

## 50 Emerging Learning Technologies

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## Technology of the 1980s



**Radio Shack TRS-80 Model III**  
 Introduced: July 1980  
 Price: US \$699 base model  
 US \$2,495 w/ 25K, dual drives  
 CPU: Z80, 2.49 MHz  
 RAM: 4K, 48Kasic  
 Ports: Cassette tape, expansion, serial  
 Display: 12-inch B&W monitor 64 x 16 text  
 Storage: 0, 1, or 2 internal 170K floppy drives  
 External cassette @ 500 / 1500 baud  
 OS: BASIC in ROM, TRS-DOS on disk

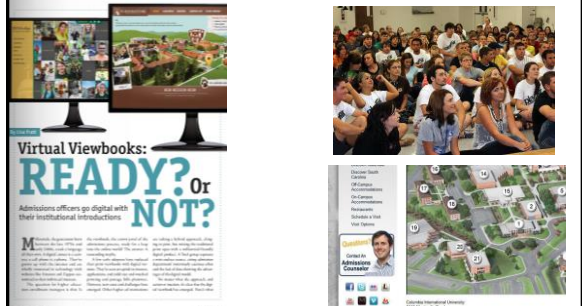


## Smaller, thinner, lighter, and new interfaces for mobile



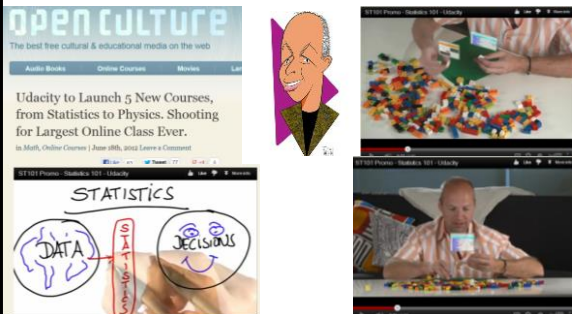
## Tech #1. Virtual Viewbooks: Ready or Not?, University Business, Sept 2012, Lisa Fratt

<http://www.universitybusiness.com/article/virtual-viewbooks-ready-or-not>



## Tech #2. Massive Open Online Courses (MOOCs).

(Courses from Statistics to Physics to Biology to ???)



## November 2, 2012 The Year of the MOOC, New York Times, Laura Pappano,

<http://www.nytimes.com/2012/11/04/education/edlife/massive-open-online-courses-are-multiplying-at-a-rapid-pace.html?pagewanted=all>



Clockwise, from top left: an online course in circuits and electronics with an M.I.T. professor (edX); statistics, Stanford (Udacity); machine learning, Stanford (Coursera); organic chemistry, University of Illinois, Urbana (Coursera).

**Free Online Higher Education: 5 Best MOOCs,**  
**August 5, 2013,**  
 By **Kannan Sankaran, Epoch Times**  
<http://www.theepochtimes.com/3229640-5-best-moocs-for-free-online-higher-education/>



**Master's Degree Is New Frontier of Study Online,**  
**August 17, 2013, The New York Times**  
 By **Tamar Lewin**  
<http://chronicle.com/article/MOOCs-May-Not-Be-So-Disruptive/140965/>

VIRTUAL LEARNING  
 Master's Degree Is New Frontier of Study Online



Dr. Gert, the dean of the College of Computing at the Georgia Institute of Technology, explains in a video lecture how he plans to help students earn a master's degree in computer science through massive open online courses, or MOOCs.

by TAMAR LEWIN  
 Published: August 17, 2013 | 173 Comments

**Tech #3. Online Learning**  
**Why I spent 10<sup>th</sup> grade online. Sophia Pink, Washington Post, August 23, 2013**  
<http://www.washingtonpost.com/education/why-i-spent-10th-grade-online/2013/08/23/>



Why I spent 10th grade online




Video: Sophia Pink describes how she finished 10th grade online and why she's choosing to go back to the classroom.

By Sophia Pink, Published: August 23, 2013 | email the writer

**Tech #4. Smartphones and Mobile Learning.**





**August 18, 2011**  
**HowStuffWorks, iPhone App, USA Today, Marc Saltzman**




**Poll:**  
**Do you suffer from nomophobia?**

**A. Yes**  
**B. No**



**Poll:**  
**Do any of your immediate family members suffer from nomophobia?**

**A. Yes**  
**B. No**



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**Tech #5. Web Conferencing**  
 (e.g., team projects, class meetings, language learning, etc.)



**Language Learning**  
 UC Irvine, [Fundamentals of Chinese](#)  
 Dr. Ying Peterson, Fall 2012, Winter 2013


Tech-Enhanced: [EEE Advanced Webspaces](#) (Dreamweaver), [Skype](#) video conferencing, [UCL Blackboard](#), [Active Learning](#)  
 Format: 4 - 2A lecture (24 student maximum); 2A - 3 lectures (24 student maximum); 3A - 3 lectures (24 student maximum)



**Using Google Hangouts for Class**  
 (January 2013)



**November & December 2012**  
**Guest Speakers**  
**Designing a New Learning Environment**  
 Professor Paul Kim, Stanford University  
<http://venture-lab.org/education/lectures/45>



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**Tech #6. Videoconferencing**



## Videoconferencing (first demo in 1964 at the World's Fair; use increased in 2003)

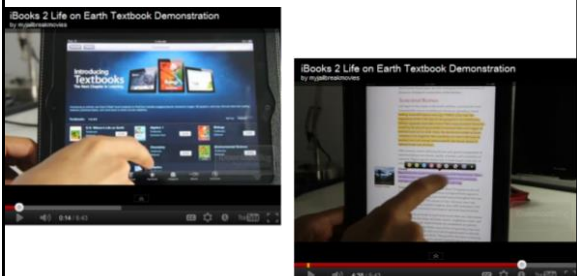
Tablets Rock On: Education Tech Through The Ages, Information Week, February 26, 2013  
<http://www.informationweek.com/education/instructional/t/blend-learning-improves-test-scores-sl/240159610>



## Cross-Institutional Wikibook Project (e.g., IU and the University of Houston)



## Tech #7. Digital Books



## January 22, 2013

Free digital textbooks surge in popularity, Sarah Langmead, Assistant Editor, eCampus News,

<http://www.ecampusnews.com/featured/featured-on-scampus-news/free-digital-textbooks-surge-in-popularity/>



## Chegg (free textbooks)

<http://www.chegg.com/>



## Digital Books

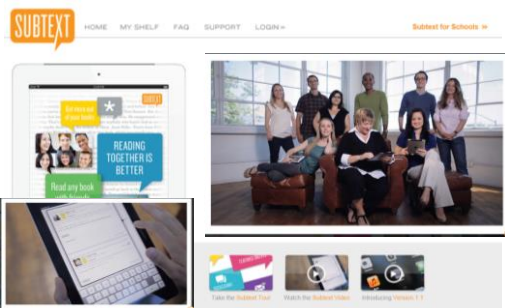


### Tech #8. User-Designed E-Books. How to turn Wikipedia into an e-book, John D. Sutter

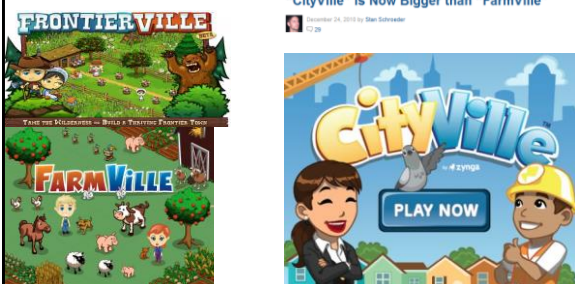
[http://www.cnn.com/2012/09/18/tech/mobile/wikipedia-e-book/index.html?hpt=hp\\_t3](http://www.cnn.com/2012/09/18/tech/mobile/wikipedia-e-book/index.html?hpt=hp_t3)



### Tech #9. Social Books (e.g., Subtext; <http://subtext.com/>)

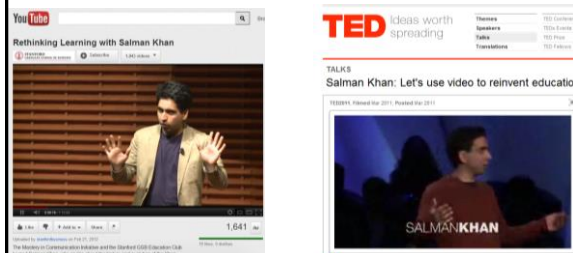


### Tech #10. Social Networking Gaming CityVille 16.8 million daily users, FarmVille's 16.4 million. CityVille 61.7 million monthly users, FarmVille 56.8 million users. Mashable.

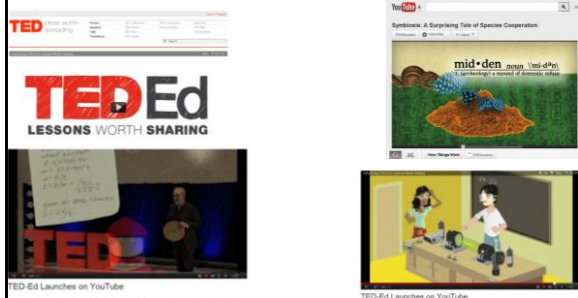


### Tech #11. Shared Online Video. February 21, 2012 Rethinking Learning with Salman Khan Stanford Graduate School of Business

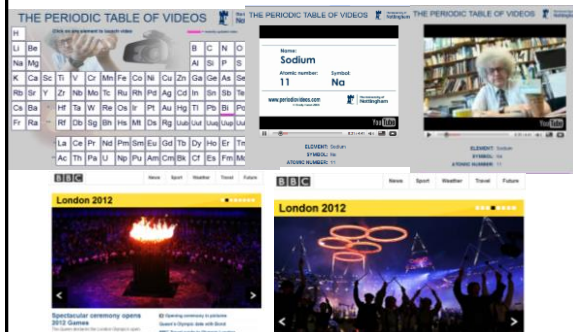
Khan Academy Founder Finds Simplicity Appeals in Online Education Experimentation  
<http://www.gsb.stanford.edu/news/headlines/sal-khan-academy.html>  
Let's use video to reinvent education, TED, March 2011  
[http://www.ted.com/talks/salman\\_khan\\_let\\_s\\_use\\_video\\_to\\_reinvent\\_education.html](http://www.ted.com/talks/salman_khan_let_s_use_video_to_reinvent_education.html)



### March 13, 2012 Educational Videos: TED-Ed <http://education.ted.com/>



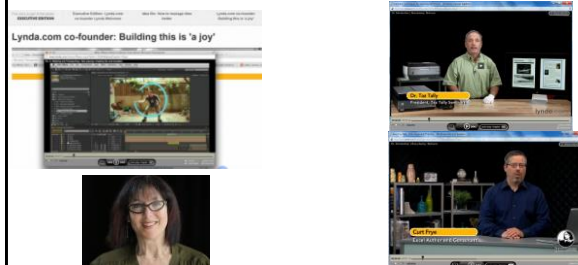
### Video is Popular in the UK (Videos of the Periodic Table, Univ of Nottingham)



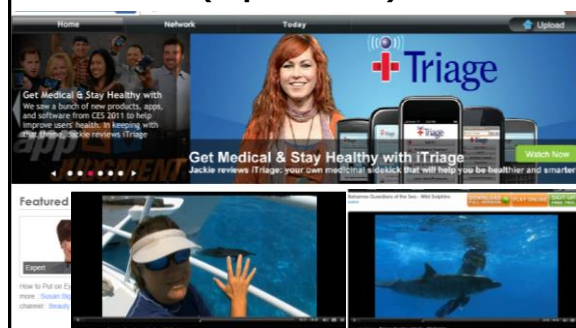
## April 23, 2013 Video is Popular in the USA

Lynda.com co-founder: Building this is 'a joy'  
USA Today, Jefferson Graham

<http://www.usatoday.com/story/money/business/2013/04/23/lynda-com-efsc/227950/>



## TV Lesson (expert videos)



## Tech #12. Social-media tools can boost productivity, August 13, 2012, Byron Acohidio, USA TODAY

<http://www.usatoday.com/story/money/smallbusiness/story/2012-08-12/efficient-small-business-social-networks/5693980/1>

Social-media tools can boost productivity

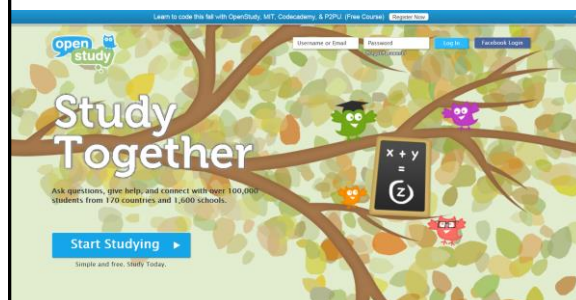
By Byron Acohidio, USA TODAY



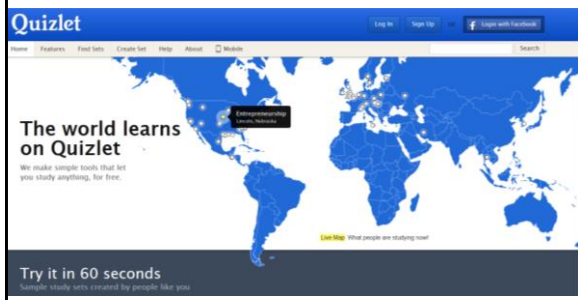
Small businesses are using technology to help them operate more efficiently and cost-effectively in an increasingly competitive environment. Each Monday, USA TODAY looks at new ways companies are gaining an innovative edge in a tough economy.

## Tech #13. Online Study Groups Open Study

<http://openstudy.com/>



## Tech #14. Online Teaching (Quizlet; <http://quizlet.com/>)



## Tech #15. Mobile Dictionaries (September 2010, Chronicle of HE)



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## Tech #16. Collaborative Tools (e.g., Google Docs)

Google docs

**Create and share your work online**

- Upload from and save to your desktop
- Edit anytime, from anywhere
- Pick who can access your documents
- Share changes in real time
- Files are stored securely online
- It's free!
- [Take a tour](#) - [New Features](#)



Not writing love letters? More [Google Docs videos](#)

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## Tech #17. Collaboration and Sharing: SlideShare



Upload and share your PowerPoint presentations, Word documents and Adobe PDF Portfolios on SlideShare. Share publicly or privately. Add audio to make a webinar. [Take a tour](#) or [Start Uploading!](#)

Username:   
 Password:   
 Remember me [Sign up](#) For a new account  
[Forgot Username/Password](#) [Login](#)

Hot on Facebook [Facebook](#)  
 Healthcare Digital Ad | 11811 views, 121 reviews  
 Sanjivani de Aromas, San Francisco de Asis, Inc. 524 views, 1 reviews

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## Tech #18. Collaborate using Wikis: PBworks



**PBWORKS**

The smarter, faster, better way to work together

Online collaboration that just works. Get PBworks, and get more done.

**Legal Edition**  
 Features all of the top 20 law firms in research case PBworks.

**Project Edition**  
 Collaborate with clients and colleagues in a distributed team or organization.

**Campus Edition**  
 Bring collaboration to your classroom, school district, or university.

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## Tech #19. Online Communication: Skype



Download Use Skype Business Shop

Free calls with Skype

You get Skype. Your friends get Skype. You all talk, chat and video call for free.

[Download Skype now](#)

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## Tech #20. Twitter (microblogging)



education

Follow us on [twitter](#)

[Follow me!](#)

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## GroupTweet (freely communicate and collaborate privately)



GroupTweet helps groups communicate privately via Twitter

How It Works

Get Started

Private Twitter Messages

What is a Direct Message? (DM)

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## Tech #21. Facebook Fan Pages (class, department, university collaboration sites)

The screenshot shows a Facebook fan page for 'Marionville College Class of 2014'. The page includes a cover photo of a globe, a profile picture, and various posts and photos. The page is set to 'Public' and has a large number of members.

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## Tech #22. Virtual Mentoring

South African teens get virtual mentoring from all over the world, By Danielle Berger, CNN, January 14, 2011  
<http://www.cnn.com/2011/LIVING/01/13/cnnheroes.stokes/index.html?hpt=12>

The screenshot shows a CNN Living article titled 'South African teens get virtual mentoring from all over the world'. The article features a grid of video thumbnails showing students in a classroom and a woman speaking. The article is dated January 14, 2011.

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## Online Mentoring, June 3, 2012 Tutor/Mentor Connection (Chicago)

<http://www.tutormentorprogramlocator.net/InteractiveMap.aspx>

The screenshot shows the 'T/MC Program Locator' website. It features an interactive map of Chicago with various colored markers representing different tutoring and mentoring programs. A sidebar on the left lists search filters like 'Program Search', 'Pure Tutoring', and 'Tutoring and Mentoring'. A pop-up window shows details for a program at the 'Elgin Learning System After School Program at the Community Center'.

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## Tech #23. Adventure Learning (e.g., Aaron Doering, Univ of Minnesota)

The screenshot shows an 'Explore' website with the tagline 'HELPING LEARNERS LEARN...'. It features a grid of video thumbnails showing various adventure learning activities, including a person in a red jacket, a person in a blue jacket, and a person in a white jacket. A 'Trail Reports' section is also visible.

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## Ice Stories Project (Exploratorium)

The screenshot shows the 'Ice Stories' website from Exploratorium. It features a header with the project name and a navigation menu. The main content area includes a large photo of a person in a red jacket and a smaller photo of a person in a white jacket. The text describes the project as 'MELTING ANTARCTICA: MEASURING ECOLOGICAL CHANGE AND WARMING AT THE ANTIMETRIC PENINSULA'.

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## Tech #24. Online Photomedia Projects (Omnium, Univ of New South Wales)

The screenshot shows the 'Omnium' website. It features a grid of photo thumbnails showing various subjects, including a person in a white jacket, a person in a blue jacket, and a person in a red jacket. The website is titled 'OMNIUM' and includes a navigation menu.



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## Tech #25. Virtual Worlds (Class Meetings with Experts in Virtual Worlds)

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## Tech #26. Blogs (e.g., Blogger)

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## Tech #27. Vlogs (Blogs with video)

## Tech #28. Online Referenceware (Encyclopedias, Dictionaries, etc.) (e.g, the Encyclopedia of Life, Encyclopedia of Earth, etc.)

<http://www.eoearth.org/> <http://eol.org/>

## Tech #29. Media Tools: Timelines, Maps, Pics, Videos, etc. (e.g., USA Today, August 26, 2011)

<http://www.usatoday.com/news/destinations/story/2011-08-25/Martin-Luther-King-Jr-Memorial-in-Washington-A-closer-look/5013647017ap-34news>

Martin Luther King Jr. Memorial in Washington: A closer look

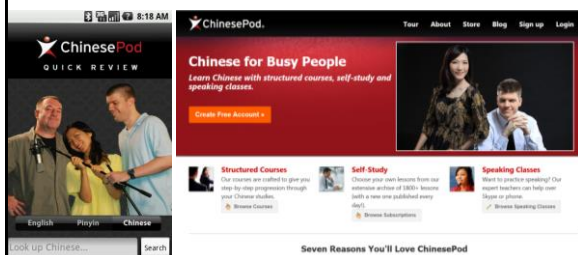
## Interactive Online Maps (e.g., New USDA climate zone map reflects northward warming trends, By Janice Lloyd, USA TODAY, January 26, 2012)

<http://www.usatoday.com/news/nation/environment/story/2012-01-26/USDA-climate-zone-map/527871421>

New USDA climate zone map reflects northward warming trends

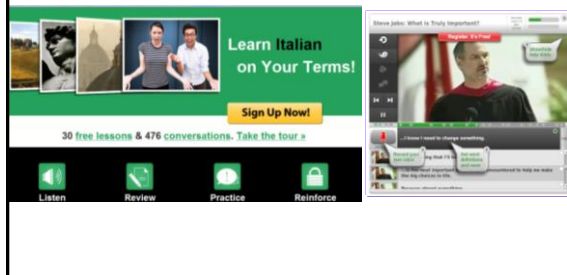
### Tech #30. Online Language Learning

(e.g., 300,000 people per month listening to ChinesePod, co-hosted by Jenny Zhu, John Pasden, and Ken Carroll)

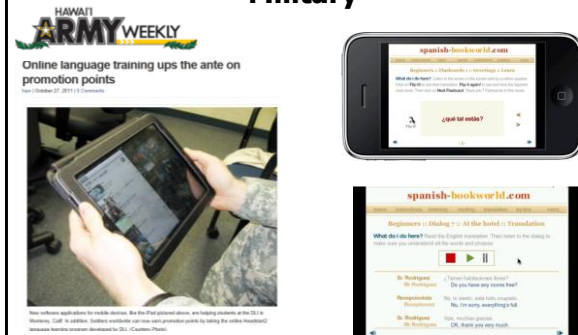


### Online Language Learning

January 27, 2010 and Feb 5, 2010: The Web Way to Learn a Language, NY Times, ERIC A. TAUB (e.g., EnglishCentral, iTalki, Palabea, Babbel)



### Language Training in the Military



### Tech #31. Tablet Computing



### March 13, 2011

### iPad Apps for Calculus, Math, Biology, etc.

Chronicle of HE, Ben Wieder

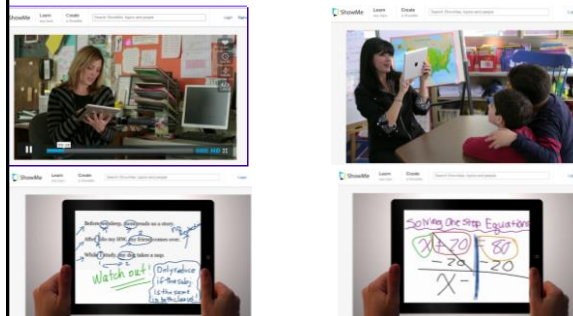
[http://chronicle.com/article/iPads-for-College-Classrooms-/126681/?id=at&utm\\_source=at&utm\\_medium=en](http://chronicle.com/article/iPads-for-College-Classrooms-/126681/?id=at&utm_source=at&utm_medium=en)



At Pepperdine U. Timothy Lucas, an assistant professor of mathematics, shows a class how to use iPads for calculus. Linda Johnson, an assistant professor of biology at Chatham U., for her plant-physiology

### Lessons on iPad

(e.g., ShowMe: <http://www.showme.com/>)

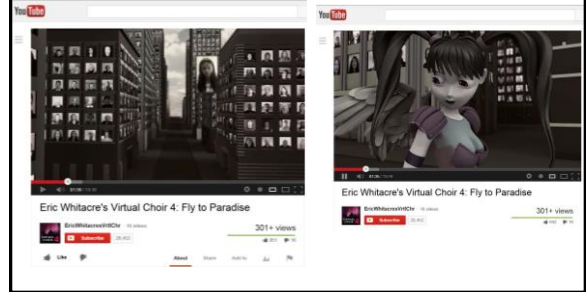


**Paul Kim, SMILE project, Thailand,  
December 26, 2012**



**Tech #32. Virtual Choir  
(e.g., Eric Whitacre)**

<http://vimeo.com/22960177>  
<http://www.youtube.com/watch?v=D7o7BrlbaDs>



**Tech #33. Video Walls of Experts  
(IQ Wall)**



**Tech #34. Mobile Video Connections  
to Experts and Friends**



**Tech #35. Expert Access from Our  
Watches**

Samsung: We're making a smart watch, too

Doug Gross, CNN Tech, March 19, 2013

[http://www.cnn.com/2013/03/19/tech/mobile/samsung-watch/index.html?hpt=hp\\_bn5](http://www.cnn.com/2013/03/19/tech/mobile/samsung-watch/index.html?hpt=hp_bn5)



**First impression: Galaxy Gear - welcome to  
wearable computing, USA Today, Edward Baig,  
September 4, 2013**

<http://www.usatoday.com/story/tech/personal/2013/09/04/future-for-samsung-smart-watch/2764007>



**Qualcomm is seeding market for the smartwatch, USA Today, John Shinal, September 4, 2013**

<http://www.usatoday.com/story/tech/columnist/shinal/2013/09/04/qualcomm-smartwatch-new-tech-economy/2293071/>

Qualcomm is seeding market for the smartwatch

John Shinal, Special to USA TODAY | 1:47 pm EDT September 4, 2013



**Tech #36. Science on a Sphere (interactive globe), January 7, 2013, Digital Globes Offer a Dynamic Vision, NY Times, Mark Vanhoenacker**

[http://www.nytimes.com/2013/01/08/science/digital-globes-a-new-way-to-view-the-world.html?nl=todaysheadlines&emc=edit\\_th\\_20130108&\\_r=0](http://www.nytimes.com/2013/01/08/science/digital-globes-a-new-way-to-view-the-world.html?nl=todaysheadlines&emc=edit_th_20130108&_r=0)

Digital Globes Offer a Dynamic Vision



EDUCA TONAL The six-foot wide "Science on a Sphere" was created by NOAA as a tool to teach earth sciences to middle school students.

**Tech #37. Interactive Globe with News**

[http://www.nytimes.com/2013/01/08/science/digital-globes-a-new-way-to-view-the-world.html?nl=todaysheadlines&emc=edit\\_th\\_20130108&\\_r=0](http://www.nytimes.com/2013/01/08/science/digital-globes-a-new-way-to-view-the-world.html?nl=todaysheadlines&emc=edit_th_20130108&_r=0)

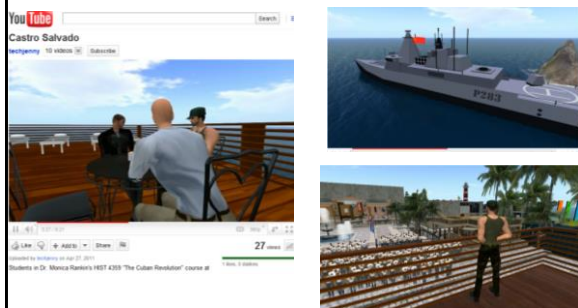


**Tech #38. Experts Apprenticeship via Our Glasses**

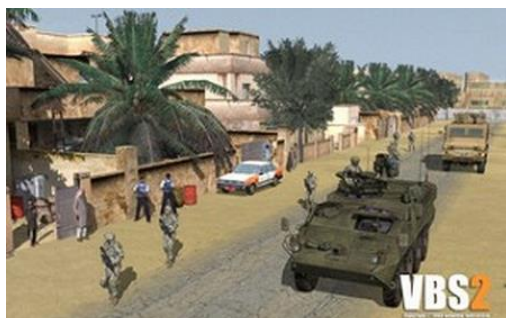


**Tech #39. Virtual Worlds (e.g., Dr. Monica Rankin's class, UT Dallas, Cuban Revolution)**

<http://www.youtube.com/watch?v=D4uBhZN9Oos>



**Tech #40. Simulation Games**



**Tech #41. Talking Dictionaries**  
 Oral Online Dictionaries Help Preserve Languages,  
 Cultures Muted by Modernity, *The Wall Street Journal*,  
 February 18, 2012

<http://online.wsj.com/article/SB1000142405297020488040457728982976760026.html#articleTab%3DInteractive>



**Tech #42. Remote Animal Streaming**

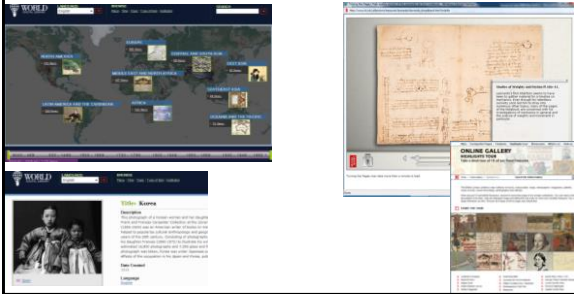
Remote Maine puffin colony up close on HD web cam  
*Clarke Canfield, The Statesman, June 27, 2012*

<http://www.statesman.com/business/technology/remote-maine-puffin-colony-up-close-on-hd-2405257.html>



This still frame from streaming online video, provided by explore.org, the Annenberg Foundation and the National Audubon Society, shows puffins on the shore of Seal Island, Maine, Wednesday, June 27, 2012. The island is the habitat for the largest puffin colony in the U.S.

**Tech #43. Online Portals of Rich Data**  
 United Nations Opens World Digital Library, Turning  
 the Pages from the British Library, etc. (history,  
 culture, literature, writing, art, etc.)



**Learning Portals**  
 Timelines with Oral Histories, Slavery and  
 the Making of America Time and Place

<http://www.pbs.org/wnet/slavery/timeline/1857.html>



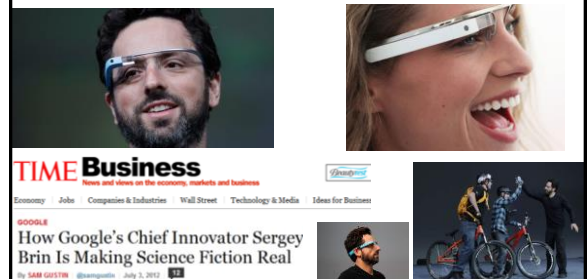
**Learning Portals, April 3, 2012**  
 Google Art Project, NBC Nightly News

<http://www.msnbc.msn.com/id/3032619/vp/46945508#46945508>



**Tech #44. Google Glass. June 27, 2012**  
 ABC News, Google I/O Conference: Project  
 Glass Prototype For Sale

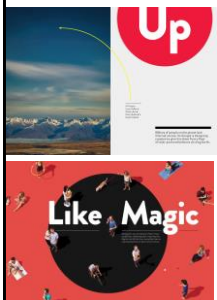
<http://abcnews.go.com/Technology/google-robotic-goggles-prototype-offered-google-i-o-conference/story?id=16663176>



### Tech #45. Google Wi-Fi from the Sky,

Steven Levy, pp. 126-131, Wired, September 2013

<http://www.wired.com/gadgetlab/2013/08/googlex-project-loon/>



Google X chief Astro Teller (left) and Project Loon's first leader, Rich DeVaul, holding the system's ground-based antennas.

### Tech #46. Video games

How Video Games and Social Media Fuel Students' Passion for Art, Katrina Schwartz

Mind/Shift, August 8, 2013

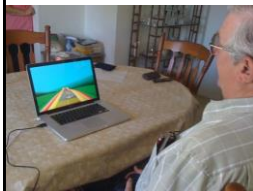
<http://blog.kqed.org/mindshift/2013/08/how-video-games-and-social-media-fuel-students-art-passion/>



### Video games may improve brain power in older adults

Video games may improve brain power in older adults, September 5, 2013

<http://www.usatoday.com/story/news/nation/2013/09/04/video-games-brain-power-dementia/2762523/>



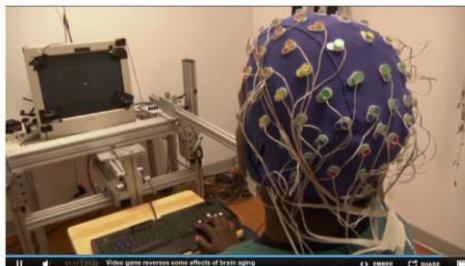
Video games may improve brain power in older adults

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Video games may improve brain power in older adults, September 5, 2013

<http://www.usatoday.com/story/news/nation/2013/09/04/video-games-brain-power-dementia/2762523/>

Video games may improve brain power in older adults



Video game reverses some effects of brain aging

### Tech #47. Broadcast Yourself

Google+ Hangouts On Air: broadcast your conversation to the world

<http://googleblog.blogspot.com/2012/09/people-hangouts-on-air-broadcast-your.html>



### Adventures of a Teenage Polyglot, New York Times, March 9, 2012, John Leland

[http://www.nytimes.com/2012/03/11/topstories/teenage-polyglot-carnegie-finds-online-classes.html?\\_r=1&seamless&ref=nyt](http://www.nytimes.com/2012/03/11/topstories/teenage-polyglot-carnegie-finds-online-classes.html?_r=1&seamless&ref=nyt)



Timothy posts videos of himself speaking several languages on YouTube.

## Tech #48. Expert Tutors as Mobile Apps (e.g., Tutor.com)

**Tutor.com To Go™ Releases the First Education App that Connects Students to an Expert Tutor**

NEW YORK, April 5, 2011 - Tutor.com, the nation's leading online homework help service, has announced the release of its first mobile app, Tutor.com To Go™. The app is the only education app available that connects a student to an expert tutor for real-time help on their homework, that works on both the iPhone and iPad. The mobile app is available for free on the iTunes and Google Play stores.

Tutor.com To Go is designed to help students get the high quality help they have come to expect from Tutor.com on the go. The app is available on both the iPhone and iPad, and is available on both the App Store and Google Play. The app is available for free on the iTunes and Google Play stores. The app is available for free on the iTunes and Google Play stores.

**Tutor.com To Go™ for iPhone, iPad & iPod Touch**

## Tech #49. Robots Teaching English (Meeyong Kim, South Korea)



## Tech #50. Virtual or Augmented Reality Training Web-based Land Navigation Trainer Tutorial

<http://www.youtube.com/watch?v=8-WY9nazoGU>  
 See article <http://www.defensenews.com/article/2011/06/13/TS/306190025/LandNav-Massive>



## September 21, 2012 As Online Courses Grow, Sites Offering Unauthorized Academic Help Get More Brazen, Chronicle of Higher Education, Alisha Azevedo

<http://chronicle.com/article/As-Online-Courses-Grow-Sites-offering-unauthorized-academic-help-get-more-brazen/130273>

As Online Courses Grow, Sites Offering Unauthorized Academic Help Get More Brazen  
 September 21, 2012, 11:52 am  
 By Alisha Azevedo

The image shows two screenshots of websites. The left screenshot is for 'WE TAKE YOUR CLASS', which advertises 'ONLINE COLLEGE CLASSES FOR YOU AND GET YOU AN A'. The right screenshot is for 'UNEMPLOYED PROFESSORS.COM', which features a cartoon character and the text 'WE WORK SERVICES FAQ BLOG LOGIN'.

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The image shows a screenshot of the 'UNEMPLOYED PROFESSORS.COM' website, which features a cartoon character and the text 'WE WORK SERVICES FAQ BLOG LOGIN'. Below the screenshot is a cartoon illustration of a student sitting at a desk with a computer, looking at the screen. A speech bubble from the student says, 'Dude? What's the name of that site, again?'.

## Any Questions?

- 😊 Slides at: [TrainingShare.com](http://TrainingShare.com)
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- 😊 Email: [curt@worldisopen.com](mailto:curt@worldisopen.com)

