14 Visions and Outlook

14.1 Innovation and Prognoses

14.2 Trends and Visions

Prognosen (1)

"Das Auto ist fertig entwickelt. Was kann noch kommen?"
Karl Benz um 1920
Quelle: Frankfurter Allgemeine Sonntagszeitung, 19.5.2002

"Das Telefon hat zu viele ernsthaft zu bedenkende Mängel für ein Kommunikationsmittel. Das Gerät ist von Natur aus von keinem Wert für uns."
Western Union, Interne Kurzinformation, 1876

"Das Radio hat keine Zukunft"
Lord Kelvin, Mathematiker und Physiker, 1897
Quelle: Newsweek 27.01.1997

"Die drahtlose Musikbox hat keinen denkbaren kommerziellen Wert. Wer würde für eine Nachricht bezahlen, die zu niemanden direkt gesendet wird?"
David Sarnoff in einer Rückmeldung zur Investition in das Radio um 1925

"Das Fernsehen wird nach den ersten sechs Monaten am Markt scheitern. Die Menschen werden es bald satt haben, jeden Abend in eine Sperrholzkiste zu starren."
Darryl F. Zanuck, Chef der 20th Century-Fox, 1946

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Prognosen (2)

"Ich glaube, es gibt einen weltweiten Bedarf an vielleicht fünf Computern."
IBM-Chef Thomas Watson im Zweiten Weltkrieg
Quelle: Ute Dorau und Peter Woeckel, "Jobreport Informationstechnologie", München 2001

"Es gibt keinen Grund, warum irgendjemand einen Computer in seinem Haus wollen würde."
Ken Olson, Präsident, Vorsitzender und Gründer von Digital Equipment Corp., 1977
Quelle: NZ-Herald, 15.12.2008

"Also gingen wir zu Atari. Und sie sagten, ‚Nein'. Dann gingen wir zu Hewlett-Packard, und sie sagten, ‚Hey, wir brauchen Sie nicht, Sie haben das College noch nicht abgeschlossen'."
Apple Computer Inc. Gründer Steve Jobs über seine Versuche, Atari und H-P an seinem Personal Computer zu interessieren

"In zwei Jahren wird das Spam-Problem erledigt sein."
Bill Gates, 2004
Quelle: NZ-Herald, 15.12.2008

"Das Internet wird kein Massenmedium, weil es in seiner Seele keines ist."
DIE WELT, 24.03.2001

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Prognosen (3)

"Wer braucht eigentlich diese Silberscheibe?"
Jan Timmer (Chef der Firma Philips), 1982, über die CD
Quelle: Jürgen Brater, 2011

"YouTube wird ein Reinfall. Es gibt einfach nicht so viele Videos, die ich anschauen möchte."
Steve Chen (Mitbegründer von YouTube), 2005
Quelle: Jürgen Brater, 2011

"Das Internet ist nur ein Hype."
Bill Gates, 1993
Quelle: SPIEGEL ONLINE, 09. Dezember 2012

'Next Christmas the iPod will be dead, finished, gone, kaput.'
(Daily Mail)

"Nächste Weihnachten wird der iPod tot sein, weg, kaputt."
Alan Sugar (Gründer der Computerfirma Amstrad), 2005
Quelle: Jürgen Brater, 2011

Jürgen Brater: Keine Ahnung, aber davon viel: Die peinlichsten Prognosen der Welt, Ullstein, 2001

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Prognosis for 2014 from the Year 1964

Books

The New York Times ON THE WEB

Home | Site Index | Site Search | Forums | Archives | Marketplace

August 16, 1964

Visit to the World's Fair of 2014

By ISAAC ASIMOV

- “By 2014, electroluminescent panels will be in common use. Ceilings and walls will glow softly, and in a variety of colors that will change at the touch of a push button.”
- “Gadgetry will continue to relieve mankind of tedious jobs. Kitchen units will be devised that will prepare "automeals," heating water and converting it to coffee; toasting bread; frying, poaching or scrambling eggs, grilling bacon, and so on.”
- “Robots will neither be common nor very good in 2014, but they will be in existence. General Electric at the 2014 World's Fair will be showing 3-D movies of its "Robot of the Future," neat and streamlined, its cleaning appliances built in and performing all tasks briskly.”
- “The appliances of 2014 will have no electric cords, of course, for they will be powered by long-lived batteries running on radioisotopes.”
- “Much effort will be put into the designing of vehicles with "Robot-brains" - vehicles that can be set for particular destinations and that will then proceed there without interference by the slow reflexes of a human driver.”
- “Communications will become sight-sound and you will see as well as hear the person you telephone. The screen can be used not only to see the people you call but also for studying documents and photographs and reading passages from books.”

Revolutions and Evolution

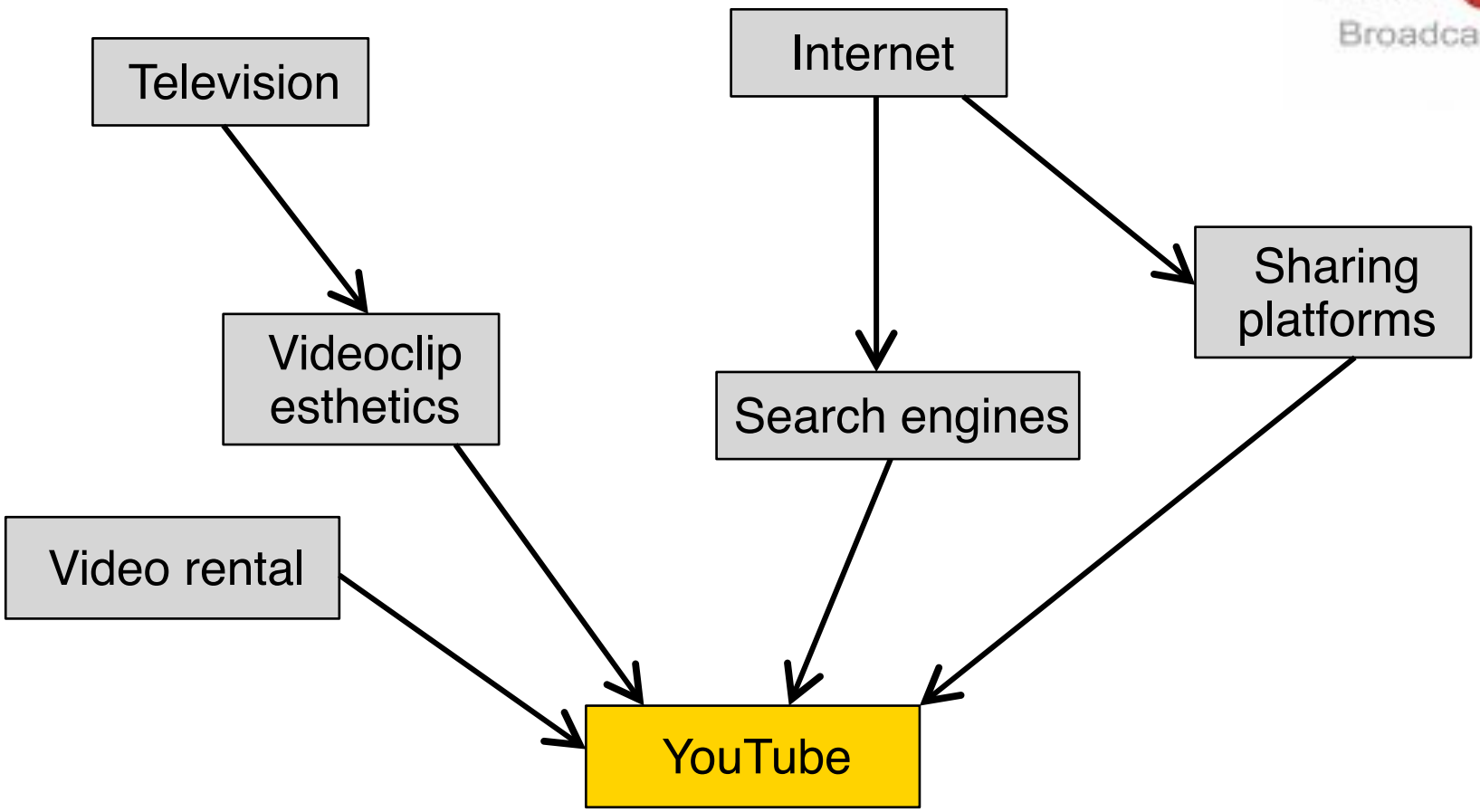
- Technological revolutions:
  - Roots in different areas of science (e.g. Laser, Public/Private-Key)
- Transfer revolutions:
  - Known techniques applied in new domain (e.g. Bezier curves)
- Recombination revolutions:
  - New combination of known techniques (e.g. Smartphones)
- *Appropriation* of new technologies does not follow revolutionary scheme but proceeds in evolutionary way:
  - Slow social processes
  - Adaptation of behavioral patterns
  - Learning processes
  - Reputation building

14 Visions and Outlook

14.1 Innovation and Prognoses

14.2 Trends and Visions

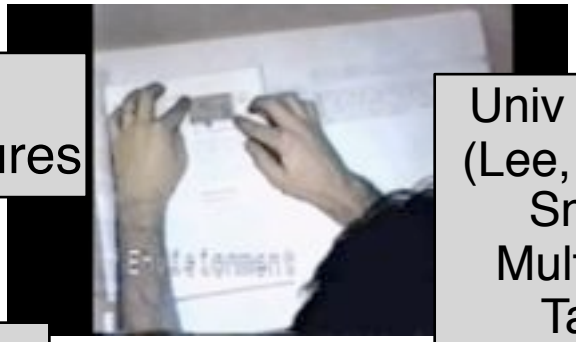
Roots of YouTube



Roots of Apple iPad

Alan Kay:
DynaBook

1968



Wellner:
Multitouch gestures

1991

Univ Toronto
(Lee, Buxton,
Smith):
Multitouch
Tablet

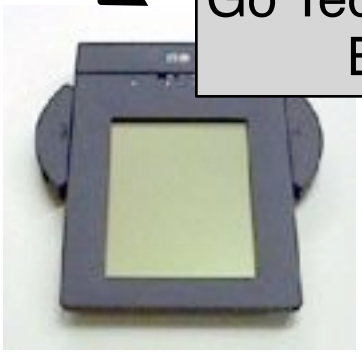
1985

Touchpad
gestures

Fingerworks
2005

1993

Apple
Newton



Go Technology
EO

1993

2002

Microsoft
Tablet PC

2007

iPhone

iPad 2010

Visible Trends

- Media in the cloud
- Web browser as universal platform
- Real time communication
- Internet of Things
- Wearables

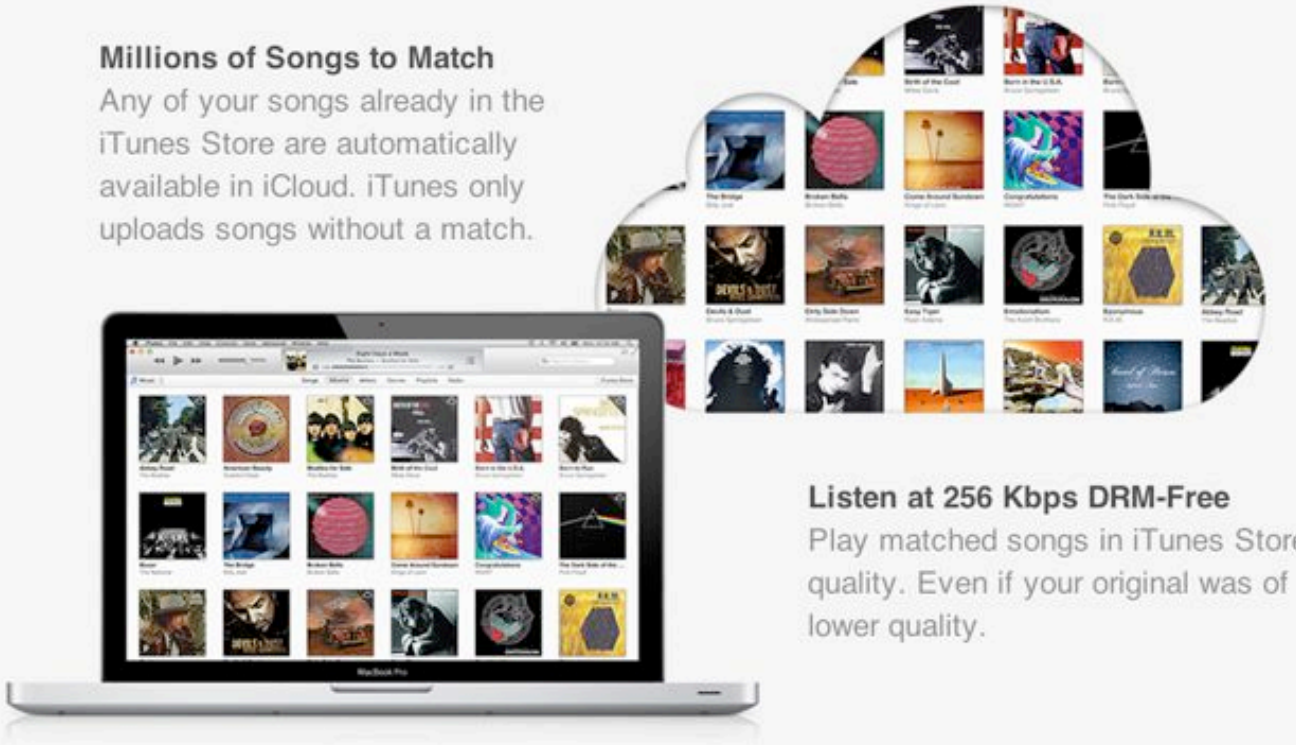
Media in the Cloud (1)

Media in the Cloud (2)

iTunes Match

iTunes Match stores your entire music library in iCloud, including music from CDs, and lets you enjoy it anywhere, anytime, on your iOS devices, computers or Apple TV. That's in addition to the free features you already get with iTunes in the Cloud.

Millions of Songs to Match
Any of your songs already in the iTunes Store are automatically available in iCloud. iTunes only uploads songs without a match.



Listen at 256 Kbps DRM-Free
Play matched songs in iTunes Store quality. Even if your original was of lower quality.

Web Browser as Universal Platform

Picture: HP

Google Chrome OS
Chromebooks

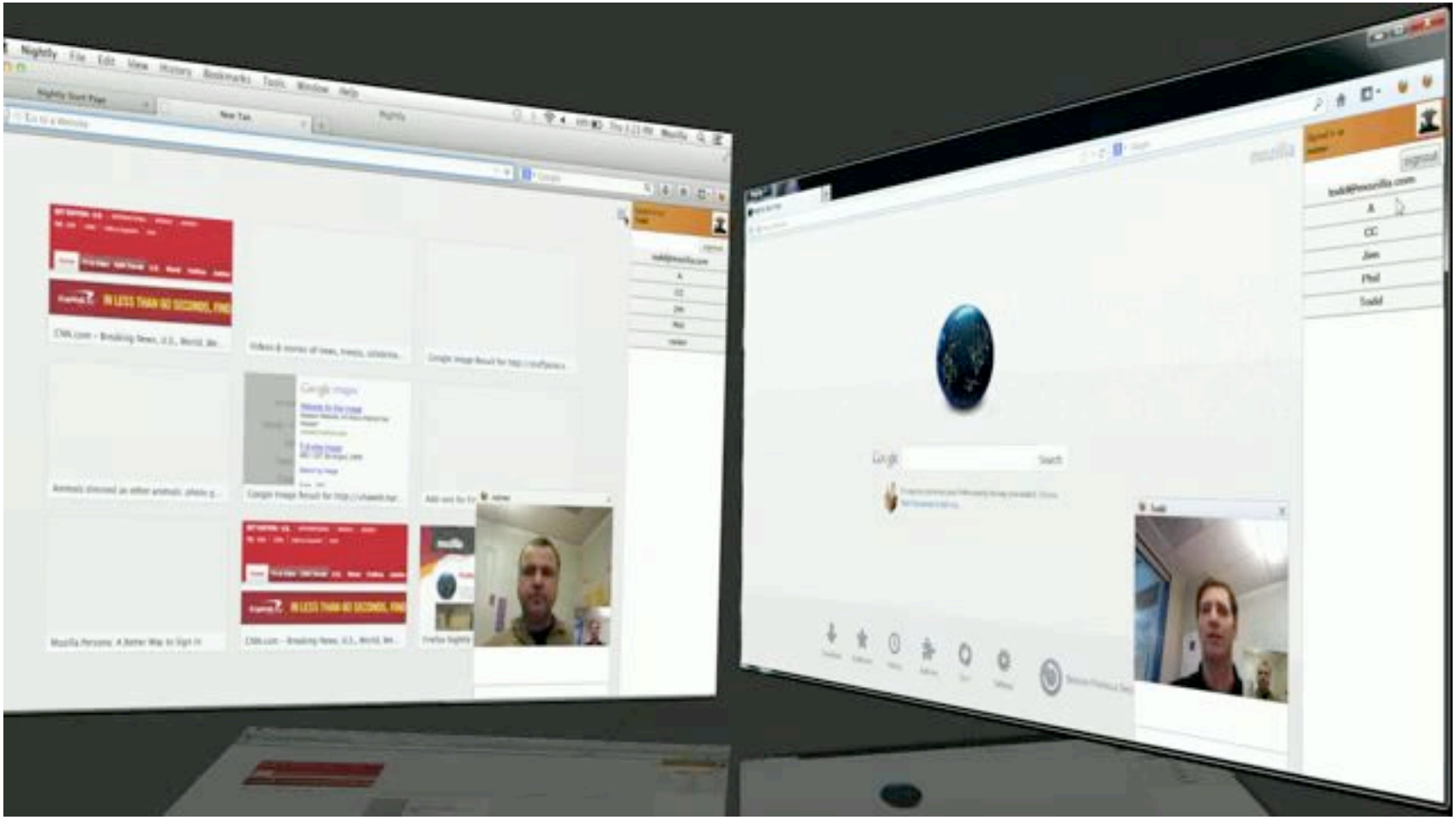
Picture: Google/Samsung

Samsung cuts target notebook shipments to 7 million units for 2014

Aaron Lee, Taipei; Adam Hwang, DIGITIMES [Monday 27 January 2014]

Samsung Electronics has set a goal of shipping seven million notebooks globally in 2014, a reduction of 41.67% from the 12 million units shipped in 2013, and will no longer launch conventional notebook models except Chromebooks in 2015, according to Taiwan-based supply chain makers.

Web Real Time Communication (WebRTC) & Firefox Social API

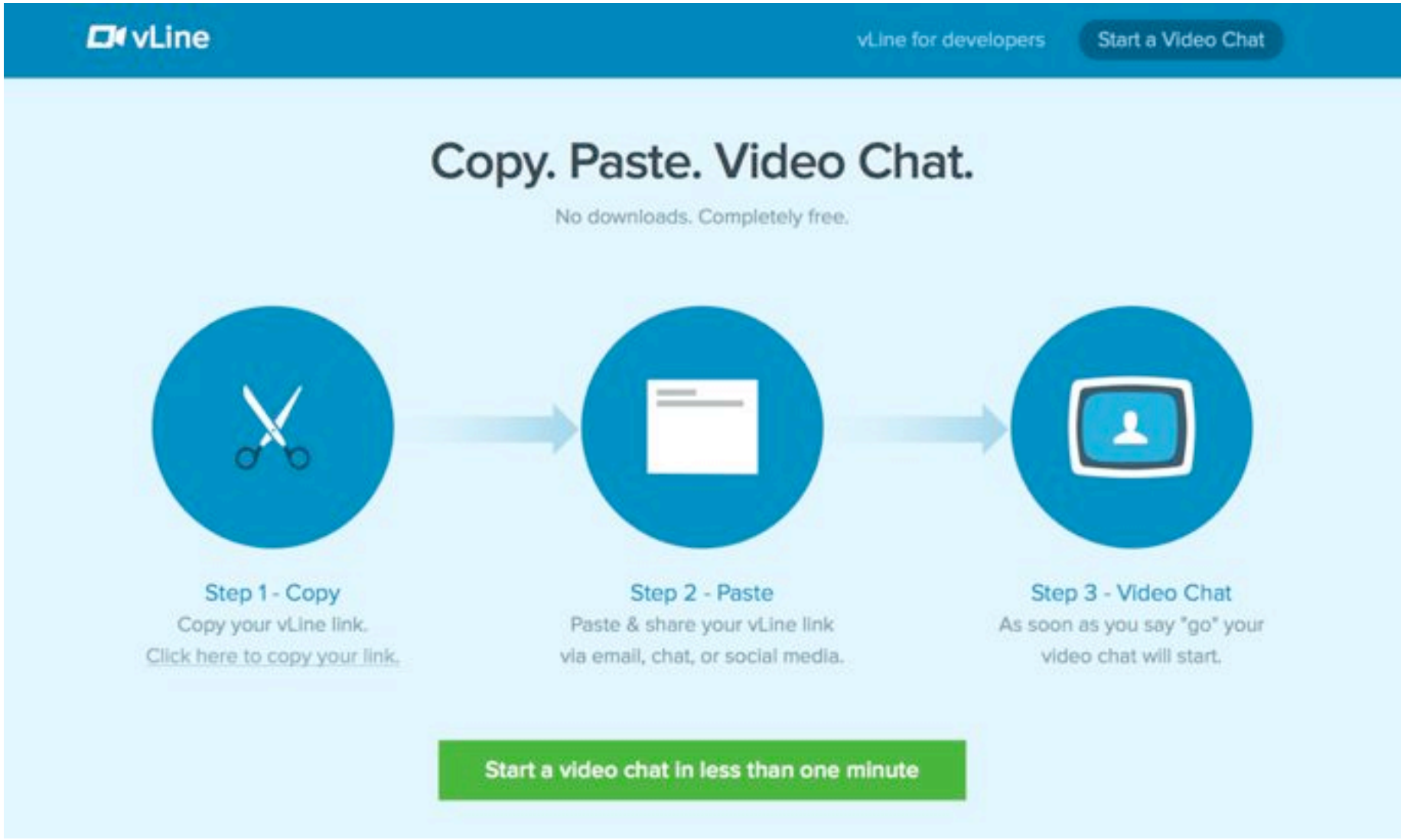


http://www.youtube.com/watch?v=S6-rAv6bU8Q (Todd Simpson, Mozilla)

WebRTC: Technological Remarks

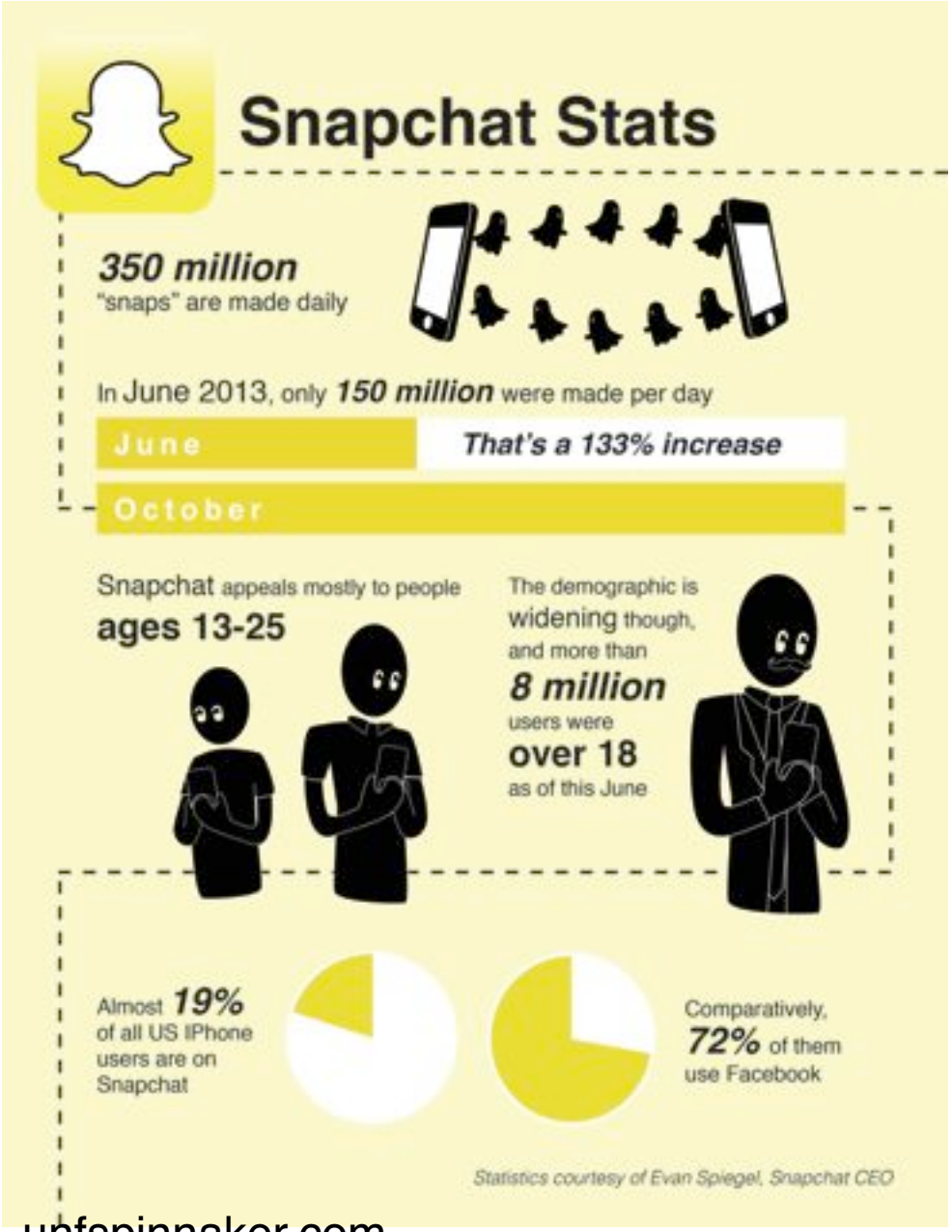
- WebRTC is completely based on JavaScript APIs
  - JavaScript Session Establishment Protocol (JSEP)
  - Allows to control call signaling protocols like SIP or Jingle
  - Media capabilities communicated through SDP
- Internet Connectivity Establishment Framework (ICE), IETF
  - Facilitates connectivity of hosts in presence of firewalls and NAT
  - Session Traversal Utilities for NAT (STUN)
    - » Assigns public address to clients behind NAT
  - Traversal Using Relays around NAT (TURN)
    - » Relays media through public server
- Multipoint Control Unit (MCU) for WebRTC
  - Can use traditional hardware (e.g. from Cisco)
  - Open source MCU software (e.g. OpenTok Mantis)
- See http://www.html5rocks.com/en/tutorials/webrtc/infrastructure/

Example: vLine Broser-Based Video Chat



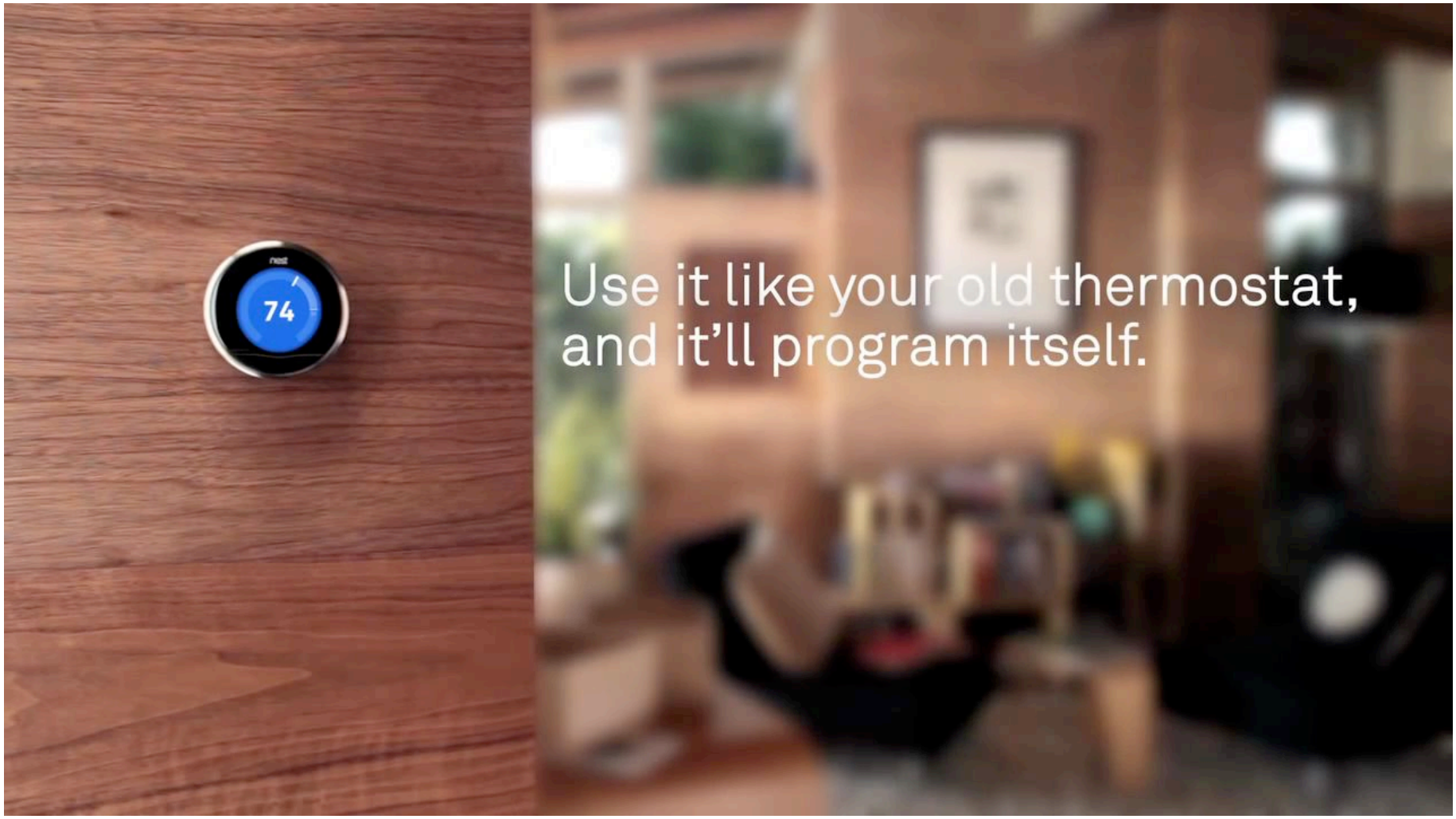
Media Messages with Expiry Time

- ***Forgetting*** in the (social) Internet?
  - Images are auto-destroyed after 1 to 10 seconds
  - Recipients must maintain physical contact with the smartphone when viewing
- Value/Offers 2013/2014:
  - $ 3 bio (Facebook)
  - $ 4 bio (Google)
- brandrepublic.com:
  “According to the poll, carried out by VoucherCodesPro, half of all 18 to 30 year-old users (47%) have received nude pictures and a further 67% of respondents said they had received images of "inappropriate poses or gestures". ” [UK]



unfspinnaker.com

Internet of Things: The Nest Story (1)

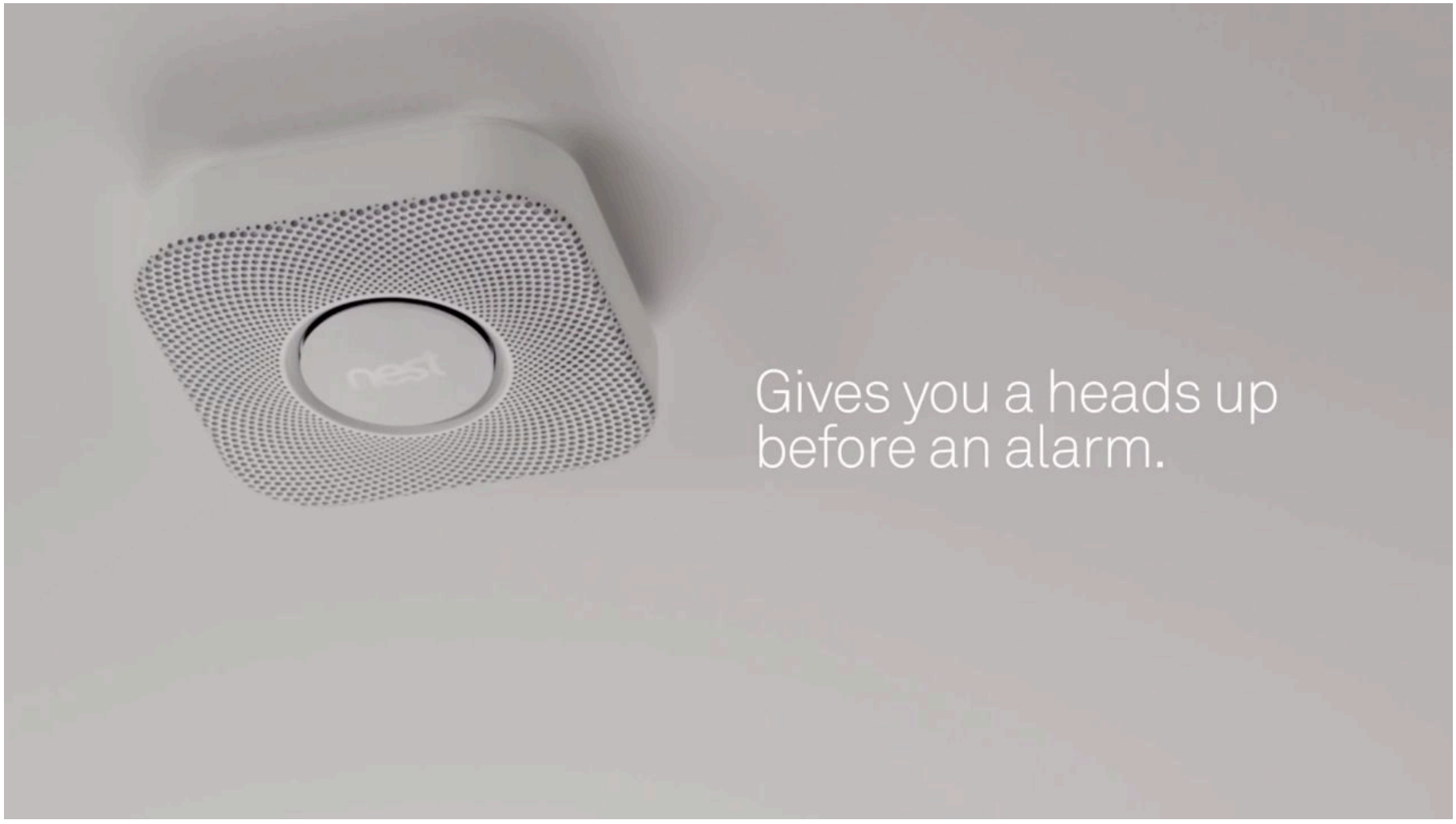


Nest learning thermostat

Internet of Things: The Nest Story (2)

- Tony Fadell (born 1962)
- 300 patents
- Vice president of iPod engineering at Apple
  - Left in 2008
- Founder of *Nest Labs*, 2011
  - together with Matt Rogers
- Jan 14, 2014:
  - Google takes over Nest Labs
  - $ 3.2 bio in cash

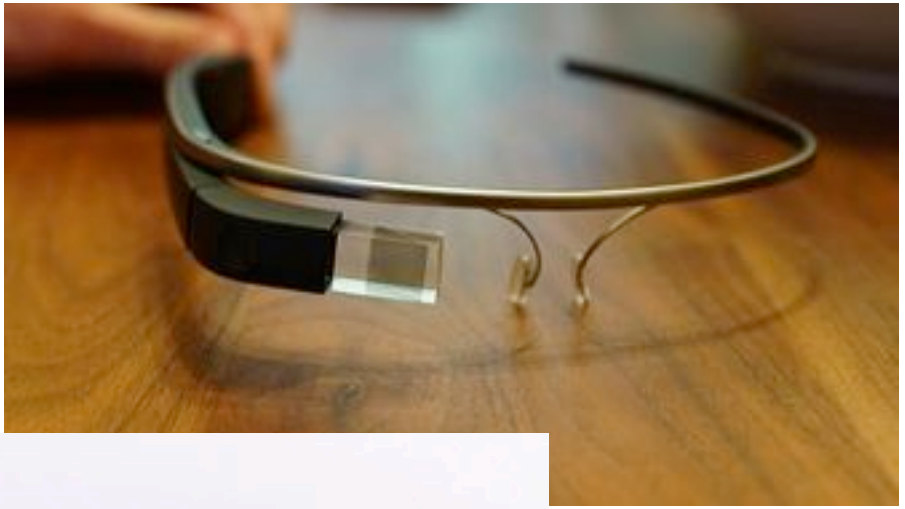
Internet of Things: The Nest Story (3)



Nest Protect smoke protector (2013)

Wearables: Glasses

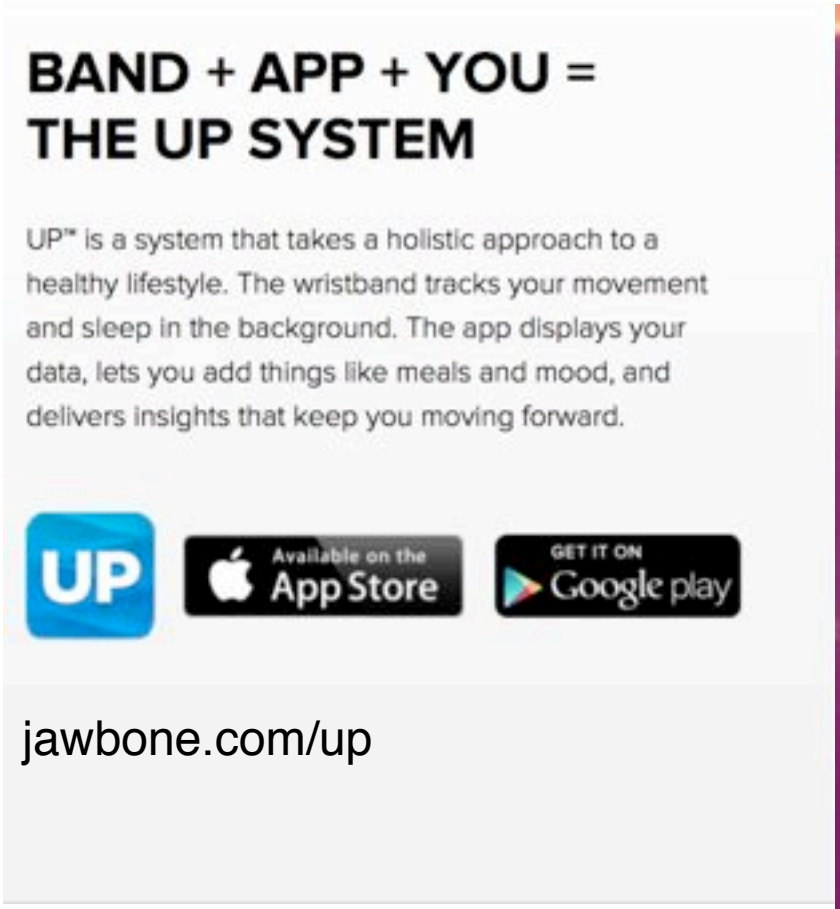
- Augmented glasses
  - In-eye display, e.g. Google Glass
  - Vision assistance for visually impaired



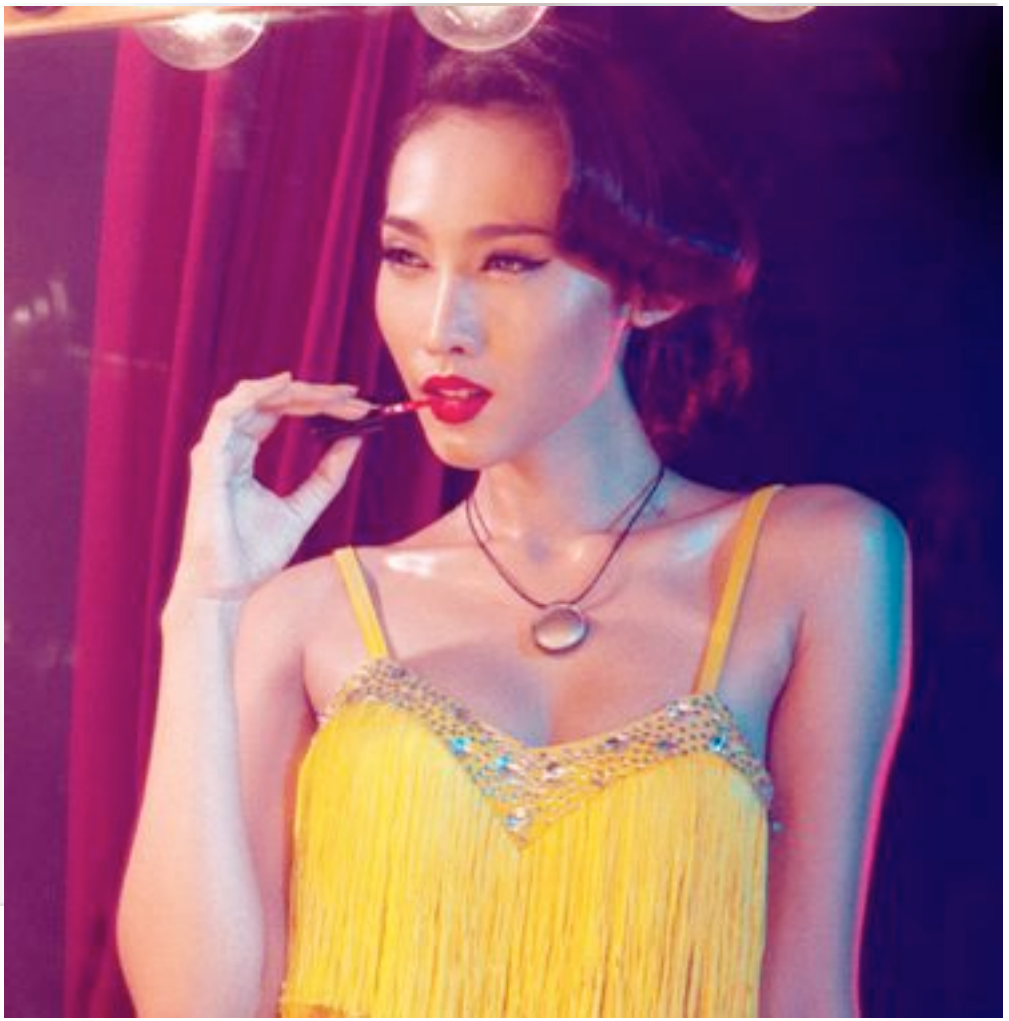
Picture:
Wikimedia

orcam.com

Wearables: Activity Monitors



jawbone.com/up



http://www.misfitwearables.com

- Idle alert
- Smart alarm (sleep cycle)
- Power nap (26.5 minutes)

What is Next?

- A few tentative speculations:
  - Media objects will no longer be stored on personal devices
  - Desktop/laptop operating systems will disappear in private use
  - Media presentation and consumption will be organized around personal life, not around devices
  - Multimedia solutions will be self-learning and adaptive
  - Multimedia consumption and production will be inseparable, and will always take place in a social context
- Ideas?
- Additions?