

Potentials for Learning History through Role-Playing in Virtual Reality: An Exploratory Study on Role-Playing on a Virtual Heritage Site

Authors : Danzhao Cheng, Eugene Ch'ng

Abstract : Virtual Reality technologies can reconstruct cultural heritage objects and sites to a level of realism. Concentrating mostly on documenting authentic data and accurate representations of tangible contents, current virtual heritage is limited to accumulating visually presented objects. Such constructions, however, are fragmentary and may not convey the inherent significance of heritage in a meaningful way. In order to contextualise fragmentary historical contents where history can be told, a strategy is to create a guided narrative via role-playing. Such an approach can strengthen the logical connections of cultural elements and facilitate creative synthesis within the virtual world. This project successfully reconstructed the Ningbo Sanjiangkou VR site in Yuan Dynasty combining VR technology and role-play game approach. The results with 80 pairs of participants suggest that VR role-playing can be beneficial in a number of ways. Firstly, it creates thematic interactivity which encourages users to explore the virtual heritage in a more entertaining way with task-oriented goals. Secondly, the experience becomes highly engaging since users can interpret a historical context through the perspective of specific roles that exist in past societies. Thirdly, personalisation allows open-ended sequences of the expedition, reinforcing user's acquisition of procedural knowledge relative to the cultural domain. To sum up, role-playing in VR poses great potential for experiential learning as it allows users to interpret a historical context in a more entertaining way.

Keywords : experiential learning, maritime silk road, role-playing, virtual heritage, virtual reality

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