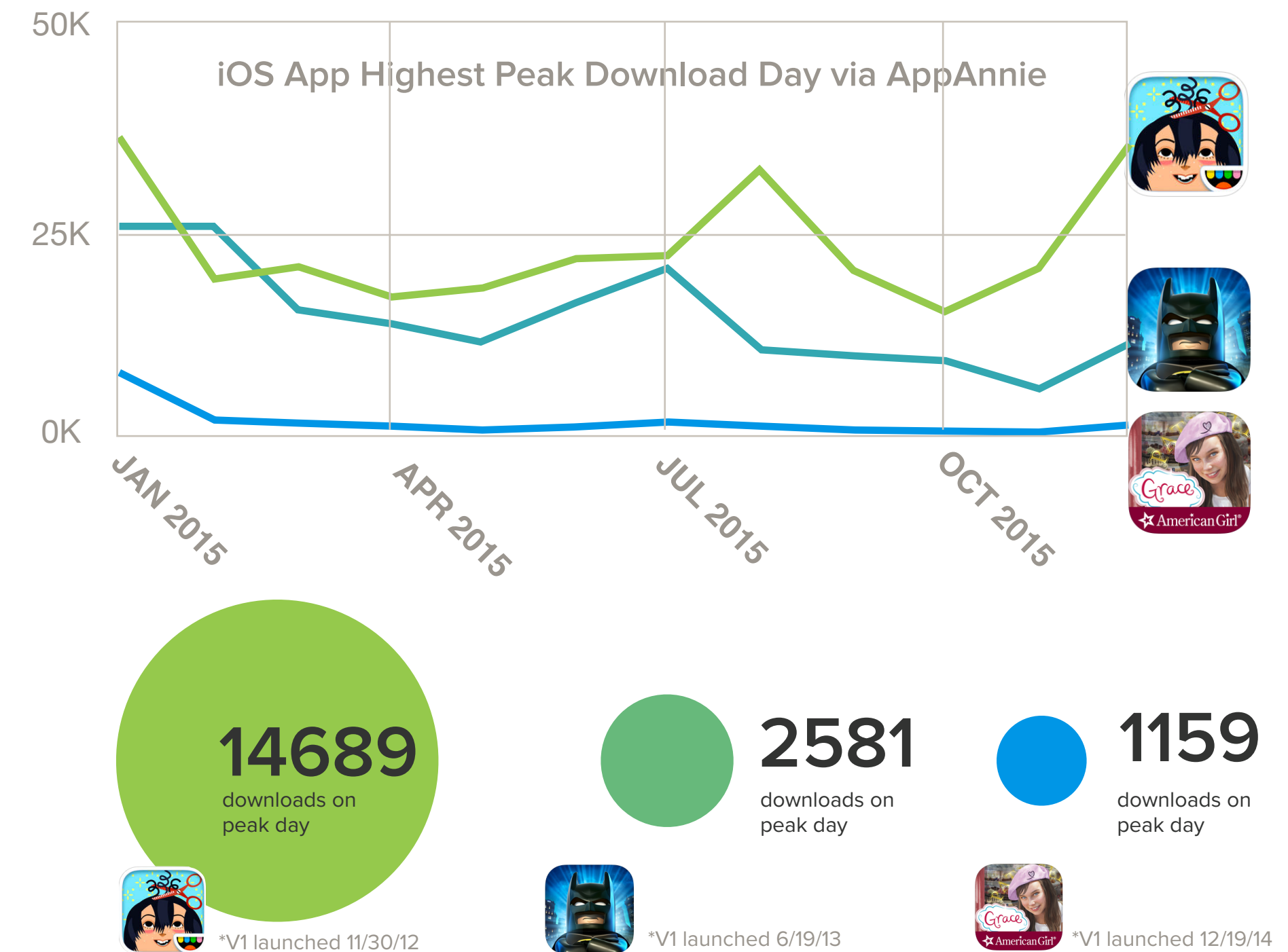
In the kids games category, Toca is the leader with significantly higher revenue within the past year and more than **5x** downloads at peak than traditionally "gendered" games Lego Batman: DC Super Heroes and Sweet Shop by American Girl.

Design in Tech KPCB

An Inclusive

PERSPECTIVE

Enables Reimagining The Startup Ecosystem

ELDERLY CARE

Care service and platform allowing for the elderly community to age gracefully and comfortably in their own homes led by CEO Seth Sternberg.
Raised 20 million as of 2016

GENDERLESS STEM TOYS
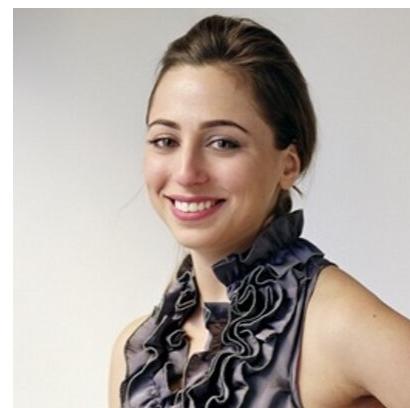
Toolkit for electronic construction that carries no gender biases, as designed by MIT-trained CEO Ayah Bdeir and her LittleBits team.
Raised 59 million as of 2016

SKINCARE NEEDS

Shaving system for people with coarse or curly hair, with recent addition of an electric trimmer with an elegant design, led by CEO Tristan Walker and Walker & Co Team.
Raised 33 million as of 2016

GAY SOCIAL NETWORK
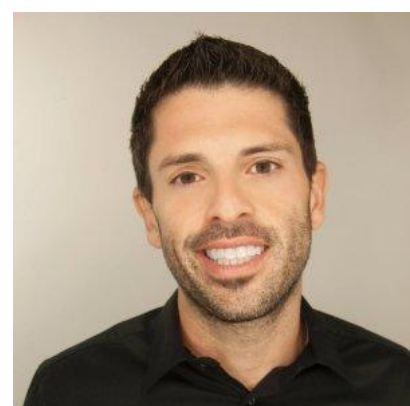
The world's largest gay social network allowing for a community that is often "invisible" to connect with each other. Top paid app in social networking category led by Joel Simkhai.
Kunlun bought 60% stake for $93M in 2016

EGG FREEZING

First company to provide access to high quality fertility doctors, fertility health digital platform and plans for elective egg freezing, IVF treatment and tests led by CEO Gina Bartasi.
Raised 34 million as of 2016

Underserved markets aren't necessarily small markets. Some of the best designers in the world are taking on these challenges.
Trust *can* exist in a world where money is made and social transformation happens at the same time. It is possible.

5 Final Thoughts

- Much of what we see in the #DesignInTech space was born in the research community over multiple decades.

- What's being built by the startup ecosystem and large corporations today strongly indicates the balance of power has shifted away from academia.

- We must consciously invest in education to develop a more hybrid perspective on creativity in the 21st century: Technology x Business x Design.

- President Obama's signing of ESSA (Every Student Succeeds Act) into law in 2015 is a positive sign: by turning STEM into STEAM (adding Art) in K-12 education as a US priority.

Design in Tech — KPCB

If You're Looking For Ideas, Just Look Back A Decade or Four or Five.

"Consider a future device for individual use, … a sort of mechanized private file and library … in which an individual stores all his books, records, and communications, … consulted with exceeding speed and flexibility."

— **Vannervar Bush 1945 @MIT**

04. **Bush, V., "As We May Think." The Atlantic Monthly**

1945

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1983

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1994 /1968

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1963

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1969

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1984

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Human

This article summarizes
computer interaction te
the advancement of the

A short excerpt from t
Computer Interaction,"
Surveys, **28**(4), Decemb

This research was partially sponsored by NCC
Order No. B326 and partially by NSF un
conclusions contained in this document are th
representing the official policies, either e
Government.

Report Report, Number, August, 1977.

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And Look A Bit Harder. You'll Find Some Truly Interesting People Along The Way

If I may add a few of my favorites …

A FEW KEY #DESIGNINTECH PIONEERS

Muriel Cooper
MIT Media Lab
Visible Language
Workshop

Red Burns
NYU Tisch School
Interactive
Telecommunication
Program

Gillian Crampton-Smith
Royal College of Art
Computer-Related
Design and Ivrea
Institute

Joy Mountford
Apple Human
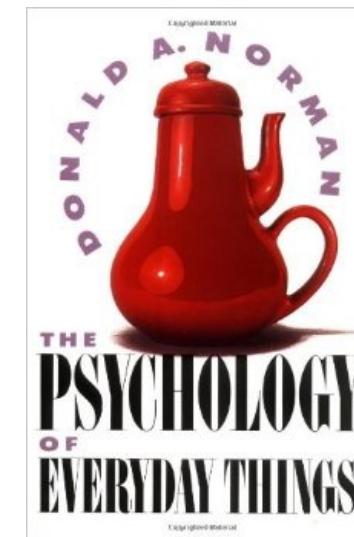Interface Group
Interval, Yahoo!,
Akamai

MORE SEMINAL BOOKS/FIGURES WRT #DESIGNINTECH
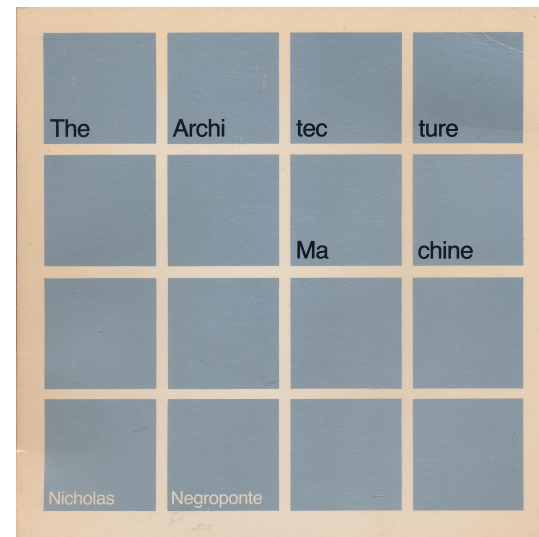
Nicholas Negroponte
The Architecture Machine
1973

Richard Saul Wurman
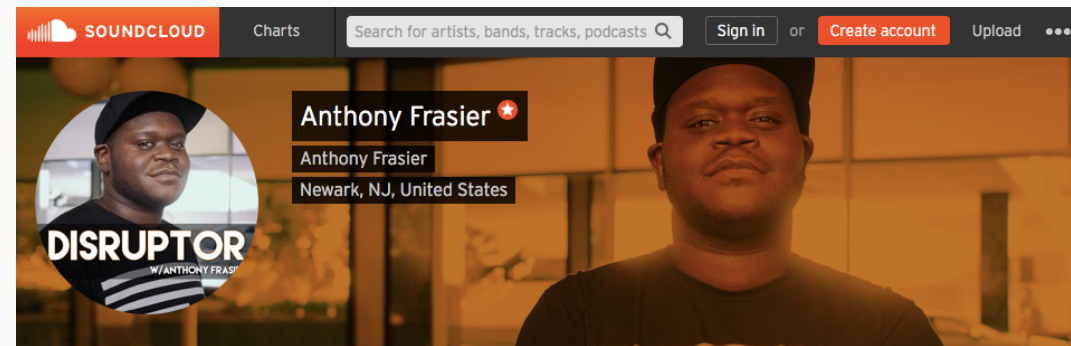Technology Entertainment Design
1984

Donald Norman
The Psychology of Everyday Things
1988

Brenda Laurel
Computer as Theatre
1991

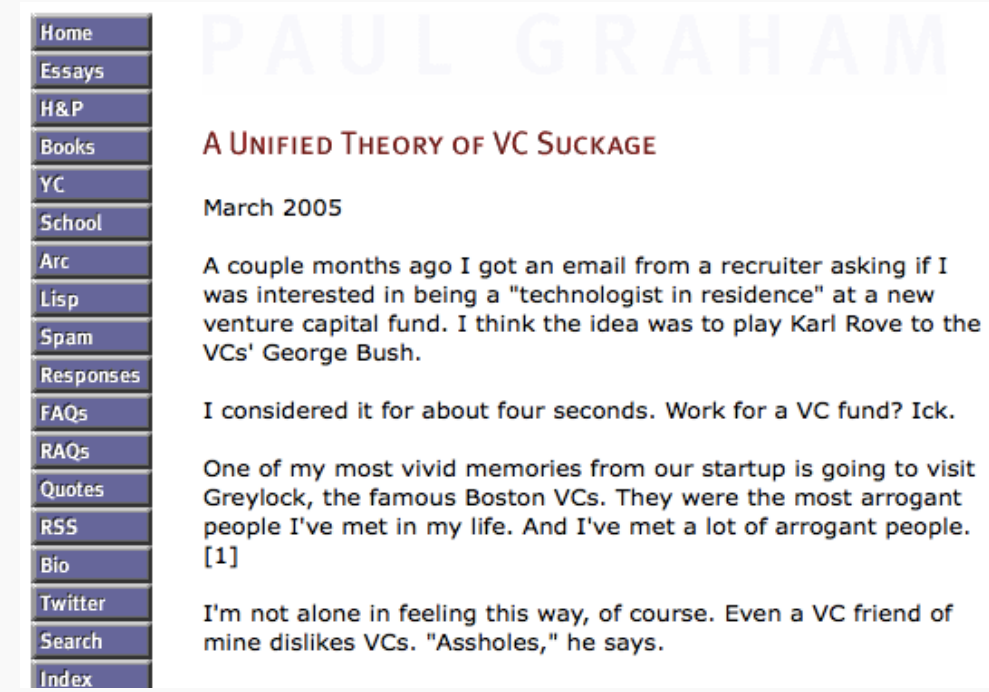# The Startup Ecosystem Feels A Lot Like The New Graduate School
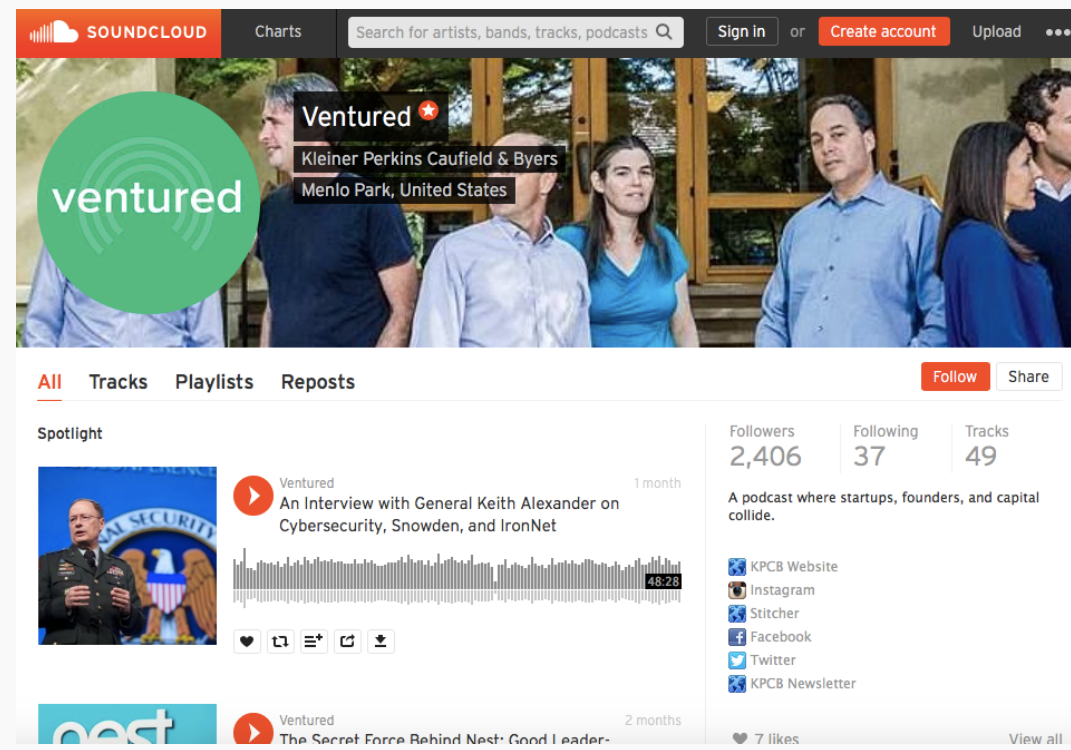
Anthoy Frasier

KPCB Ventured

Founders Collective

Buildup.VC

BUILDUP Radio Episode 1 – Characteristics of A Startup Founder with Tommy Leep of Rothenberg Ventures

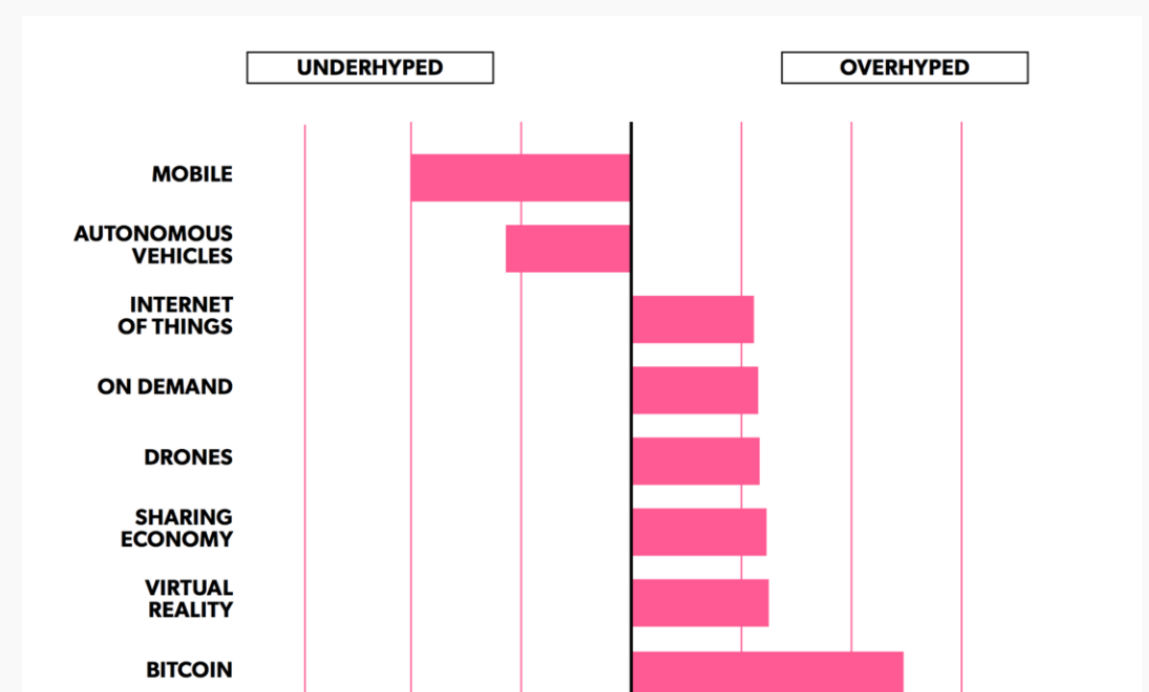## Carpool.VC

S1 E2 - Clark Valberg

Paul Graham / YC

Muzzammil Zaveri + Arielle Zuckerberg

WHY TEXT-BASED INTERFACES?
Zero (or minimal) front-end design
Consistent/up-to-date experience across all platforms
Users don't have to download/install another app
Onboarding is easy

Hallway Chat

First Round Capital

25years 23years But Everything We Only Believed Had Happened, Is Finally Happening

THE MIT MEDIA LAB BLURRED ART AND TECHNOLOGY

Oculus

MOBILE

AUTONOMOUS

VEHICLES

INTERNET OF THINGS

ON DEMAND

DRONES

SHARING ECONOMY

VIRTUAL REALITY

BITCOIN

```
Message: 6
Date: 11.1.93
From: Nicholas Negroponte
To: WIRED
Subject: Virtual Reality: Oxymoron or Pleonasm?

VR Then and Now
Neophytes have a mistaken sense that VR is very new
because the press just learned about it.
It is not. Almost 25 years ago, Ivan Sutherland
developed, with support from ARPA, the first
surprisingly advanced VR system.
…
```
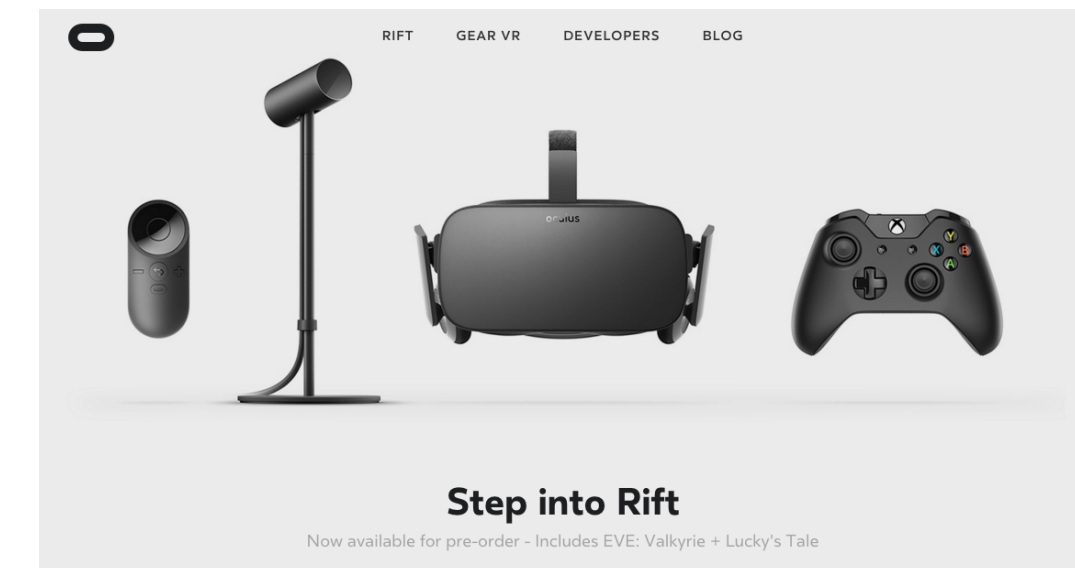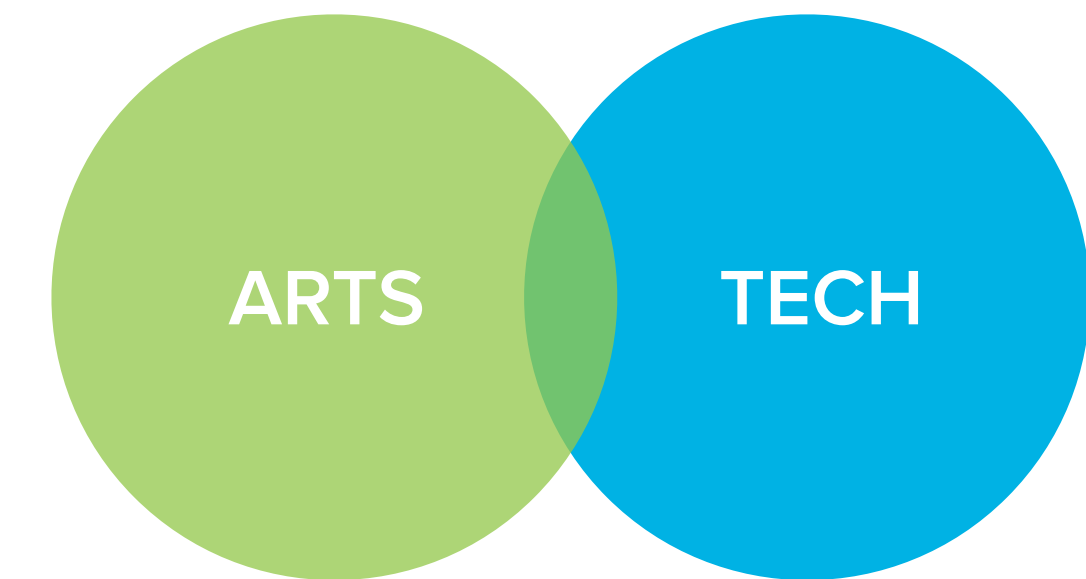
BECAUSE ART IS HOW WE CAN SEE/FEEL THE FUTURE

ARTS   TECH

Bi-Molecule, 1.0

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What To Look Forward To? What Is Coming? Atoms Will Behave Like Bits.

MIT MEDIA LAB / HIROSHI ISHII / TANGIBLE MEDIA

GOOGLE ATAP / IVAN POUPYREV / PROJECT SOLI: EXPANDING INTERACTION VOLUME
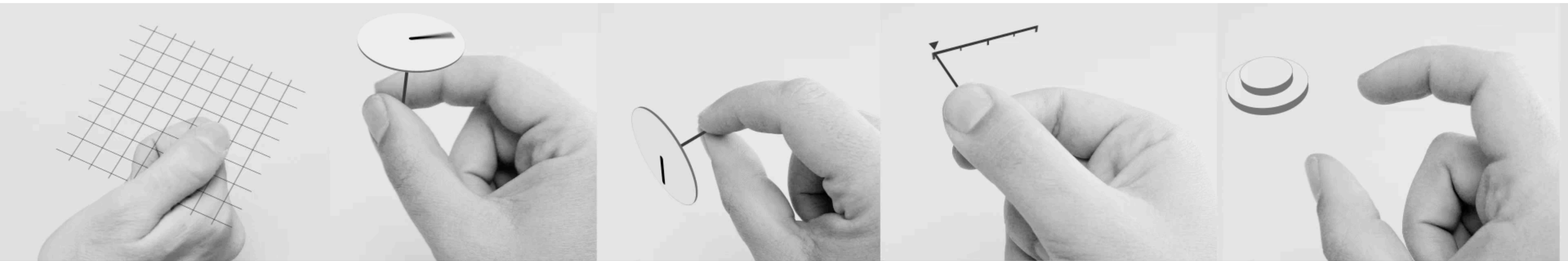
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Technology, Business, Design is About Hybridity = Always New Possibilities

ON DEC 10, 2015, STEM OFFICIALLY BECOMES STEAM
(ADDING ART TO STEM EDUCATION)

"Arts and music education are specified as eligible uses for new, state-administered 'Student Support and Academic Enrichment Grants' including support for the arts in STEM education."

—@naea, December 10, 2015
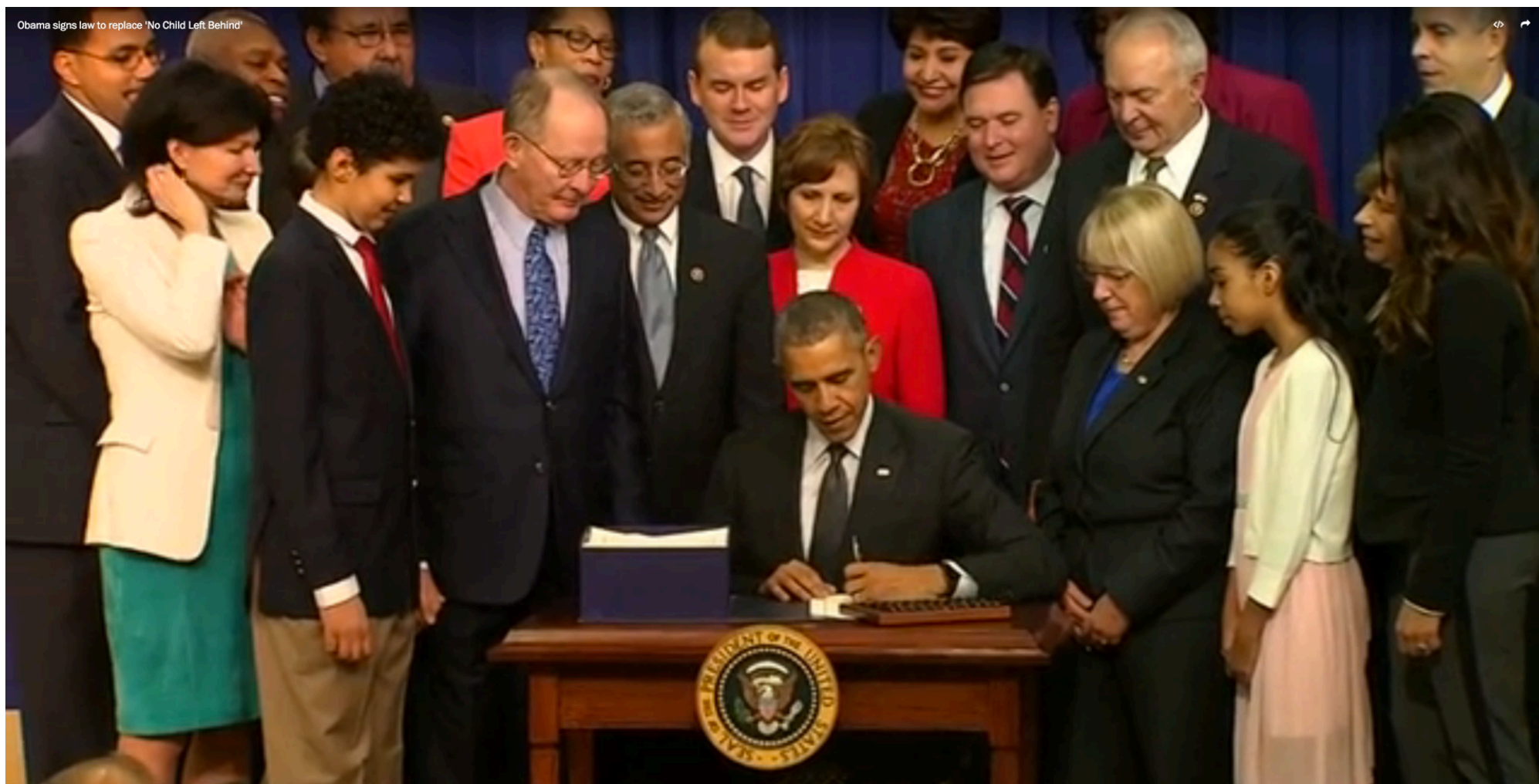
BECAUSE ART IS HOW WE CAN
SEE/FEEL THE FUTURE

AND ECONOMIC PROGRESS CAN
USE A LITTLE MAGIC AND HE(ART)

ARTS   TECH

TECH

DESIGN   BUSINESS
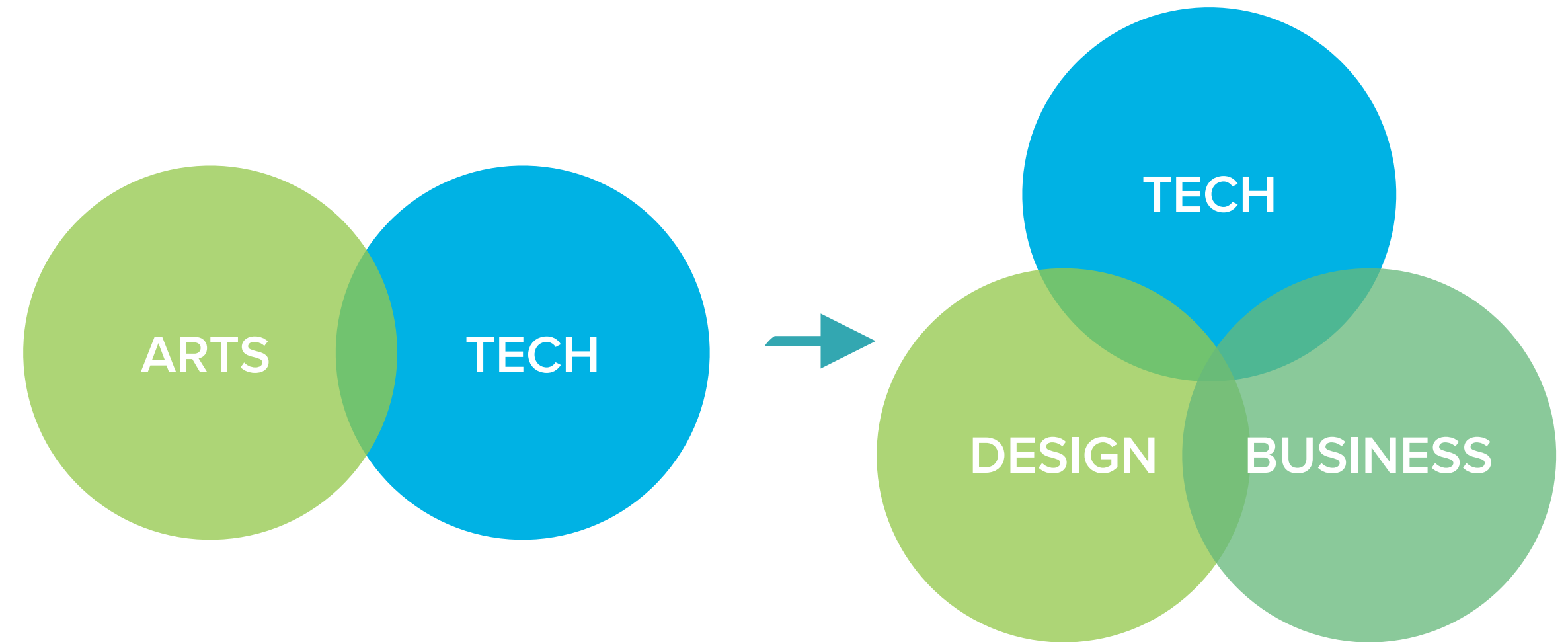
Bi-Molecule, 1.0

Tri-Molecule, 2.0

is To Be Determined ...

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There Are Three Kinds of Design At Play. We Need To Be Specific.

DESIGN

CLASSICAL DESIGN

there's a right way to make what is perfect, crafted, and complete

BUSINESS

DESIGN THINKING

because execution has outpaced innovation, and experience matters

TECHNOLOGY

COMPUTATIONAL DESIGN

designing for billions of people and in realtime, is at (individual) scale and TBD

Scale

Driver / the Industrial Revolution, and prior to that at least a few millennia of ferment.

Driver / the need to innovate in relation to individual customer needs requires empathy.

Driver / the impact of Moore's Law, mobile computing, and the latest tech paradigms.

The two growing categories of "designers" are those coming from Business and Technology. The three categories above are co-dependent — you must embrace at least two of these categories in order to win in this century.

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> **Engineers are efficient problem solvers. Business people think short term. Designers want things to be elegant and beautiful. All three need to create collaboration and harmony, and honor the value each other brings. There needs to be a new kind of 'multi-dimensional' approach to design that is yet to be invented."**

—Linda Holliday / @lmholliday

Design in Tech KPCB

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This presentation has been compiled for informational purposes only and should not be construed as a solicitation or an offer to buy or sell securities in any entity.

The presentation relies on data and insights from a wide range of sources, including public and private companies, market research firms, and industry professionals. We cite specific sources where data are public; the presentation is also informed by non-public information and insights.

This is the second publication of the Design In Tech report. We will post any updates revisions or clarifications on the KPCB website.

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