Web Reviews: Augmented Reality

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Available at: [http://jdc.jefferson.edu/scitechnews/vol64/iss1/10](http://jdc.jefferson.edu/scitechnews/vol64/iss1/10)
Augmented Reality: The web meets your world

The web no longer lives in the web only. Now with the help of your webcam or a compass-enabled smart phone, the web and the information within can be projected onto your world. Augmented reality may be one of the latest buzz words, but this emerging technology has been entering mainstream quickly though the development of smart phone apps (ie. iPhone, Android) and ingenious ad campaigns.

What is augmented reality? The real-world example is the artificial glow around the soccer ball or hockey puck to enrich TV sport-viewing. But, in short, augmented reality (AR) uses devices, like phones or web cams, to overlay virtual elements onto your real-world environment, thus creating a “mixed reality.” There seem to be many interesting possibilities for libraries too. Imagine aiming your camera phones at a row of books and “seeing” the LC subject headings hover above them?

Since most AR applications haven’t left the lab yet, I’ve included a video “demo” for AR apps presented here. It seems that the world of AR is quickly expanding; so many more recent tools may have already come into existence. But this technology is certainly something to keep an eye (real or computer-aided) on in the future.

International Symposium on Mixed and Augmented Reality

http://www.augmented-reality.org/ismar


There you will find a video of Sony PSE’s EyePet, the virtual animal that interacts with your movements though your computer’s web cam; AR Sketch, a student paper award winner, which actually processes drawings and turns them into 3d simulations, and is a potential future product from Microsoft.

Demo AR Sketch: http://www.youtube.com/watch?v=M4qZ0GLO5_A

Smart Phone Apps

A slew of new phone applications have been created for iPhone (running 3GS) and Google Android phones. These apps usually require a digital compass. Here are some of the most interesting examples of what this technology is doing to the smart phone industry:

Wikitude: Mobile Global Travel Guide http://www.wikitude.org (Free, Android and iPhone)

Wikipedia entries pop into view when you can use this app to explore your nearby surroundings via your smart phone’s camera. You can imagine the limitations of items not presently geotagged (i.e. coordinate...
metadata); however, this product also allows users to add content and “geotag the world.”

*Pocket Universe, Virtual Sky app*

[http://itunes.apple.com](http://itunes.apple.com) (iPhone, $2.99)

Tilting your iPhone skyward this app will align with the area of sky you are viewing and display descriptions for major objects within view.

*Heads Up Navigator*

[http://itunes.apple.com](http://itunes.apple.com) (iPhone, Free)

The idea is simple, rather than looking down onto a map, the directions are projected forward into your real-world viewpoint via your phone.

*Nearest Tube*

(iPhone, price varies)

Demo: [http://www.youtube.com/watch?v=U2uH-jrs5xs](http://www.youtube.com/watch?v=U2uH-jrs5xs)

Displays arrows on the ground in the direction you need to walk to reach the nearest subway station or bus stop. Cities now include Paris, New York City, London, Washington DC, and more.

*Layar* ([http://layar.eu](http://layar.eu)), *Bionic Eye* ([http://www.bionic-eye.com](http://www.bionic-eye.com)), and *Nearest Places* (iTunes, $1.99) are newly released apps that display nearby points of interest based on your location

Demo: [http://www.youtube.com/watch?v=b64_16K2e08](http://www.youtube.com/watch?v=b64_16K2e08)

*Ooooh, Aaaaah: Augmented Reality Ad Campaign*

They don’t fulfill any need or solve a problem, but these ad campaigns are a quick and fun way to learn about AR. Try these two examples, *GE Smart Grid* ([http://ge.ecomagination.com/smartgrid/#/landing_page](http://ge.ecomagination.com/smartgrid/#/landing_page)) and *Star Trek Augmented Reality* ([http://www.joestarfleetacademy.com/Discover](http://www.joestarfleetacademy.com/Discover)) by printing out the image and watching it interact with your computer’s webcam.

*GE Smart Grid Demo:* [http://www.youtube.com/watch?v=00FGtH5nkxM](http://www.youtube.com/watch?v=00FGtH5nkxM)

Twitter Augmented Reality

Flyar, http://ww2.ydreams.com/flyar/, is an AR app for your computer. It works like a screensaver by combining a twitter world animation with webcam video capture from your computer. The animations appear to react to your movements in the screen.

Flyar Demo: http://www.youtube.com/watch?v=whNN9y4Lye4

Another popular Twitter AR app is TwittARound, which shows you tweets from nearby locations displayed in your phone’s video screen.

TwittARound Demo: http://www.youtube.com/watch?v=_Vbh7nHalCc

Video EyeWear and Retinal Display

http://www.vuzix.com/iwear/products_wrap310.html

http://tech.slashdot.org/story/09/10/26/1845253/Companies-To-Invade-Your-Retinas-As-Soon-As-Next-Year

AR enabling equipment, like these Vuizix video eyewear (Wrap™ 310, $349.95) are the next generation accessory of mixed reality experiences that leave your computer and smartphone screen behind. These so-called “heads-up displays” come in a variety of styles and prices that can be used for even non-AR applications such as watching a video from your iPod.

If this enhanced reality experience is still not enough, Slashdot reports two companies which will beam images directly into your eye, like this one from Brother set to be released in 2010. According to the article, virtual retinal displays could be used to project subtitles of a foreign speaker in real time.