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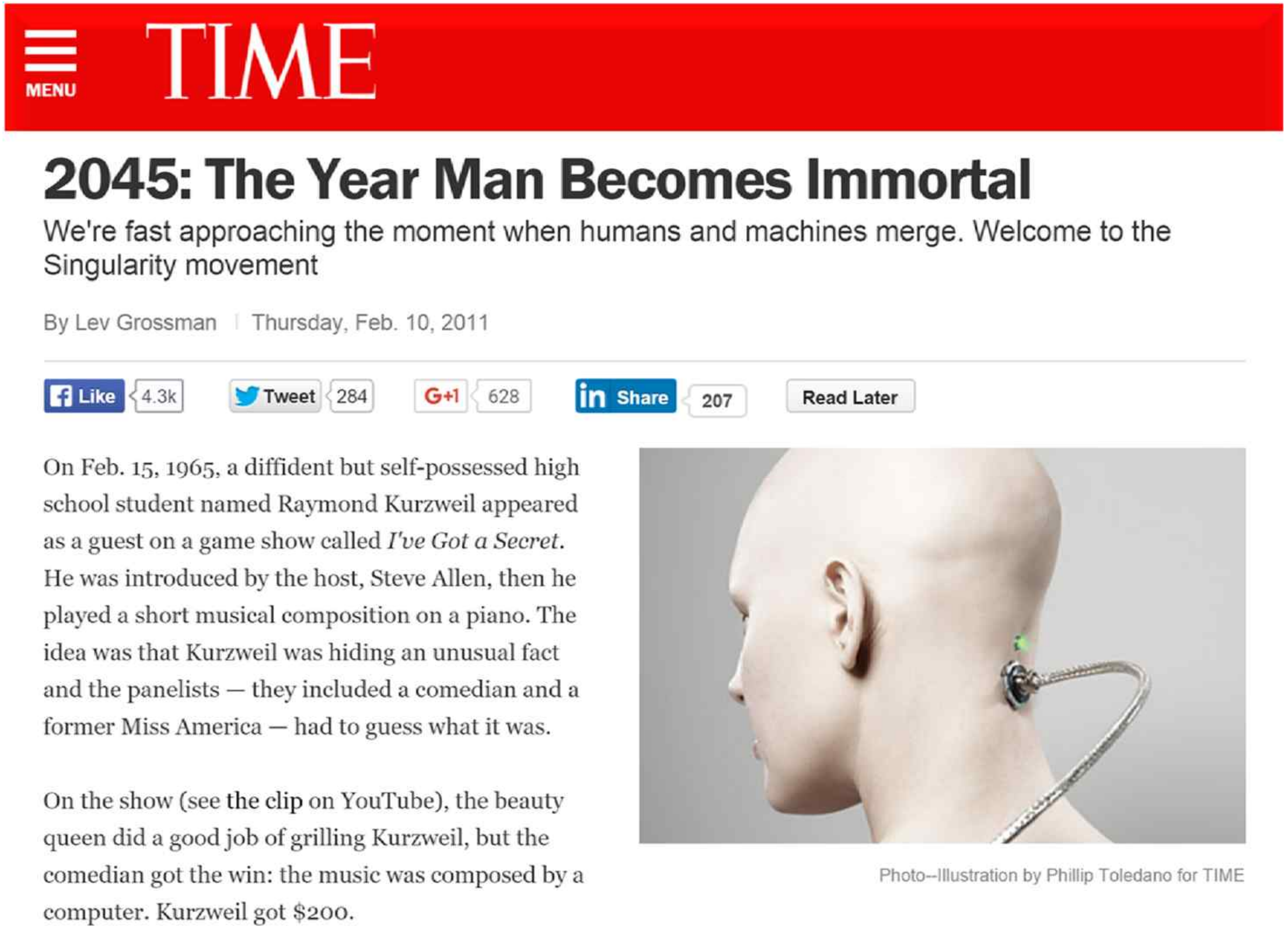
공유 2045: 인터넷@인간사회 연구회

2015. 10

한상기 / 소셜컴퓨팅연구소 / 세종대학교 ES Center

http://www.blog.urbact.eu/2014/05/the-sharing-economy-whats-in-it-for-cities/

왜 2045년인가?



2045: The Year Man Becomes Immortal

We're fast approaching the moment when humans and machines merge. Welcome to the Singularity movement

By Lev Grossman | Thursday, Feb. 10, 2011

On Feb. 15, 1965, a diffident but self-possessed high school student named Raymond Kurzweil appeared as a guest on a game show called *I've Got a Secret*. He was introduced by the host, Steve Allen, then he played a short musical composition on a piano. The idea was that Kurzweil was hiding an unusual fact and the panelists — they included a comedian and a former Miss America — had to guess what it was.

On the show (see the clip on YouTube), the beauty queen did a good job of grilling Kurzweil, but the comedian got the win: the music was composed by a computer. Kurzweil got $200.

Photo--Illustration by Phillip Toledano for TIME

포럼의 연구 주제

- 창의와 상상이 세상을 바꾼다 (세상을 바꾸는 창의)
- 누구에게나 열린 평등 (누구나 기회를 얻는 평등)
- 모두가 모든 것을 공유 (존재한다면 공유한다)
- 행복한 삶이 보장되는 안전 (누가 안전을 보장할 것인가?)
- 배려하는 자유와 그에 따른 책임

공유 경제 / 협력 소비 / 접근 경제

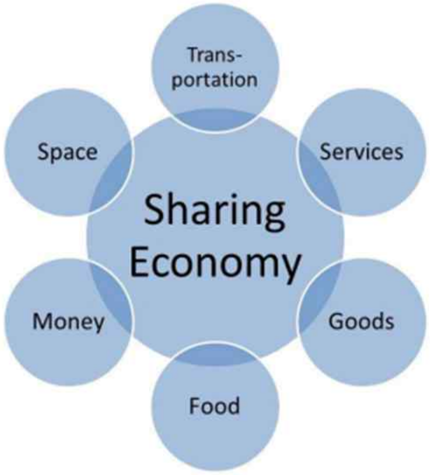
- 공유경제(Sharing Economy): 2008년 미국 하버드대 법대 로렌스 레식(Lawrence Lessig) 교수의 책 'Remix: Making Art and Commerce Thrive in Hybrid Economy' 에서 사용된 말로, 지금까지 존재하는 상업적 경제 외에 관계에 기반을 두는 화폐 교환 밖의 새로운 경제 시스템을 의미
  - 가격의 잣대가 아닌 사회적 관계의 설정에 의해서 규정되어지며, 디지털 영역까지 확장됨을 강조
  - 사례: 위키피디어, 오픈 디렉토리, 인터넷 아카이브, 구덴베르크 프로젝트 등으로 대부분이 온라인 상에서 정보와 지식을 공유하는 형태
- 협력적 소비: 1978년 마르쿠스 펠슨 (Marcus Felson)과 조 스패스(Joe Spaeth)의 '커뮤니티 구조와 협력적 소비: 평상적 활동으로 접근'이라는 논문 에서 사용된 것이 시초. 이 개념은 레이첼 보츠먼(Rachel Botsman)과 루 로저스(Roo Rogers)가 2010년 책 'What Mine is Yours: The Rise of Collaborative Consumption'에서 사용하면서 유명해지기 시작
  - TED글로벌2012에서 보츠만은 협력적 소비는 사회 혁명으로 다수의 플랫폼을 가로지르는 신뢰의 개념이 새로운 협력 경제의 통화가 될 것이라고 주장
- 접근 경제 (Access Economy): 실제적으로 상품이나 서비스를 소유하지 않고 접근하는 것이 가능하도록 한다는 의미를 더 잘 표현 - "공유경제의 성장(The Rising of the Sharing Economy)"의 저자 닉 애스터

역사 및 패러다임의 변화

- 지역 미디어 기반의 오프라인 공유경제
  - 주차장 세일 (Garage Sale)과 같은 개인적인 중고 제품들의 판매/공유
  - '벼룩 시장'과 같은 지역 기반의 무가지 미디어를 활용한 중고장터
  - 구청의 재활용 센터와 같은 지역 공공기관의 활동
- 인터넷 세대의 도래와 함께 디지털 컨텐츠의 공유 확대
  - 정보의 공유 : 위키피디아, 네이버 지식인, 인터넷 아카이브
  - 음악의 공유 : Napster, 소리바다
  - 소프트웨어 : BitTorrent, SourceForge.net, Github, 코드플렉스
  - 비디오 : YouTube
  - 디지털 정보의 합법적인 공유 모델 : 크리에이티브 커먼즈
- 개인 소유물이 공유대상으로 전환
  - 에어비앤비, 우버, …
- 공공자원의 활용도를 높이는 방향으로 진화
  - 공유 도시: 샌프란시스코, 서울특별시

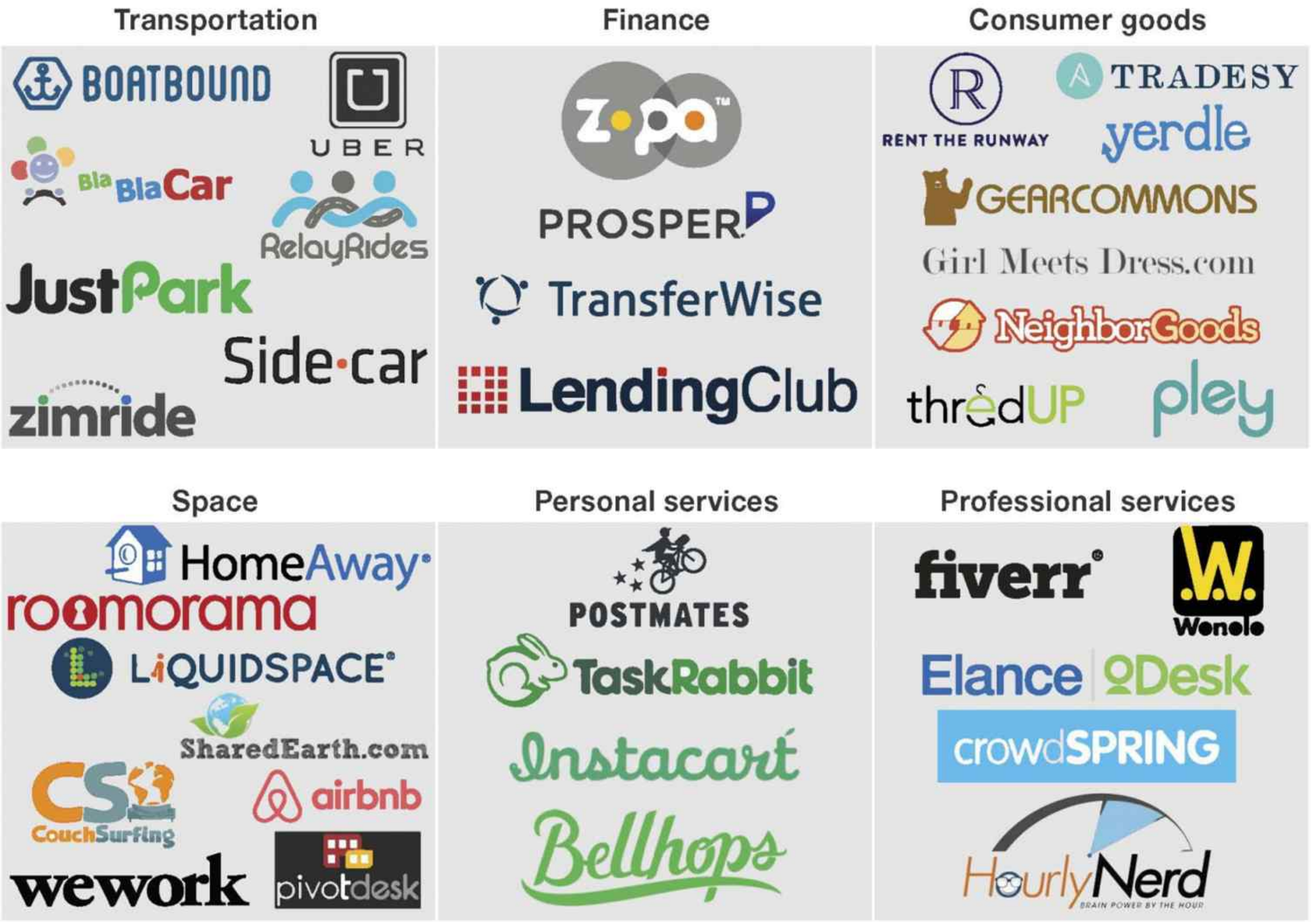
What Is the “Sharing Economy”

- No official definition
- Generally organized around a technology platform that facilitates the exchange of goods, assets, and services between individuals across a varied and dynamic collection of sectors.
- Related terms include “collaborative economy,” “gig economy,” “on-demand economy,” “collaborative consumption,” or “peer-to-peer economy.” There are differences among these ideas, but substantial overlap in concept.
- Examples of companies that facilitate exchange of property or space:
  - Airbnb (rent out a room or a house)
  - RelayRides and Getaround (rent out a car)
  - Liquid (rent a bike)
- Examples of companies that facilitate exchanges of labor:
  - Uber and Lyft (get a ride or share a ride)
  - Taskrabbit (on-demand labor for a wide variety of tasks)
  - Handy (house cleaning and home repair)
  - Instacart (on-demand grocery-shopping services)



The ASPEN Institute

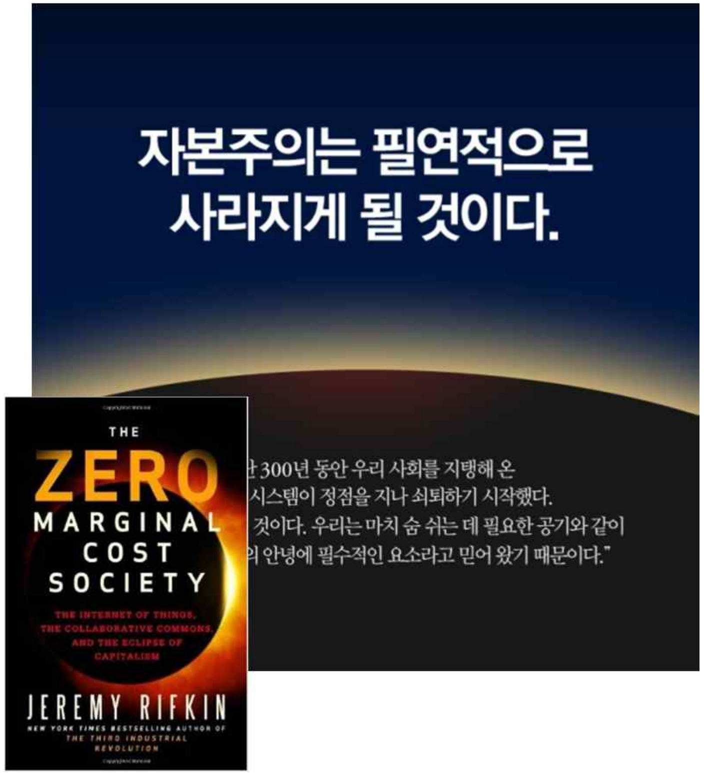
공유경제 플랫폼

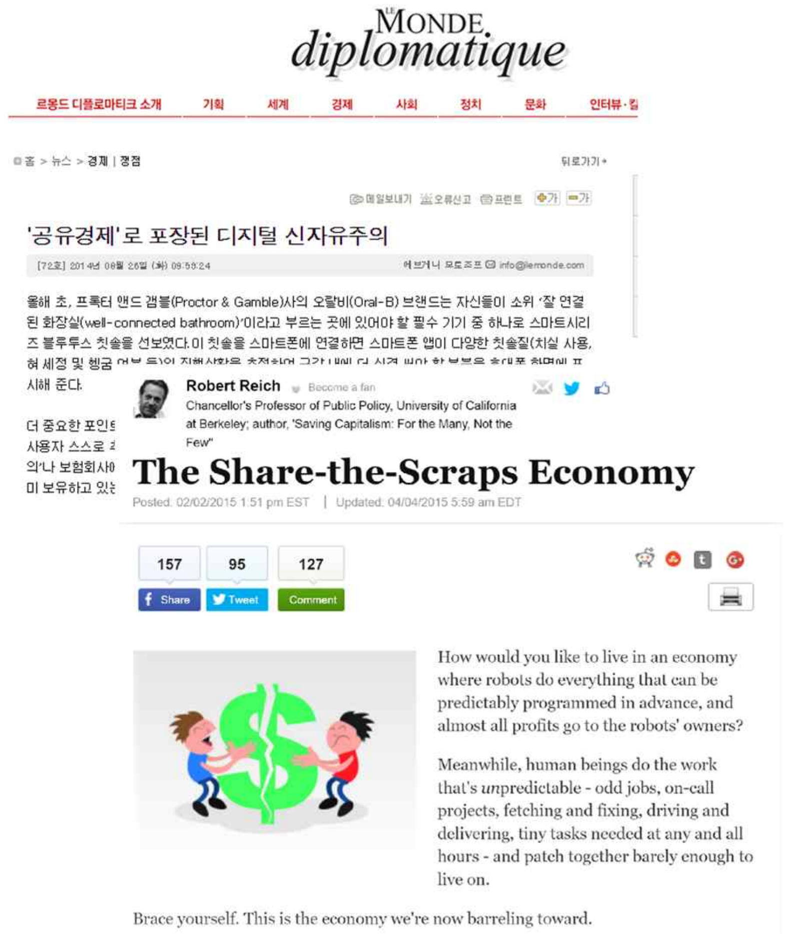

Transportation
BOATBOUND
UBER
BlaBlaCar
RelayRides
JustPark
Side·car
zimride
Finance
Zopa
PROSPER
TransferWise
LendingClub
Consumer goods
RENT THE RUNWAY
TRADESY
yerdle
GEARCOMMONS
Girl Meets Dress.com
NeighborGoods
thredUP
pley
Space
HomeAway
roomorama
LiQUIDSPACE
SharedEarth.com
CouchSurfing
airbnb
wework
pivotdesk
Personal services
POSTMATES
TaskRabbit
Instacart
Bellhops
Professional services
fiverr
Wonolo
Elance
oDesk
crowdSPRING
HourlyNerd
BRAIN POWER BY THE HOUR

공유 경제의 규모와 가치

- 공유경제의 글로벌 가치는 3,100억불의 경제 가치로 성장 (영국의 시장 조사기관 Op Opinion)
- 2013년 공유경제 기업을 통해 이루어지는 매출의 규모를 35억불로 예측하고 있으며 25%의 성장을 이룰 것 - Forbes
- 가트너 그룹은 개인간의 자금 대여 시장이 2013년에 50억 불을 형성할 것이라고 예측
- 프로스트 설리반은 자동차 공유가 북미에서만 2016년에 33억 불에 달할 것으로 예상
- 레이첼 보츠만은 공유 경제가 개인 간 렌탈 시장만 260억 불에 달하며 전체적으로 1,100억 불의 경제 규모를 이룰 것
- 서울시의 거주자 우선 주차장에 5%가 참여시 주차장 1,862면 건설효과를 가져오며 233억원의 예산 절감 효과를 기대
- Sherpa Ventures, "On-Demand Economy Report," August 2014
  - Estimated 80 million "sharers" in US in 2013 (includes 33 million "resharers" selling pre-owned goods).
  - $3.5 billion in revenue in US in 2013; surpassing 25% over the previous year
  - Globally, revenues of $15 billion today may increase to $335 billion by 2025.
  - Venture capital firm investment: $1.7 billion in 117 companies in 2013, up from $500 million invested in 78 companies in 2012.
  - 23% of the US population has engaged in at least one exchange using one of the latest generation sharing economy platforms within the last 12 months.

공유 경제에 대한 상반된 시각


자본주의는 필연적으로
사라지게 될 것이다.
난 300년 동안 우리 사회를 지탱해 온
시스템이 정점을 지나 쇠퇴하기 시작했다.
것이다. 우리는 마치 숨 쉬는 데 필요한 공기와 같이
의 안녕에 필수적인 요소라고 믿어 왔기 때문이다."
THE
ZERO
MARGINAL
COST
SOCIETY
THE INTERNET OF THINGS,
THE COLLABORATIVE COMMONS,
AND THE ECLIPSE OF
CAPITALISM
JEREMY RIFKIN
NEW YORK TIMES BESTSELLING AUTHOR OF
THE THIRD INDUSTRIAL
REVOLUTION


LE MONDE diplomatique
르몽드 디플로마티크 소개
기획
세계
경제
사회
정치
문화
인터뷰·칼
홈 > 뉴스 > 경제 | 쟁점
뒤로가기
메일보내기
오류신고
프린트
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-가

'공유경제'로 포장된 디지털 신자유주의

[72호] 2014년 08월 26일 (화) 09:59:24 에브게니 모로조프 info@lemonde.com

올해 초, 프록터 앤드 갬블(Proctor & Gamble)사의 오랄비(Oral-B) 브랜드는 자신들이 소위 '잘 연결된 화장실(well-connected bathroom)'이라고 부르는 곳에 있어야 할 필수 기기 중 하나로 스마트시리즈 블루투스 칫솔을 선보였다. 이 칫솔을 스마트폰에 연결하면 스마트폰 앱이 다양한 칫솔질(치실 사용, 혀 세정 및 헹굼

시해 준다.

더 중요한 포인

사용자 스스로

의'나 보험회사

미 보유하고 있

Robert Reich Become a fan

Chancellor's Professor of Public Policy, University of California at Berkeley; author, 'Saving Capitalism: For the Many, Not the Few"

The Share-the-Scraps Economy

Posted: 02/02/2015 1:51 pm EST | Updated: 04/04/2015 5:59 am EDT

157
95
127
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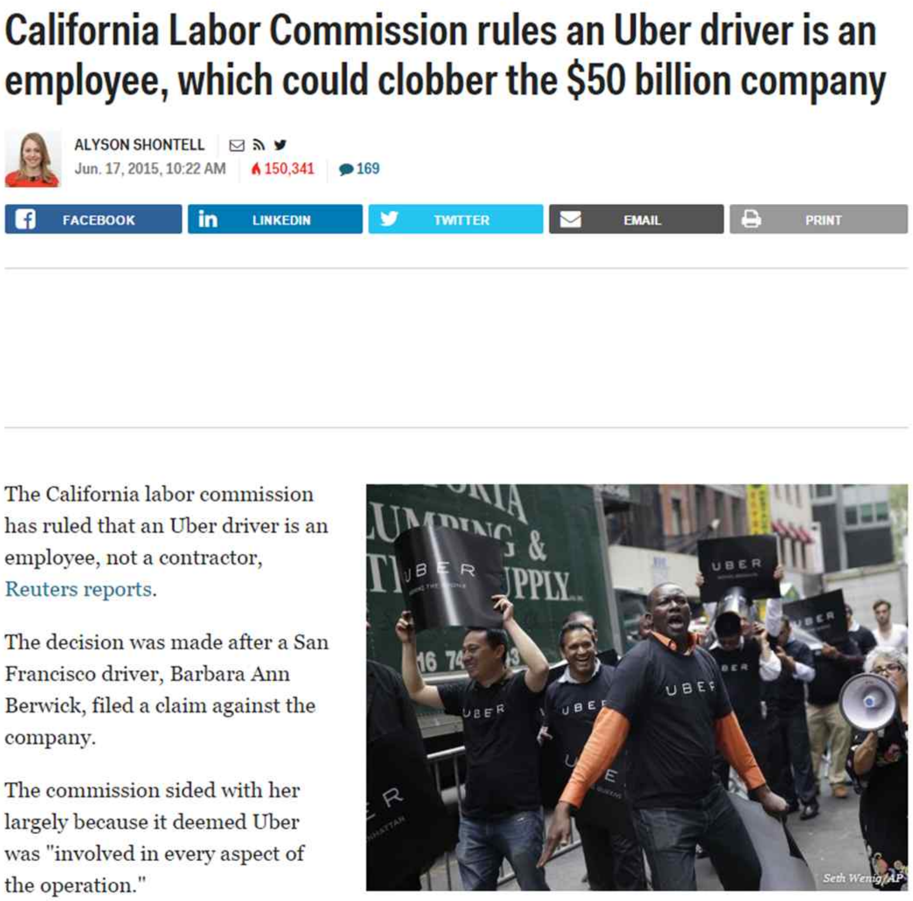
Comment

How would you like to live in an economy where robots do everything that can be predictably programmed in advance, and almost all profits go to the robots' owners?

Meanwhile, human beings do the work that's *unpredictable* - odd jobs, on-call projects, fetching and fixing, driving and delivering, tiny tasks needed at any and all hours - and patch together barely enough to live on.

Brace yourself. This is the economy we're now barreling toward.

최근의 변화



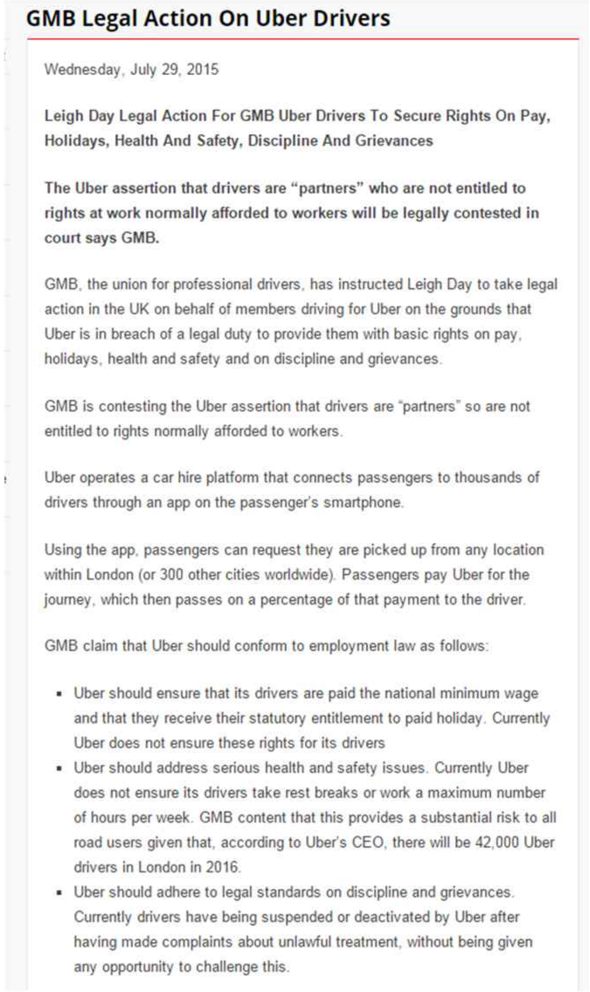
California Labor Commission rules an Uber driver is an employee, which could clobber the $50 billion company

ALYSON SHONTELL
Jun. 17, 2015, 10:22 AM 150,341 169

The California labor commission has ruled that an Uber driver is an employee, not a contractor, Reuters reports.

The decision was made after a San Francisco driver, Barbara Ann Berwick, filed a claim against the company.

The commission sided with her largely because it deemed Uber was "involved in every aspect of the operation."



GMB Legal Action On Uber Drivers

Wednesday, July 29, 2015

Leigh Day Legal Action For GMB Uber Drivers To Secure Rights On Pay, Holidays, Health And Safety, Discipline And Grievances

The Uber assertion that drivers are "partners" who are not entitled to rights at work normally afforded to workers will be legally contested in court says GMB.

GMB, the union for professional drivers, has instructed Leigh Day to take legal action in the UK on behalf of members driving for Uber on the grounds that Uber is in breach of a legal duty to provide them with basic rights on pay, holidays, health and safety and on discipline and grievances.

GMB is contesting the Uber assertion that drivers are "partners" so are not entitled to rights normally afforded to workers.

Uber operates a car hire platform that connects passengers to thousands of drivers through an app on the passenger's smartphone.

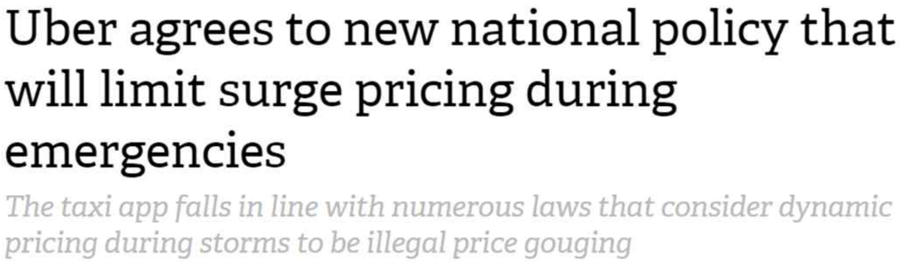
Using the app, passengers can request they are picked up from any location within London (or 300 other cities worldwide). Passengers pay Uber for the journey, which then passes on a percentage of that payment to the driver.

GMB claim that Uber should conform to employment law as follows:

- Uber should ensure that its drivers are paid the national minimum wage and that they receive their statutory entitlement to paid holiday. Currently Uber does not ensure these rights for its drivers
- Uber should address serious health and safety issues. Currently Uber does not ensure its drivers take rest breaks or work a maximum number of hours per week. GMB content that this provides a substantial risk to all road users given that, according to Uber's CEO, there will be 42,000 Uber drivers in London in 2016.
- Uber should adhere to legal standards on discipline and grievances. Currently drivers have being suspended or deactivated by Uber after having made complaints about unlawful treatment, without being given any opportunity to challenge this.

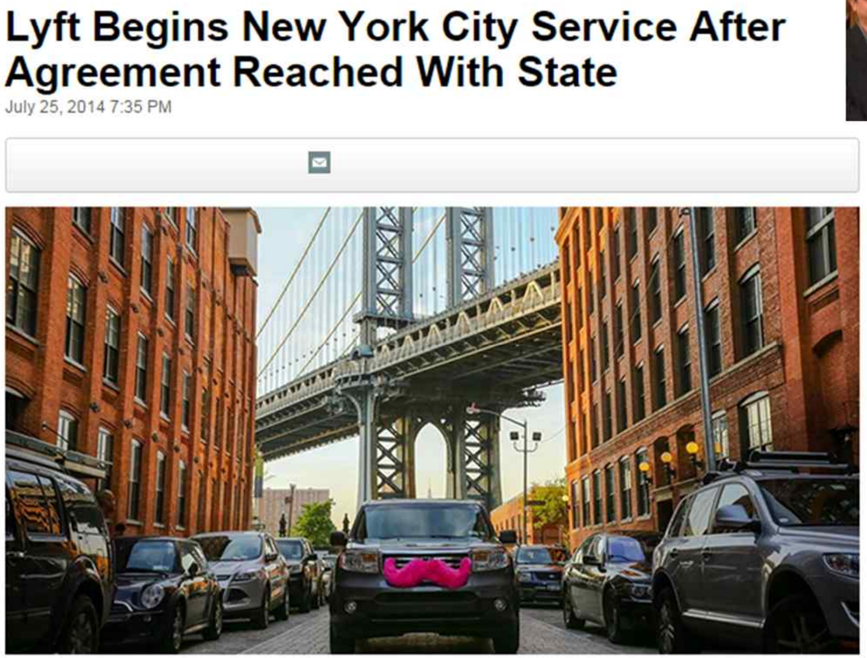
the General, Municipal, Boilermakers and Allied Trade Union

아직도 학습 중인 공유경제 기업들



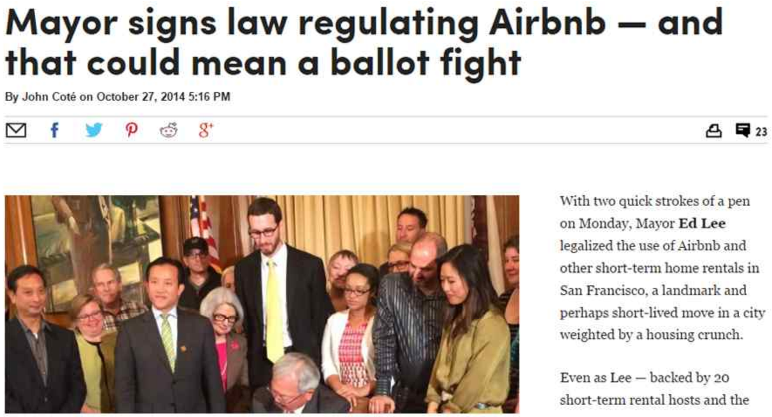
Uber agrees to new national policy that will limit surge pricing during emergencies

The taxi app falls in line with numerous laws that consider dynamic pricing during storms to be illegal price gouging



Lyft Begins New York City Service After Agreement Reached With State

July 25, 2014 7:35 PM



Mayor signs law regulating Airbnb — and that could mean a ballot fight

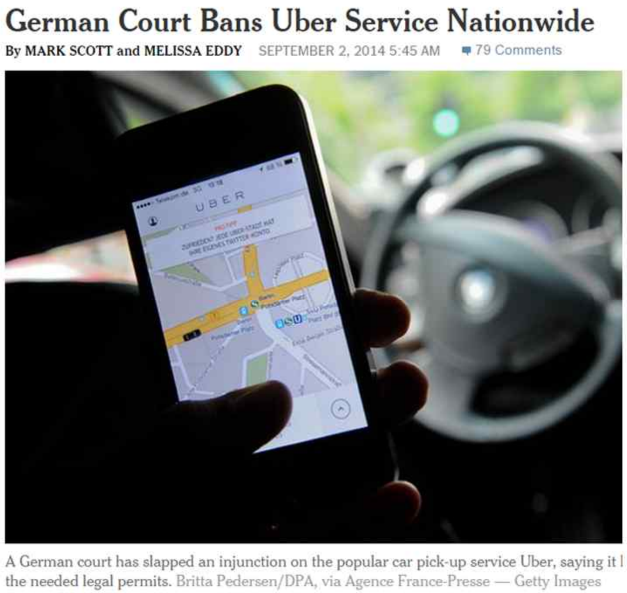
By John Coté on October 27, 2014 5:16 PM

With two quick strokes of a pen on Monday, Mayor **Ed Lee** legalized the use of Airbnb and other short-term home rentals in San Francisco, a landmark and perhaps short-lived move in a city weighted by a housing crunch.

Even as Lee — backed by 20 short-term rental hosts and the

The law allows only permanent residents to offer short-term rentals, establishes a new city registry for hosts, mandates the collection of hotel tax, limits entire-home rentals to 90 days per year, requires each listing to carry $500,000 in liability insurance and establishes guidelines for enforcement by the Planning Department

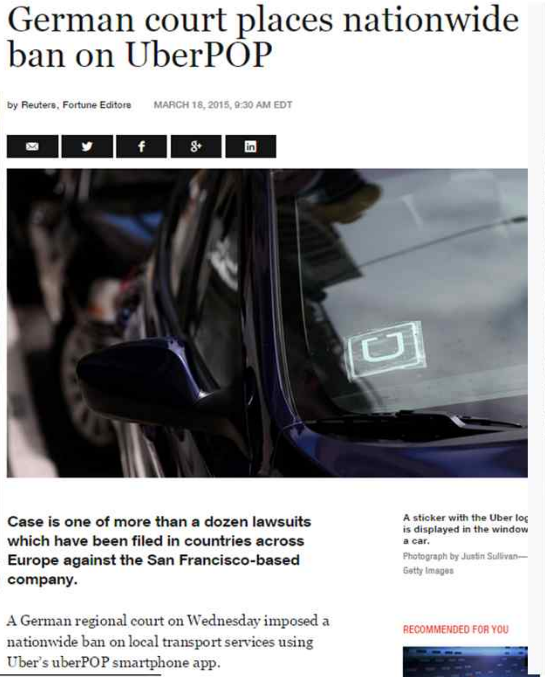
각국의 제재



German Court Bans Uber Service Nationwide

By MARK SCOTT and MELISSA EDDY SEPTEMBER 2, 2014 5:45 AM 79 Comments

A German court has slapped an injunction on the popular car pick-up service Uber, saying it l the needed legal permits. Britta Pedersen/DPA, via Agence France-Presse — Getty Images



German court places nationwide ban on UberPOP

by Reuters, Fortune Editors MARCH 18, 2015, 9:30 AM EDT

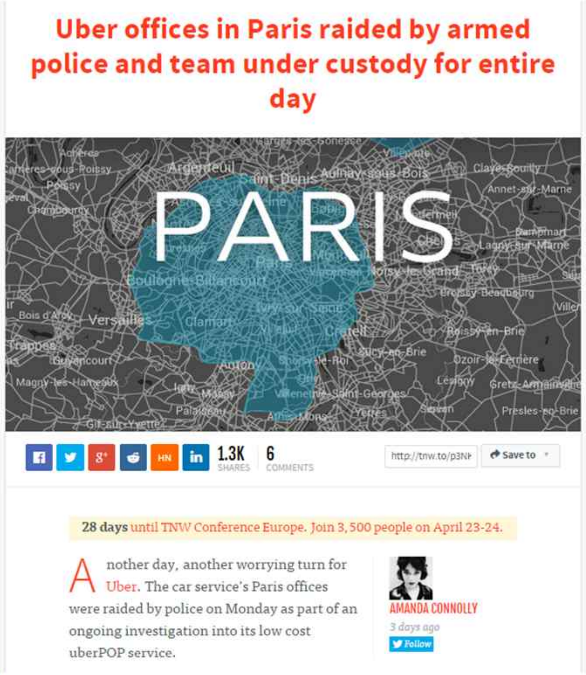
Case is one of more than a dozen lawsuits which have been filed in countries across Europe against the San Francisco-based company.

A German regional court on Wednesday imposed a nationwide ban on local transport services using Uber's uberPOP smartphone app.

A sticker with the Uber log is displayed in the window a car.

Photograph by Justin Sullivan—Getty Images

RECOMMENDED FOR YOU

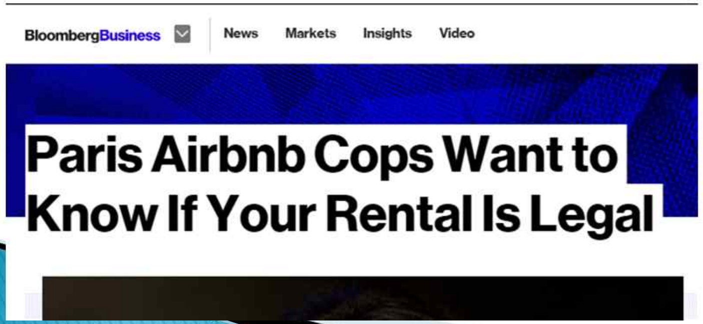


Uber offices in Paris raided by armed police and team under custody for entire day

28 days until TNW Conference Europe. Join 3,500 people on April 23-24.

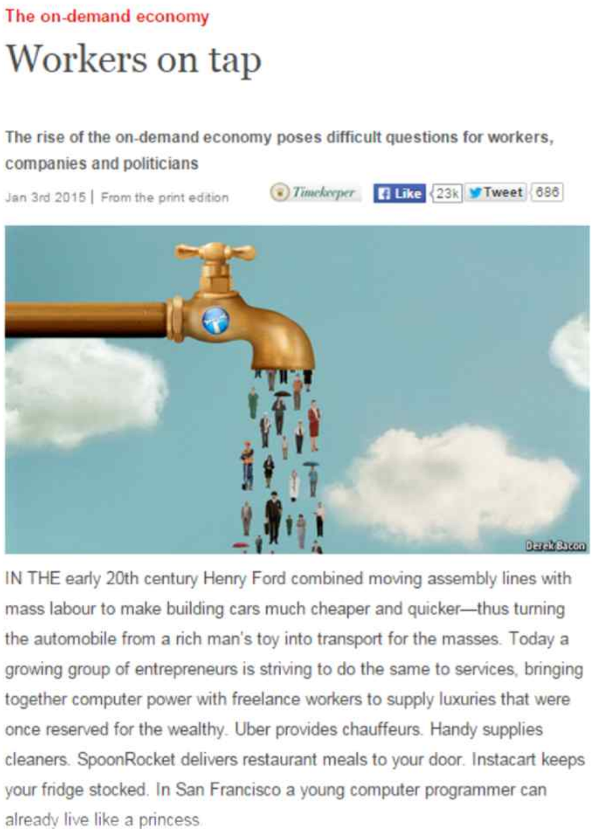
Another day, another worrying turn for Uber. The car service's Paris offices were raided by police on Monday as part of an ongoing investigation into its low cost uberPOP service.

AMANDA CONNOLLY
3 days ago
Follow



Paris Airbnb Cops Want to Know If Your Rental Is Legal

Sharing Economy to On-Demand Economy



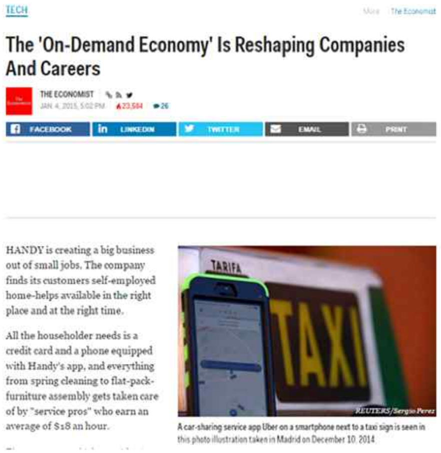
The on-demand economy

Workers on tap

The rise of the on-demand economy poses difficult questions for workers, companies and politicians

Jan 3rd 2015 | From the print edition

IN THE early 20th century Henry Ford combined moving assembly lines with mass labour to make building cars much cheaper and quicker—thus turning the automobile from a rich man's toy into transport for the masses. Today a growing group of entrepreneurs is striving to do the same to services, bringing together computer power with freelance workers to supply luxuries that were once reserved for the wealthy. Uber provides chauffeurs. Handy supplies cleaners. SpoonRocket delivers restaurant meals to your door. Instacart keeps your fridge stocked. In San Francisco a young computer programmer can already live like a princess.



TECH

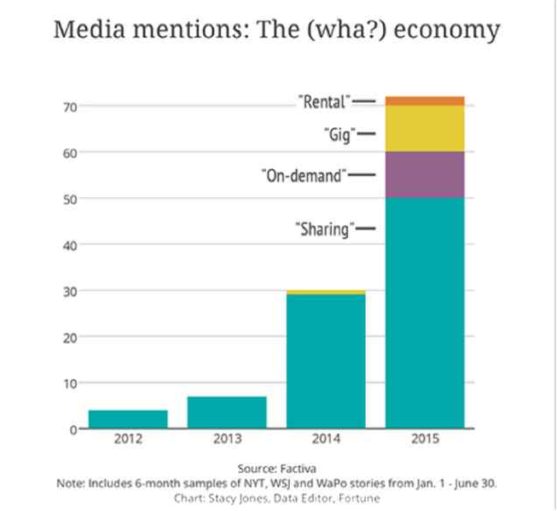
The 'On-Demand Economy' Is Reshaping Companies And Careers

THE ECONOMIST
JAN. 4, 2015, 5:02 PM 23,584 26

HANDY is creating a big business out of small jobs. The company finds its customers self-employed home-helps available in the right place and at the right time.

All the householder needs is a credit card and a phone equipped with Handy's app, and everything from spring cleaning to flat-pack-furniture assembly gets taken care of by "service pros" who earn an average of $18 an hour.

A car-sharing service app Uber on a smartphone next to a taxi sign is seen in this photo illustration taken in Madrid on December 10, 2014

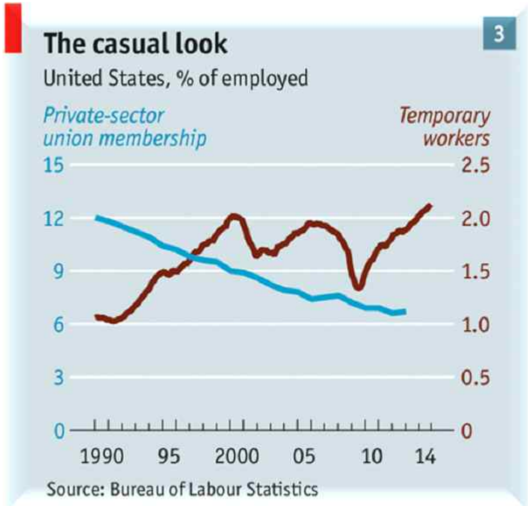


Media mentions: The (wha?) economy

Source: Factiva

Note: Includes 6-month samples of NYT, WSJ and WaPo stories from Jan. 1 - June 30.

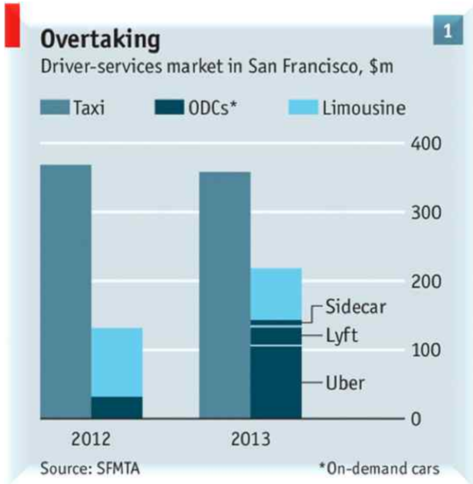
Chart: Stacy Jones, Data Editor, Fortune



The casual look

United States, % of employed

Source: Bureau of Labour Statistics



Overtaking

Driver-services market in San Francisco, $m

Source: SFMTA

*On-demand cars

공유 경제 기업이 극복할 과제 (PwC)

- New regulatory action makes sharing economy transactions illegal or costly to facilitate
- Governments raise tax burden on sharing economy transactions
- High-profile events raise significant safety concerns, triggering a loss of trust in the sector.
- Unanticipated technological disruption (that leapfrogs sharing economy models)
- As sharing economy platforms scale, they lose authenticity and differentiation over competitors
- Potential for large-scale acquisitions that reduce investment and subsequent growth potential

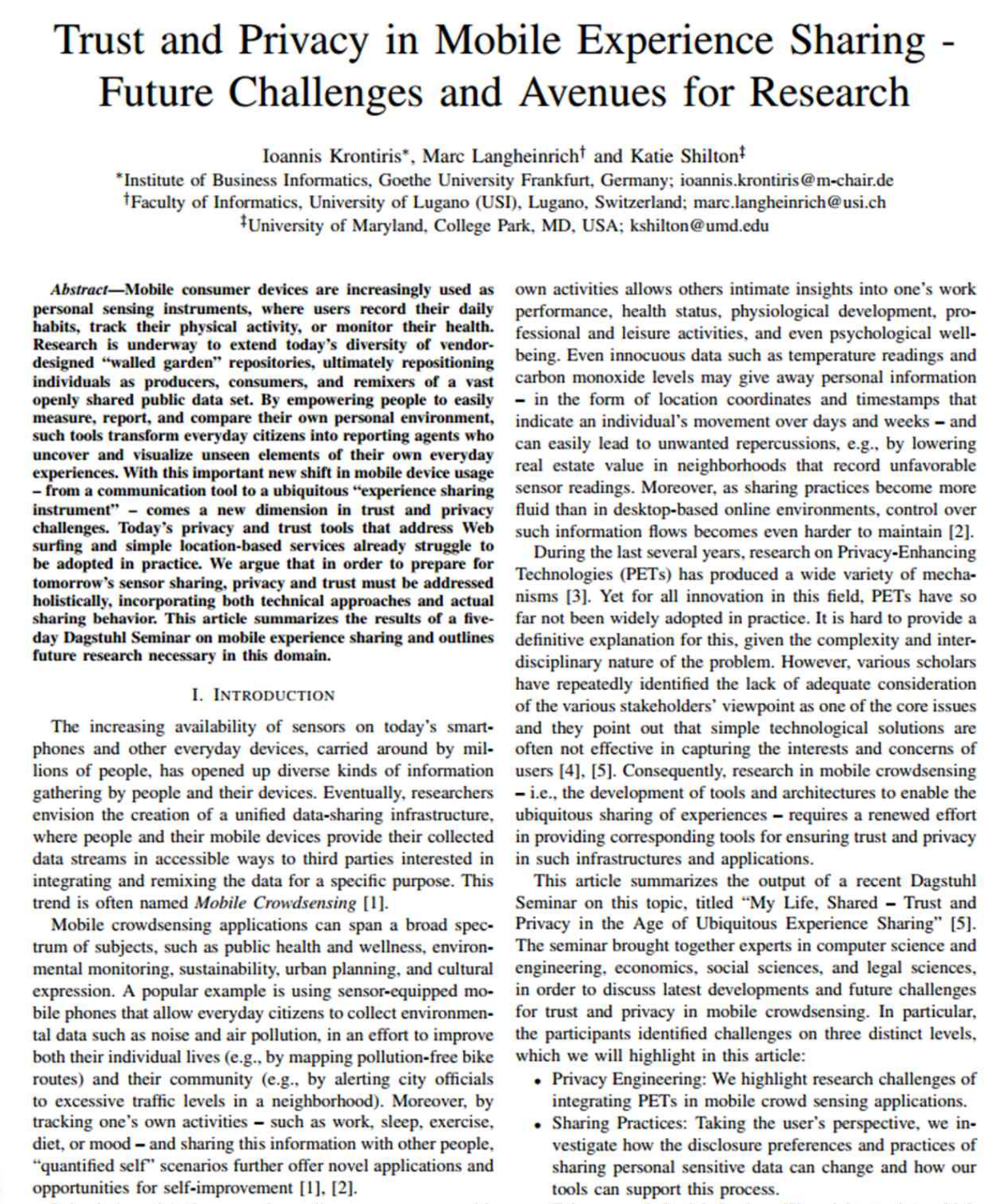
호주 노동당, '공유경제' 활성화 6가지 조건

- 공유하려는 주된 자산은 본인의 소유여야 한다
- 새로운 서비스는 좋은 급료와 노동 환경을 제공해야 한다
- 모든 이들은 공정한 세금을 지불해야 한다
- 공공의 안전을 위해 적절한 보호 조치가 필요하다
- 모두에게 접근권이 열려있어야 한다
- 규칙에 따라 운영돼야 한다

중장기 이슈

- 향후 10년 (2015-2025)
  - 정보와 지식의 공유 → 자원의 공유 → 실시간 데이터의 공유
  - 새로운 공유 기술의 등장 (IoT 기술에 의한 데이터 공유, VR 기술)을 통한 감각의 공유 (인간과 로봇의 초기 결합), 센서 데이터의 공유 – 모바일 크라우드센싱
- 향후 20년 (2025-2035)
  - 행동과 경험의 공유 (여행, 스포츠, 개인 관계)
  - 소프트웨어나 로봇과 공유 또는 원격 접근과 홀로그램을 통한 간접 경험 확대
- 향후 30년 (2035-2045)
  - 기억의 공유, 일부 의식의 공유
  - 타자와의 공유가 BCI 등을 통해 정보가 뇌로 전달 → 학습의 변화
- 허용의 범위와 대상을 규제할 수 있는가? 폭력, 섹스, 전쟁과 살인, 비인간적 내용과 경험
- 디지털화된 감각과 경험의 공유는 진정한 공유로 해석할 것인가? 이를 통한 학습 수준과 자격 인증을 해줄 것인가?
- 사회의 공유 인프라는 어떻게 되어야 하는가?

Communications Magazine, IEEE (Volume:52 , Issue: 8)



Trust and Privacy in Mobile Experience Sharing - Future Challenges and Avenues for Research

Ioannis Krontiris*, Marc Langheinrich† and Katie Shilton‡
*Institute of Business Informatics, Goethe University Frankfurt, Germany; ioannis.krontiris@m-chair.de
†Faculty of Informatics, University of Lugano (USI), Lugano, Switzerland; marc.langheinrich@usi.ch
‡University of Maryland, College Park, MD, USA; kshilton@umd.edu

***Abstract*—Mobile consumer devices are increasingly used as personal sensing instruments, where users record their daily habits, track their physical activity, or monitor their health. Research is underway to extend today's diversity of vendor-designed "walled garden" repositories, ultimately repositioning individuals as producers, consumers, and remixers of a vast openly shared public data set. By empowering people to easily measure, report, and compare their own personal environment, such tools transform everyday citizens into reporting agents who uncover and visualize unseen elements of their own everyday experiences. With this important new shift in mobile device usage – from a communication tool to a ubiquitous "experience sharing instrument" – comes a new dimension in trust and privacy challenges. Today's privacy and trust tools that address Web surfing and simple location-based services already struggle to be adopted in practice. We argue that in order to prepare for tomorrow's sensor sharing, privacy and trust must be addressed holistically, incorporating both technical approaches and actual sharing behavior. This article summarizes the results of a five-day Dagstuhl Seminar on mobile experience sharing and outlines future research necessary in this domain.**

I. INTRODUCTION

The increasing availability of sensors on today's smartphones and other everyday devices, carried around by millions of people, has opened up diverse kinds of information gathering by people and their devices. Eventually, researchers envision the creation of a unified data-sharing infrastructure, where people and their mobile devices provide their collected data streams in accessible ways to third parties interested in integrating and remixing the data for a specific purpose. This trend is often named *Mobile Crowdsensing* [1].

Mobile crowdsensing applications can span a broad spectrum of subjects, such as public health and wellness, environmental monitoring, sustainability, urban planning, and cultural expression. A popular example is using sensor-equipped mobile phones that allow everyday citizens to collect environmental data such as noise and air pollution, in an effort to improve both their individual lives (e.g., by mapping pollution-free bike routes) and their community (e.g., by alerting city officials to excessive traffic levels in a neighborhood). Moreover, by tracking one's own activities – such as work, sleep, exercise, diet, or mood – and sharing this information with other people, "quantified self" scenarios further offer novel applications and opportunities for self-improvement [1], [2].

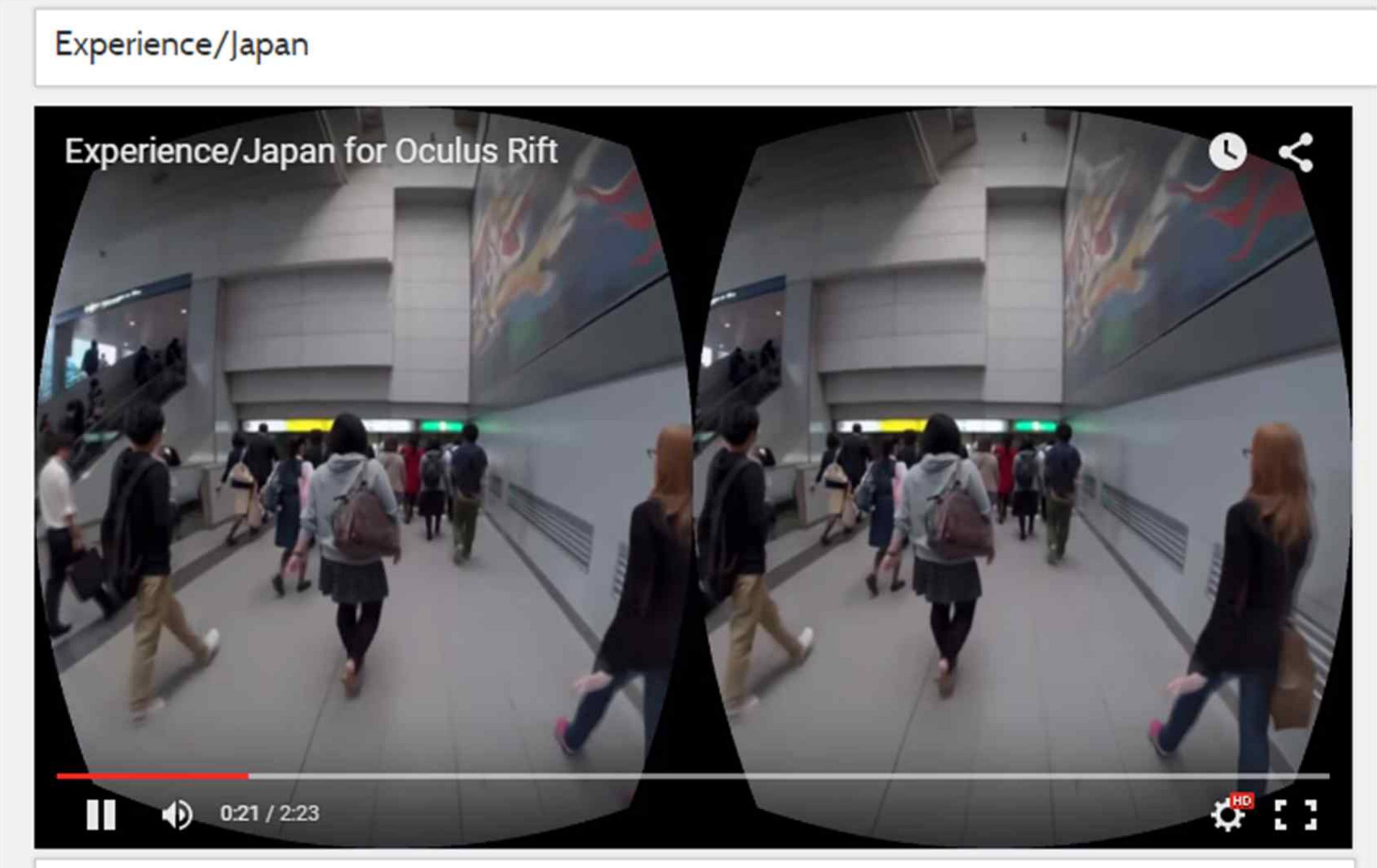
It is obvious that these novel paradigms open up a wealth of concerns for personal privacy: gathering and sharing one's own activities allows others intimate insights into one's work performance, health status, physiological development, professional and leisure activities, and even psychological well-being. Even innocuous data such as temperature readings and carbon monoxide levels may give away personal information – in the form of location coordinates and timestamps that indicate an individual's movement over days and weeks – and can easily lead to unwanted repercussions, e.g., by lowering real estate value in neighborhoods that record unfavorable sensor readings. Moreover, as sharing practices become more fluid than in desktop-based online environments, control over such information flows becomes even harder to maintain [2].

During the last several years, research on Privacy-Enhancing Technologies (PETs) has produced a wide variety of mechanisms [3]. Yet for all innovation in this field, PETs have so far not been widely adopted in practice. It is hard to provide a definitive explanation for this, given the complexity and interdisciplinary nature of the problem. However, various scholars have repeatedly identified the lack of adequate consideration of the various stakeholders' viewpoint as one of the core issues and they point out that simple technological solutions are often not effective in capturing the interests and concerns of users [4], [5]. Consequently, research in mobile crowdsensing – i.e., the development of tools and architectures to enable the ubiquitous sharing of experiences – requires a renewed effort in providing corresponding tools for ensuring trust and privacy in such infrastructures and applications.

This article summarizes the output of a recent Dagstuhl Seminar on this topic, titled "My Life, Shared – Trust and Privacy in the Age of Ubiquitous Experience Sharing" [5]. The seminar brought together experts in computer science and engineering, economics, social sciences, and legal sciences, in order to discuss latest developments and future challenges for trust and privacy in mobile crowdsensing. In particular, the participants identified challenges on three distinct levels, which we will highlight in this article:

- Privacy Engineering: We highlight research challenges of integrating PETs in mobile crowd sensing applications.
- Sharing Practices: Taking the user's perspective, we investigate how the disclosure preferences and practices of sharing personal sensitive data can change and how our tools can support this process.
- Fairness and Social Justice: We might tend to think that the development of new application in the area of

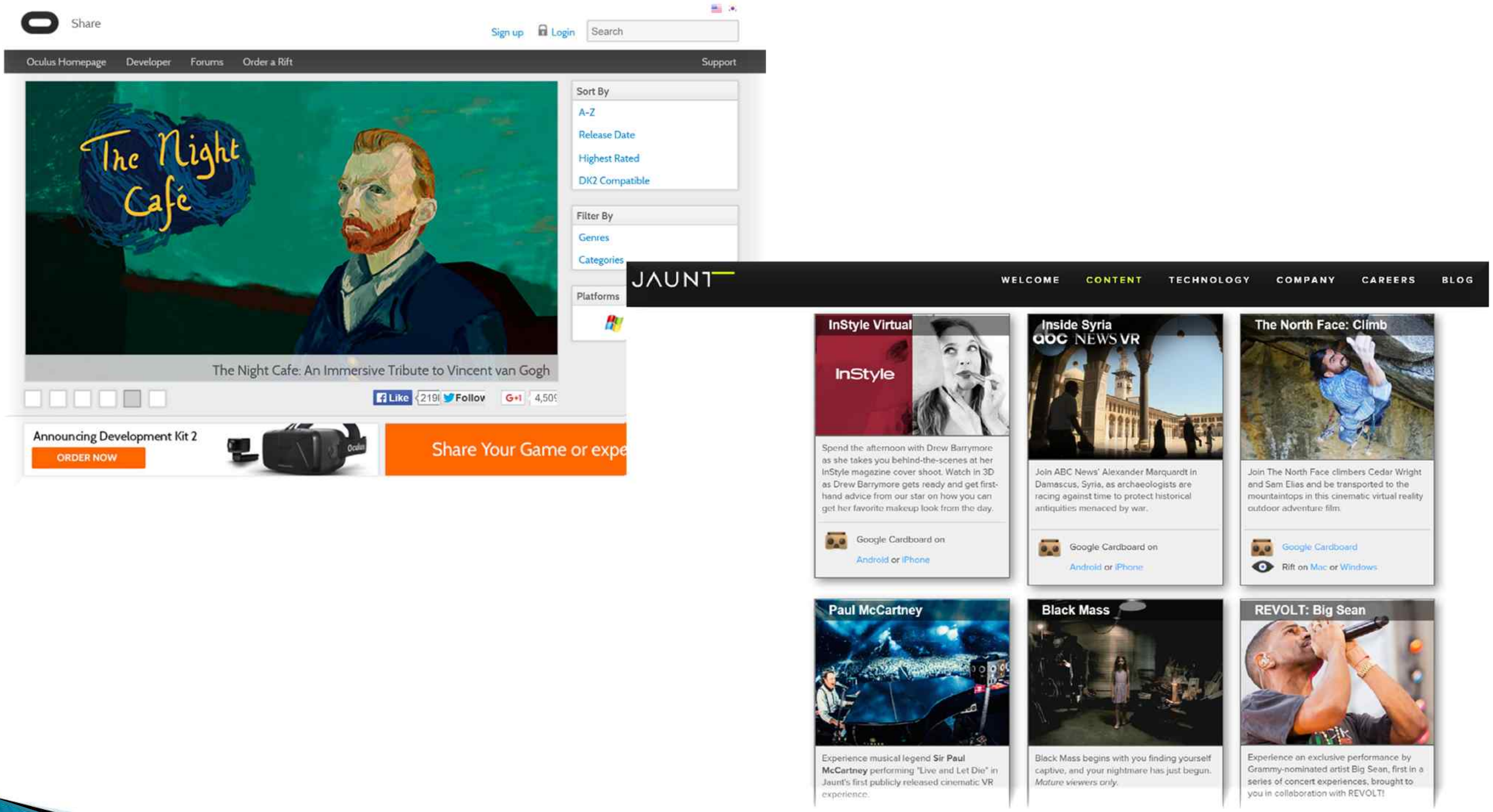
Sharing VR Content = Sharing Experience



Experience/Japan

Experience/Japan for Oculus Rift
0:21 / 2:23
HD

Sharing the Experience is the Next Frontier


Share
Sign up
Login
Search
Oculus Homepage
Developer
Forums
Order a Rift
Support
The Night Café
The Night Cafe: An Immersive Tribute to Vincent van Gogh
Sort By
A-Z
Release Date
Highest Rated
DK2 Compatible
Filter By
Genres
Categories
Platforms
Like
219
Follow
G+1
4,50
Announcing Development Kit 2
ORDER NOW
Share Your Game or expe
JAUNT
WELCOME
CONTENT
TECHNOLOGY
COMPANY
CAREERS
BLOG
InStyle Virtual
InStyle
Inside Syria
abc NEWS VR
The North Face: Climb
Paul McCartney
Black Mass
REVOLT: Big Sean

Spend the afternoon with Drew Barrymore as she takes you behind-the-scenes at her InStyle magazine cover shoot. Watch in 3D as Drew Barrymore gets ready and get first-hand advice from our star on how you can get her favorite makeup look from the day.

Google Cardboard on Android or iPhone

Join ABC News' Alexander Marquardt in Damascus, Syria, as archaeologists are racing against time to protect historical antiquities menaced by war.

Google Cardboard on Android or iPhone

Join The North Face climbers Cedar Wright and Sam Elias and be transported to the mountaintops in this cinematic virtual reality outdoor adventure film.

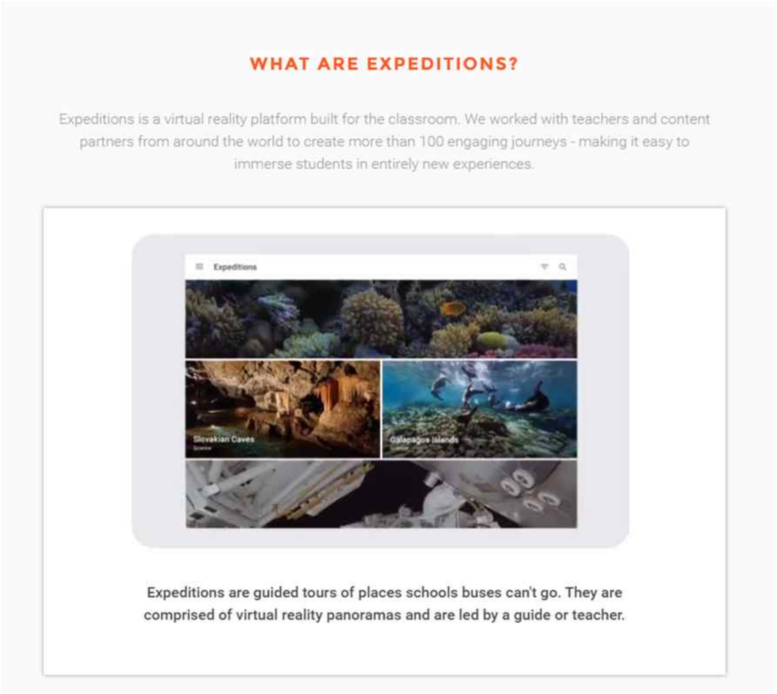
Google Cardboard
Rift on Mac or Windows

Experience musical legend **Sir Paul McCartney** performing "Live and Let Die" in Jaunt's first publicly released cinematic VR experience.

Black Mass begins with you finding yourself captive, and your nightmare has just begun. *Mature viewers only.*

Experience an exclusive performance by Grammy-nominated artist Big Sean, first in a series of concert experiences, brought to you in collaboration with REVOLT!

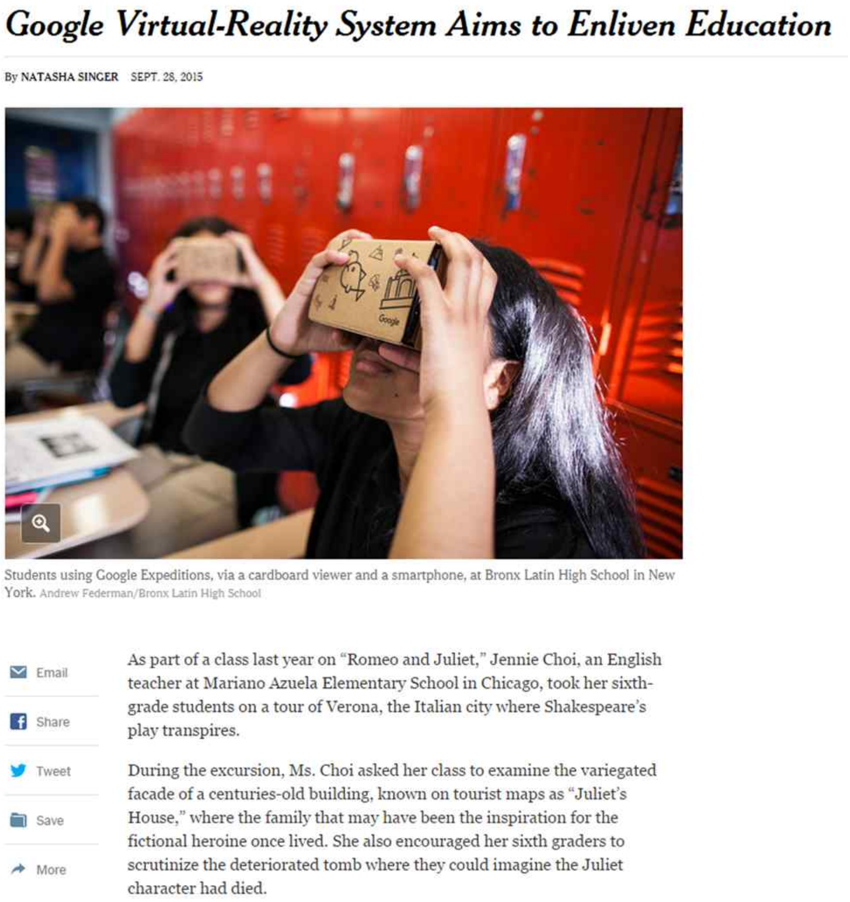
Education and Virtual Travel



WHAT ARE EXPEDITIONS?

Expeditions is a virtual reality platform built for the classroom. We worked with teachers and content partners from around the world to create more than 100 engaging journeys - making it easy to immerse students in entirely new experiences.

Expeditions are guided tours of places schools buses can't go. They are comprised of virtual reality panoramas and are led by a guide or teacher.



Google Virtual-Reality System Aims to Enliven Education

By NATASHA SINGER SEPT. 28, 2015

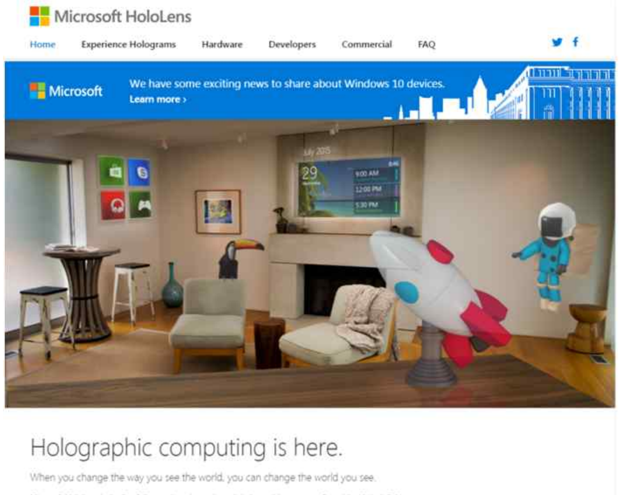
Students using Google Expeditions, via a cardboard viewer and a smartphone, at Bronx Latin High School in New York. Andrew Federman/Bronx Latin High School

As part of a class last year on "Romeo and Juliet," Jennie Choi, an English teacher at Mariano Azuela Elementary School in Chicago, took her sixth-grade students on a tour of Verona, the Italian city where Shakespeare's play transpires.

During the excursion, Ms. Choi asked her class to examine the variegated facade of a centuries-old building, known on tourist maps as "Juliet's House," where the family that may have been the inspiration for the fictional heroine once lived. She also encouraged her sixth graders to scrutinize the deteriorated tomb where they could imagine the Juliet character had died.

[출처: 뉴욕 타임즈]

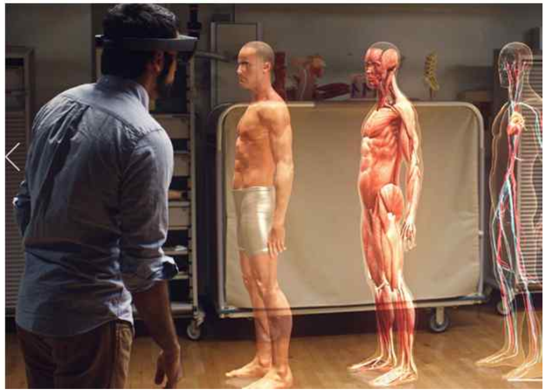
Holographic Computing

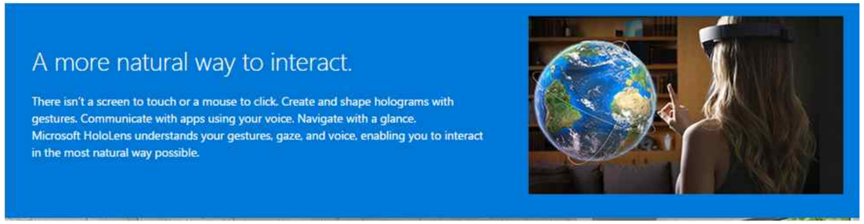


Holographic computing is here.

When you change the way you see the world, you can change the world you see.

Microsoft HoloLens is the first fully untethered, see-through holographic computer. It enables high-definition holograms to come to life in your world, seamlessly integrating with your physical places, spaces, and things. We call this experience mixed reality. Holograms mixed with your real world will unlock all-new ways to create, communicate, work, and play.





A more natural way to interact.

There isn't a screen to touch or a mouse to click. Create and shape holograms with gestures. Communicate with apps using your voice. Navigate with a glance. Microsoft HoloLens understands your gestures, gaze, and voice, enabling you to interact in the most natural way possible.

New ways to teach and learn.

It's easier to show than to tell. With HoloNotes in Skype, friends and colleagues can help you with difficult tasks. They can see your environment as you see it and from their tablet or PC they can draw instructions that appear as holograms in your world. Get real-time help from someone who sees what you see.

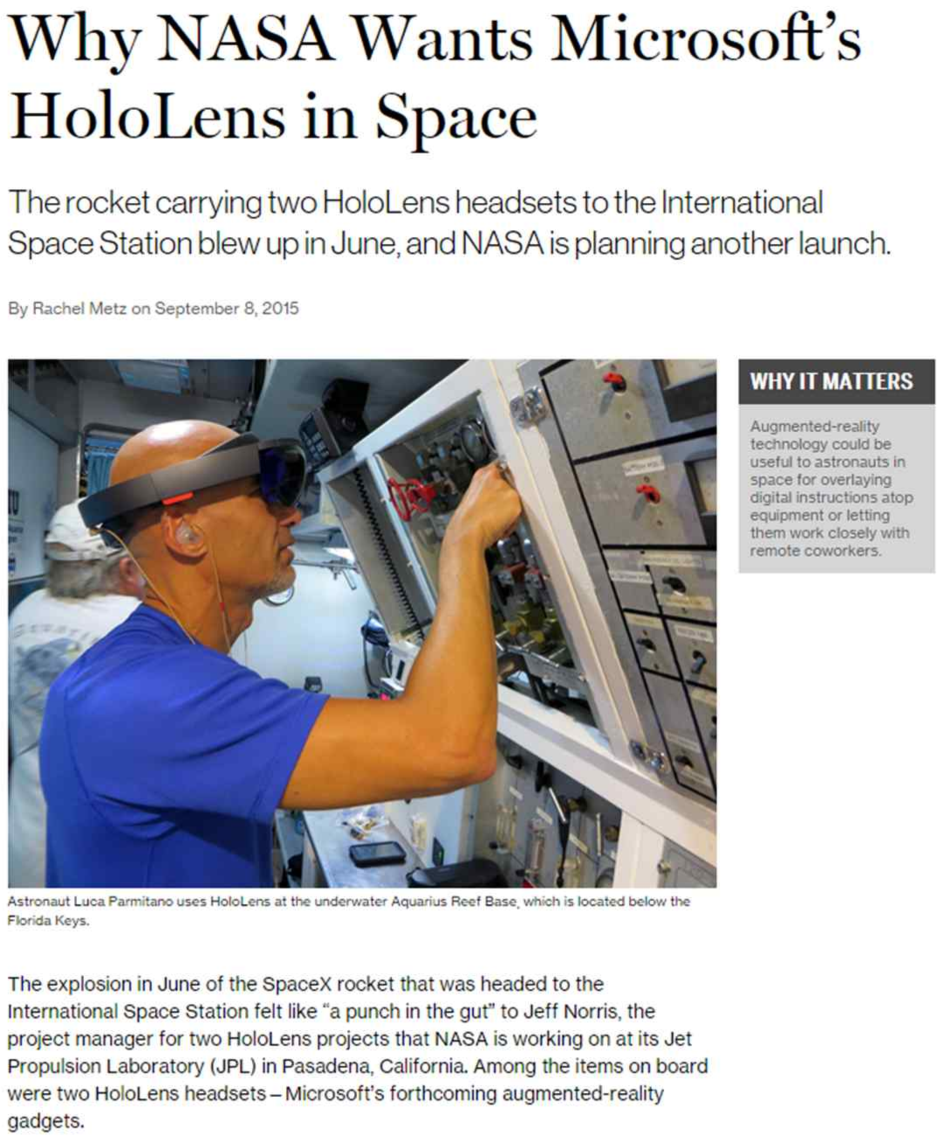
New ways to visualize your work.

Go beyond what a 2D render can do by working in three dimensions. Pin holograms to physical objects so you can size and scale them in real time. Make smarter decisions when you see your work from every angle, in relation to the world around you.

New ways to collaborate and explore.

Go somewhere you've never been and examine it from every angle. See holograms from your colleague's perspective if he's in the next room or on the other side of the world. Explore a new dimension grounded in, but not limited to, the physical world.

"NASA hopes to use HoloLens aboard the space station to allow astronauts to work with a remote expert who can see what the astronaut sees and help with unfamiliar tasks"



Why NASA Wants Microsoft's HoloLens in Space

The rocket carrying two HoloLens headsets to the International Space Station blew up in June, and NASA is planning another launch.

By Rachel Metz on September 8, 2015

WHY IT MATTERS

Augmented-reality technology could be useful to astronauts in space for overlaying digital instructions atop equipment or letting them work closely with remote coworkers.

Astronaut Luca Parmitano uses HoloLens at the underwater Aquarius Reef Base, which is located below the Florida Keys.

The explosion in June of the SpaceX rocket that was headed to the International Space Station felt like "a punch in the gut" to Jeff Norris, the project manager for two HoloLens projects that NASA is working on at its Jet Propulsion Laboratory (JPL) in Pasadena, California. Among the items on board were two HoloLens headsets – Microsoft's forthcoming augmented-reality gadgets.

[출처: MIT Technology Review]

Adult Entertainment and VR

- Adult entertainment will be the number three driver of all VR content behind movies and games. The porn VR business will grow into a $1 billion industry by 2020 - Piper Jaffray research analyst Travis Jakel
- Jakel forecasts that 3% of VR users will pay on average $35 for adult content in 2016 accounting for $13 million of the total market—compared to 5% of VR users spending on average $56.66 on games accounting for $35 million of the market, and 15% of VR users spending on average $8.19 on movies accounting for $15 million of the market.

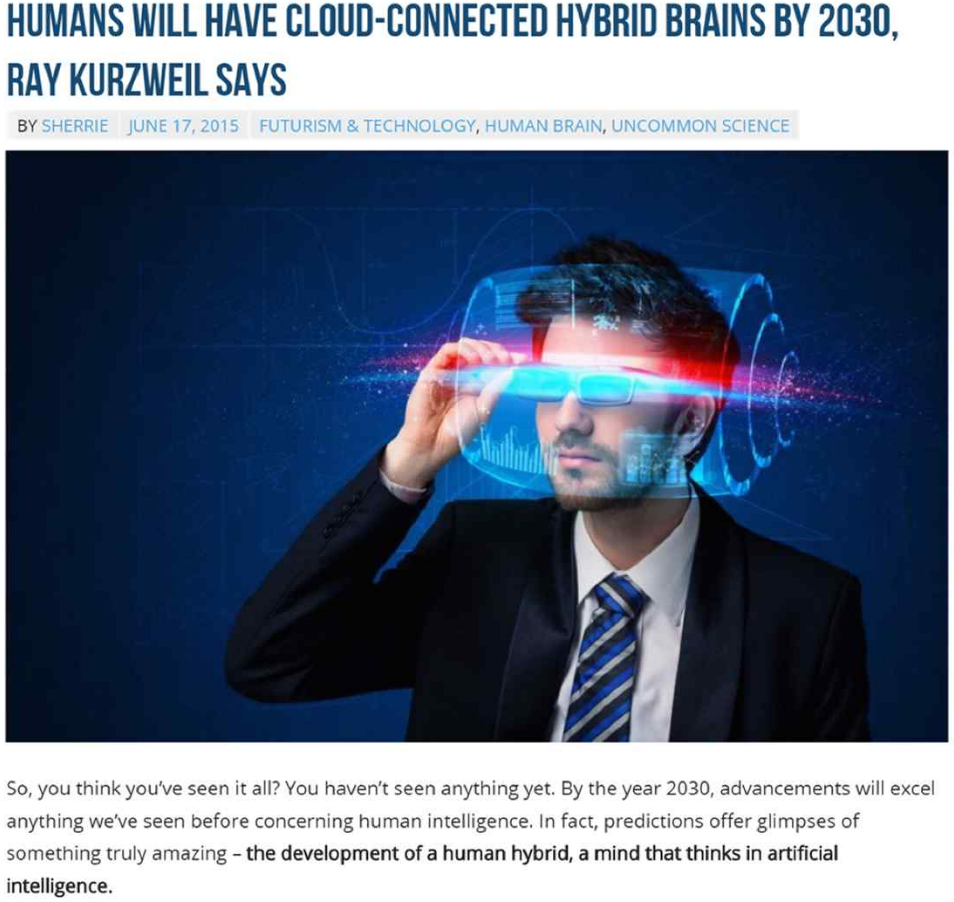
Why porn is virtual reality's dirty little secret

by John Gaudiosi @JohnGaudiosi JULY 31, 2015, 8:05 AM EDT

[출처: Fortune.com]

Hybrid Brain

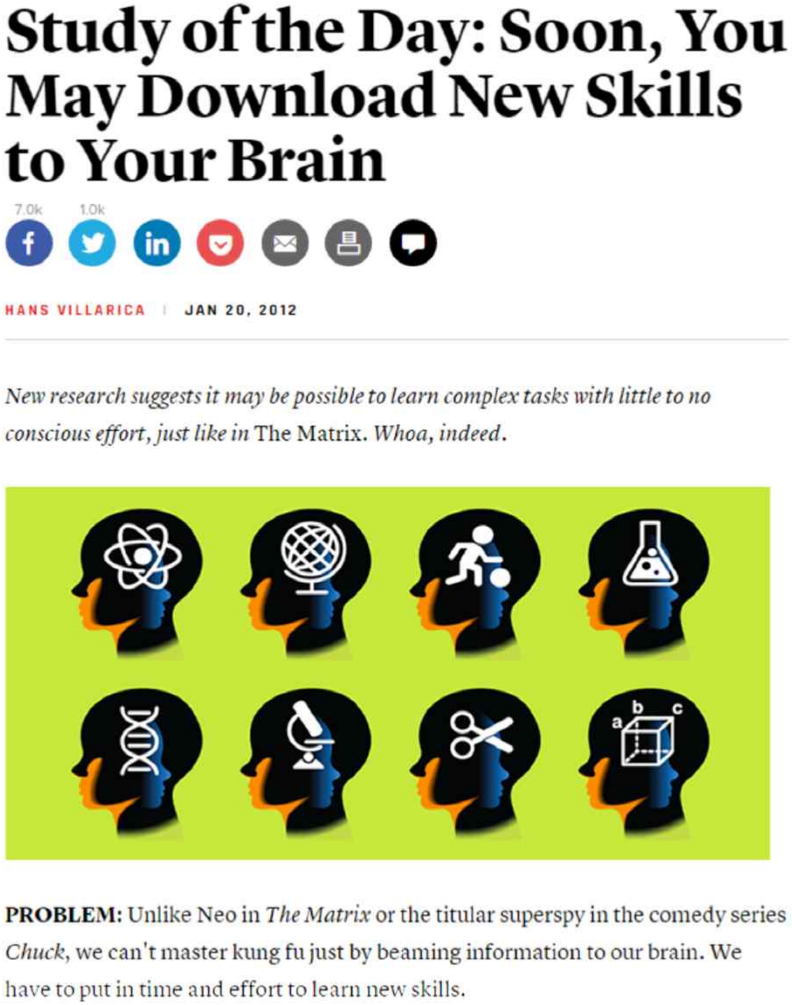
"Our hybrid thinking will be a combination of biological and non-biological thought processes."



HUMANS WILL HAVE CLOUD-CONNECTED HYBRID BRAINS BY 2030, RAY KURZWEIL SAYS

BY SHERRIE JUNE 17, 2015 FUTURISM & TECHNOLOGY, HUMAN BRAIN, UNCOMMON SCIENCE

So, you think you've seen it all? You haven't seen anything yet. By the year 2030, advancements will excel anything we've seen before concerning human intelligence. In fact, predictions offer glimpses of something truly amazing – **the development of a human hybrid, a mind that thinks in artificial intelligence.**



Study of the Day: Soon, You May Download New Skills to Your Brain

HANS VILLARICA | **JAN 20, 2012**

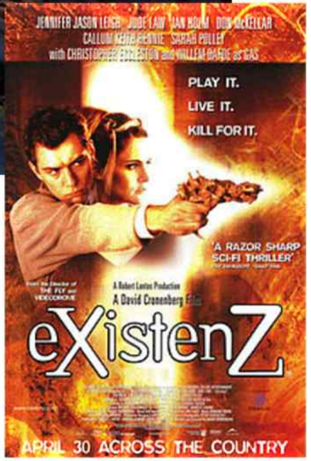
New research suggests it may be possible to learn complex tasks with little to no conscious effort, just like in The Matrix. *Whoa, indeed.*

PROBLEM: Unlike Neo in *The Matrix* or the titular superspy in the comedy series *Chuck*, we can't master kung fu just by beaming information to our brain. We have to put in time and effort to learn new skills.

GHOST IN THE SHELL
http://www.TopWalls.com

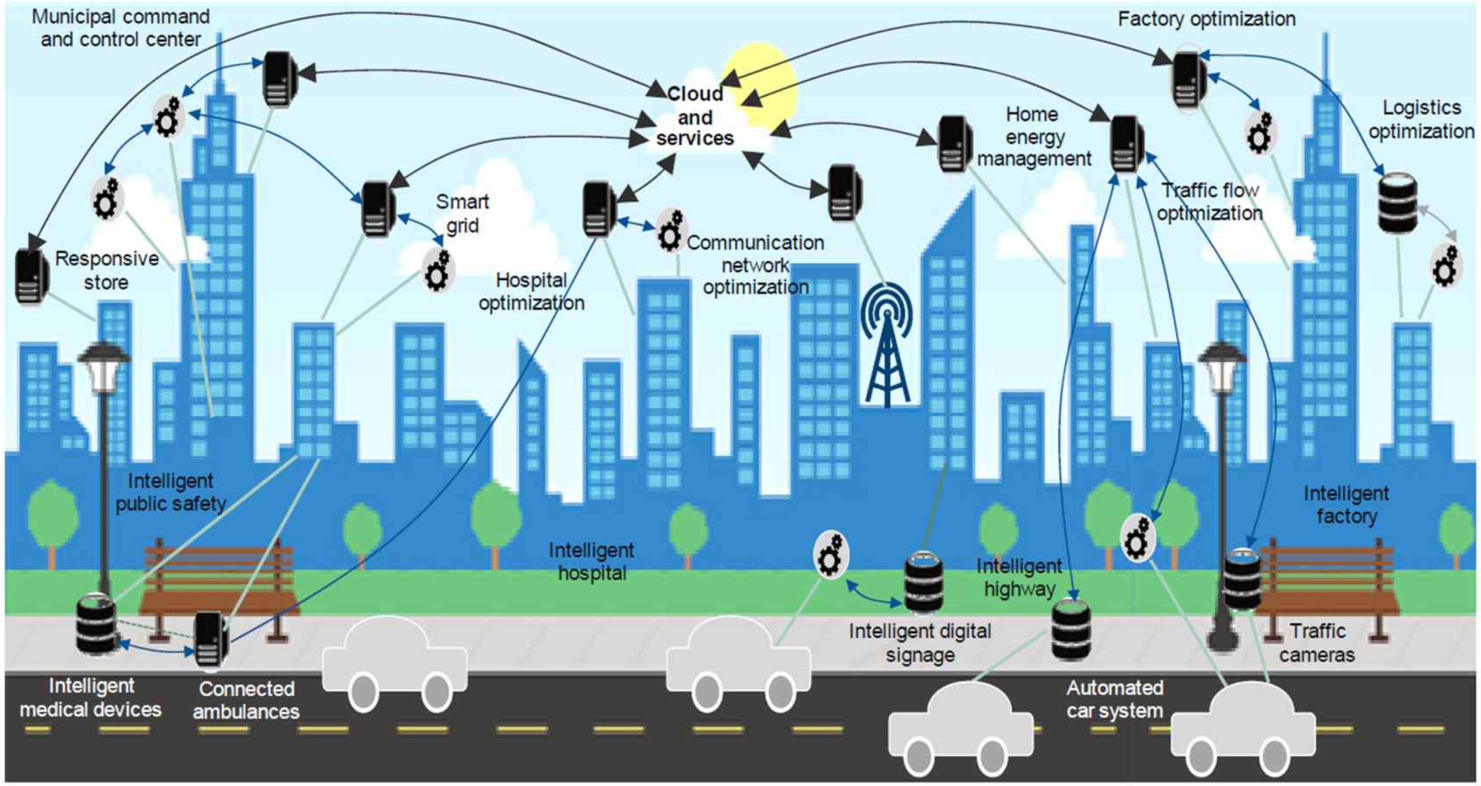
[Holodeck, 출처: Star Trek TNG]

Future: Download the Expertise and Experience, and Memory or Jack-in the Virtual World


JENNIFER JASON LEIGH JUDE LAW IAN HOLM DON McKELLAR
PLAY IT.
LIVE IT.
KILL FOR IT.
'A RAZOR SHARP SCI-FI THRILLER'
A David Cronenberg Film
eXistenZ
APRIL 30 ACROSS THE COUNTRY

사회의 디지털 레이어와 같은 공유 레이어를 만들 수 있는가?

A City with a Digital Overlay


Municipal command and control center
Cloud and services
Factory optimization
Home energy management
Logistics optimization
Smart grid
Traffic flow optimization
Responsive store
Communication network optimization
Hospital optimization
Intelligent public safety
Intelligent hospital
Intelligent factory
Intelligent highway
Intelligent digital signage
Traffic cameras
Intelligent medical devices
Connected ambulances
Automated car system

Source: IDC Government Insights, 2013

Further Issues

- 사회가 허용하는 공유의 대상과 범위
  - 허가와 법적 처벌
- 가상 경험과 실제 경험의 차이
- 정체성의 문제
- 새로운 격차