Holistic Documentation of the Past: A key Challenge in the 21st century

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Abstract: (250 to 500 words: for each heading use the bullet points or narrative - the submission including graphics should not exceed one page)

Problems - Issues / Challenges-Needs

Holistic approach for the e-documentation of the Past: to capture, reconstruct, model, archive, preserve, protect, use/reuse and disseminate CH content, including the latest advances in technology combined with novel experimental Apps.

Here we could name the following challenges:

- Unique High quality dense matching photogrammetry
- Exceptional Reverse engineering processes from created point clouds
- Morphological and holistic Reconstruction of Monuments
- Single Image 3D reconstructions (camera alignments)
- 3D Real-time Implementation to mobile devices using AR and IVR (immersive VR)
- VR implementation to mobile devices showcasing 4D sceneries of city scapes…

Solutions - Methods / Results - Findings

We are presenting different solutions:

A) An Application for the city of CALW in the southern part of Germany (State of Baden Wurttemberg):
   - 4D reconstruction using novel methods of data fusion between terrestrial laser scans, photogrammetry and single image reconstructions through camera alignments.
   - 4D Real-time implementation of large cityscapes for walkthroughs and turntable viewing → Tourism

B) The UNESCO WHL Monument of Asinou in Cyprus:
   - Bringing 1000 Years of history to the school,
   - A Monument and an e-Book ,
   - iVR application for UNESCO WHL monument.

C) The digitalisation of tangible and intangible content and the enrichment of their metadata for the EU digital Library Europeana

Novelty - Value / Relevance to …

We can showcase the best practise examples for Students, Cultural Heritage, Experts/Professionals, Guides, Tourists, general public:

1) The holistic documentation of the UNESCO WHL Asinou Monument in Cyprus
2) Archaeological Site of Carnuntum in Austria: The VR & MV experience

Keywords: (up to 5 keywords)

Digital Cultural Heritage, Holistic Documentation, Reverse Engineering, Virtual Reality and Augmented Reality in Cultural Heritage
Graphics: (please use the gray area bellow for representative graphics or graphical summary; select the gray area bellow and paste your graphics)