

INVENTION DISCLOSURE

1. Invention Title.

Triggering Augmented Reality from Companion Applications

2. Invention Summary.

Companion applications can be used to provide context information to augmented reality capable devices. An example of this concept might be a set top box running an EBIF User Agent, where an EBIF application can be used to provide a smartphone with contextual information about what the viewer is currently watching on television. The smartphone can then display augmented reality content that is relevant to the current programming.

3. Invention Description.

a. Describe the invention in detail.

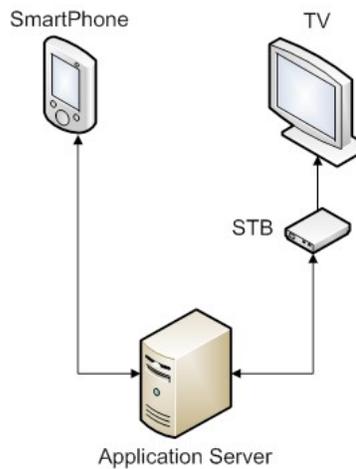


Figure 1 –System Diagram

The system depicted in Figure 1 provides a synchronized trigger from a context-aware application running on the STB to a second-screen device capable of running an augmented reality application.

As an example, a furniture store runs an advertisement on the television. That ad could include an EBIF application enhancement that notifies the second-screen device of an additional AR experience. The AR device could render 3-D models of furniture to superimpose on the live camera image from the second-screen device, thus allowing the user to experiment with arranging this new furniture in their home.

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Figure 2 – Sample EBIF application depicting furniture models (Note this is a squeeze-back formatted application and the blue box with the smiley faces represent the linear video)



Figure 3 – Screen Shot of iPhone application rendering the furniture model within in the user's environment (in this case this is the hallway in the CableLabs building)

EBIF is one method of synchronization that overcomes the issue of geolocation or image recognition. This could also be accomplished with a tru2way application in a similar fashion. Another approach would be to use audio synchronization methods.

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In the case of an EBIF or tru2way application signaling the trigger, in addition to sending the trigger from the interactive application to the second-screen device, the trigger goes through a server managed by the operator, where additional user-related metadata could be added before going to the second screen device. This could enhance the ability for the AR app to be directed to certain channels based on the user's demographics (i.e. add more addressable advertising to the subscriber).

b. Why was the invention developed? What problem(s) does the invention solve? How is it better?

Current augmented reality solutions typically use geolocation or image capture to provide the context for the experience. Both of these mechanisms have limitations; geolocation may not work very well indoors or may be quite inaccurate, and image capture can depend on the size of the image, the reflectivity of the surface displaying the image, ambient lighting and the quality of the camera in the device. By using a companion device/application to provide contextual information, these limitations can be easily overcome.

c. Briefly outline the potential commercial value and customers of the invention.

This allows television service providers and content producers to give viewers context relevant augmented reality experiences, without requiring the viewer to take actions such as physically move where they can scan a displayed image or receive GPS location information. The customers of this invention could be any type of content provider or advertiser.

4. HOW is this invention different from existing products, processes, systems?

As previously mentioned, existing augmented reality applications typically use geolocation information or image capture to gain information about the user's context. This invention allows applications to communicate without intervention of the user, thereby providing an easy to use, automatic experience.