

**Google Glass for Education:
A Remote Mobile Usability Study of a Responsive Instructional Website
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May 8, 2015
URL: eLearn.Glass**



Thank you for participating in this usability study and for supporting research at the College of Education, University of Hawaii at Manoa.



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Modules

M-Learning Modules



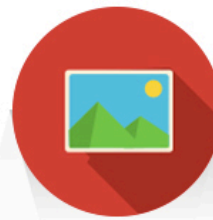
1: GOOGLE GLASS BASICS

Operating the Google Glass
Explorer Edition



2: RECORD & STREAM VIDEO

Recording video and
streaming video with
Livestream.



3: AUGMENTED REALITY

Google Glass + Augmented
Reality in Education



4: EDUCATION

Applications in the field &
classroom.



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[Next: Glass Basics](#)



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Module 1: Google Glass Basics



1: How it Feels through Google Glass

Want to see how Google Glass actually feels?



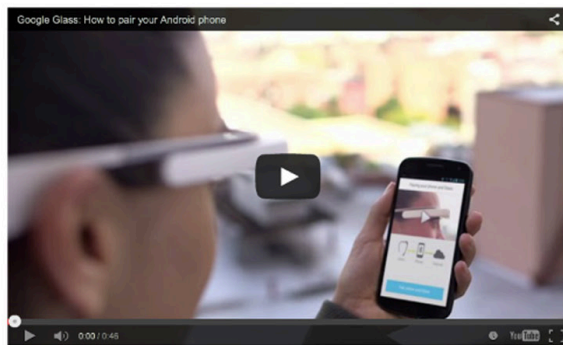
2: Introduction to Google Glass

Learn how to get started with Glass and get the perfect fit.



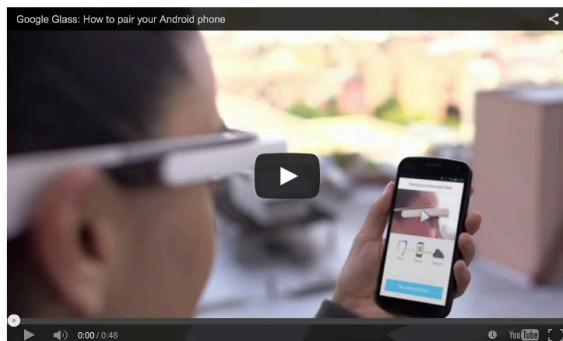
3: Google Glass How-to: Getting Started

Learn about the touchpad, the timeline and how to share through Glass.



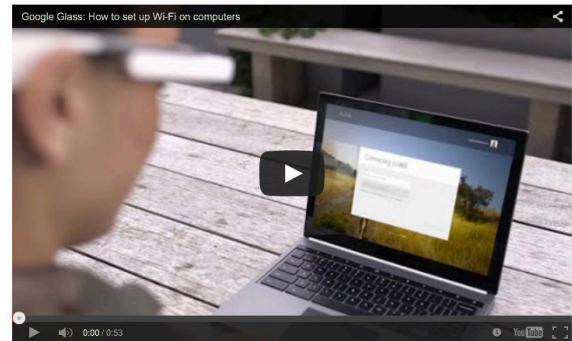
4: How to pair your Android phone

Learn how to connect to the internet by pairing your Android phone.



5: Setting up Wi-Fi on Computers

Demonstrates how to connect Glass to your Wi-Fi network from your computer.



6: Setting up Wi-Fi for iPhone

Demonstrates how to connect Glass to your Wi-Fi network for iPhone.



7: How to use voice actions

Learn how to use voice actions to send messages, search, and take pictures.



8: How to use Glass hands-free

Learn how to use voice actions to send messages, search, and take pictures.



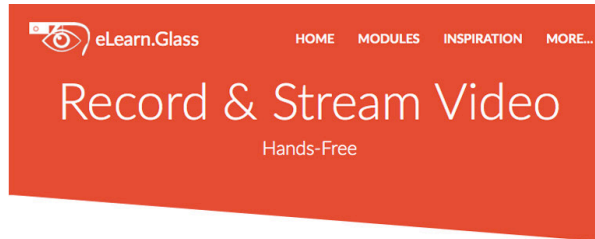
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Module 2: Record & Stream Video

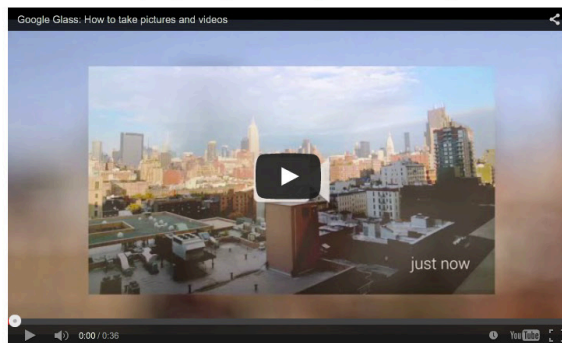


Video lessons can transform learning. Flipped classrooms. Field trips. Demonstrations. All can motivate and inspire learning. Glass captures what you see from your point-of-view with hands-free recording by using voice, gestures, and tap commands. Record for later viewing or stream it live.

Recording Video

[Virtual Field Trip: Explorer Story: Andrew Vanden Heuvel \[through Google Glass\] \(2:14\)](#) [↗](#)
Physics teacher in Grand Rapids, Michigan takes a class on a field trip using Glass. Inspiring!

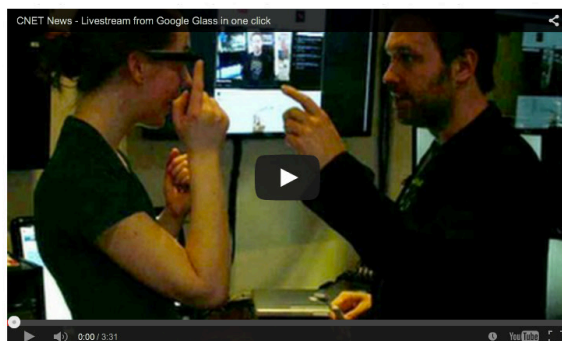
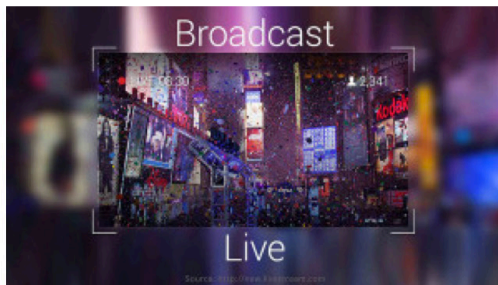
Google Glass: How to take pictures and videos (:35)
Capturing still images and recording video with Glass is easy.



SUGGESTED ACTIVITY

FURTHER EXPLORATION

Streaming Video with Livestream



[Video Tutorial - Using Livestream for Producers \(2014\)](#) [↗](#)

Livestream's video covers downloading and installing Livestream, setting up your video and audio sources, and starting your Livestream.

[Democratizing LIVE Video with Livestream \(5:02\)](#)

Learn about Livestream's entry-level up to premium level hardware and software tools for streaming on mobile devices.

[Video Tutorial - Using Livestream for Producers \(2014\)](#) [↗](#)

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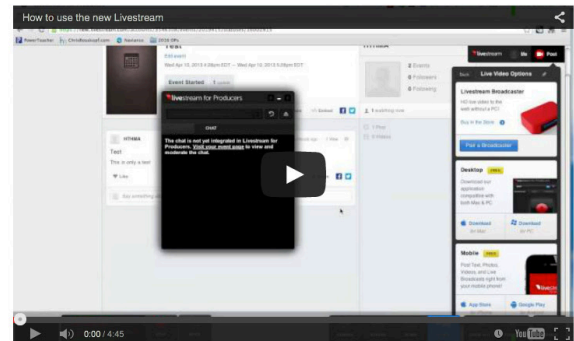
[Democratizing LIVE Video with Livestream \(5:02\)](#)

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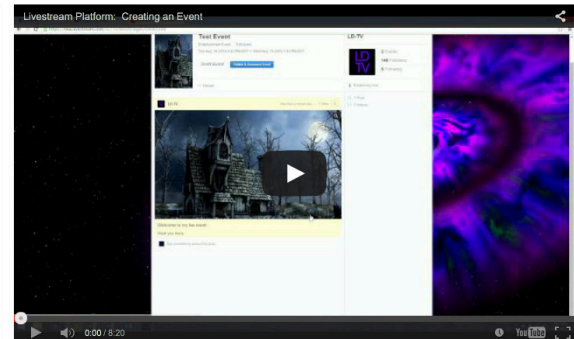
[How to use the new Livestream \(4:44\)](#)

Brief tour of the New Livestream website for streaming from mobile and desktop.



[Livestream Platform: Creating an Event \(8:19\)](#)

Complete step-by-step instructions. Detailed.



[Livestream User Guide](#) [↗](#)

[New Livestream Support Center](#) [↗](#)

FURTHER READING

TUTORIALS

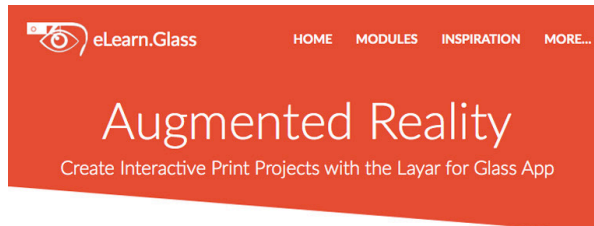
PRICING

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Module 3: Augmented Reality

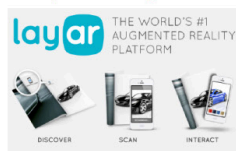


NOTE: Apps related to Google Glass change rapidly. Layar for Google Glass may be temporarily discontinued until the new consumer version of Glass is released. The Layar app is available for other mobile devices.

Augmented reality (AR) will play an increasingly important role in teaching and learning in the years to come. Google Glass' augmented reality Head Mounted Display (HMD) technology with its camera and wireless Wi-Fi Web access allows the user to combine the real world with virtual images. Layering digital images over what we see produces a new experience of the world that is visual and highly interactive. Adding AR to your teaching practice or training programs can be highly engaging and effective for learners.

Definition: "Augmented reality (AR) refers to the addition of a computer-assisted contextual layer of information over the real world, creating a reality that is enhanced or augmented." (Source: [2011 NMC Horizon Report](#))

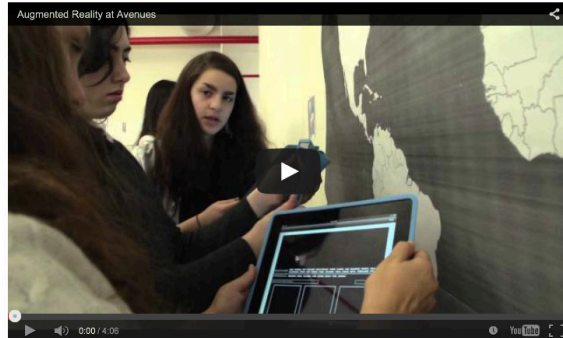
Layar for Google Glass



Layar was one of the first mobile augmented reality (AR) browsers that can scan interactive printed pages. With the camera and sensors in a smartphone, tablet, and now Glass, Layar's AR technology adds layers of digital information – videos, photos, sounds – directly on top of items seen in the world around us. Layar-enabled Interactive Print publications feature digital content that readers can engage with using Glass and other mobile devices. The company fosters the growth of AR as a powerful way to change the way we discover and interact with educational information. [Download the AR in Education Overview](#). [Explore case studies](#).

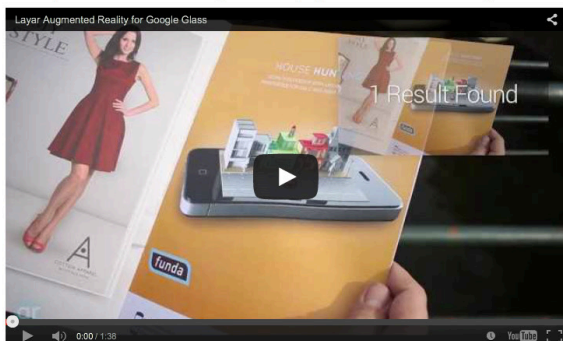
Inspiration: Augmented Reality at Avenues (4:04)

Layar partners with [Avenues: The World School in NYC](#) to create a stunning example of AR in education.



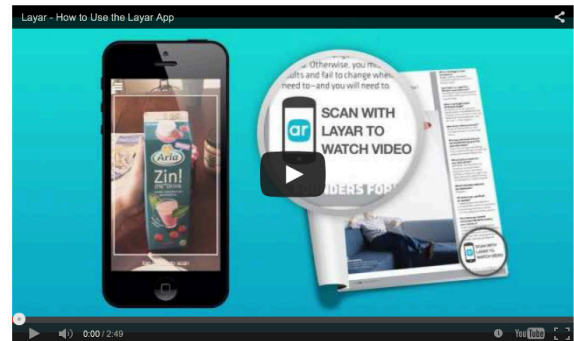
Layar Augmented Reality for Google Glass (1:37)

Layar, one of the most known augmented reality apps, now can be used with Google Glass.



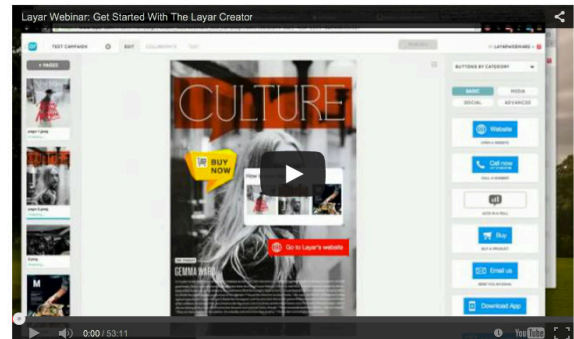
Layar – How to Use the Layar App (2:48)

How the Layar App for iOS and Android works.



Layar Webinar: Get Started With The Layar Creator (52:51)

A detailed overview of how to use the Layar Creator and their 3-step process: Upload, Create, and Publish.



[More videos on the Layar YouTube video channel](#)

For Developers: Create augmented reality apps with Wikitude SDK



Wikitude SDK, which is fully optimized to take advantage of the unique user-interface of Google Glass, enables developers to create AR apps for Google Glass and add videos to augmented reality projects. It features image recognition and tracking, location-based services with geo data, and 3D models and rendering with huge potential for educational applications.

Wikitude on Google Glass (1:31)

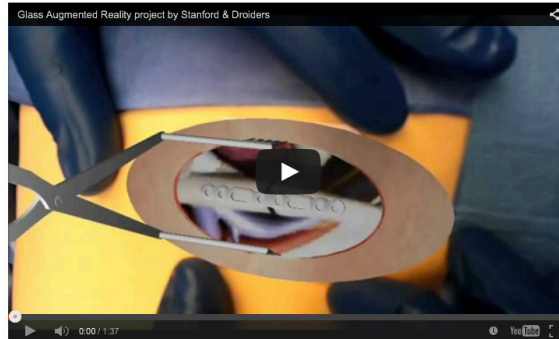
A demonstration of what can be done with Wikitude on Glass.



Module 3: Augmented Reality (cont.)

Glass Augmented Reality project by Stanford & Droiders (1:36)

Stanford University shows simulation teaching with Glass and augmented reality in the operating room.



FURTHER READING FOR EDUCATORS

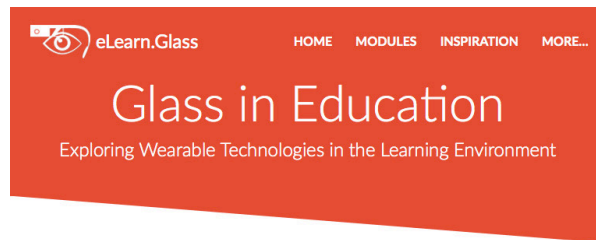
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Module 4: Education



It's not just the technology that is significant. It is what it allows us to do. Wearable mobile computing and head-mounted displays like Google Glass are emerging technologies that can impact the way education is conceived and delivered. By leveraging it with the information and communication technologies (ICT) possible on the Internet, we have the opportunity to create innovative and effective learning at a distance. The virtually distributed learning environment has never before been so conducive to the kinds of experiences where learners engage and interact with others and co-construct knowledge for deep, meaningful learning.

Explore these resources for inspiration or to start thinking about what your wearable technology strategy might be now or in the future.



Art Education: Teacher Uses Google Glass in Online Classroom (2:46): Hannah Brown, art teacher at the ECOT (Electronic Classroom of Tomorrow) School uses Glass to bring art to life in her online classroom.



Medicine: Google Glass Transforms Medical Education (7:08): Glass Explorers at the University of Arizona College of Medicine are developing innovative ways to ultimately save lives.



Is Google Glass Worth the Risk in Education? (1:27): A video produced by the Center for Digital Education that prompts educators to think critically about technology in the classroom.



Future Boss - Google Glass teaches Kung Fu (5:32): Funny dramatization of a comedic action hero using Glass to learn to defend himself against a Terminator from the future.

Further Exploration

[Infographic: How Google Glass Can Be Used In Education \(2013\)](#)

[STEMbite: An Experiment in Teaching with Google Glass](#)

[14 Google Glass Innovative Use Cases in Education \(2014\)](#)

[The Teacher's Guide To Google Glass \(2013\)](#)

[Wearable Technology: will education look very different in the future? \(2014\)](#)

[How Google Glass Is Being Used In Classrooms Around The World \(2014\)](#)

[The Google Glass Experiment—Classroom Tips \(2014\)](#)

[Wearable learning: How Google Glass is changing education \(2014\)>](#)

[5 Ways Google Glass Can Be Used in Education \(2013\)](#)

[Google Glass Pilot: Lessons Learned So Far \(2015\)](#)

[UCI School of Medicine first to integrate Google Glass into curriculum](#)

[Will Google Glass Revolutionize the Medical Industry?](#)

[Researchers use Google Glass to help Parkinson's sufferers \(2014\)](#)

['Signglasses': New Glass App Augments Visual Learning for Deaf Students \(2014\)](#)

[Bringing Google Glass into the IT Environment](#)

[Reviewing Google Glass for the Classroom - 5 Big Takeaways \(2013\)](#)

Slide Presentations

[Wearable learning: How Google Glass is changing education \(2014\)](#)

[Wearable Technology in Education](#)

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Inspiration



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Explore!



Foreign Languages: Captions (4:10): Tells the story of a photographer who encounters an emergency situation & uses an app, [Captions](#) to overcome a language barrier and save a life.



Possibilities: A Glass Intro from Google (2:15): A launch trailer that gives you a feel for the potential of wearable augmented reality technology.



Smart Homes: Google Glass + Home Automation (2:16): Kevin Foreman has automated his house, now seamlessly integrated with Google Glass voice commands



Archaeology: Google Glass in the Gobi: Dinosaur Nest (4:54): A team from the American Museum of Natural History documented a fossil dinosaur nest in the Gobi Desert. View series of [videos](#).



Medicine: Glass Delivers New Insight During Surgery (2:12): UCSF Cardiothoracic surgeon Pierre Theodore, MD is the first surgeon to use the tech device as an auxiliary surgical tool in the operating room.



Streaming Live Video: Glass Demonstration by Project Glass Team (30:42) Google CEO Sergey Brin and team demonstrate live streaming with Glass. NOTE: Streaming via Google Hangouts on Air now replaced with Livestream. See the [module](#) to learn more.



Virtual Field Trips: Children's Hospital Patients Visit Zoo (3:12): Children's Memorial Hermann Hospital patients visit the zoo.



Google Glass Animation (1:28): A simple animation that was released the first year Glass was offered to Google Glass Explorers introduces the wearable augmented reality device.



Project Glass: Skydiving Demo at Google I/O 2012 (2:02): First person point of view video of skydiving using Glass.



Non-Profit Fundraising: WWF's Sabita Malla (2:10): World Wildlife Fund's Sabita Malla explores how Glass can help protect rhinos.



Cooking: Google Glass Explorer Story: Roy Choi (1:50): The co-founder of Kogi BBQ, and the world famous chef behind the



Sports: Explorer Story: Bethanie Mattek-Sands (1:28): A simple animation that was released the first year Glass was offered to Google Glass Explorers introduces the wearable augmented reality device.



Music: Explorer Story: Young Guru (1:56): Acclaimed DJ, producer, and audio engineer uses Glass to explore the Los Angeles soundscape for inspiration to create a new track.



Travel Video: Himalayan Travels (1:10): Jess from the Glass team spent 10 days on a solo Himalayan adventure and captured some pretty amazing moments.



Art: Watercolor + Pencil (5:36): An artist demonstrates a technique for adding watercolor to a pencil drawing.



Field Trip on Glass (1:59): Field Trip is a Glass app that displays augmented reality digital images as you explore the world.



Journalism: Glass for Journalism with Robert Hernandez (3:17): Robert Hernandez from USC Annenberg talks about the uses of Google Glass in contextual storytelling and journalism.



Gamification: Nike+ Game Vision -Future Running with Google Glass (1:22): An augmented reality game for runners that combines Nike+ and Google Glass technology.



Medicine: Google Glass-Philips Healthcare (2:57): Philips Healthcare and Accenture research wearable technology and Glass in medical settings.



Medicine: Glass Augmented Reality project by Stanford & Droids (1:36): Demonstrates the use of Glass and augmented reality in the operating room using Droids' mobile app, which is used for teaching.



Medicine: Glass Transforms Medical Education (7:08): Glass Explorers at the University of Arizona College of Medicine are developing innovative ways to ultimately save lives.



Medicine: Google Glass in Surgery (1:43): Indiana University Health trauma surgeon, Dr. Paul Szotek, uses Glass as a visual aid in surgery.



Google Glass enables emergency services for the 21st century (2:18): A pilot project called Grace uses Glass to communicate and exchange information in emergency interventions and healthcare services.



Aviation: Google Glass In Flight | Productivity | Honeywell (2:58): Wearable technology, like Google Glass, makes it easier and more efficient for flight crews to do their jobs.

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