Technology in Practice. Your Reality, Augmented

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Your Reality, Augmented

Location-aware mobile technologies

by Meredith Farkas

Last time, I discussed QR codes and how they can link you to content that provides further information about an object. But what if you didn’t have to put barcodes all over everything you wanted people to scan? What if all it took to get that content was to walk up to an item or location holding your phone? What if you could see additional data through your phone’s video camera about what you’re looking at in real life, or see your location on a map in relation to restaurants, buildings, or even a specific bookshelf? It sounds futuristic, but it’s actually something available right now to many smartphone users.

Location-aware applications for mobile devices use GPS to find the owner’s current location and then display it in relation to specific objects, people, stores, and more on a map. These applications can help you do things like find nearby restaurants and see reviews or view the property values in a neighborhood. Location-based games like Foursquare offer users special badges for “checking in” at locations, where they can write a review and read the reviews of previous visitors.

Libraries are just beginning to take advantage of the GPS functionality found in most mobile devices. WolfWalk is a location-aware mobile site and iPhone application that lets users explore historic photos of North Carolina State University in Raleigh. Users can see their location on a map in relation to buildings with geotagged historic images of the location. This allows students to see how the specific place where they’re standing has changed over time, connecting them to the history of their campus. Oregon State University in Corvallis offers a similar location-aware historic walking tour of campus called BeaverTracks.

Layers of meaning

Augmented reality takes this a step further by superimposing content (data, 3D images, photographs, etc.) over what you’re looking at. Unlike virtual reality, which displays a virtual environment, you see the real world with augmented reality—but with computer-generated content layered on top. A simple example of augmented reality could have been during the Summer Olympics in 2008, where the television displayed a line for where swimmers would have to be to match the current world record. Many augmented reality applications require special headgear to use, but newer apps are designed to work with smartphones enabled with GPS, a video camera, compass, and accelerometer. RFID tags can also be used to tie data, photos, or other content to a specific item.

Many augmented reality apps for mobile devices are designed to find people and places nearby. The Yelp application for the iPhone 3GS and higher allows you to see the ratings people gave to places right in front of you by looking through your phone’s video camera. Augmented reality platforms such as Layar enable programmers to build location-based applications. San José (Calif.) Public Library, which recently received a grant to develop an augmented reality app, plans to create a half-dozen walking tours of the city; links to historic photos, oral history clips, and other digitized content would be displayed at relevant locations.

I can envision so many exciting library applications for location-aware technologies, both inside and outside of the building. The University of Oulu in Finland developed SmartLibrary, which steers users to the shelf holding the book they want. The wayfinding tool uses RFID and a Wi-Fi-based location-tracker to display a seeker’s location in relation to the item sought. As the capabilities of mobile devices and the tech-sawy of library staff grow, the possibilities become endless.

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