An Augmented Reality Application for Art Exhibitions

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The exhibition "Think with Your Hands" offers a new way to look at illustrations and sketchbooks. It breaks the mould of a traditional show, thanks to an augmented reality project developed by 'UNIT experimental' at Universitat Politècnica de València. This project centres on the work of Pep Carrió and Isidro Ferrer, two of Spain's most prestigious graphic designers, whose sketchbooks, objects and collages come to life when interacting with the mobile devices and augmented reality.

Some years ago, a group of researchers from the Universitat Politècnica de València (UNIT experimental) began focusing on a new line of work that would foster communication between art centres and their visitors. Its main goal was to explore the interactivity offered by mobile devices, and to develop highly intuitive software, which, through augmented reality techniques, would allow a clever, direct relationship between the work of art and the public. Right from the start, researchers' work has benefited from the synergy that comes from fusing art and technology: the use of technology in full awareness, to widen the creative limits of artists. "Think with Your Hands" was one of the first products the research group created with this purpose.

The exhibition "Think with Your Hands: Pep Carrió & Isidro Ferrer" was launched in the ABC Museum of Madrid. The exhibition then travelled to the USA (sponsored by The Spanish Ministry of Education, Culture and Sports), and was displayed at: the Centro Cultural Español de Cooperación Iberoamericana (Spanish Cultural Center for Ibero-American Cooperation), Miami; then the arts centre 'Artisphere', Washington, in September 2014; and the Instituto Cervantes, Chicago in February 2015.

This interactive project proposes a combination that balances the real and the virtual through augmented reality. It inserts objects or virtual graphics into a real environment in what is called augmented reality art [1]. The viewer can simultaneously see the virtual objects in motion and the real one with which he or she is interacting in the context of the exhibition. We have found that this overlapping of 3D registers turns the imaginative world of the viewer on, while it expands the meanings proposed in the exhibition projects.

The exhibition "Think with Your Hands" exemplifies the use of new tech-

Figure 1: The AR application in the exhibition.

nologies in "augmenting" the aesthetic experience within an exhibition, thereby encouraging other experiences. The application "Los cuadernos" (downloadable from Google Play and AppStore) is required to achieve this goal. Once installed in the mobile phone or tablet, the exhibition visitor discovers multimedia information that is hidden to the naked eye, such as animations, 3D elements, video interviews with the artists, image galleries, and interactive sketchbooks. These "augmented" contents bring together knowledge and entertainment.

The project comprises more than one hundred pieces by the two creators, including: drawings, sketchbooks, collages and objects, which, when seen through the touch screen of a mobile device, are virtually activated and their contents appear multiplied, branching out, sometimes in a playful fashion through 3D animations, other times in an informative, documenting way through sound and video.

The exhibition also showcases a different result of a "UNIT experimental" research project: an interactive publication compiling the sketchbooks of the authors as part of their work process. The book, entitled "Open All Day - The Sketchbooks of Isidro Ferrer & Pep

Carrió", demonstrates how traditionally printed books can exist alongside new technologies and serve as a support for innovative ways of acquiring knowledge. In its nearly 300 pages, readers can create their own routes, activating videos, animations and interactive contents through its mobile device screen.

Links:
The results of this work can be seen visiting the videos in 'Projects' section in http://unitexperimental.com.
A direct link to one of the videos can be found at
https://vimeo.com/68120456

Reference:
[1] V. Geroimenko: "Augmented Reality Technology and Art: The Analysis and Visualization of Evolving Conceptual Models", in Proc. of 16th International Conference on Information Visualization (IV), 2012

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