

Crafting digital shared heritage – case study on the qualities of Minecraft for youth engagement in heritage-based design

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Abstract

Cultural Heritage (CH) conservation efforts worldwide are led both by heritage organizations and experts, often for listed heritage, as well as local communities for non-listed heritage. Their aim is to protect these assets for their cultural significance, denoted by values and attributes. In the case of shared cultural heritage (SCH), the value of a particular heritage asset is recognized by multiple cultures. Especially with SCH, inclusion of a wide range of stakeholders in the process of CH protection and revitalization is critical. In these processes, children and their needs should not be overlooked.

Educational games, such as the block-building sandbox game Minecraft, prove to be a promising way of engaging a wider audience, including young local stakeholders. In Minecraft, the cultural built environment can be represented in a simplified, yet immersive and comprehensive way. It is a recognized platform for youth engagement and collaboration, applied in gamified environments such as geocraft and Block By Block.

Still, untapped potential for the SCH field lies in the building aspect of Minecraft. Heritage-based design, shortly defined as designing in dialogue with a heritage site and community, may benefit from Minecraft's representation and immersive aspects, while taking advantage of the building aspect. This way, Minecraft could provide a low-threshold environment for design experimentation, engaging audiences that are less susceptible to traditional methods. The aim of this paper is to reflect on current methods of CH representation in Minecraft, and to evaluate it as a tool for heritage-based design for youth engagement. Following both objectives, a case study has been carried out.

The built CH environment can be represented in Minecraft using multiple strategies. Current best approaches start with data, like LiDAR and geospatial data, being sent through a modeling tool compatible with Minecraft. Further detailed modeling can be done by hand in the game itself.

case study world has been created with a similar approach, using open source geoinformation technology and drone photography to recreate a 1:1 model of a rural Brazilian village. It shares its heritage with the Netherlands, being settled by Dutch migrants from the province of Zeeland in 1858. The model enabled local elementary school children to relate to the built CH environment, using existing buildings and terrain features to place and design interventions for greater conservation and sustainability. In one case a listed ruin was reconstructed, complete with its former function as local grocery shop.

Following the heritage-based design method of designing from existing qualities, a Minecraft model can thus be used to efficiently create, negotiate, evaluate and communicate a (re)design. Minecraft's ability to engage and motivate participants to build together in an immersive collaborative environment, makes it an asset to heritage-based design. Minecraft's limitations lie in its simplification of reality: the roughly 1 m³ base block makes architectural detailing for precise reconstructions a challenge, even with the diverse library of building materials, colors and textures. Additionally, using Minecraft requires computer access, and internet access for multiplayer experiences.

The participants in this study were elementary students from a local rural school in Holanda, Espírito Santo, Brazil, with limited experience with the game. Further research is necessary to evaluate the pedagogical applications of Minecraft for identifying values and redesigning from them. Other fields of knowledge related to the built environment could also benefit from Minecraft's qualities, such as geography, anthropology, and sociology.