Digitisation to Presentation: Building Virtual Museum Exhibitions

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Research output: Contribution to conference › Paper

Abstract

We describe an innovative system designed for museums to create, manage and present multimedia based representations of museum artefacts in virtual exhibitions both inside and outside museums. Our system creates digital surrogates through a novel stereo photogrammetry system with little user interaction. The resulting 3D objects are refined using state-of-the-art 3D modelling software configured for ease of use by museum staff. A repository of such digital surrogates is managed in an XML enabled relational database and provides the basis for the creation and presentation of virtual museum exhibitions, allowing current museum websites to evolve from a 2D to a 3D multimedia-rich domain. In this paper, we discuss the modelling and refinement processes which are based on stereo photogrammetry and the creation and visualisation of virtual museum exhibitions using virtual and augmented reality techniques.

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• virtual reality

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• digital museums


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KW - digital museums
KW - virtual exhibitions
KW - cultural heritage
KW - computer graphics and animation
M3 - Paper

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About web accessibility

The authors of the “Digitisation to Presentation – Building Virtual Museum Exhibitions” state that: “With this richer data model of digital representation of museum collections, museums can now build online virtual museums complete with interactivity in virtual or augmented reality environments. Such a virtual museum affords further advantages in that it is possible to display artefacts which would normally be inaccessible except to a select few; for example, exhibits which cannot be made available due to their fragile nature or because of other preservation issues or those which cannot be displayed in a virtual museum that exhibits pottery artifacts was implemented as a case study. The visitor can browse a collection of 3D vessels in a more natural way and perform queries-by-example by selecting any of the virtual exhibits. An interactive map that contains a top-view of the museum allows the user to identify his/her position in the museum and also to review the spatial and ranking positions of the query results. The content of the museum is dynamic in a sense that all exhibits are retrieved from a database.” [29] M. Patel, M. White, K. Walczak, P. Sayd, Digitisation to presentation – building virtual museum exhibitions, Proceedings of Vision, Video and Graphics, University of Bath, Bath, England, 2003, pp. 1-8.