UX Trends and Considerations: A Peek Into the Future

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Progress Software

PROGRESS EXCHANGE 2014

Internet of Things

Internet of Things

- What's a "thing"?
- Interconnected computing devices
- Embedded in the physical environment
- Sensor and communication capabilities
- New generation of applications

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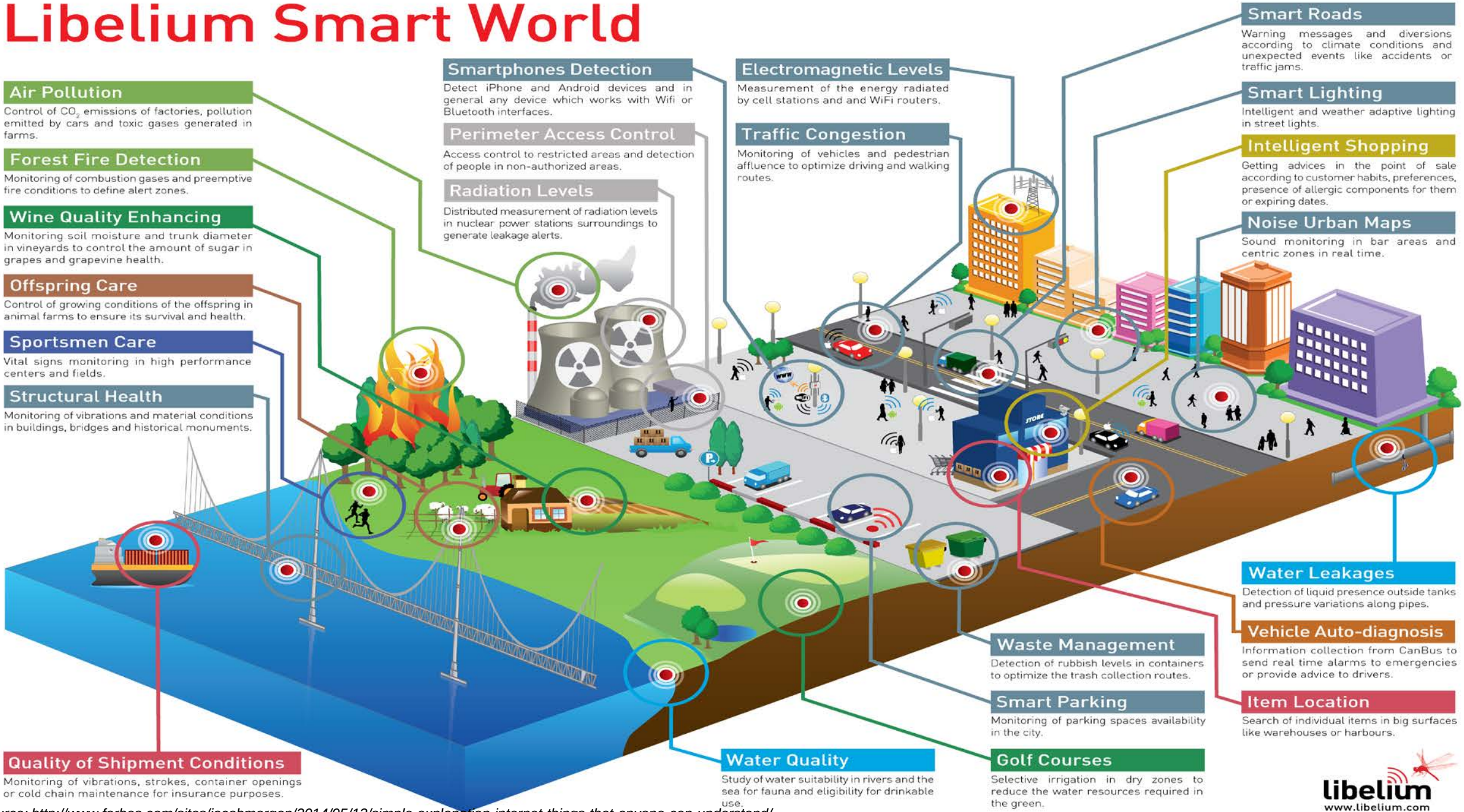
Libelium Smart World



Air Pollution
Control of CO_2 emissions of factories, pollution emitted by cars and toxic gases generated in farms.

Forest Fire Detection
Monitoring of combustion gases and preemptive fire conditions to define alert zones.

Wine Quality Enhancing
Monitoring soil moisture and trunk diameter in vineyards to control the amount of sugar in grapes and grapevine health.

Offspring Care
Control of growing conditions of the offspring in animal farms to ensure its survival and health.

Sportsmen Care
Vital signs monitoring in high performance centers and fields.

Structural Health
Monitoring of vibrations and material conditions in buildings, bridges and historical monuments.

Quality of Shipment Conditions
Monitoring of vibrations, strokes, container openings or cold chain maintenance for insurance purposes.

Smartphones Detection
Detect iPhone and Android devices and in general any device which works with Wifi or Bluetooth interfaces.

Perimeter Access Control
Access control to restricted areas and detection of people in non-authorized areas.

Radiation Levels
Distributed measurement of radiation levels in nuclear power stations surroundings to generate leakage alerts.

Electromagnetic Levels
Measurement of the energy radiated by cell stations and and WiFi routers.

Traffic Congestion
Monitoring of vehicles and pedestrian affluence to optimize driving and walking routes.

Water Quality
Study of water suitability in rivers and the sea for fauna and eligibility for drinkable use.

Golf Courses
Selective irrigation in dry zones to reduce the water resources required in the green.

Waste Management
Detection of rubbish levels in containers to optimize the trash collection routes.

Smart Parking
Monitoring of parking spaces availability in the city.

Smart Roads
Warning messages and diversions according to climate conditions and unexpected events like accidents or traffic jams.

Smart Lighting
Intelligent and weather adaptive lighting in street lights.

Intelligent Shopping
Getting advices in the point of sale according to customer habits, preferences, presence of allergic components for them or expiring dates.

Noise Urban Maps
Sound monitoring in bar areas and centric zones in real time.

Water Leakages
Detection of liquid presence outside tanks and pressure variations along pipes.

Vehicle Auto-diagnosis
Information collection from CanBus to send real time alarms to emergencies or provide advice to drivers.

Item Location
Search of individual items in big surfaces like warehouses or harbours.

libelium
www.libelium.com

Source: http://www.forbes.com/sites/jacobmorgan/2014/05/13/simple-explanation-internet-things-that-anyone-can-understand/

Songdo (South Korea)

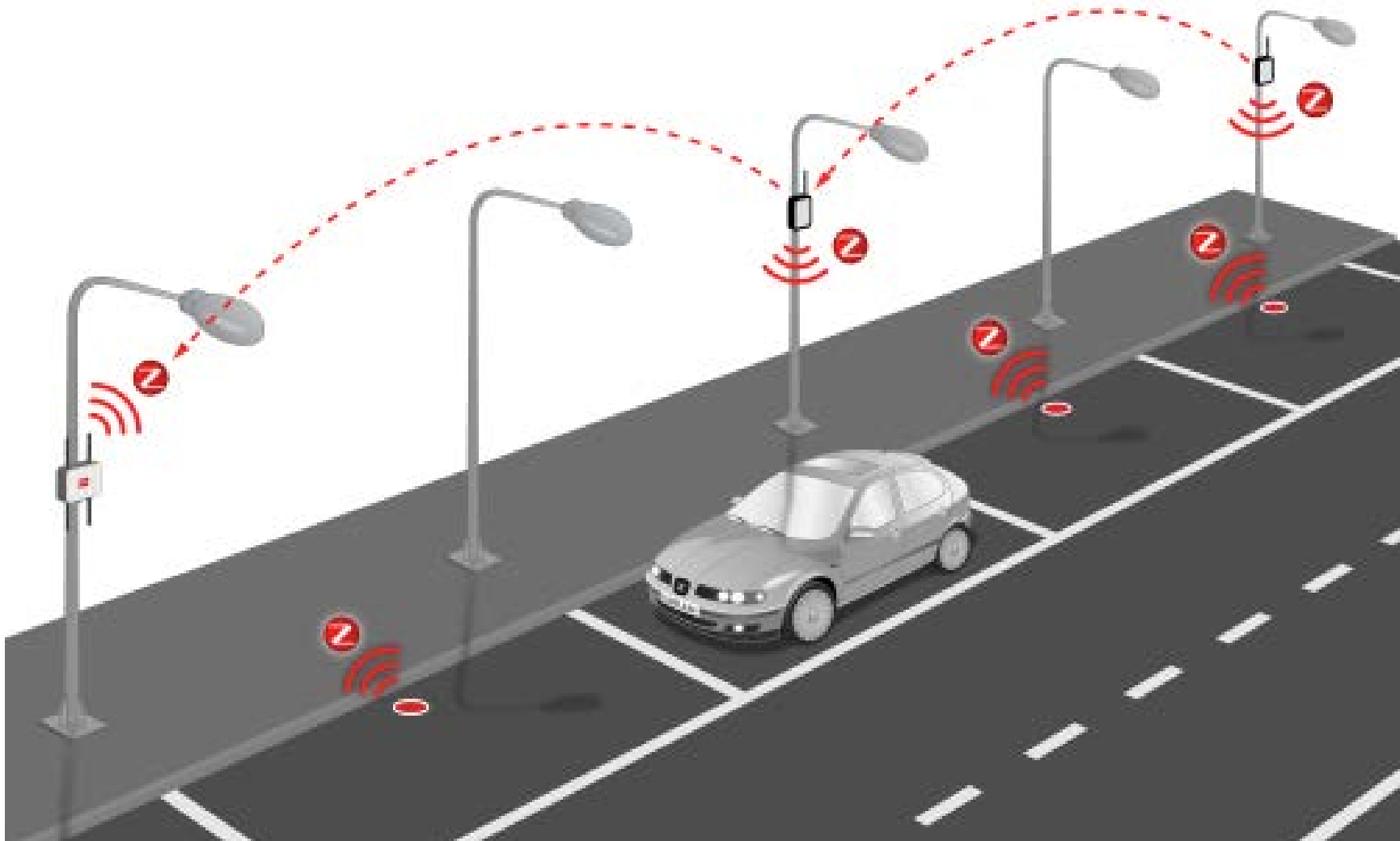
Accredit: JIPEN / Shutterstock.com

Santander (Spain)

- Smartified City
- Smart parking
- Environmental monitoring
- Social events
- Mobile applications

Source:

http://www.xataka.com/gadgets-y-coches/smart-santander-inicia-el-despliegue-de-sensores-de-aparcamiento



Takeaways: Internet of Things

- Revolution of smart applications and appliances
- Broader portfolio of consumer and enterprise applications
- Already underway:
  - Smart cities
  - Smart appliances
  - Smart homes
  - Smart device management applications (iOS8)
- Emphasis on automation, prediction and action frameworks

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Apple’s iOS8

Apple’s iOS 8

- App Extensions
- New Kits:
  - PhotoKit
  - HealthKit
  - HomeKit
- Multi-media messages
- Seamless work across devices:
  - Email
  - Photos
  - iCloud Drive Files
  - Phone Calls
- Apple Pay

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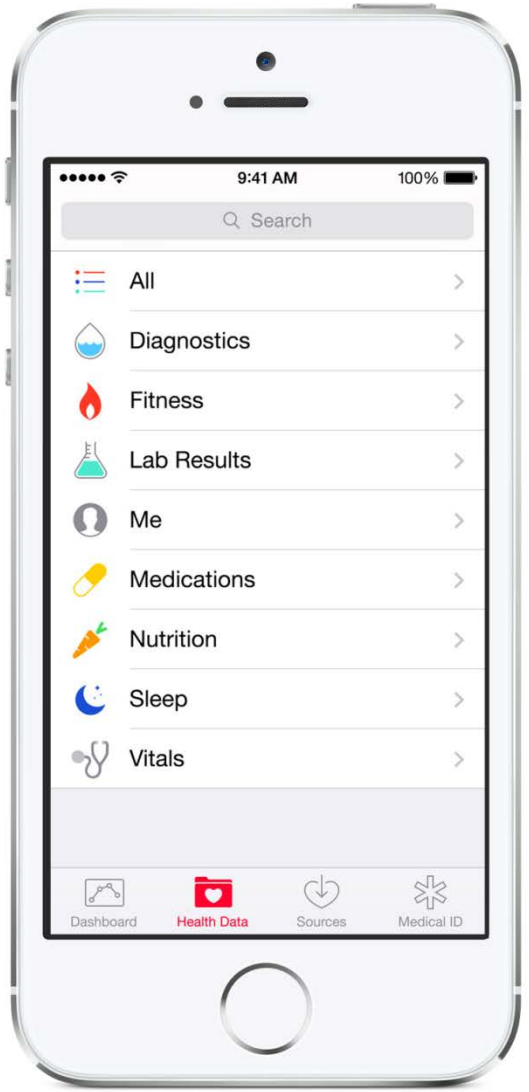
HomeKit

HealthKit



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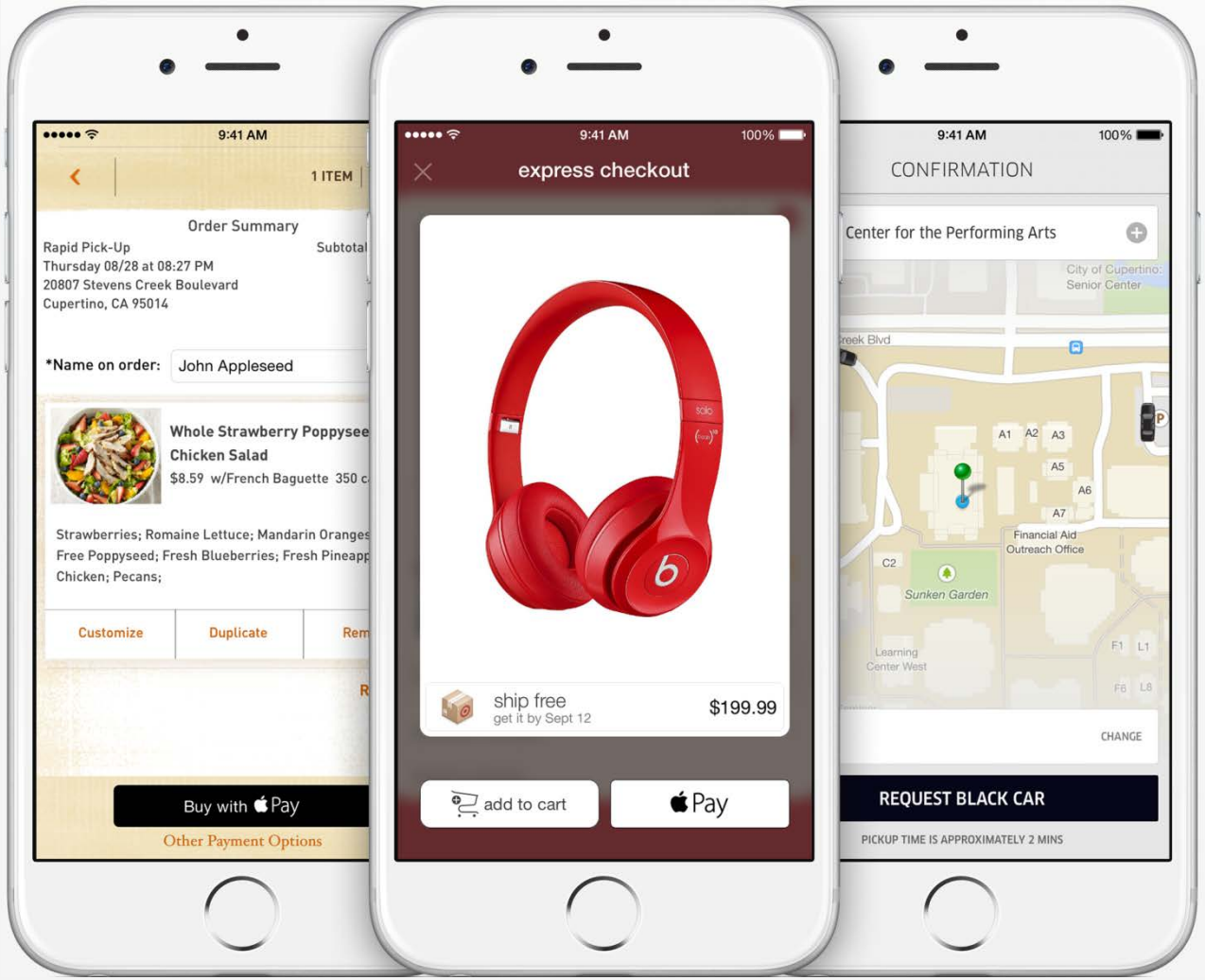
Work Across Devices

Work Across Devices

Work Across Devices

Apple Pay

Apple Pay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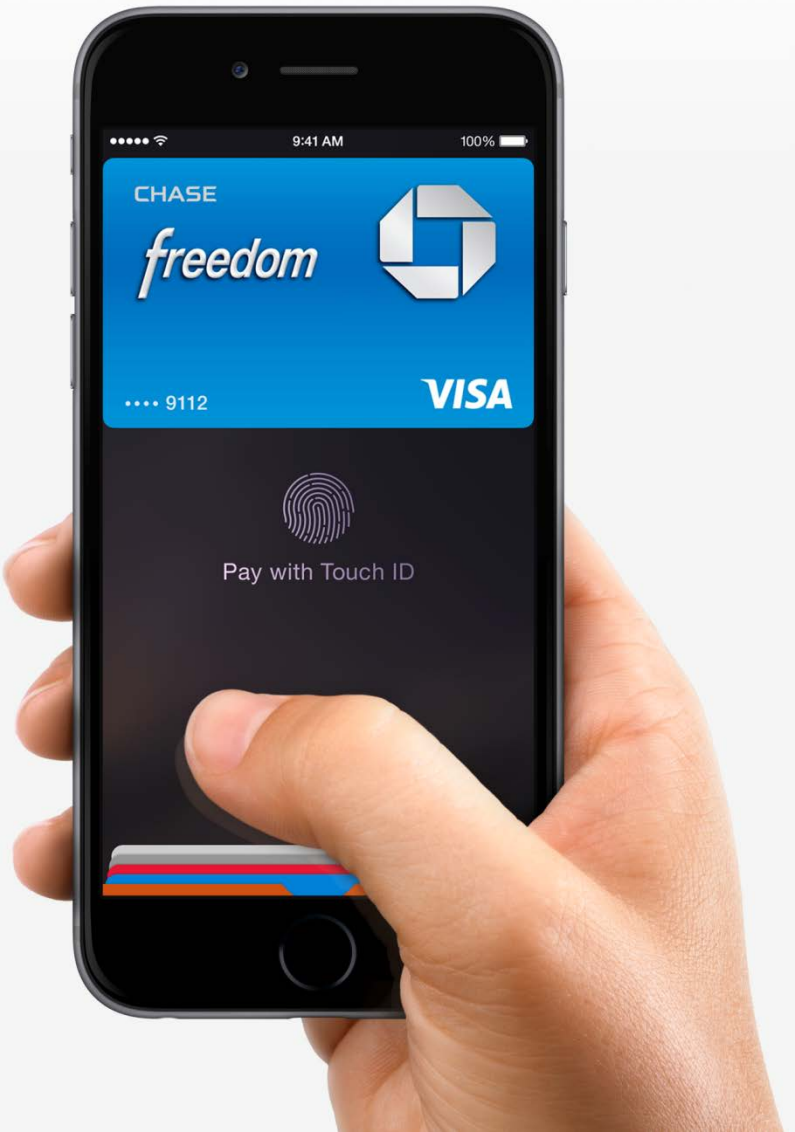
1 ITEM
Order Summary
Rapid Pick-Up
Thursday 08/28 at 08:27 PM
20807 Stevens Creek Boulevard
Cupertino, CA 95014
Subtotal
*Name on order:
John Appleseed
Whole Strawberry Poppysee
Chicken Salad
$8.59 w/French Baguette 350 c
Strawberries; Romaine Lettuce; Mandarin Orange
Free Poppyseed; Fresh Blueberries; Fresh Pineapp
Chicken; Pecans;
Customize
Duplicate
Rem
Buy with Pay
Other Payment Options
9:41 AM
100%
express checkout
ship free
get it by Sept 12
$199.99
add to cart
Pay
9:41 AM
100%
CONFIRMATION
Center for the Performing Arts
City of Cupertino:
Senior Center
Financial Aid
Outreach Office
Sunken Garden
Learning
Center West
CHANGE
REQUEST BLACK CAR
PICKUP TIME IS APPROXIMATELY 2 MINS


9:41 AM
100%
CHASE
freedom
•••• 9112
VISA
Pay with Touch ID

Takeaways: iOS8

- A step towards IOT:
  - Smart home controls.
  - HealthKit's inter-application communication and data sharing.
- Proliferation of multi-media communications
- Proliferation of multi-channel inputs
- Increased cross device task performance
- Higher usability expectation of consumer and business applications
- Ubiquity

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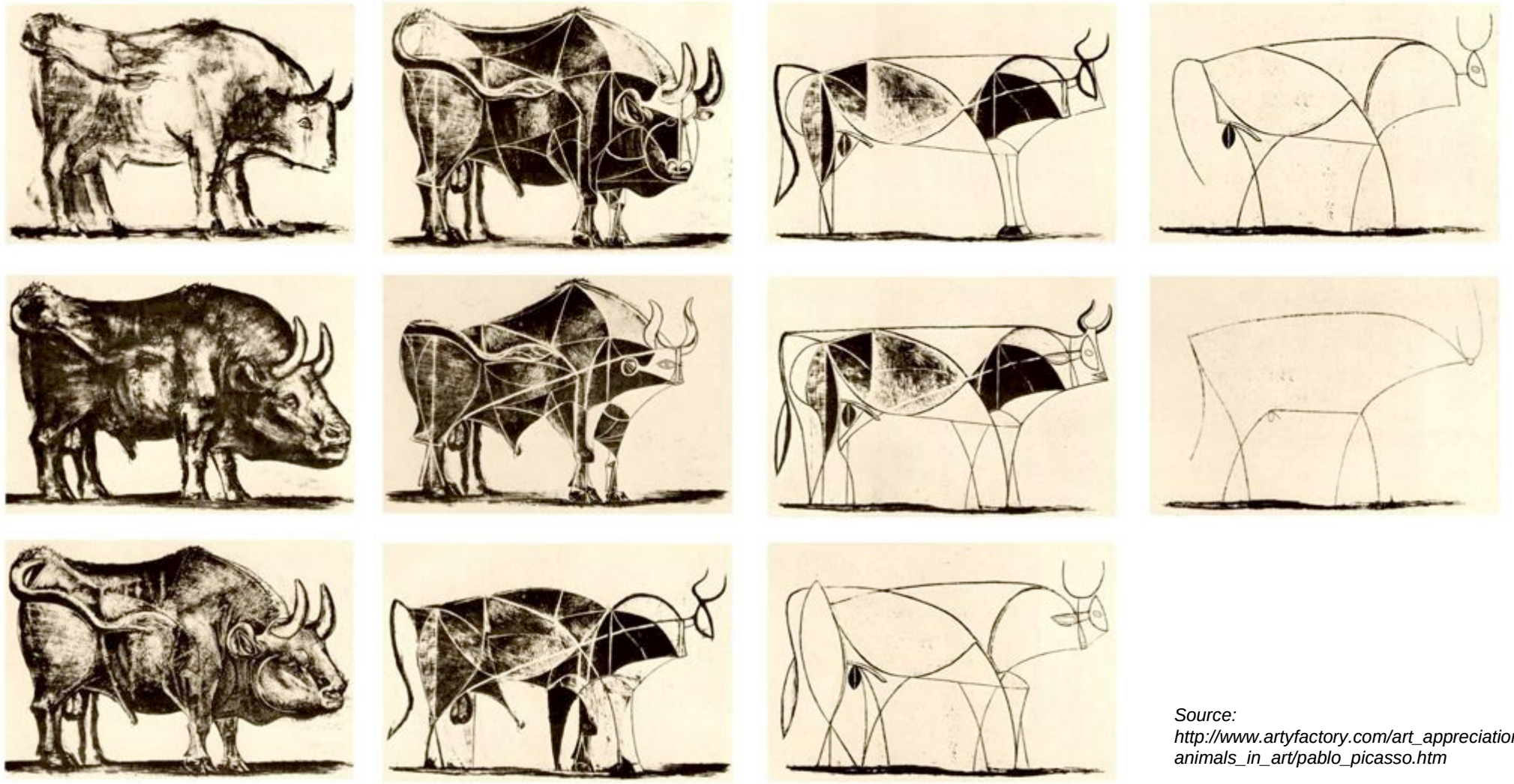
Minimal Design

Minimal Design



Source:
http://www.artyfactory.com/art_appreciation/animals_in_art/pablo_picasso.htm

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Principles

- Less is more
- Every detail counts that much more
- Distilling the essence of a design to its bare purpose
- Subtract until it breaks
- Usability is not optional

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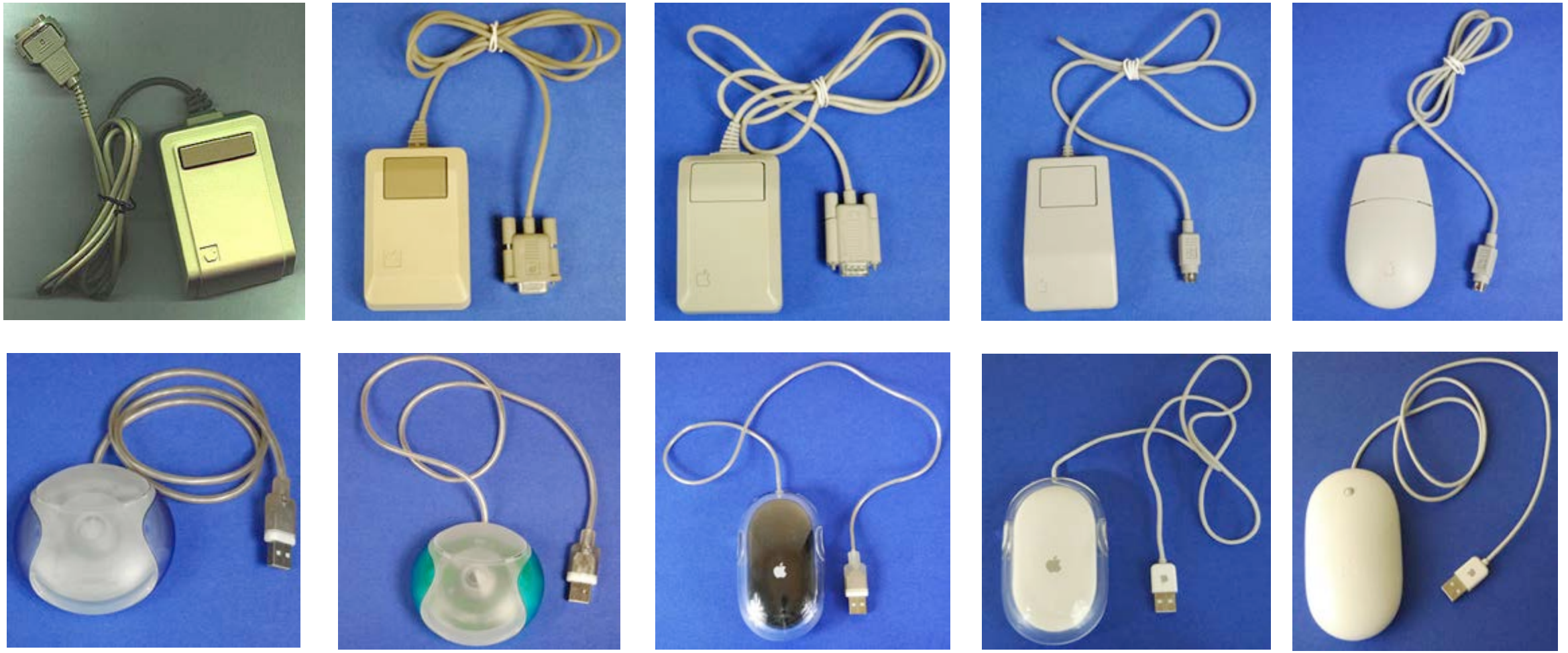
Example: Apple Mouse



Source: http://vectronicsappleworld.com/macintosh/mouse.html

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Example: Apple Mouse

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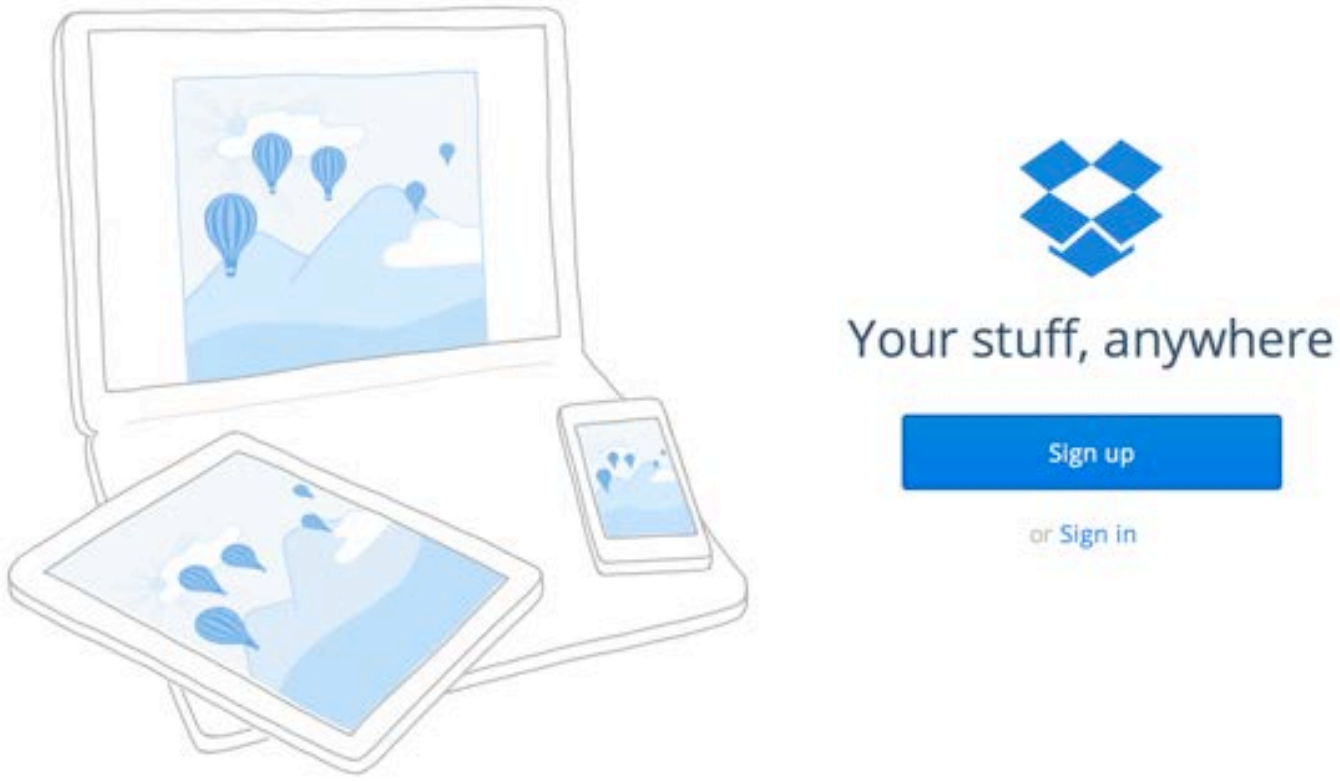
Example: Web

Products iTunes and more

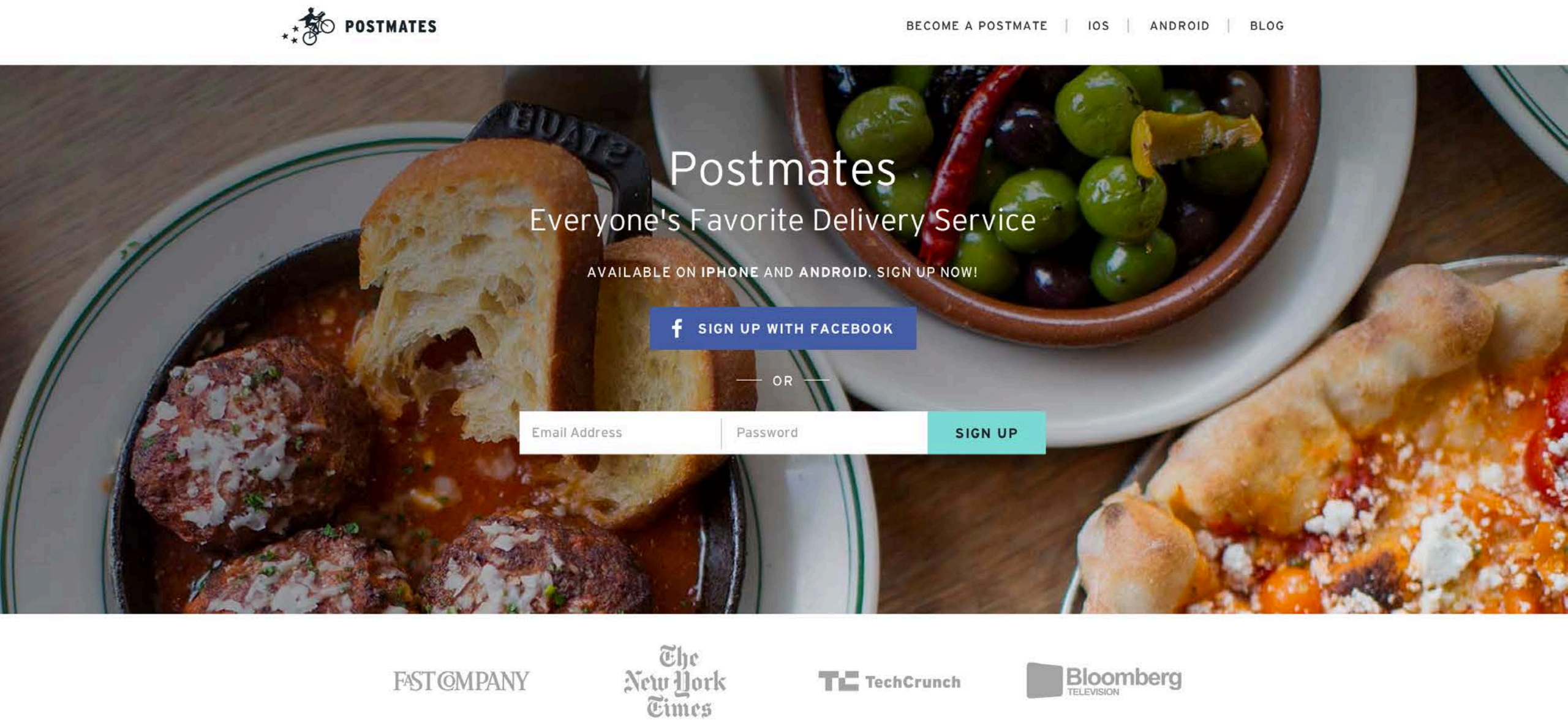
iPod touch

Engineered for maximum funness.
Now starting at $199.

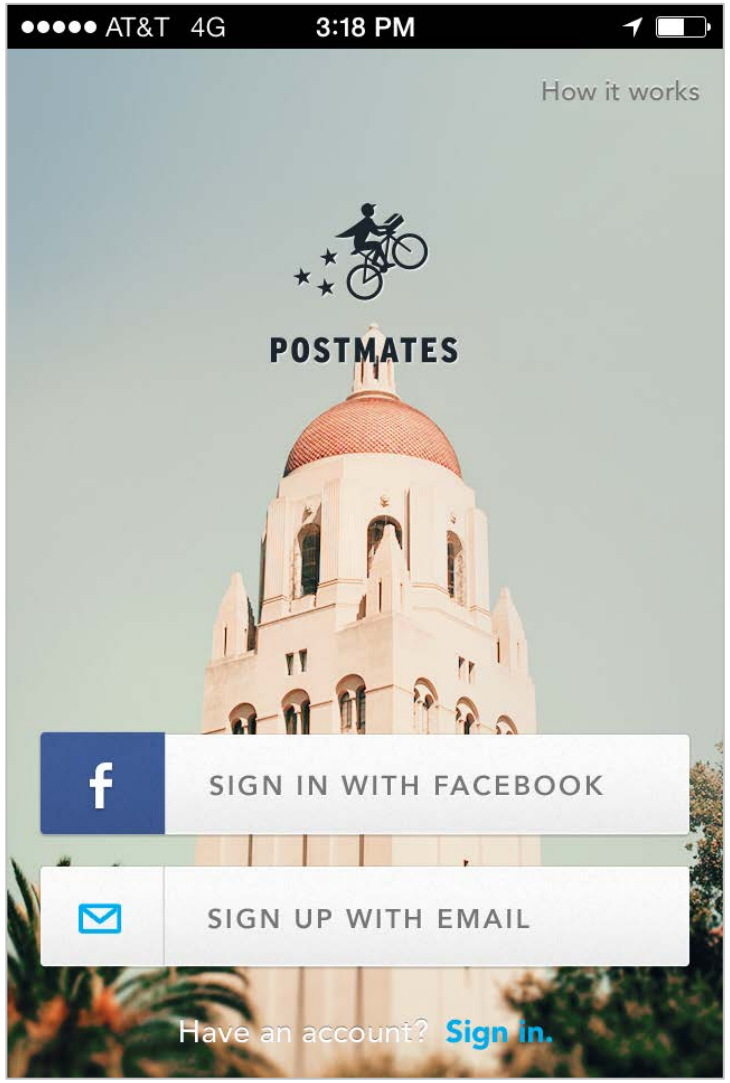
Example: Web

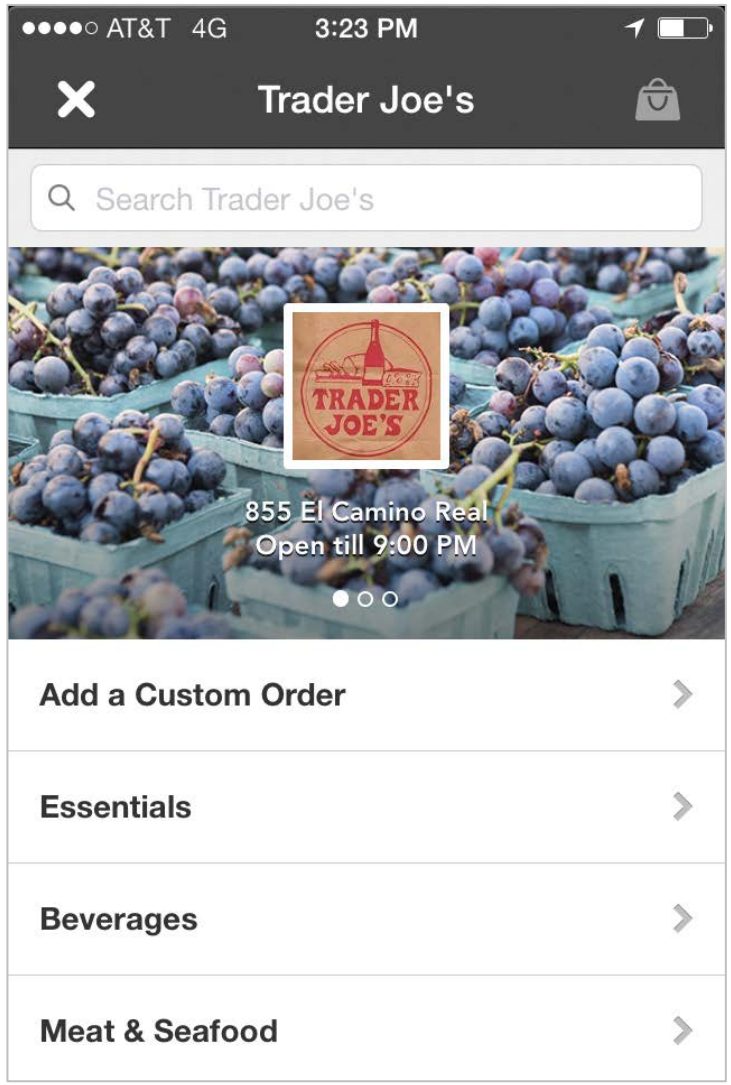


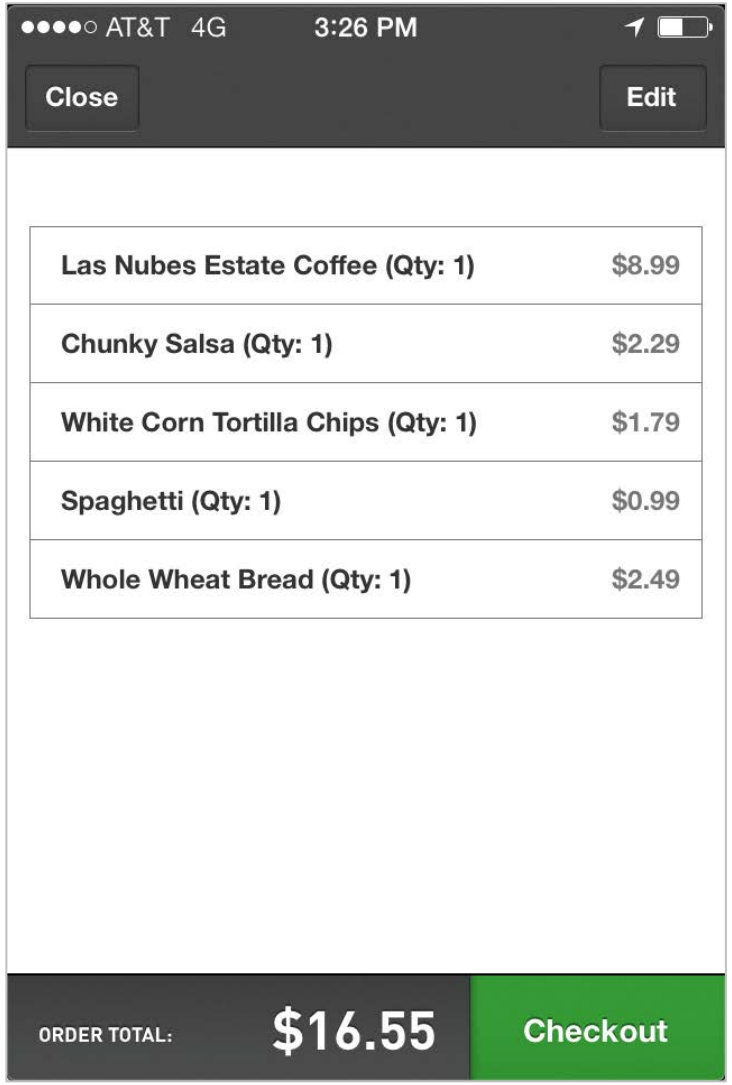
Example: Web


POSTMATES
BECOME A POSTMATE | IOS | ANDROID | BLOG
Postmates
Everyone's Favorite Delivery Service
AVAILABLE ON IPHONE AND ANDROID. SIGN UP NOW!
SIGN UP WITH FACEBOOK
OR
Email Address
Password
SIGN UP
FAST COMPANY
The New York Times
TechCrunch
Bloomberg TELEVISION

Example: Mobile







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Takeaways: Minimal Design

- A key concept across art and design disciplines
- Many benefits for UX:
  - Functional clarity
  - Reduced visual clutter
  - Faster load times
  - Better performance across devices
  - Improved emotional response
  - Focused user experience

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Flat Design

Principles

- Design elements flattened
- Elimination of drop shadows, gradients, textures
- Faster to load and easier to resize
- Popularized by Responsive Design
- Roots in Swiss Design and Minimal Design

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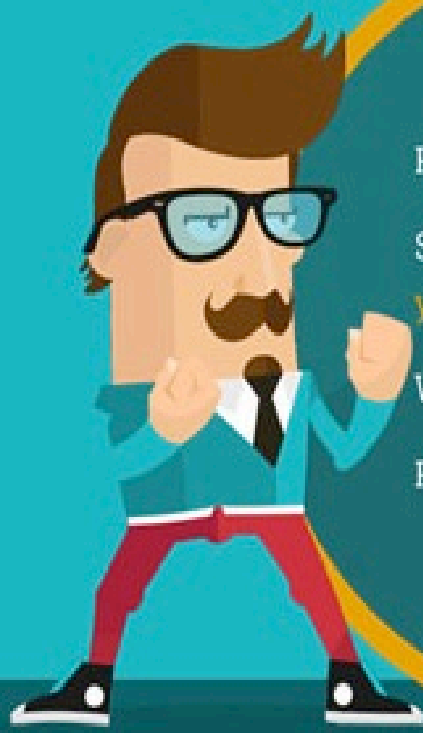
CHOOSE A SIDE AND WIN THE BATTLE!

PLAYER 1

SELECT A PLAYER TO FIGHT!

PLAYER 2



FLAT

Philosophy: Simplicity.

Slogan: "Without effects you are nothing!"

Weight: 50k

Power: MINIMAL RAY!

VS

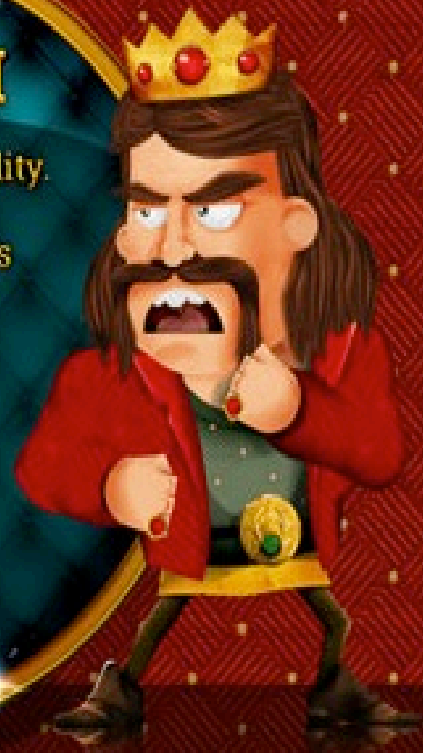
REALISM

Philosophy: Imitate reality.

Slogan: "Bevel & Emboss in your face!"

Weight: 2Mb

Power: GLOW SHOT!



Source: http://www.flatvsrealism.com/

Example: iPhone

Source: http://applenapps.com/ , http://a2view.com/2014/09/07/why-the-iphone-6-will-be-a-game-changer/

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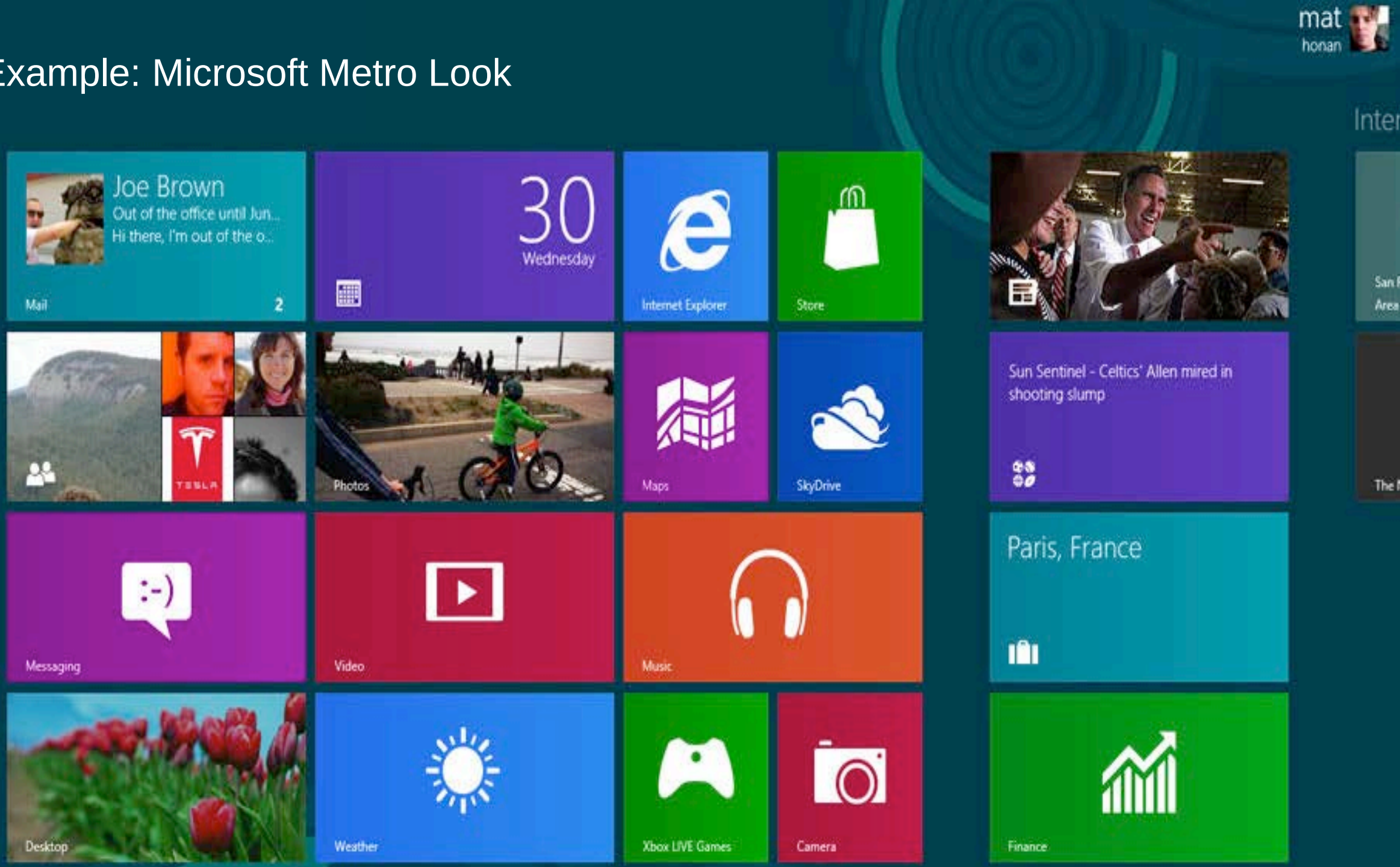
Example: iPhone

Source: http://appadvice.com/appnn/2013/12/apples-ios-7-is-outpacing-ios-6-in-terms-of-adoption

Example: Microsoft Metro Look



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Takeaways: Flat Design

- Loss of three-dimensionality and sense of tactility
- Performance gains from faster load times
- Development efficiency gains
- Multi-device support due to:
  - Vector graphics
  - Responsive designs

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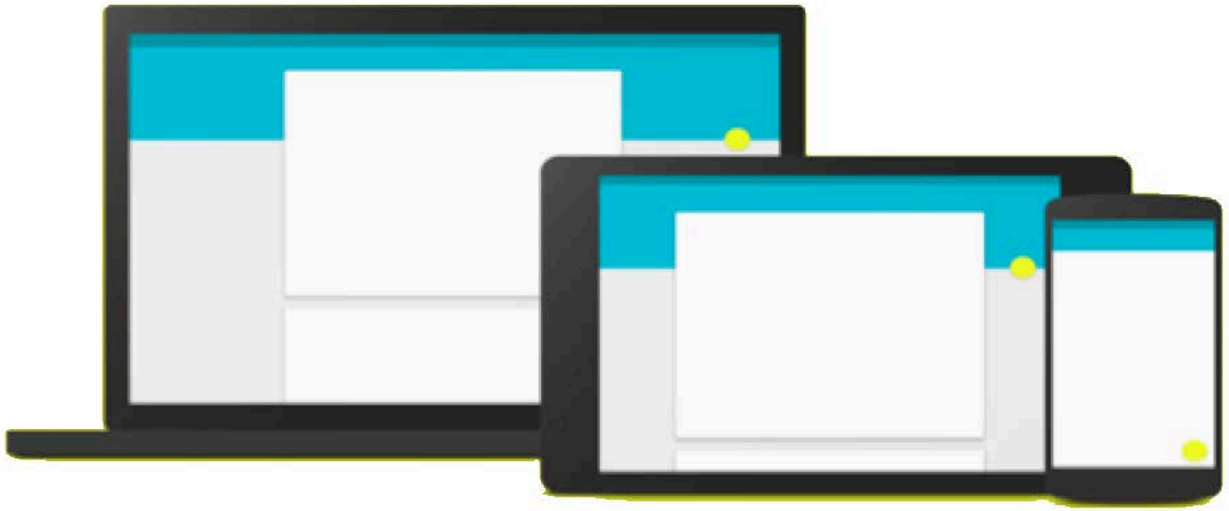
Google’s Material Design for Android

Goals

- Synthesis of classic design principles and new technology
- A unified experience across platforms and device sizes



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Principles

Material as a Metaphor

Bold Graphic Intentional

Motion Provides Meaning

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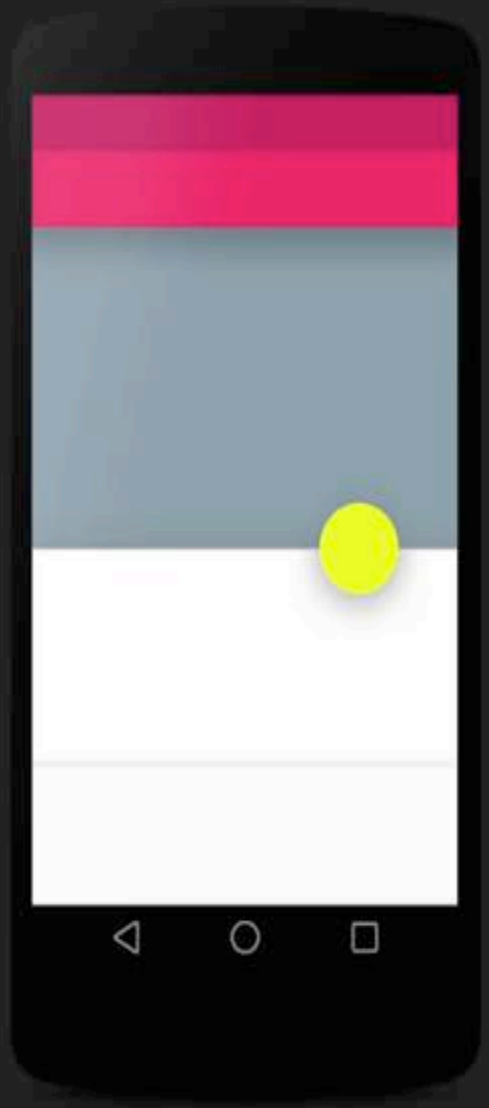
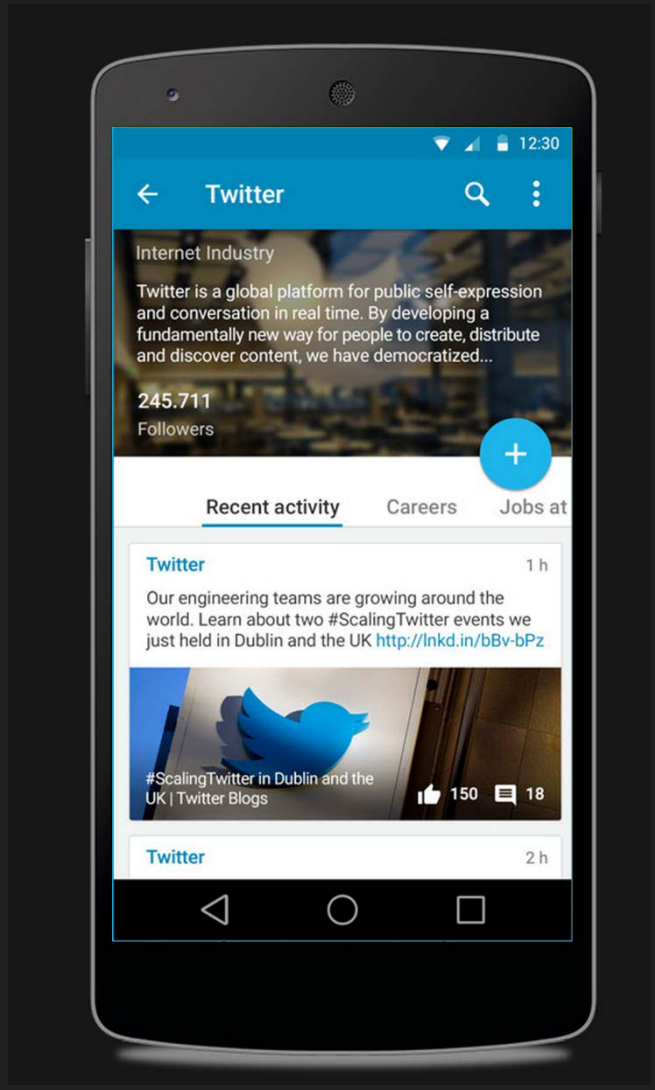
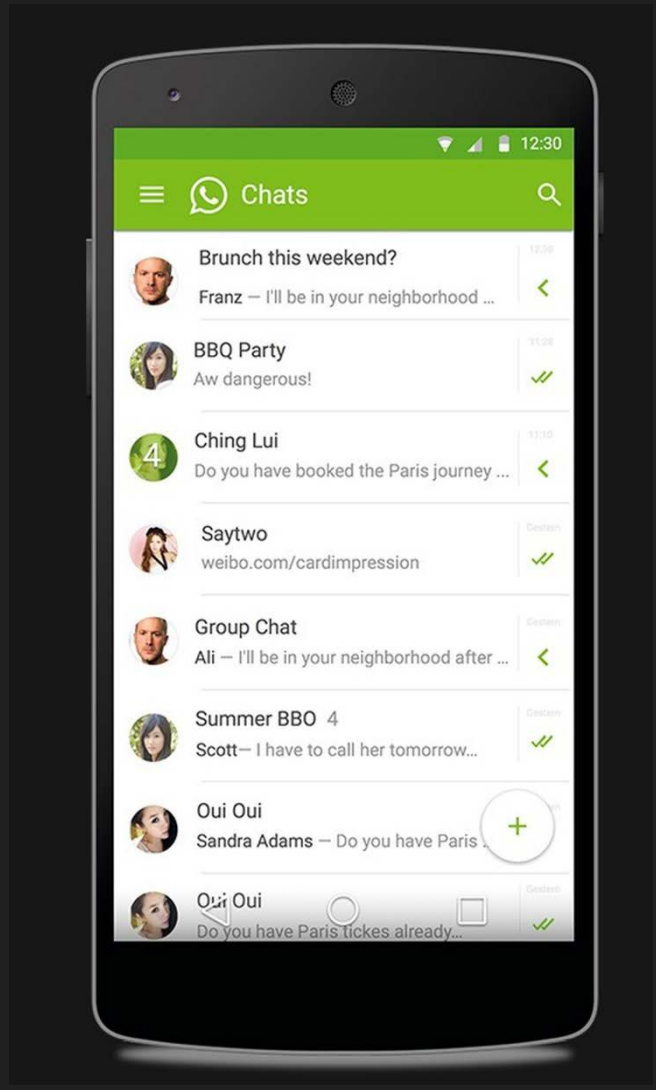
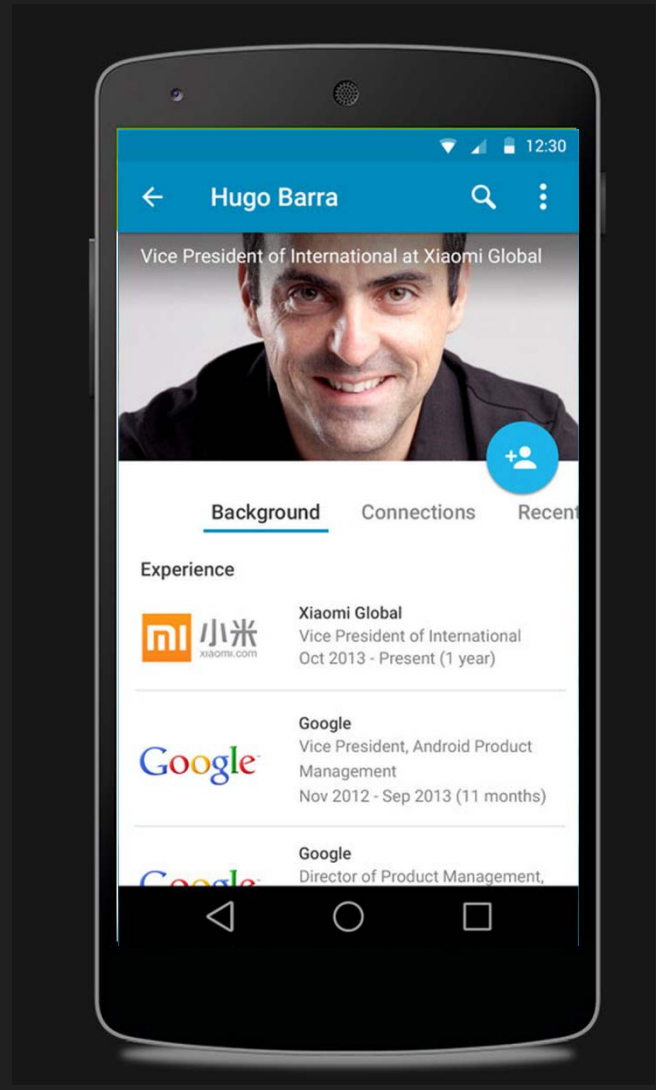
Layering

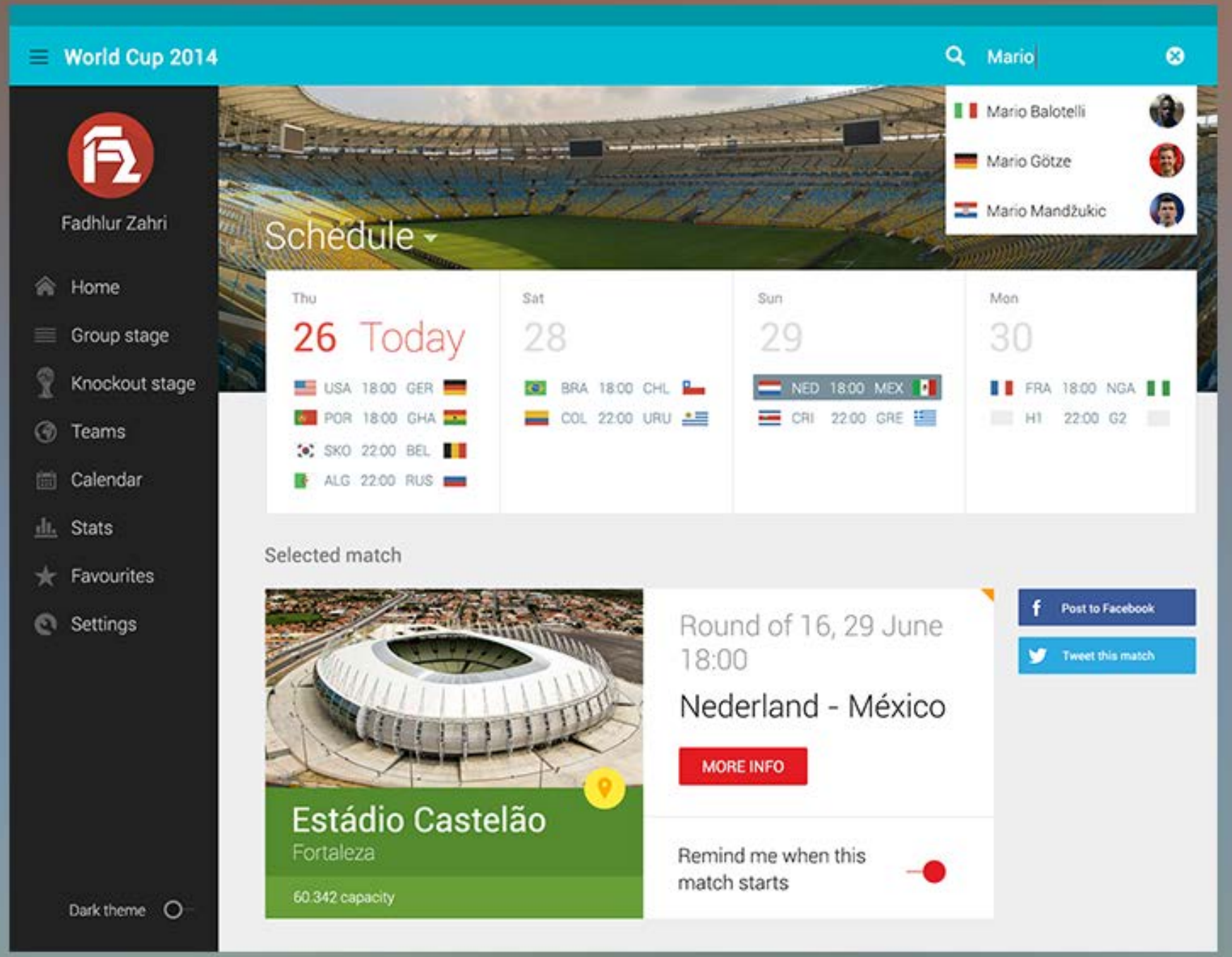


Key and Floating Actions



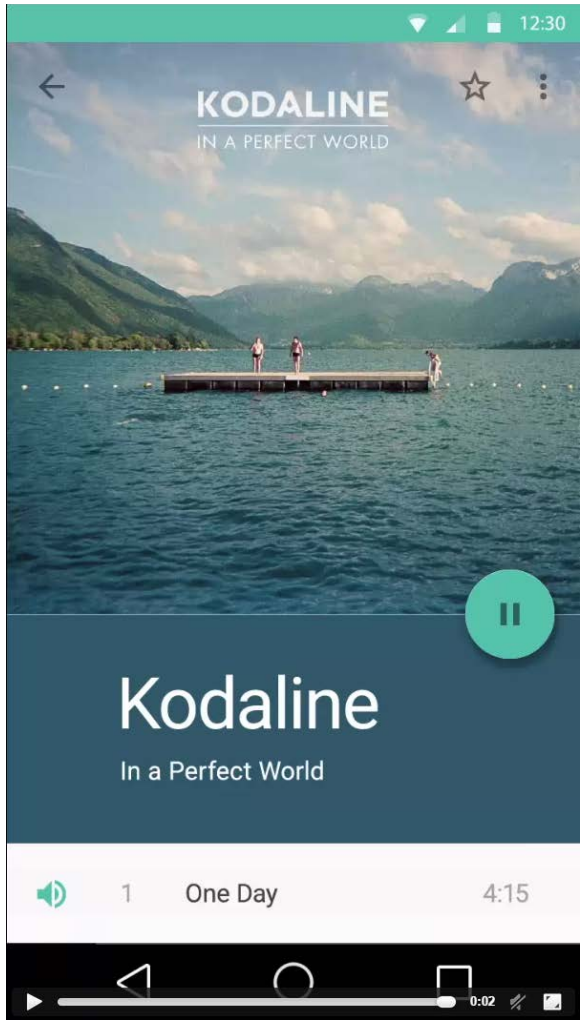






Design Concept
by Fadhlur Zahri

Examples: Animations



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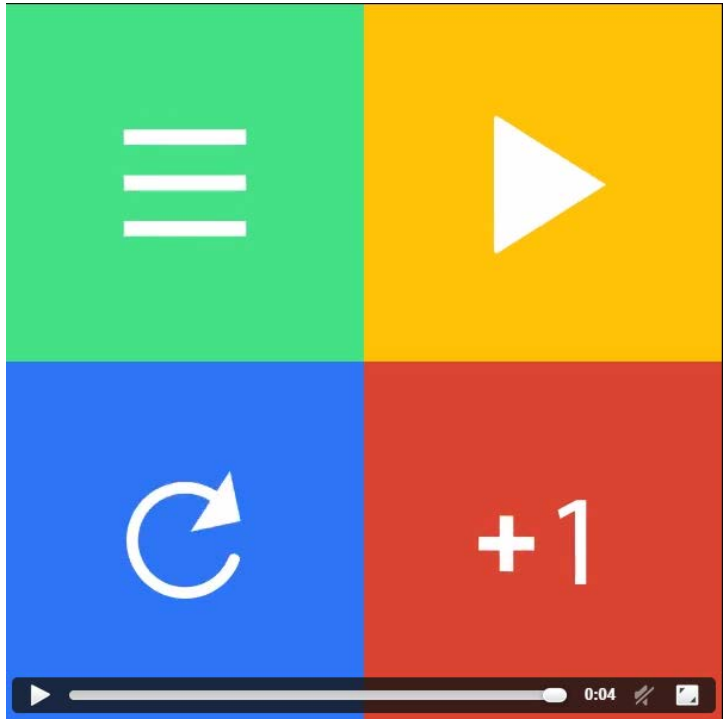
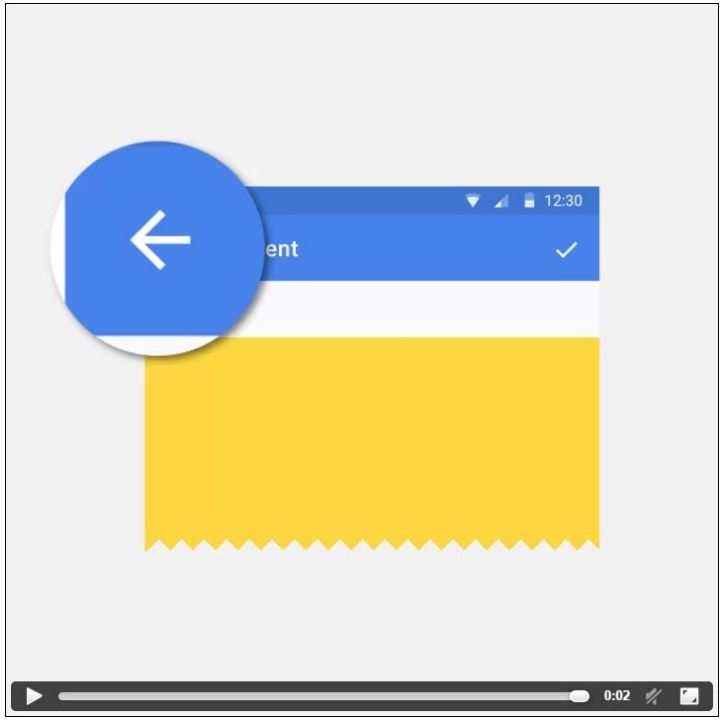
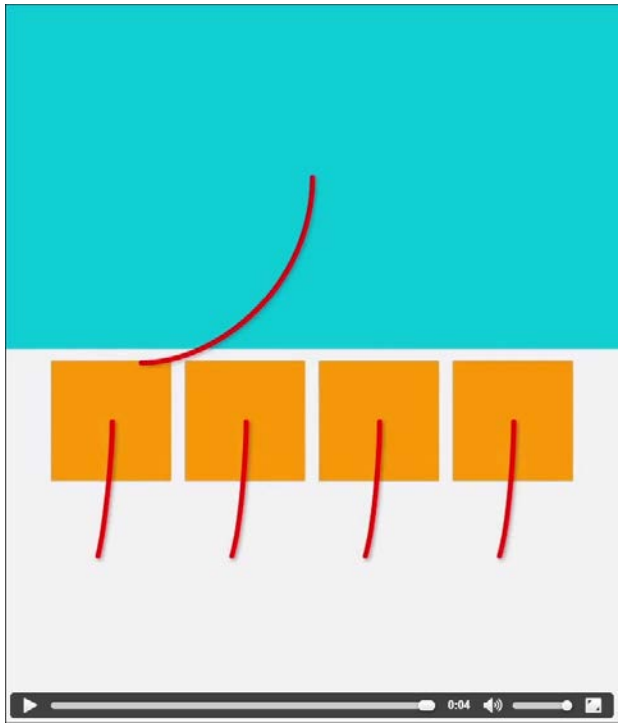
Examples: Animations







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Takeaways: Material Design

- Consistent experience for all android devices
- Leveraging the benefits of flat design
- Utilizing layering and other print design principles to add tactility
- Innovative use of motion to engage and guide users
- Dependency on adoption by developers and Android device providers
- Potential of wider adoption across devices and platforms

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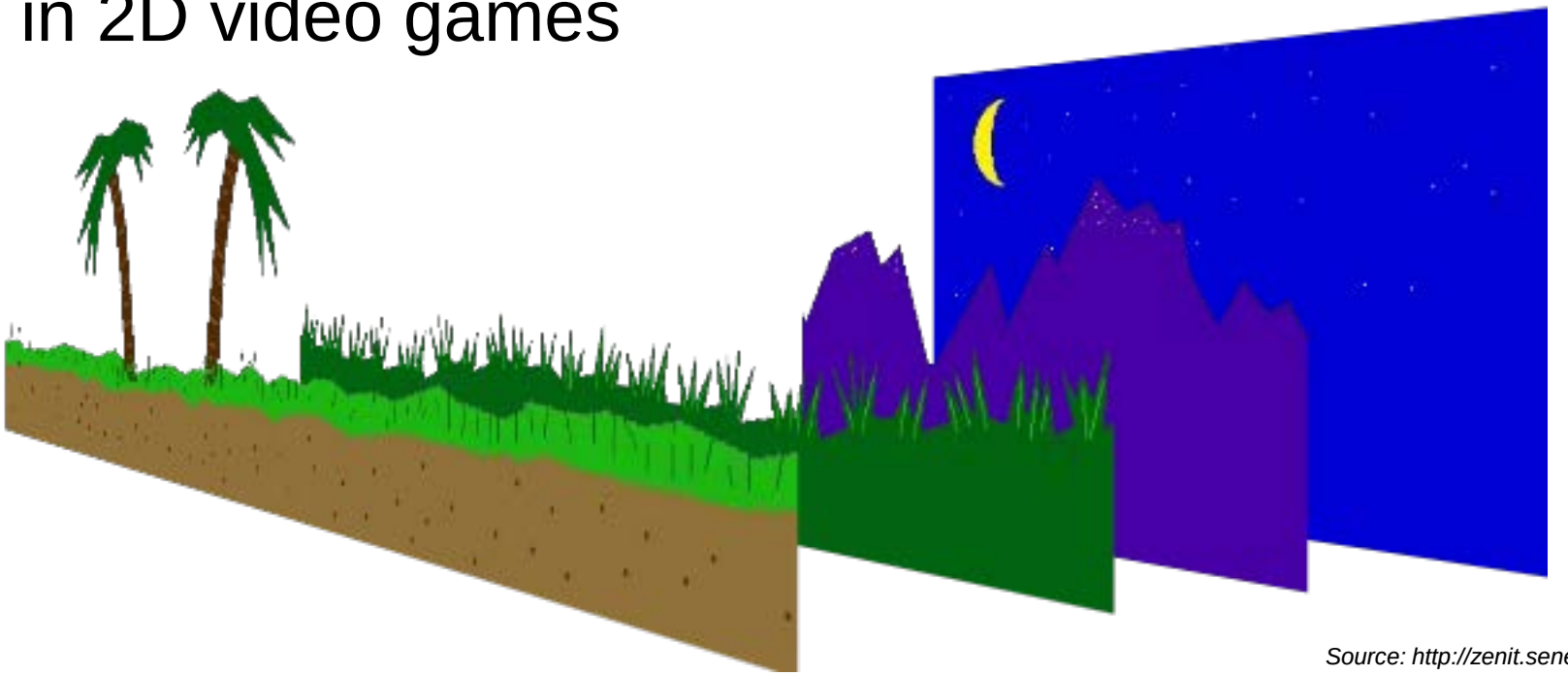
Parallax Scrolling

Parallax Scrolling

- Background images scroll slower than foreground images
- Illusion of depth
- Added immersion
- Origin in 2D video games



Source: http://zenit.senecac.on.ca/~dma502_141a32/wordpress/?p=23

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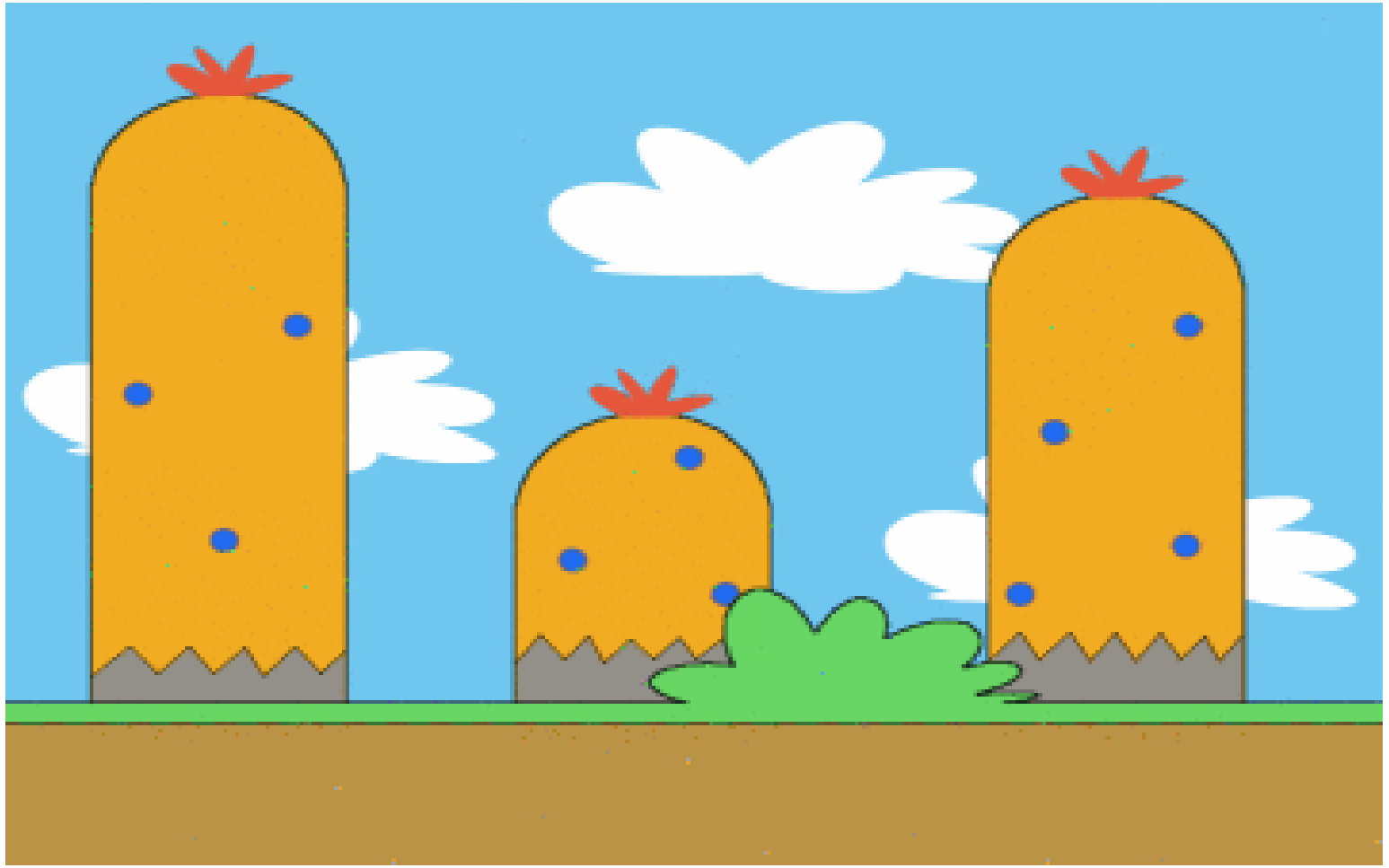
Parallax Scrolling



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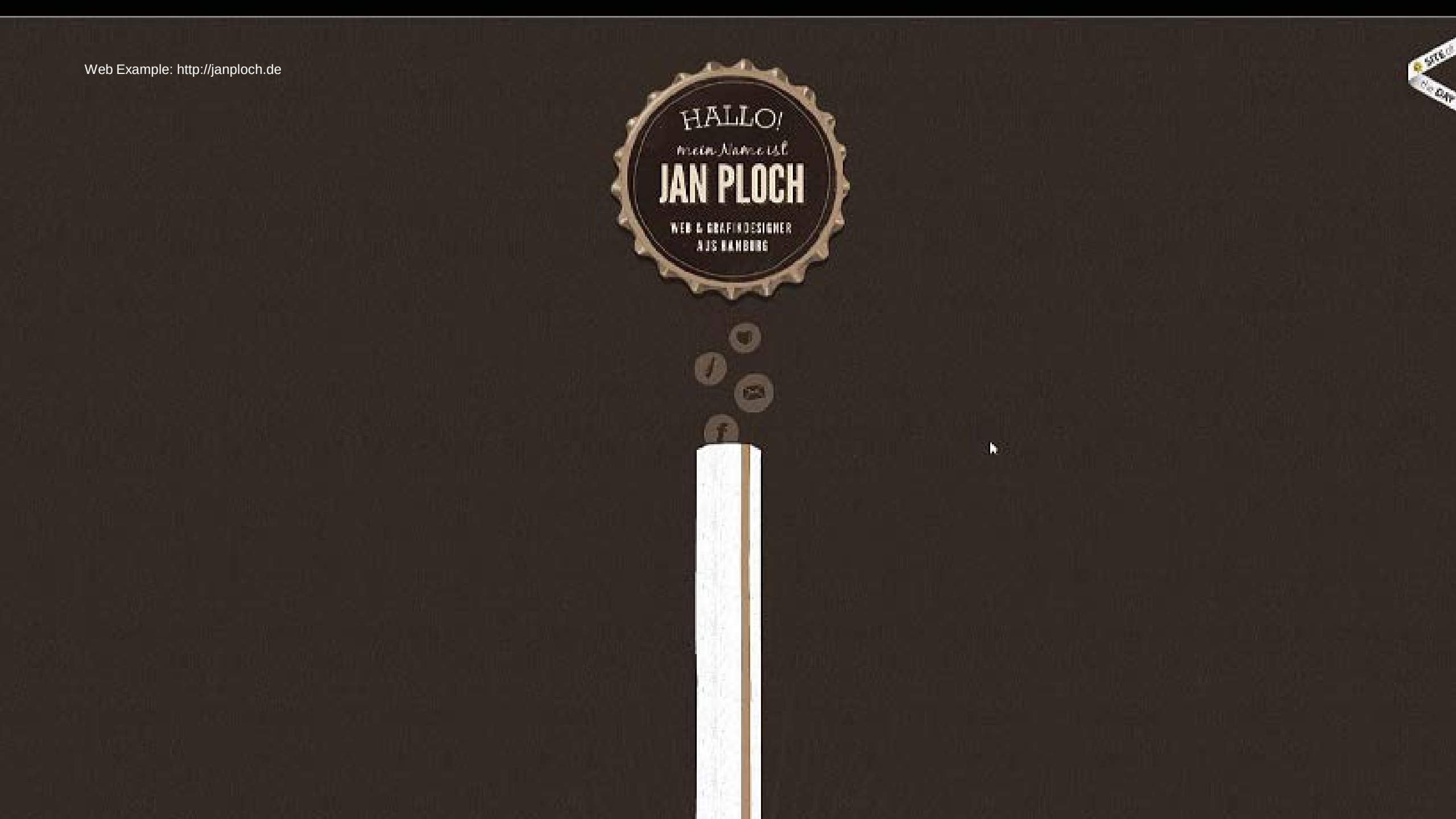
Web Example: http://makeyourmoneymatter.org/

Web Example: http://janploch.de



Takeaways: Parallax Scrolling

- Provides sense of depth and three-dimensionality to flat UI
- Highlights key functionality
- Emotional response to wow effect
- Directed user experience
- Increased user engagement
- Higher user retention

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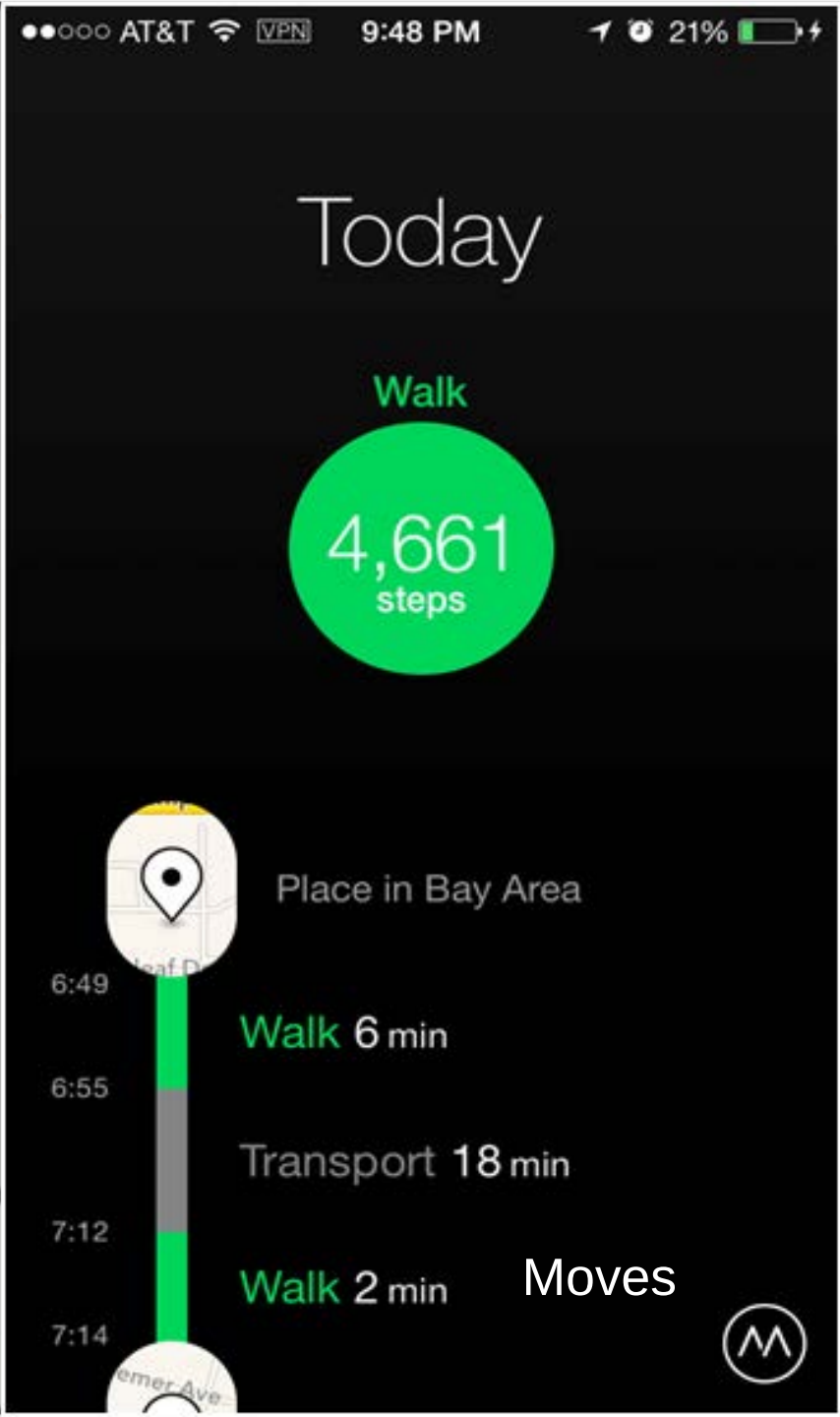
Data Visualizations

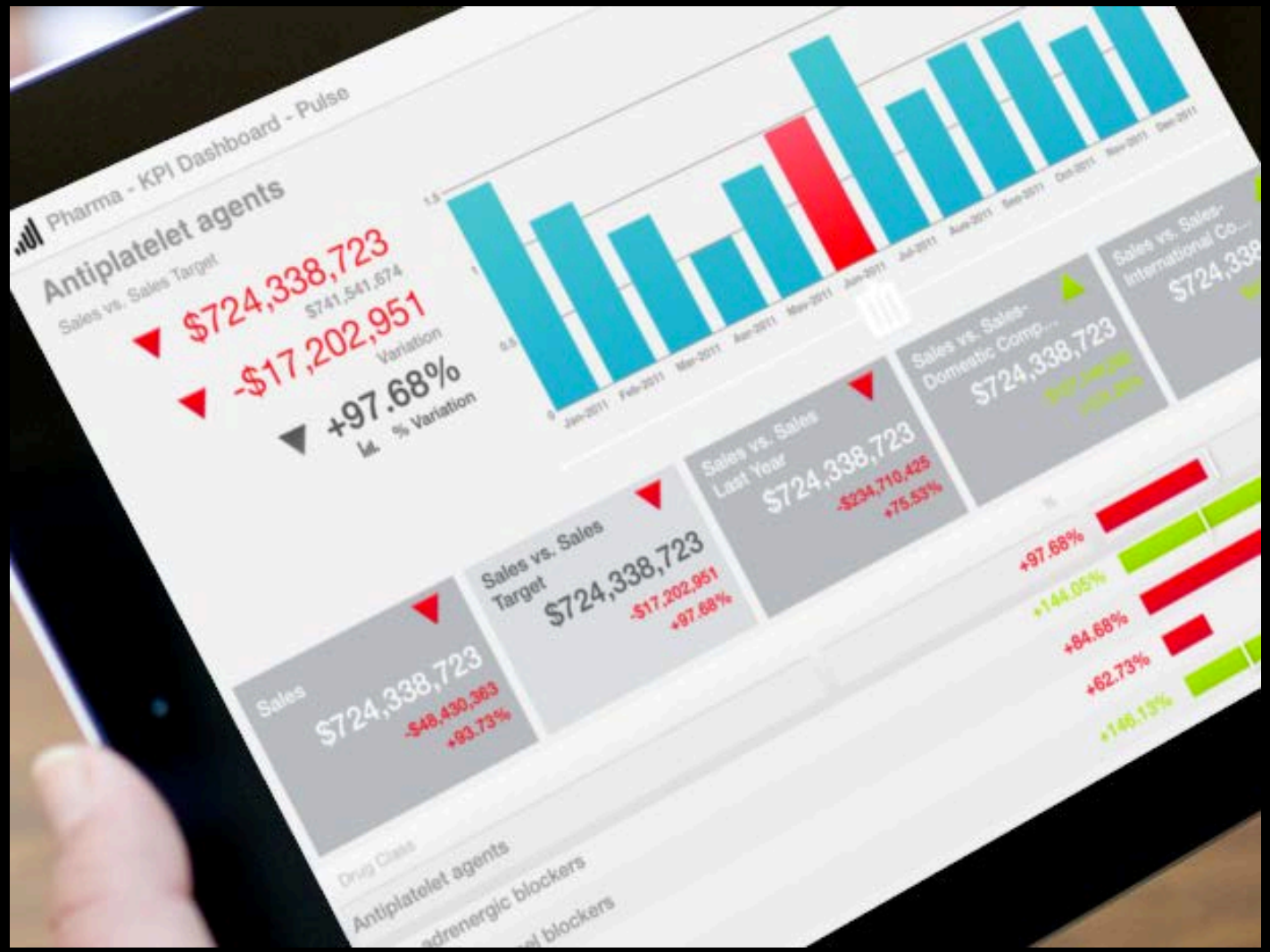
4:01
Edit
Open
7.65
8.624
8.447
8.270
8.093
7.916
7.739
7.562
7.385
7.208
7.031
6.854
6.677
1 day
1 month
6 months
1 year
5 years
16/08/2011
16/11/2011
16/02/2012

insTuner

Weather Dial



Moves



http://www.alexicon.com/MobileBi.aspx

newsbeat

Sites a

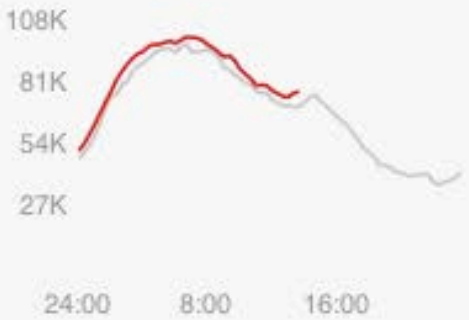
Site dailybugle.com Section All sections Author All authors

Active Visits

84,177

30-Day Min **39,410**

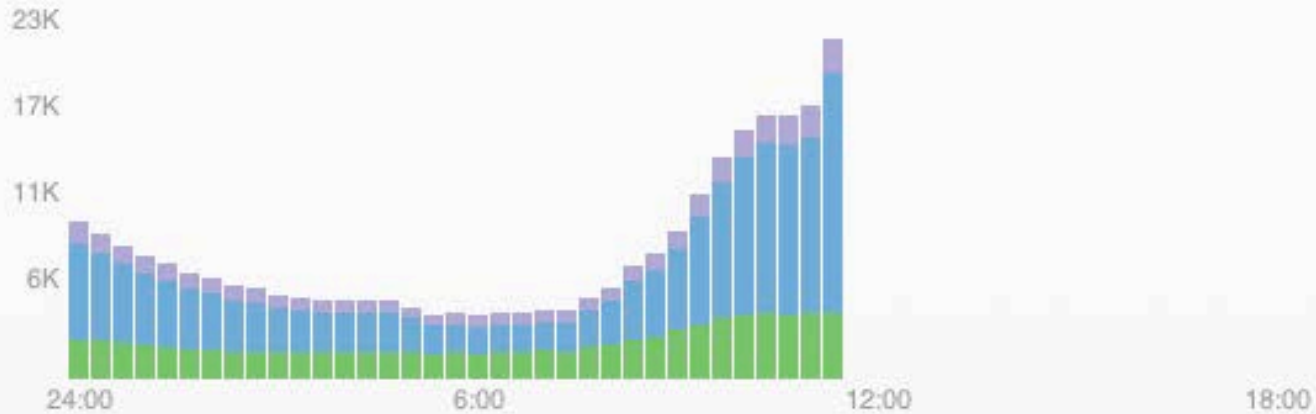
30-Day Max **119,144**



Charts

Today | 7 Days | 30 Days

TRAFFIC SOURCES | PERFORMANCE | VISITS | ENGAGEMENT



Links 5%

fark.com	987
news.yahoo.com	757
news.google.com	248
drudgereport.com	233
huffingtonpost.com	130

Social 12%

Email, Apps, IM	21,873
facebook.com	4,949
twitter.com	1,187
reddit.com	792
plus.google.com	160

Search 4%

airplane crash	123
iphone update	40

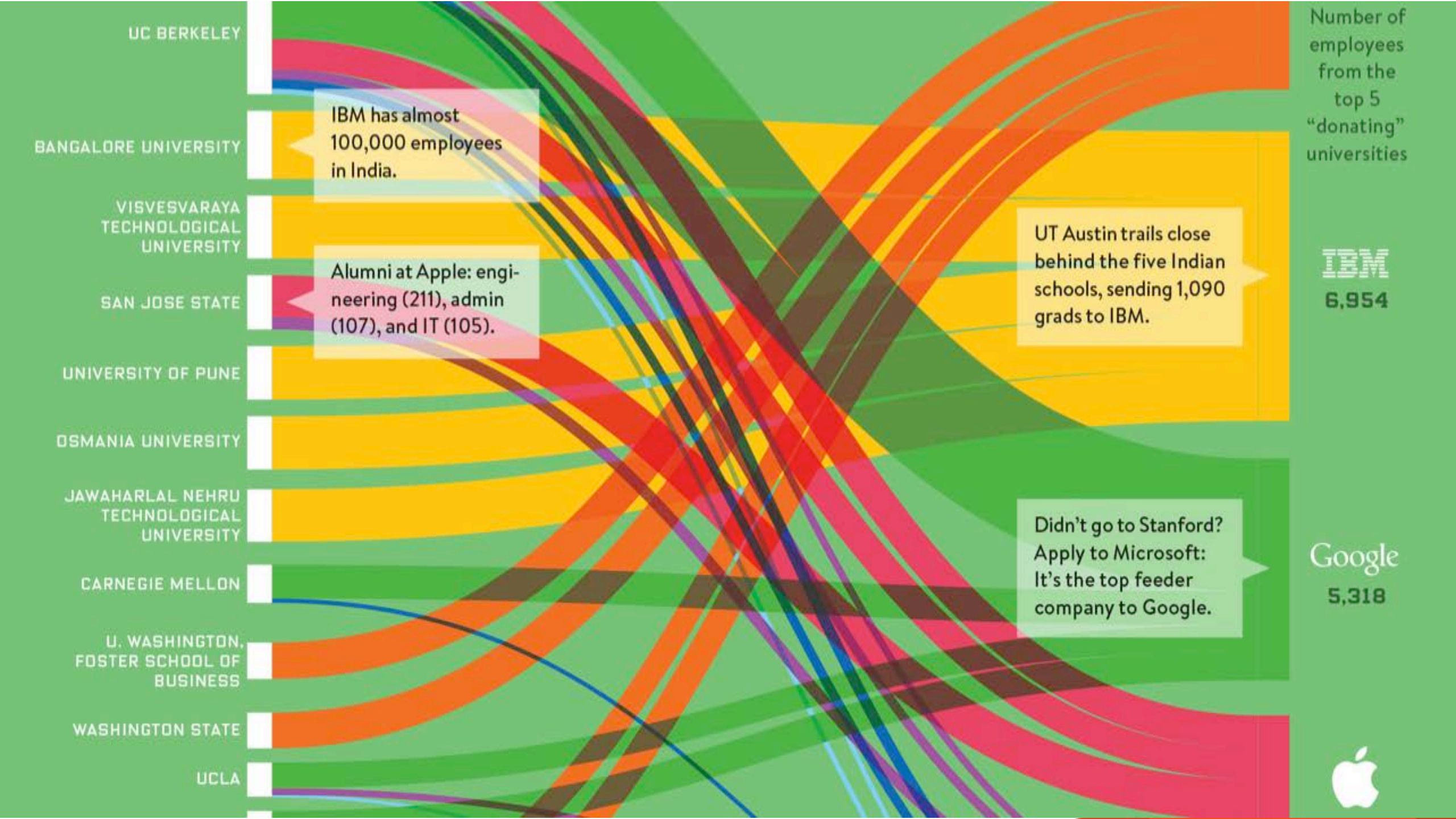
Direct 26%

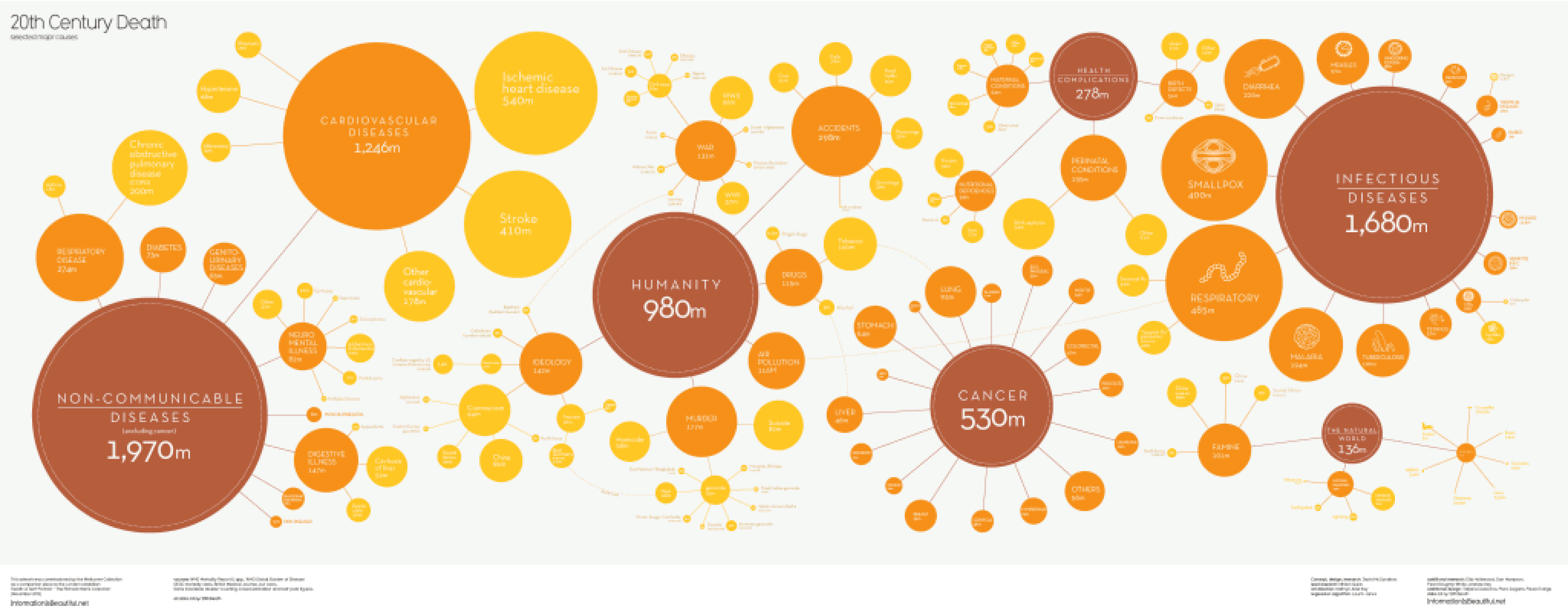
Internal 52%

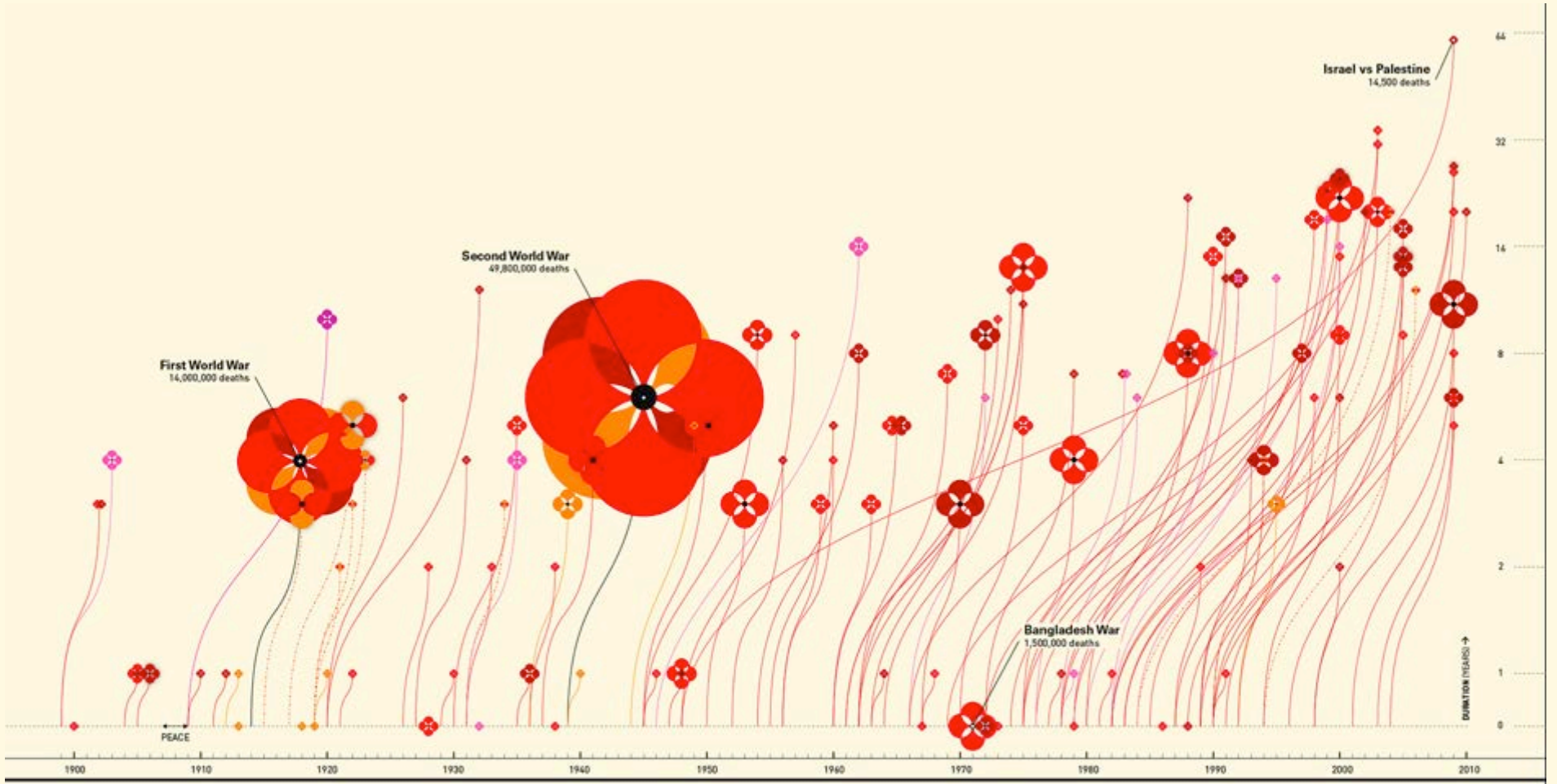
Engagement

Reading Writing

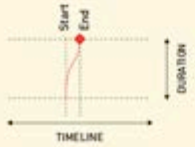
Top Pages


UC BERKELEY
BANGALORE UNIVERSITY
VISVESVARAYA TECHNOLOGICAL UNIVERSITY
SAN JOSE STATE
UNIVERSITY OF PUNE
OSMANIA UNIVERSITY
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY
CARNEGIE MELLON
U. WASHINGTON, FOSTER SCHOOL OF BUSINESS
WASHINGTON STATE
UCLA
IBM has almost 100,000 employees in India.
Alumni at Apple: engineering (211), admin (107), and IT (105).
UT Austin trails close behind the five Indian schools, sending 1,090 grads to IBM.
Didn't go to Stanford? Apply to Microsoft: It's the top feeder company to Google.
Number of employees from the top 5 "donating" universities
IBM
6,954
Google
5,318


20th Century Death
NON-COMMUNICABLE DISEASES
1,970m
CARDIOVASCULAR DISEASES
1,246m
Ischemic heart disease
540m
Stroke
410m
Other cardio-vascular
178m
Chronic obstructive pulmonary disease (COPD)
200m
RESPIRATORY DISEASE
374m
DIABETES
73m
HUMANITY
980m
WAR
MURDER
IDEOLOGY
ACCIDENTS
DRUGS
Tobacco
AIR POLLUTION
HEALTH COMPLICATIONS
278m
PERINATAL CONDITIONS
CANCER
530m
LUNG
STOMACH
LIVER
OTHERS
INFECTIOUS DISEASES
1,680m
SMALLPOX
400m
RESPIRATORY
DIARRHEA
MALARIA
TUBERCULOSIS
MEASLES
FAMINE
THE NATURAL WORLD
136m
informationisbeautiful.net

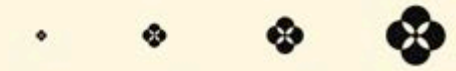


POPPY DIAGRAM



The remembrance poppy commemorates soldiers who have died in war. Each poppy in the diagram depicts a war of the last century (with more than 10,000 deaths). The stem grows from the year when the war started. The poppy flowers in the year the war ended. Its size shows the number of deaths.

NUMBER of DEATHS IN THOUSANDS (POPPY'S SIZE)



REGIONS INVOLVED IN WARS (POPPY'S COLOUR)

Takeaways: Data Visualizations

- More data available for analysis than ever
- More visualization technologies than ever
- Time to expect more out of data visualization
- Data visualizations help users interpret and act on data faster
- Data visualizations can be interactive and responsive
- Data visualizations on handheld devices can say so much more with a single image

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Multi-Channel Interactions

Touch Screens

Gesture Input

Voice Input

Audio Output

Source: The Movie Her.

Takeaways: Multi-Channel Inputs

- New interaction possibilities
- New user interfaces
- Improved user experience
- Increased efficiency
- Well spread in the consumer space
- Implications for the enterprise space

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Gamification

Gamification

- Game mechanics not games
- Engage users in solving problems or achieving goals
- Intrinsic and extrinsic motivations
- Examples:
  - Education: Learning objectives
  - Entertainment: Fan loyalty
  - Enterprise: Employee performance
  - Health: Diet and fitness objectives

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GAMIFICATION AND YOUR BUSINESS

Gamification allows businesses to succeed, both internally and externally. So, how do you gamify your business?

1. Understand what your employees and customers want.

2. Understand your product.

3. Offer employees a reason to engage and customers a reason to return.

4. Provide a clear goal to pursue.

5. **GIVE BACK.**

SOURCES: Forbes| MakeThemDay | Gallup | Gigya | iGamify

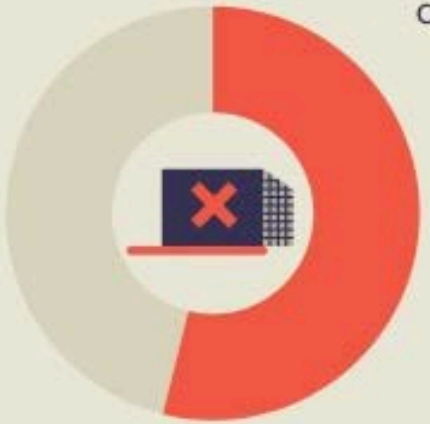
CONCUR

Source: http://www.bizjournals.com/bizjournals/how-to/growth-strategies/2014/09/how-to-boil-gamification-down-to-five-simple-steps.html?full=true

GAMIFICATION FOR YOUR CUSTOMERS

Customer engagement, retention, and loyalty are paramount to a successful business.

Currently, most consumers don't actively engage with brands.



54% of customers are inactive in loyalty programs.

69% don't use online communities.

HOW do you get these disengaged consumers involved in your brand? GAMIFICATION.

According to Gigya, adding gamification to your site **boosts engagement by almost 1/3.**

IN FACT, WITH GAMIFICATION...

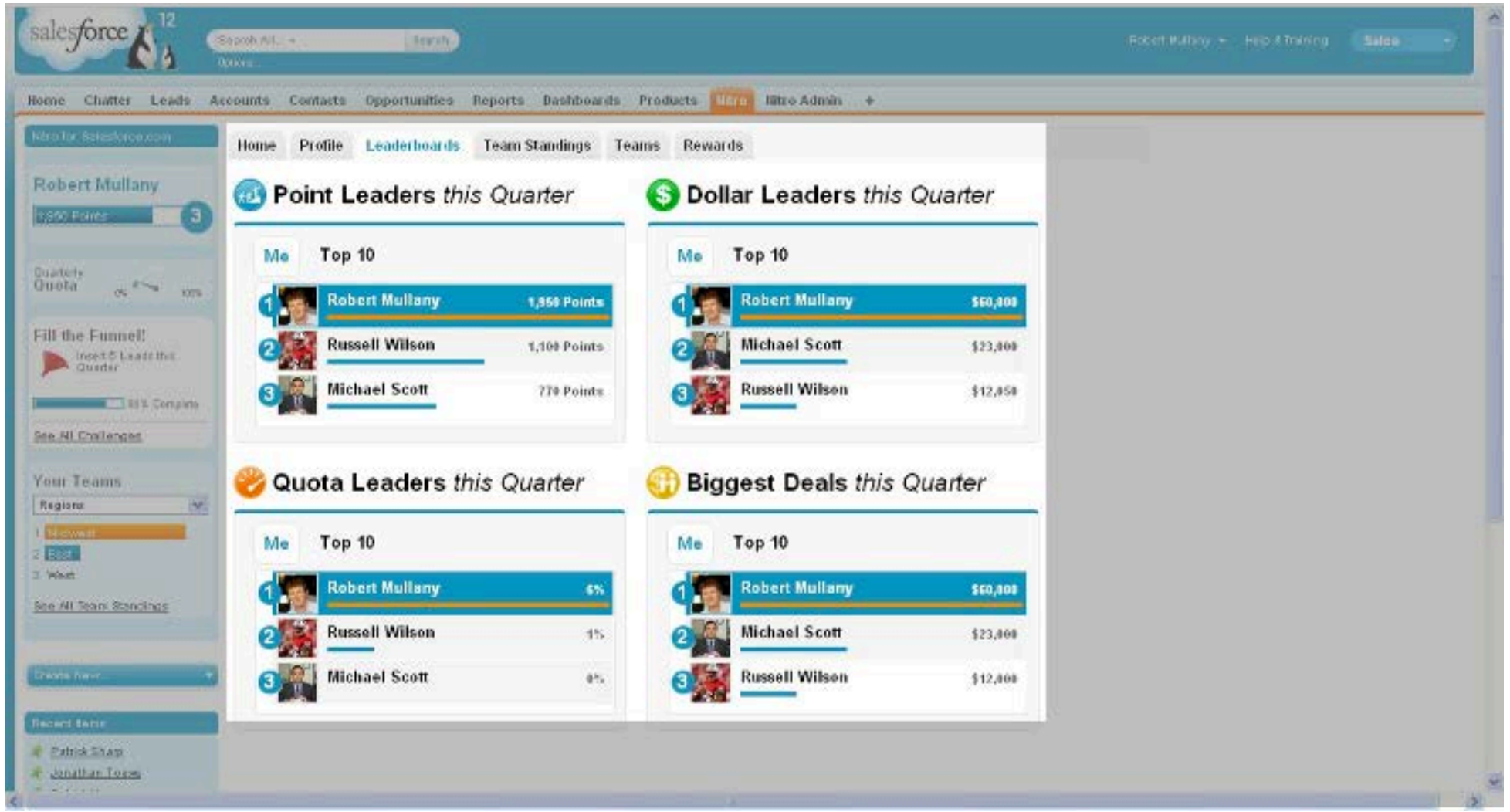
Source: http://www.bizjournals.com/bizjournals/how-to/growth-strategies/2014/09/how-to-boil-gamification-down-to-five-simple-steps.html?full=true

CONSUMER
GAMIFICATION IN PRACTICE

Engaging your customers is one of the most important things a company can do. It can be as easy as giving consumers discounts for spending a certain amount with your company.

Source: http://www.bizjournals.com/bizjournals/how-to/growth-strategies/2014/09/how-to-boil-gamification-down-to-five-simple-steps.html?full=true

Leaderboards



Source: http://www.cmswire.com/cms/social-business/bunchball-launches-nitro-for-salesforce-expands-gamification-reach-to-customer-service-019173.php

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Leaderboards

Source: http://www.bunchball.com/products/nitro-salesforce

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Plantville by Siemens

Source: http://www.plantengineering.com/media-library/plantville-presented-by-siemens-industry/8f4c19b15c775a55c863a31899d19120.html?tx_ttnews[pointer]=1

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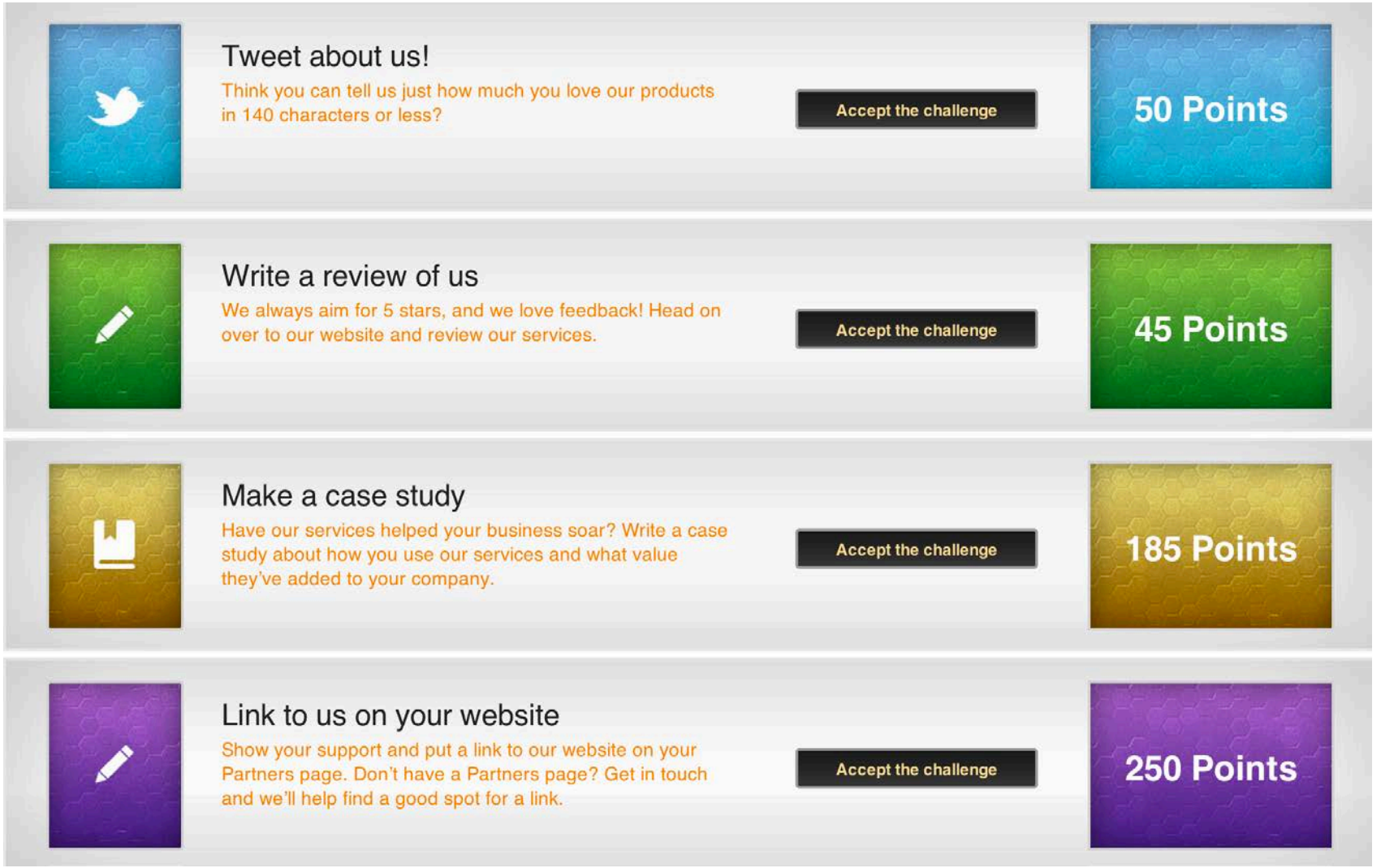
Quests and Missions



Source customeradvocacy.com

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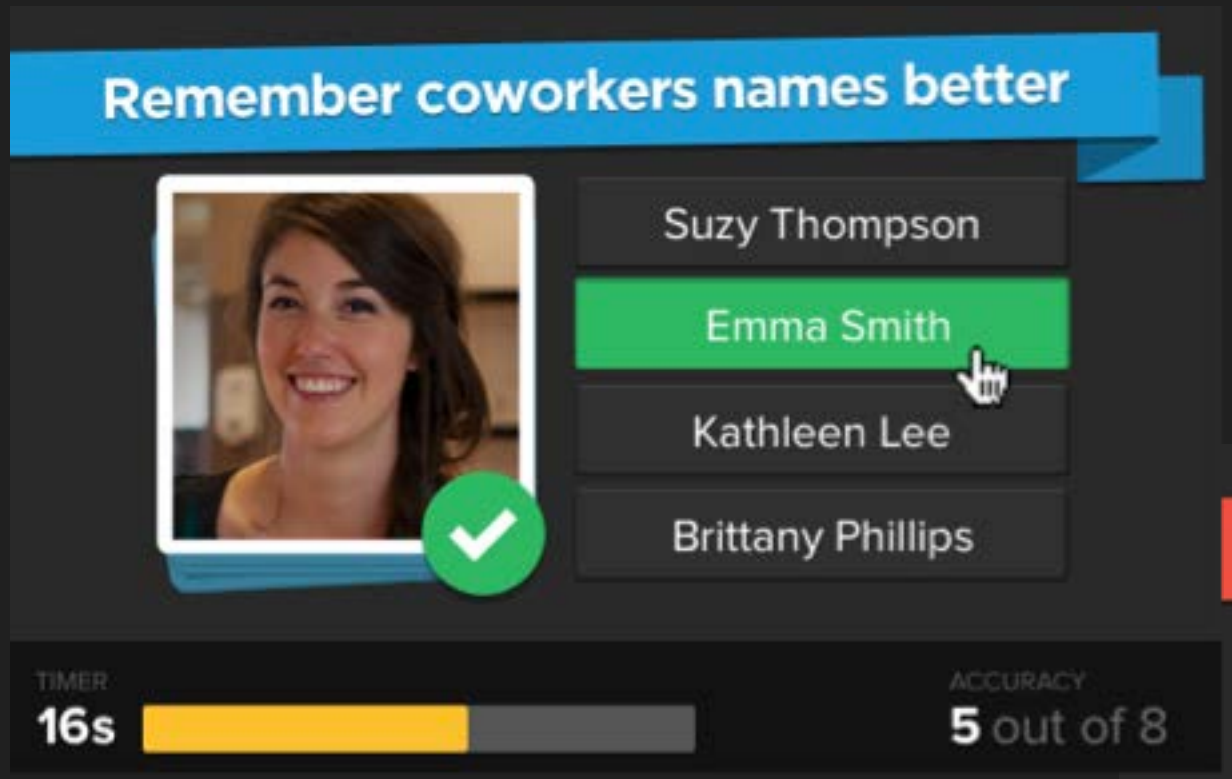
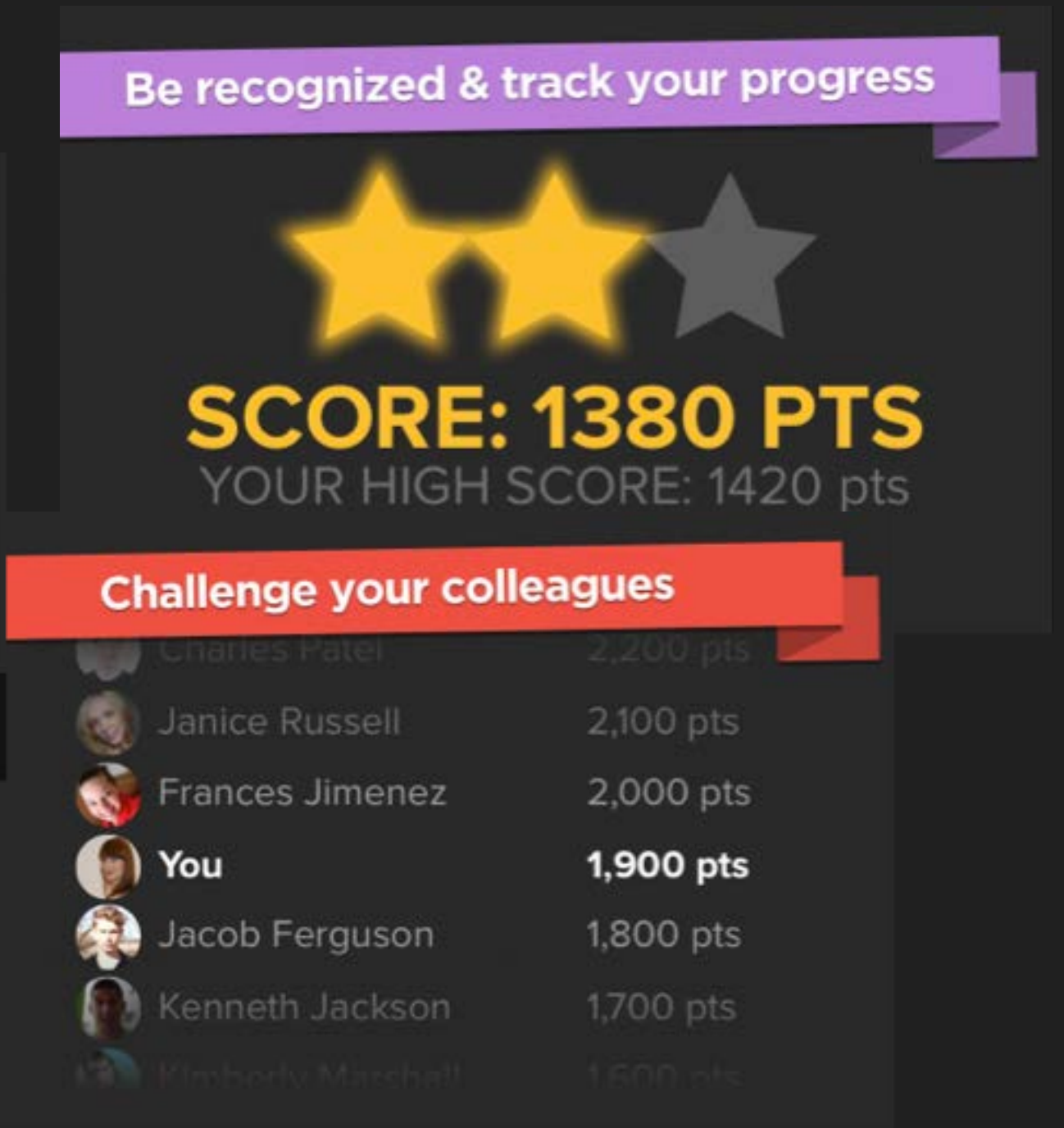
Face Game


Remember coworkers names better
Suzy Thompson
Emma Smith
Kathleen Lee
Brittany Phillips
TIMER
16s
ACCURACY
5 out of 8


Be recognized & track your progress
SCORE: 1380 PTS
YOUR HIGH SCORE: 1420 pts
Challenge your colleagues
Janice Russell 2,100 pts
Frances Jimenez 2,000 pts
You 1,900 pts
Jacob Ferguson 1,800 pts
Kenneth Jackson 1,700 pts

Takeaways: Gamification

- Enormous gains
- Performance gains
- Cost reduction
- Improved employee learning and training
- Customer loyalty
- Must have the right game mechanics and user motivations
- Intrinsic motivations more effective than extrinsic ones

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Takeaways

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