Augmented reality systems appearing in Japanese shopping malls

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When the camera recognizes the package of a sample product, the display on the equipment shows the description of the product. Image: TechOn

(PhysOrg.com) -- Augmented reality (AR) systems are being developed for real applications in store windows and shopping malls in Japan.

AR systems present a real field of view of a physical environment augmented by computer-generated imagery (CGI), thus combining the real world with the virtual. They are often interactive in real time and sometimes the images are three-dimensional. In Japan AR technologies are finding their way into digital signage applications and store windows, showcasing products and giving shoppers additional information on products.

One example is Toppan Printing Co. Ltd., which has been testing a terminal resembling a [vending machine](link) in three Ito-Yokada supermarkets. In this system potential shoppers register on the Toppan website and receive a QR (Quick Reference) code. (The QR code is a relative of the barcode but consists of a pixilated rectangle rather than stripes.) The shopper presents the code to a camera on one of the terminals in the store, and then receives a sample product. When the sample product is held in front of the camera the terminal displays an image of the product with the description superimposed upon it.

Furutanisangyou Co. Ltd. is using a non-real-time AR technology in a "Magical Mirror" system that allows shoppers to see how outfits would look on them without needing to try them on. A similar system, the "Virtual Mirror," was demonstrated in the CEATEC [JAPAN](link) 2009 trade show in Tokyo by Germany's Fraunhofer Institute.

The Magical Mirror has a number of cameras, one of which captures an image of the shopper, which is then displayed on a [high definition](link) LCD. Images of selected clothes are then superimposed on the image of the person, with the system processing the digital images to make them fit the person's image.

The clothes shown in the composite image are available for sale in stores in the underground shopping mall where the system is located, and the image includes information on where the clothes can be purchased and what sizes are available. The Magical Mirror allows a shopper to "try on" up to six different items of clothing at the same time, even if they are sold at different locations, and this allows the shopper to see how combinations of clothes would look together before buying any of the items.

"Magical Mirror." Image: TechOn

The company plans to increase the number of items that can be tried on to nine by October 2010, and by the same time in 2011 will include side and back views of the person.

Another AR experience is being provided for shoppers in Shinjuku Ward in Tokyo at the children's department of an Isetan department store. This AR system is being exhibited until December 25 this year and was developed by Sky & Road Co. Ltd. and Sony Music Communications Inc (SMC), in conjunction with Total Immersion, a French software company that provided the AR development kit.

In this augmented reality system, one or more people stand in front of a display screen and camera. An image of the people is then displayed on the screen with a virtual image superimposed on it, placing them in a virtual "wonderland," such as a winter snow scene or a magical fantasy

land.

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