

Institute of  
Social Computing  
소셜컴퓨팅연구소

# 소셜 웹 서비스의 현재와 미래

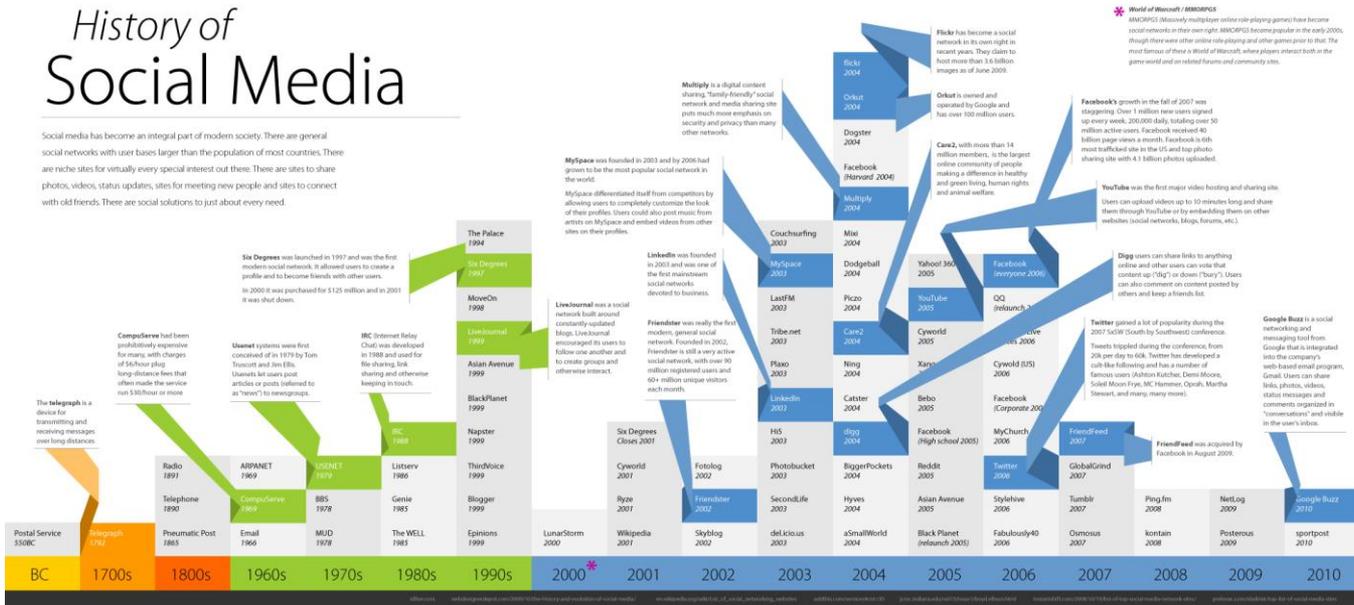
한상기

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# 소셜미디어의 역사

- ▶ 소셜미디어는 1990년 후반부터 성장한 웹 2.0 기술이 기반되었으며, 다양한 영역에서 발전하여 이제 전세계 인터넷 인구의 82.4%가 사용하는 가장 활발한 인터넷 사용 영역이다
- ▶ 소셜미디어는 인터넷 응용이 웹 1.0, 웹 2.0의 발전을 통해 현재 소셜 웹이라는 방향으로 정착한 가장 최근의 인터넷 사용 환경을 의미한다



# The Size of Social Data

- ▶ Facebook's "like" button is pressed 4.5 billion times every day across the web
  - Total number of Like: 1.13T, Size of user data: 300 Petabytes, number of times daily that 'Like' or 'Share' buttons are viewed: 22B, friend connections: 150B, Average daily uploaded photos: 350M (total: 250B)
- ▶ Twitter was processing 143,199 tweets per second globally. These tweets provide a real-time window into the news and information that people care about
  - Total tweets: 300B, 3.3 billion views of Tweets of the Oscars in days after show
- ▶ LinkedIn data is creating a new way of understanding recruitment and retention
  - Users: 300M, Business pages: 3M, Conversations/min: 200, Total No. of endorsement: 1B, Mobile daily profile views: 15M, Mobile job applications: 44,000
- ▶ Total number of Pinterest board is 750M (April 2014) and average number of daily article pins is 5M (Sept. 2013)
- ▶ 네이버 블로그 -- 1일 방문자: 7백만, 1일 PV: 110M, 1일 생성 블로그: 15,000
- ▶ 네이버 카페 -- 1일 방문자: 620만, 1일 PV: 170M, 1일 신규 생성: 7,000

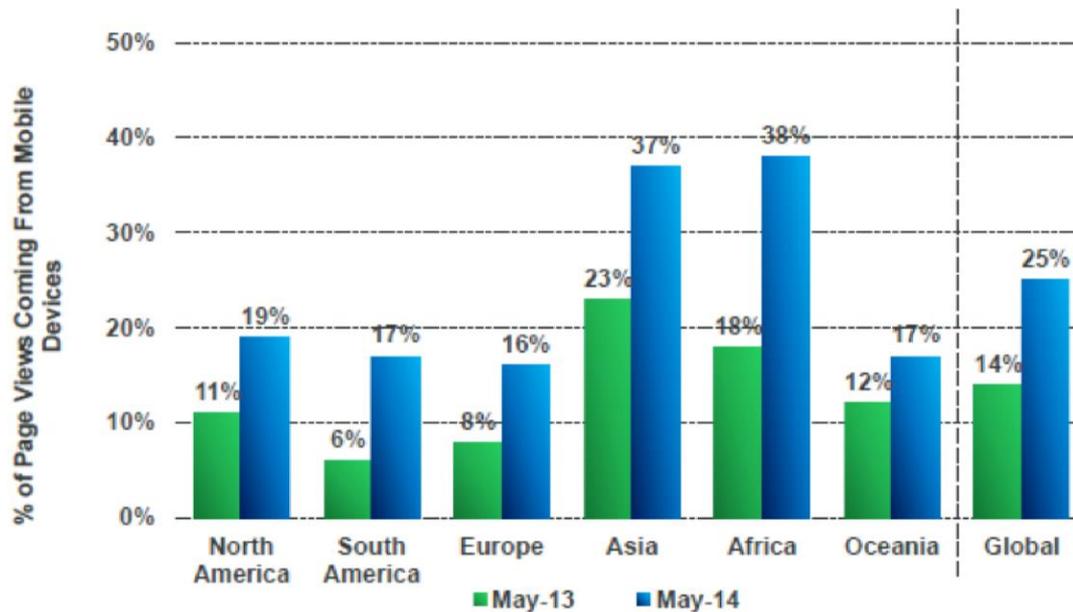
# The Importance of Social Big Data

- ▶ The average global Internet user spends 2.5 hours daily on social media
- ▶ users' relationships, interests, and spending habits → provide their users with personalized content, and advertisers will be able to hyper-target users
- ▶ The kinds of data each social network collects varies dramatically based on what activity is conducted on each network
- ▶ “The second trend is how social media is changing what we know about each other. People around the world are communicating and volunteering more and more information about themselves, and interacting in ways that were unimaginable only a few years ago.” - Inhi Cho Suh, Vice President of Big Data for IBM

# From Mobile First to Mobile Centric

Mobile Usage = Continues to Rise Rapidly...  
@ 25% of Total Web Usage vs. 14% Y/Y

Mobile Usage as % of Web Usage, by Region, 5/14



@KPCB

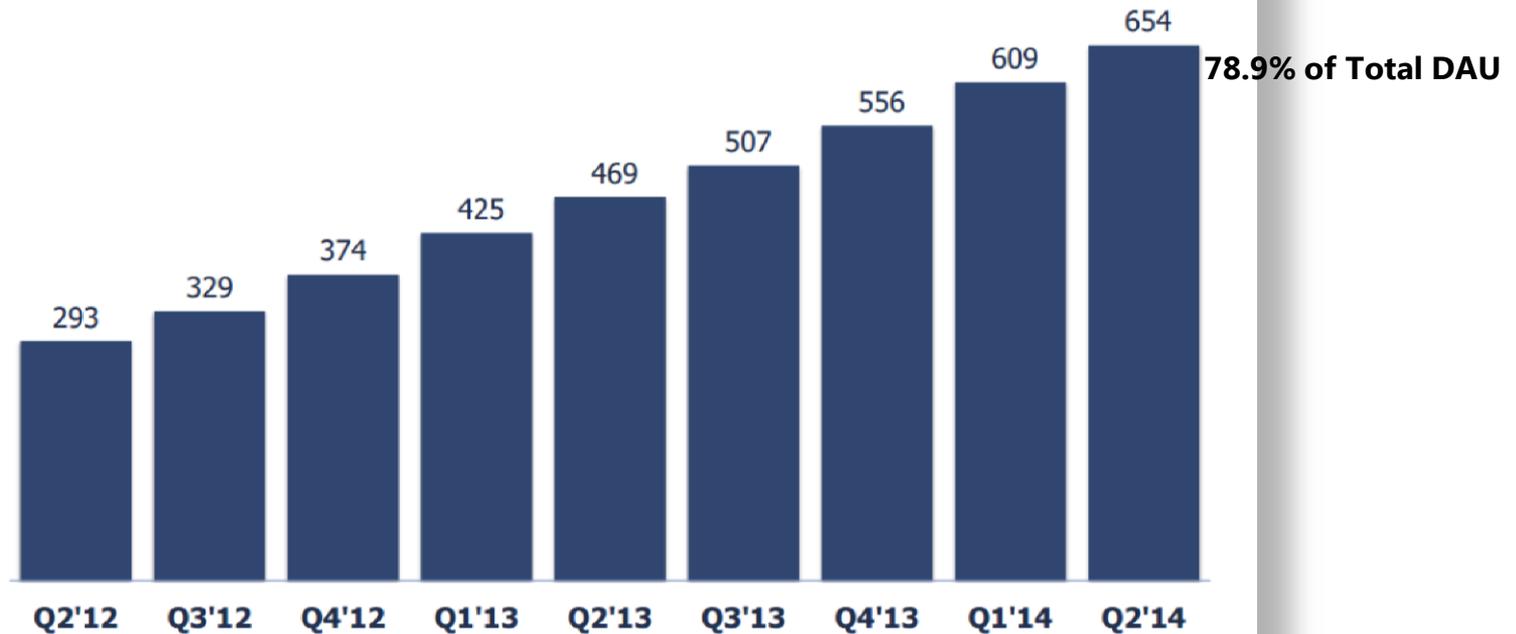
Source: StatCounter, 5/14.

9

# Facebook is a mobile company

## Mobile Daily Active Users (Mobile DAUs)

In Millions



# New Strategy: App Constellation

28  
AUG

## App Constellation: Facebook and FourSquare New Strategy

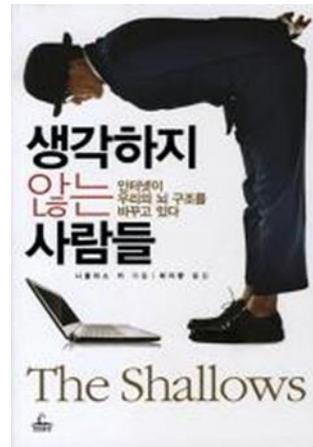
by Leya Thacheril 0 Comments



Named after the phenomenon that is seen amongst the stars, **app constellation** is a term coined in a [recent post](#) by Fred Wilson, when describing the move we are seeing in the world of mobile apps. An app constellation is a **collection of apps that share a single login**, and instead of a company having one app with many features, they **share these features through other apps**, which makes up the constellation. Wilson explains "Putting a ton of functionality into a single app is not the right way to do it on mobile. Having a **constellation of mobile apps** that all work tightly with each other seems to be the better way. And the leading mobile app companies are all headed in that direction now. Pay attention to this trend".



# Evolution for Digital Natives



In his book, “Born Digital: Understanding the First Generation of Digital Natives,” John Palfrey, who codirects Harvard’s Berkman Center for Internet & Society, observes how “grazing digital natives” read a headline or at most a paragraph with little or no context. Only those who take a “deep dive” into the content will end up making sense of the news.

## The Digital Natives – Their Brains are Wired Differently

Posted by: [Dan Roberts](#) | [9 Comments](#)

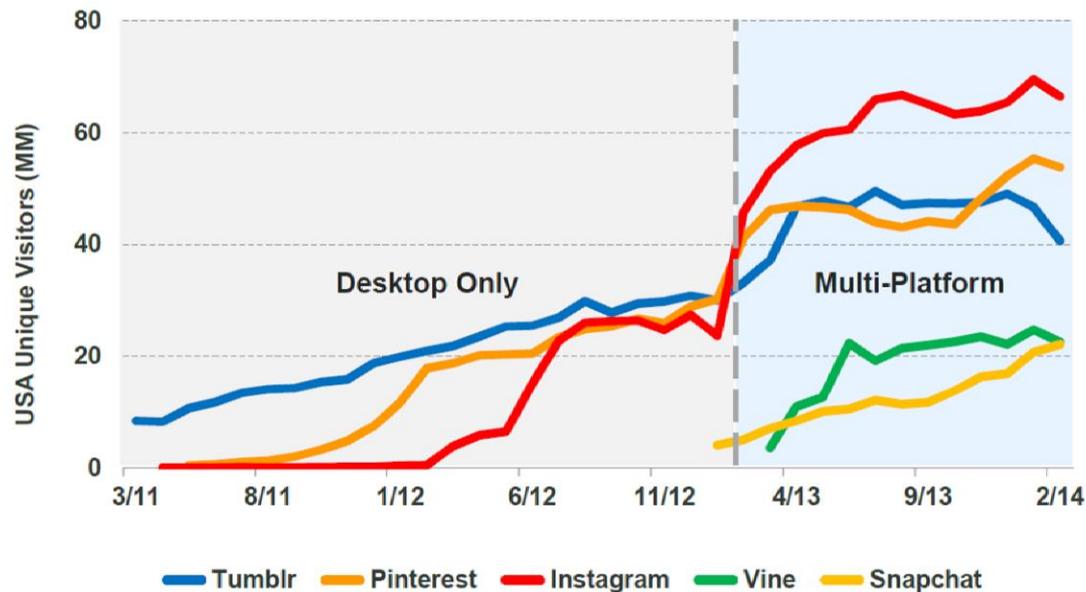
I enjoyed a fascinating presentation today at the **WYSTC** conference in Manchester by Technology Futurist Lee Crockett ([committedsardines.com](#)) on just how the “digital generation” think. According to Lee there is a whole type of human beings (primarily those under 25 but not necessarily) whose brains are wired differently to ours. These people he refers to as “digital natives” – digital is their first language (as opposed to everyone else where digital is their second language).

digital natives are graphical people. Research shows that they can recall as much as 90% of 2,500 images several days after exposure despite only seeing them for a few seconds each. In contrast 72 hours after leaving a lecture only 10% of students could remember the content – add a picture that retention increased to 65%. In fact the eye processes images 60,000 times faster than text according to Crockett. The implications for text heavy websites and brochures are obvious.

# The Growth of Visual Social Web

Evolution of Communications →  
Image + Video Sharing Rising Rapidly

'Visual Web' Social Networks: Unique Visitors Trend, USA, 3/11 – 2/14



@KPCB

Source: Comscore, State of Digital Advertising Q1 2014, 4/14.

38

# Extended Relationship: From Noun to Verb

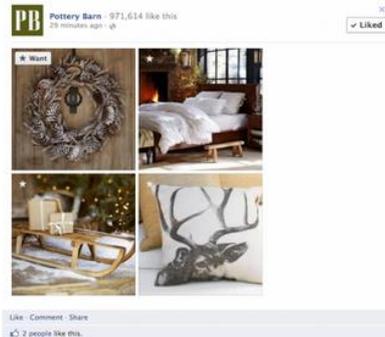
## Facebook tests 'Collections' posts with Want and Collect buttons for retailers

Jonathan Espinosa • Oct 8th, 2012 Collections, E-commerce, Facebook, Featured, Pages

Facebook has begun testing a new feature called "Collections," which allows retailers to post product photos with "Want" or "Collect" buttons, as well as links to buy from their sites.

TechCrunch reports that seven retailers are testing the feature: Michael Kors, Pottery Barn, Wayfair, Victoria's Secret, Neiman Marcus, Smith Optics and Fab.com.

The feature uses large images that users can hover over and click either "Want," "Collect" or "Like." TechCrunch says Facebook is testing variations of the feature to determine which button users respond to best. Each button saves items to a section of users' Timelines, either called "Products" or "Wishlist." Facebook is testing whether these collections should be visible to friends only or friends of friends.



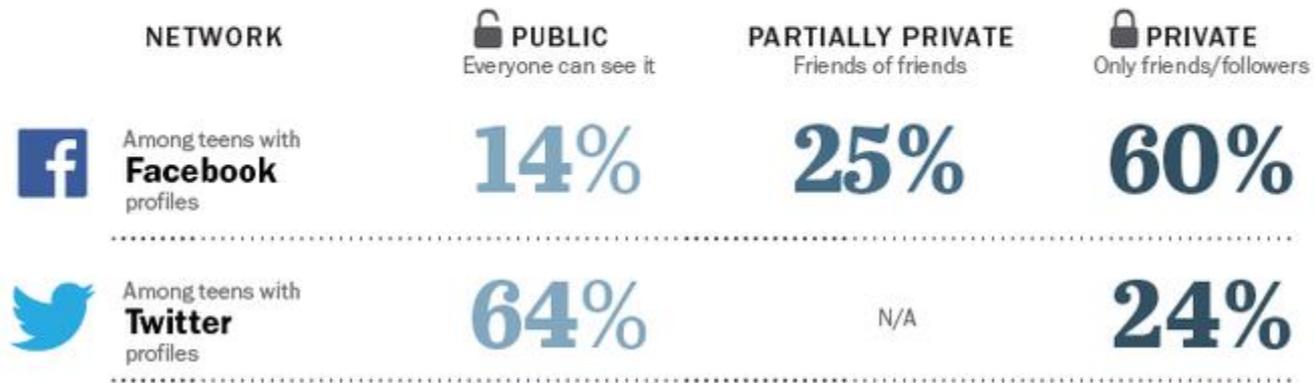
## Pinterest and 60 Others Demo Open Graph Sites + Apps That Auto-Publish To Facebook



# How to Protect My Privacy?

## Privacy on Social Media

Teens choose different privacy settings depending on the social media site they use.



# One Identity or More?

## Google's Eric Schmidt Says Plus Is An 'Identity Service' Not A Social Network

+ Comment now

Google Plus has photo albums, “friendships” (in the form of Circles), and even [games](#), but Google’s former CEO says that people should think of G+ as an “identity service” not as a social network.

During a festival in Edinburgh last week, NPR reporter Andy Carvin asked [Eric Schmidt](#) about Google’s



## FACEBOOK'S ZUCKERBERG: "HAVING TWO IDENTITIES FOR YOURSELF IS AN EXAMPLE OF A LACK OF INTEGRITY"

Posted on: May 14, 2010

Posted in: [Privacy](#), [Social Media](#)

Comments: [16 Comments](#)

Facebook's Mark Zuckerberg has a history of speaking his mind on privacy, and what he speaks is often fraught with problems, ignorance, and arrogance. For example:

- He's **spoken wistfully** about the desire to get people over the “hurdle” of wanting to preserve some semblance of privacy online.
- He's **proclaimed** that social norms on privacy have changed, and that Facebook is merely reacting to these shifting norms.
- His **remarks** also often reveal his failure to recognize the complexity of the issues of privacy — and trust — between users and Facebook.



## One identity or more?

March 8, 2011 by Jeff Jarvis

[anonymity](#), [facebook](#), [identity](#), [publicness](#), [publicparts](#), [reputation](#)

 Tweet 0

 좋아요 29

 +1 0

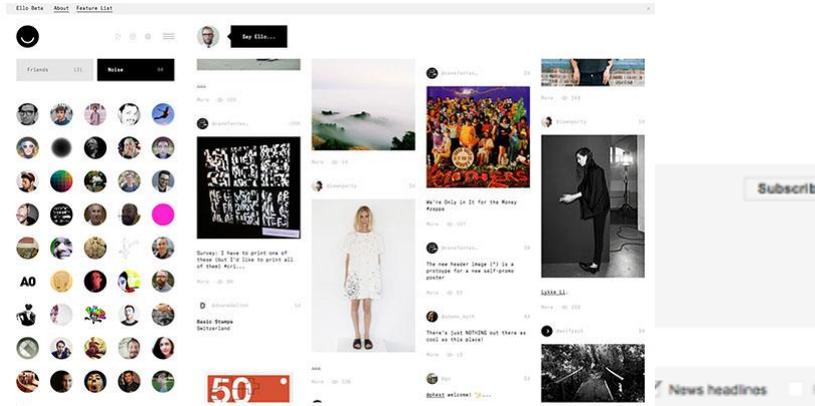
[40 Comments >](#)

*Given the [discussion](#) about Facebook enabling other sites to use its comment infrastructure — and what that means for identity and anonymity in discussion — I thought I'd share some of what I'm saying about the question of multiple identities in my book, .*



by Jeff Jarvis

# Interest in Anonymity



## A More Pseudonymous Internet

From ephemeral publishing apps to the abandoned Google+ "real names" policy, a push to revive relative namelessness online.

LYDIA LAURENSEN | AUG 8 2014, 6:00 AM ET



# How to Get Context-Awareness



## GIZMODO

+ FOLLOW

### Android Wear Is Just a Google Now Watch (And That's Great)



Eric Limer

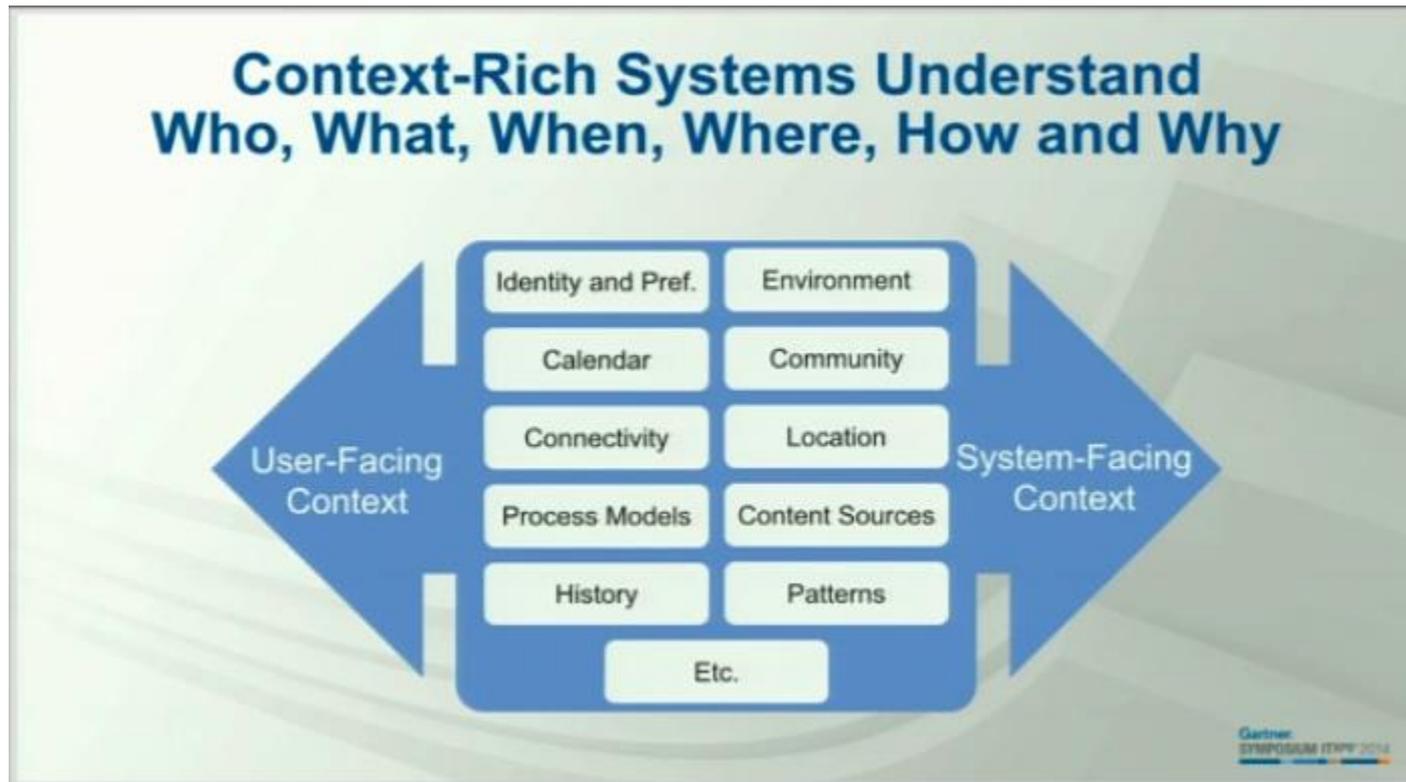
Filed to: SMARTWATCHES 3/18/14 4:17pm

78,104 8 ★



Google just announced its first real foray into the frenzied fray of the smartwatch world: [Android Wear](#). That's an accurate name for a wearable, Android-powered device, sure, but it's also a little misleading. This is a Google Now watch. And that's excellent news.

# Context-Aware Intelligence



# How to Get Location Information

account settings to enable it. On a typical day during the period studied, 2.02 percent of all tweets included geographic metadata, with 1.8 percent having a Place indicator, 1.6 percent having Exact Location, and 1.4 percent having both (these sum to more than the total because tweets can have both).

tweets are combined with those from the Geo metadata field, 46,672,798 tweets, or 3.04 percent of the Decahose, was georeferenced, capturing an average of 600,000 unique points on Earth each day.

## Lack of Twitter geotags can't stop researchers from getting location

A clever algorithm can often figure out where you are.

by Casey Johnston - Mar 24 2014, 11:44pm +0900

Share Tweet 31

	Tweets
1.	Foldin the biggest pile of clothes EVER!!
2.	Let's cruise on today (@ House of Ambrose) <a href="http://4sq.com/m1F3R6">http://4sq.com/m1F3R6</a>
3.	#Portland It's chocolate peanut butter!
4.	Let's Go Red Sox!!!
5.	Another sunny day in California!

Table 1. Example tweets in our dataset

A set of tweets that the IBM researchers used to determine a regional prototype.

Arxiv

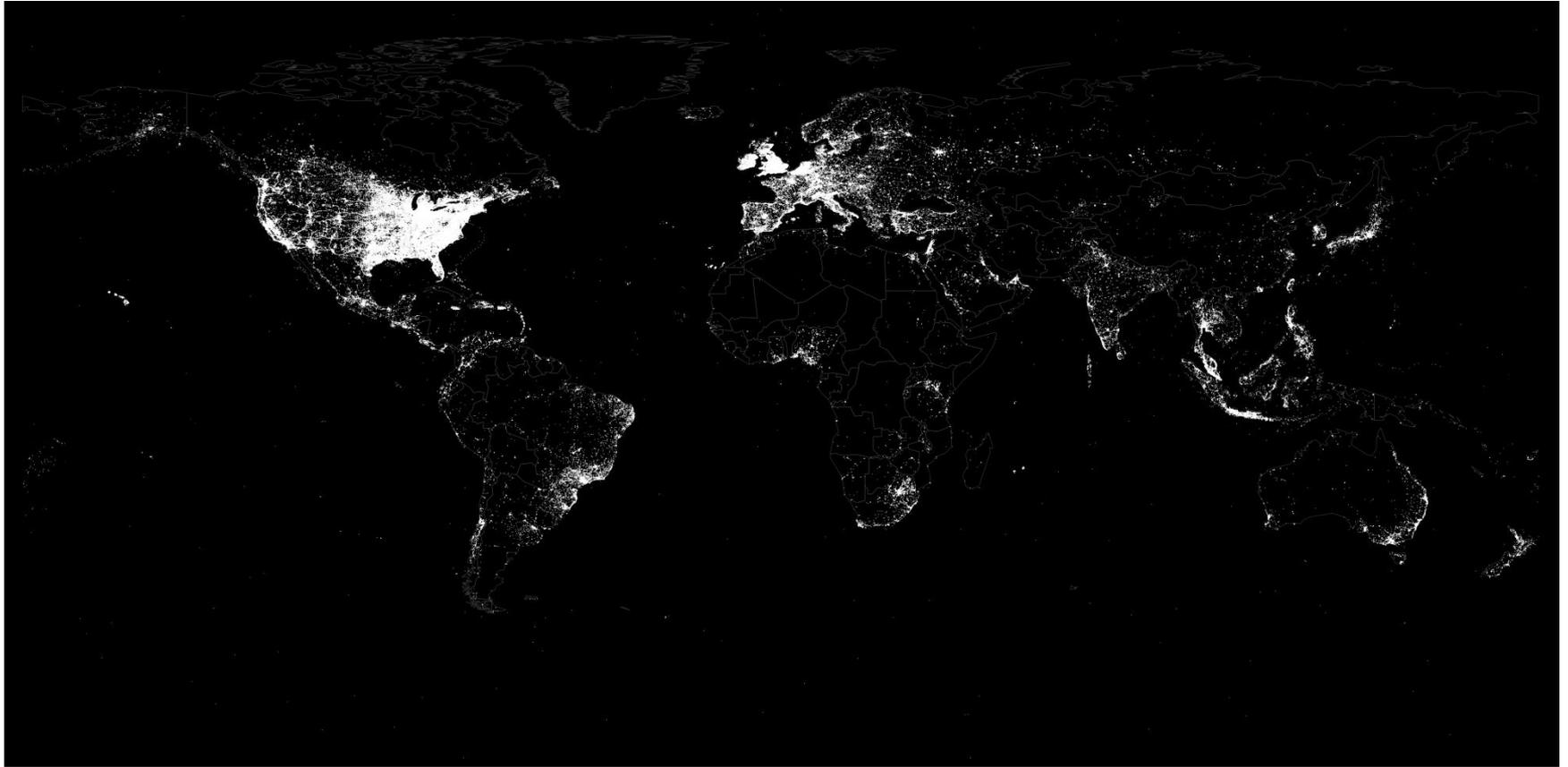
Three researchers from IBM have developed an algorithm that can predict a Twitter user's location without needing so much as a single geotag from them. According to [the Arxiv paper](#) on the subject, the location prediction comes largely from assessing the similarity of the content of a user's tweets to other users' tweets who do use geotags, which turns out to be a decent predictor.

While geotags are the most definitive location information a tweet can have, tweets can also have plenty more salient information: hashtags, FourSquare check-ins, or text references to certain cities or states, to name a few. The authors of the paper created their algorithm by analyzing the content of tweets that did have geotags and then searching for similarities in content in tweets without geotags to assess where they might have originated from. Of a body of 1.5 million tweets, 90 percent were used to train the algorithm, and 10 percent were used to test it.

Using this system, the researchers could predict a user's city with 58 percent accuracy—far from deadly aim, but statistically significant nonetheless. Larger regions could be predicted with increasing levels of accuracy, with 66 percent on a state level and 73 percent on a time zone level.

The most salient use of location data from a business standpoint would be for targeting ads. While [very few Twitter users actually tweet](#), it's not implausible that their Twitter actions, even passive ones following other users, could be examined to determine their location. While avoiding geotagging tweets is a good step toward maintaining privacy, there is little to prevent anyone from determining location by proxy.

# Twitter Decahose English-language georeferenced tweets 23 October 2012 to 30 November 2012



# Location Is the Most Valuable Asset

All your social media posts now sorted by location and up for sale

The screenshot displays the Geofeedia interface for Millennium Park in Chicago. On the left, there are filter options for 'RESULTS' (595 Posts), 'FROM' and 'TO' dates, 'KEYWORD FILTERS', and 'USERNAME FILTERS'. The central map shows a dense cluster of social media icons (Twitter, Facebook, etc.) over the park area. On the right, a list of posts is shown, including one by 'jazzylay1987' with the text 'The Bean ... Can't believe it's already been 2 weeks since we were in Chicago! ☹️ take me back' and another by 'ncararah' with the text 'My Bean ☹️ #millenniumpark #thechicagobean #inspired by @sincerelyjules #chicago #latergram #art'.

October 15, 2014 4:30 PM  
Richard Byrne Reilly

Everything you post on social media can and will be used against you.



혹시 일본여행 계획하고 계신가요?? 일본 이민을 계획하고 계신가요?  
 한번만 다시 생각해보세요 제목에 알렸듯 일본은 이미 망했어요.  
 앞으로 몇년 후면 일본인들도 깨닫게 될테고  
 더 세월이 흐르면 세계지도에서 일본은 지워지게 될겁니다..

판단은 글을 읽고나서 본인이 직접 해보세요..



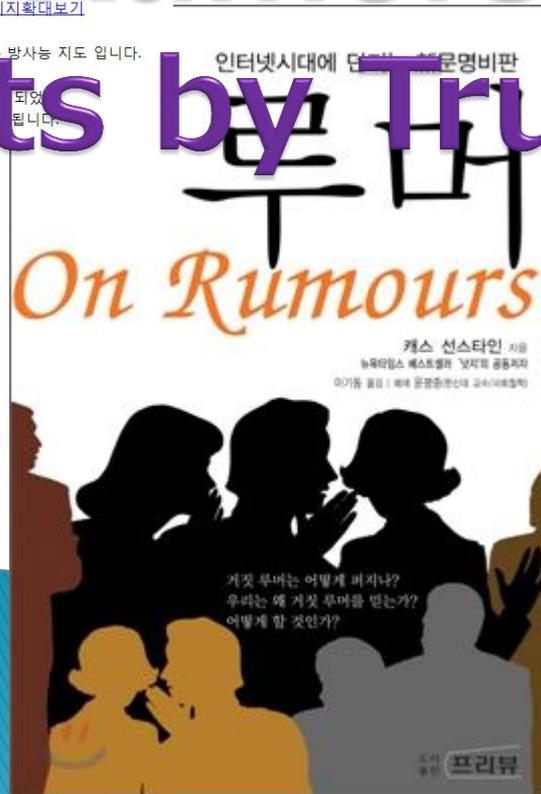
이미지확대보기

위 지도는 세계 5대 과학지의 PNAS 에서 발표한 일본 방사능 지도 입니다.

검은 부분은 이미 오염이 된 지역으로 판  
 정된 지역을 결국엔 일본 전체가 뿌리내리  
 될겁니다.



# Less Rumors and More Facts by Trust Model



Like I said.... I wish I were there. I should have been a storm chaser.



This is an amazing shot of New York today with the Frankenstein storm bearing down. Nature is so powerful, yet so beautiful.

거짓 루머는 어떻게 퍼지냐?  
 우리는 왜 거짓 루머를 믿는게?  
 어떻게 할 것인가?

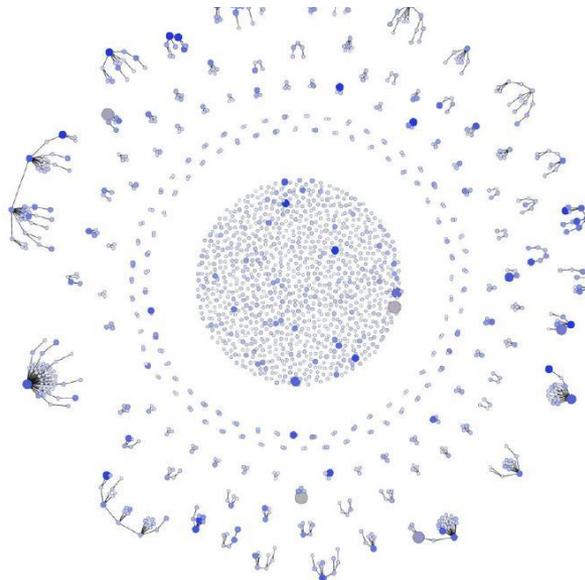
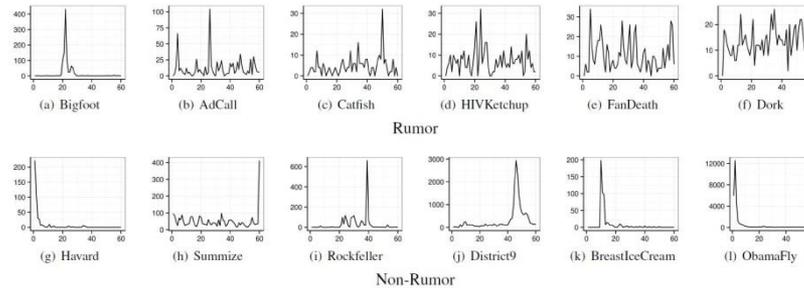
프리뷰

# Rumors and Non-Rumors

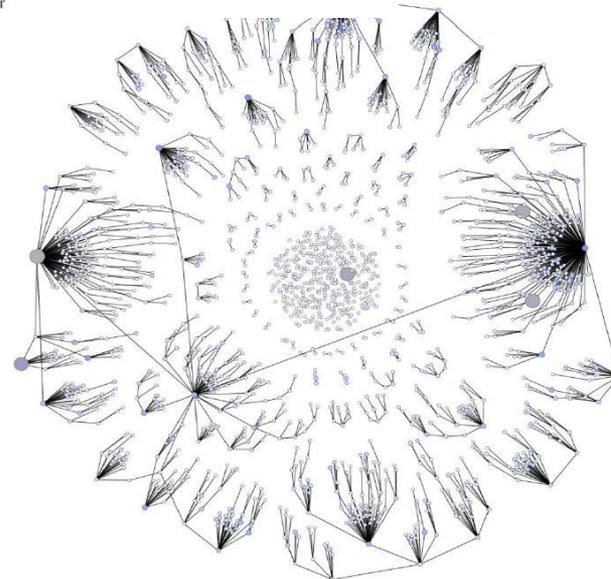
## (Mia Cha @ KAIST 2013)

Researched over 100 rumors in the US from 2006 to 2009

analysis could identify rumors to 90% accuracy



(a) Bigfoot (rumor)



(b) Summize (non-rumor)

# New Filter Bubble

## EdgeRank Is Dead: Facebook's News Feed Algorithm Now Has Close To 100K Weight Factors

Matt McGee on August 16, 2013 at 9:00 am

3.8K

g+

f

The next time you tell a client how Facebook selects and ranks the content that shows up in the News Feed, you'll need to do it without using the word EdgeRank.

EdgeRank, Facebook's original News Feed ranking system, is dead.

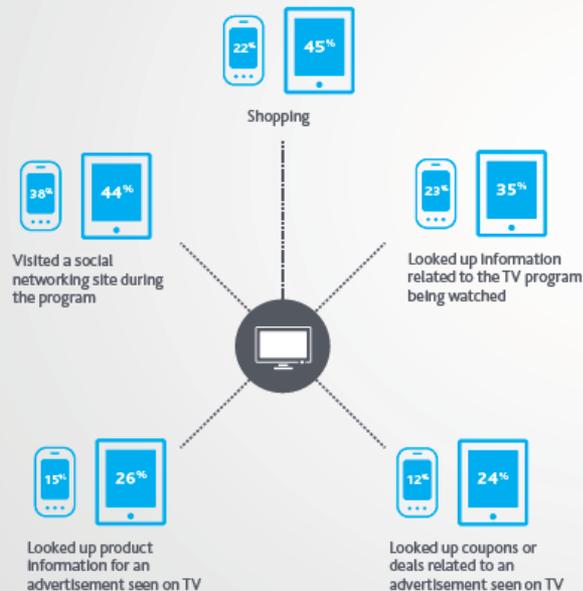
Facebook hasn't used the word internally for about two-and-a-half years. That's when the company began employing a more complex ranking algorithm based on machine

# Social Media and Connected Devices

## SIMULTANEOUS SMARTPHONE AND TABLET USAGE WHILE WATCHING TV

Having a mobile device on-hand while watching TV has become an integral part of consumer routines—41 percent of tablet owners and 38 percent of smartphone owners use their device daily while in front of their TV screen. Not surprisingly, social networking is a top activity on both devices, but people aren't just chatting with their social connections, they're also shopping and looking up relevant program and product info.

Simultaneous TV/Mobile Device Usage, U.S.



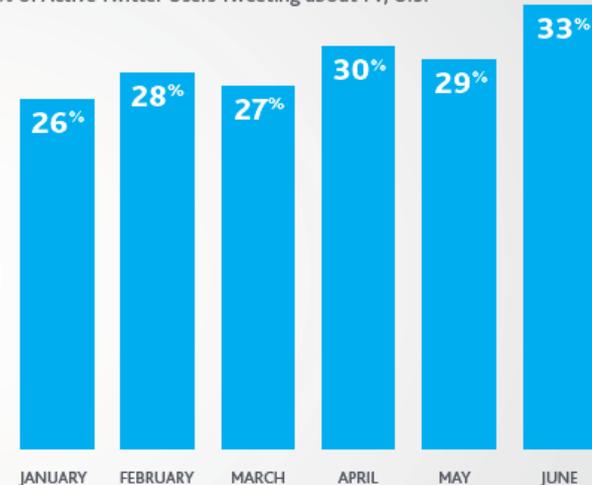
13

© Nielsen 2012

## TWITTER DRIVES SOCIAL TV

Twitter has emerged as a key driver of social TV interaction. During June 2012, a third of active Twitter users tweeted about TV-related content, an increase of 27 percent from the beginning of the year.

% of Active Twitter Users Tweeting about TV, U.S.



### Ⓔ SPOILER ALERT Ⓕ

Nearly a quarter of people aged 18-34 use social media to comment on what they like/dislike about a storyline while watching TV



### Ⓔ TALKING TV Ⓕ

Adults aged 35-44 are the most likely to discuss television programming with their social connections

© Nielsen 2012

14

# Social Media + Connected TV

**MOTOROLA** Watch Season 3 of Madmen and win 100 coins! 11,486 Redeem **Chris Wright**

## Social TV

**Grey's Anatomy: The Syringe**  
Meredith, looking to prove she is Chief Resident material, learns that anything and everything can happen in an hour's time when she steps up to run the ER for a night.

**CHECK-IN** **INVITE**

**12 Friends Watching**

and 7 more watching. [View All](#)

**10 friends liked** **2 friends disliked**

**Friends are saying...**

**Todd Green**  
This is such an amazing show! Why not order meetings and business?

**Amanda McGovern**  
Go Go Donald Draper!

**Amanda McGovern**  
Amazing Executive Battles ahah...

**Sherrea Ambler**  
Wake the waiting non-chewers.

**On Air**

- The Middle** (abc) 10:30-11:00PM
- Sons of Guns** (Discovery) 10:30-11:00PM
- Nurse Jackie** (SHOWTIME) 10:30-11:00PM

**What's Hot**

- Law & Order: Special Victims Unit** (NBC) 11:00PM-0:00AM
- The Ultimate Fighter** (SPIKE) 11:00PM-0:00AM
- Modern Family** (abc) 11:00-11:31PM

# Social Web Needs Cognitive Computing

This week in TMI: 22 percent of teens use voice search while they're in the bathroom



By Hayley Tsukayama October 14 at 3:09 PM Follow @htsuka



Google has released some new information on how we use voice search. (Photo by: Kuni Takahashi/Bloomberg)

## Facebook shows off its deep learning skills with DeepFace

by Derrick Harris MAR. 18, 2014 - 8:51 AM PDT

2 Comments

A A

**SUMMARY:** A Facebook research paper details a new method for recognizing the people in images by combining deep learning techniques with a method for recomposing angled images as straight-on ones. It's the latest in a series of advances web companies have made in this field.



photo: Shutterstock / phipatbig

"DeepFace" to detect whether two faces in unfamiliar photos are of the same person with 97.25% accuracy, regardless of lighting conditions or angles. As a comparison, humans generally have an average of 97.53% accuracy.

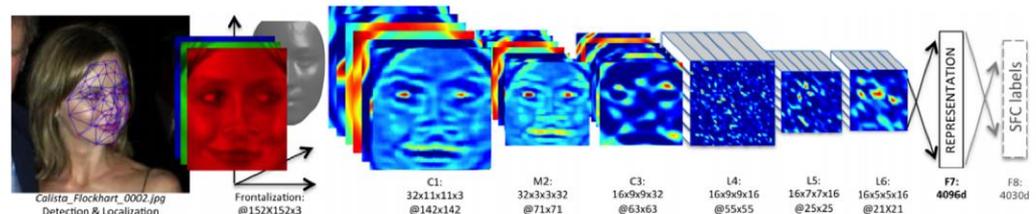
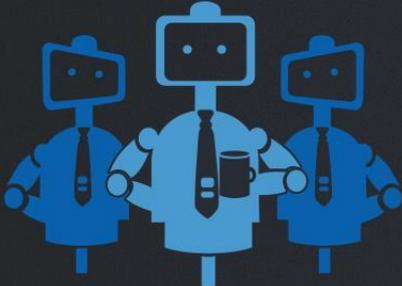


Figure 2. Outline of the DeepFace architecture. A front-end of a single convolution-pooling-convolution filtering on the rectified input, followed by three locally-connected layers and two fully-connected layers. Colors illustrate feature maps produced at each layer. The net includes more than 120 million parameters, where more than 95% come from the local and fully connected layers.

# Social Web Service for Things



## WE, ROBOTS

Someday soon, connected robots will have the ability to learn from each other and work in teams to increase efficiency and solve scientific problems.

**WEIGH IN ON ROBOTS**

*Do you own a personal robot, like the housecleaning Roomba? If not, why not?*

[Discuss it here](#)

## A FACEBOOK FOR THINGS

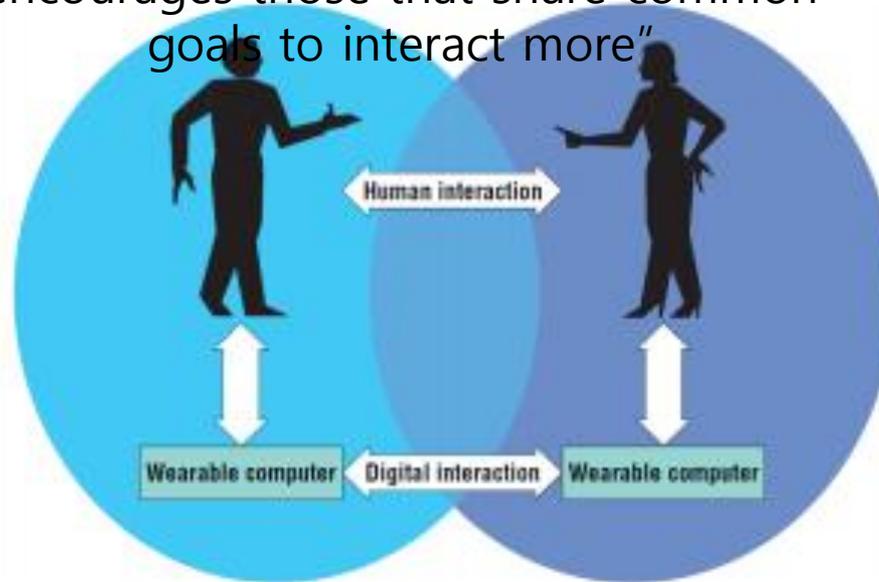
As TechCrunch puts it, the ultimate IoT prize "is to become the software platform upon which all vertical applications in the Internet of Things will be built." Besides SmartThings and Ninja Blocks, Evrythng is making a play to be the central platform--calling itself a "Facebook for the Internet of Things."



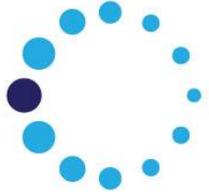
**CAN'T ALL OUR THINGS JUST GET ALONG?**

# New Social System Integrating People and Devices

"the system does not replace any interaction between people but encourages those that share common goals to interact more"



[출처: 'The effects of wearable computing and augmented reality on performing everyday tasks,' D. Sangane, Research Topics in HCI, 2013]



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[facebook.com/TopicsinSocialMedia](https://facebook.com/TopicsinSocialMedia),

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아이뉴스24 칼럼: 테크프론티어

Slownews.kr: Weekly Tech Review