digital cultural heritage: FUTURE VISIONS

Edited by Kelly Greenop and Chris Landorf

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The papers published in these proceedings are a record of the conference mentioned on the title page. They reflect the authors' opinions and, in the interests of timely dissemination, are published as submitted in their final form without change. Their inclusion in this publication does not necessarily constitute endorsement by the editors.

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The Conference Convenors received a total of 44 abstracts. Abstracts underwent a double-blind peer review by two members of the Conference Organising Committee. Authors of accepted abstracts (32) were invited to submit a full paper. All submitted full papers (18) were again double-blind peer reviewed by two reviewers. Papers were matched as closely as possible to referees in a related field and with similar interests to the authors. Sixteen full papers were accepted for presentation at the conference and a further 6 papers were invited to present based on submitted abstracts and work-in-progress. Revised papers underwent a final post-conference review before notification of acceptance for publication in these conference proceedings.

Please note that papers displayed as abstracts only in the proceedings are currently being developed for submission to a digital cultural heritage special edition of an academic journal.

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Countering the 'digital uncanny': Post-processing for 3-D digital heritage

Abstract

An undesirable result of photogrammetry and laser scanning in the cultural heritage context can flatten shadows, light, and surface textural variations on-three dimensional digital models of original artefacts. Many of these important visual cues contribute to our understanding of digital models as "historical objects", and the resulting overly digitised replicas – lacking visual context and depth – can impede user interactivity. Viewers of digital heritage can become deterred by the uncanny, static or unreal aesthetic of some photogrammetric and laser scans. Yet digital curators have the opportunity to address some of these issues.

This paper interrogates curatorial decisions relating to digital post-processing; assessing the relevance of theories of the 'uncanny' and the 'uncanny valley', as well authenticity in digital intervention. The Emotions3D project applied considerable post-processing modification to align models with their original photorealistic state and create visual context. In contrast, the Smithsonian Apollo 11 module project left model data 'raw', with the invitation for users to experiment with available datasets. While 3-D digital visualisation in museums poses significant technical and curatorial challenges, subtle post-processing choices are deeply emotionally internalised by viewers. This article argues that accessibility and user engagement with digital artefacts can therefore be enhanced through best-practice post-processing techniques.

Keywords: Photogrammetry, structure-from-motion modelling, 'uncanny valley', post-processing, user-engagement, emotional interactivity.

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