Bio:
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We're part of the Computer Science Department and the HCI Center at RWTH Aachen University and work in Human-Computer Interaction (HCI). Grounded in Computer Science, we develop and study new interaction theories, techniques, and systems in areas like personal digital fabrication and personal design, tangible, mobile, and wearable user interfaces, interactive textiles, multitouch tables and interactive surfaces, augmented reality, interaction with AI, and visual coding environments.

Submission to: Digital Storytelling for Cultural Heritage

Abstract:
People enjoy experiencing history at the sites of cultural heritage. The combination of historical educational narratives and the preserved objects and buildings allow for unique levels of engagement. Therefore the number of visitors of cultural heritage sites is increasing steadily. While desired, it poses increasingly problematic challenges for the efforts of preserving these sites. A good balance between unrestricted access to history and even the increase of interest in the general population and the wear and tear of the sites has to be met. Digitisation could help to preserve cultural heritage in its current state for the next generations. With mixed reality experiences like AR and VR we can bring geo-referenced 3-dimensional scans of heritage sites to the general public, enhance them with textual information, and audio-visual content otherwise not easily accessible in a non-digital format. This includes visiting otherwise non-accessible areas and take a different point of view not only in space but also time by overlaying historic reconstructions without interfering with the historical integrity of the real site. But digital storytelling poses the question how to present the information in a way to overcome the challenges of interacting with it on a restricted device platform available to most people.
Mobile phone apps present a low threshold approach for content distribution to a wide audience. Yet the implementation of a 3-dimensional VR exploration experience on a mobile phone bears the challenge of missing input capabilities as the touch screen only allows for 2-dimensional input. In AR, using a magic lens approach, the available space in the room the user is using the app in might not be sufficient to reach all the desired destinations. That makes the physical part of the interaction an interesting area of research. The digital part of the interaction presents additional questions regarding non-linear storytelling and linkage between the dense network of connected multi-medial information pieces.