User-Interface Design for the Ripoll Monastery Exhibition at the National Art Museum of Catalonia

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Computer Graphics and Virtual Reality technologies provide powerful tools for visualizing, documenting and disseminating cultural heritage. Virtual inspection tools have been used proficiently to show cultural artifacts either through the web or in museum exhibits. The usability of the user interface has been recognized to play a crucial role in overcoming the typical fearful attitude of the cultural heritage community towards 3D graphics.

In this paper we discuss the design of the user interface for the virtual inspection of the impressive entrance of the Ripoll Monastery in Spain. The system was exhibited in the National Art Museum of Catalonia (MNAC) during 2008 and since June 2011 it is part of its Romanesque exhibition. The MNAC is the third most visited art museum in Spain, and features the world’s largest collection on Romanesque Art. We analyze the requirements from museum curators and discuss the main interface design decisions. The user interface combines (a) focus-plus-context visualization, with focus (detail view) and context (overview) being shown at separate displays, (b) touch-based camera control techniques, and (c) continuous feedback about the exact location of the detail area within the entrance. The interface allows users to aim the camera at any point of the entrance with centimeter accuracy using a single tap. We provide the results of a user study comparing our user interface with alternative approaches. We also discuss the benefits the exhibition had to the cultural heritage community.

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