

Augmented Reality

What's the hype?

Augmented Reality (AR) has been mentioned in the last couple years' Horizon Reports for Higher Education as one of the latest upcoming technologies for education. You may have heard of new wearable technologies such as Google Glass that will bring AR to the masses in the near future. You may have already used an AR app such as Yelp's Monacle to help you locate nearby restaurants or businesses. These applications and devices are fun, but how can this technology be used in education?

Augmented Reality is a live view of a physical, real-world environment in which elements are augmented by computer-generated sensory input. Most AR is viewable via a camera enabled device. For example:



In the photo above, the viewer is seeing points of interest for nearby businesses, complete with star ratings and links to more information. (Yelp App)

TYPES OF AR

AR is an exciting, emergent technology - AR improvements and innovations are a quickly moving target. Currently, there are a few types of AR based on pointing a digital device's camera (smartphone, tablet or computer) at a point of interest that is associated with either a 2D image or 3D object (target-based) or near a point in space (geo-located tag). New facial recognition capability is also in testing.

AR BROWSERS & APPS

AR browsers are apps you can install on your mobile device that allow you to experience AR built in a compatible framework. Some popular browsers are Layar, Aurasma, Junaio and Wikitude. Although they are called browsers, they are more like operating systems than website browsers because they share no content standard. In other words, if the AR content was created to work in Layar, you will only be able to view it in Layar.

Many companies are creating their own stand-alone AR-enabled apps that are very specific to their products and must be installed separately from the browsers.

The next generation of smartphone is already being designed with integrated AR chips, and wearable AR technology such as web-enabled contact lenses and glasses are in testing.

AR IN EDUCATION

The potential for using AR in the classroom is huge. For example:

- Discovery - geolocated or target based information
- Skills Training - technical and mechanical applications
- Spatial Learning - anatomy lessons, architectural models
- Impossible Interactions - spinning molecules, brain surgery, interstellar flight
- Engaging Reading Experiences - popup books of the future

RECENT PROJECTS

Recent AR projects we've worked on can be found at: <http://araste.community.uaf.edu>