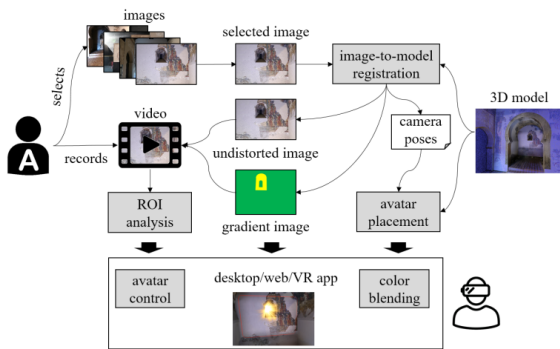


Easy Authoring of Image-Supported Short Stories for 3D Scanned Cultural Heritage

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Visual storytelling is a powerful tool for Cultural Heritage communication. However, traditional authoring tools either produce videos that cannot be fully integrated with 3D scanned models, or require 3D content creation skills that imply a high entry barrier for Cultural Heritage experts. In this paper we present an image-supported, video-based authoring tool allowing non-3D-experts to create rich narrative content that can be fully integrated in immersive virtual reality experiences. Given an existing 3D scanned model, each story is based on a user-provided photo or system-proposed image. First, the system

automatically registers the image against the 3D model, and creates an undistorted version that will serve as a fixed background image for the story. Authors can then use their favorite presentation software to annotate or edit the image while recording their voice. The resulting video is processed automatically to detect per-frame regions-of-interest. At visualization time, videos are projected onto the 3D scanned model, allowing the audience to watch the narrative piece in its surrounding spatial context. We discuss multiple color blending techniques, inspired by detail textures, to provide high-resolution detail. The system uses the image-to-model registration data to find suitable locations for triggers and avatars that draw the user attention towards the 3D model parts being referred to by the presenter. We conducted an informal user study to evaluate the quality of the immersive experience. Our findings suggest that our approach is a valuable tool for fast and easy creation of fully-immersive visual storytelling experiences.