

Beacon Virtua

Andrew Woods^{1*}, Paul Bourke², Nick Oliver¹

¹Curtin University, ²University of Western Australia

ABSTRACT

In Beacon Virtua [1] you can explore the legacy of the shipwrecked VOC ship Batavia by visiting a simulation of Beacon Island (see Figure 1). Beacon Virtua will take you on a tour of the island including its jetties, fishing shacks and several grave sites of Batavia voyagers who were buried on the island after the ship was wrecked and following the uprising.

The graves have been reconstructed through a technique called photogrammetric 3D reconstruction, a process which uses multiple photographs of an object to build an accurate and detailed 3D model of it. Beacon Virtua presents the island as it was in 2013, using audio and photography captured during multiple expeditions to the island to preserve this period in its history. [2]

In 2013 there were around 15 shacks located across Beacon Island, originally used by the fishing community. These shacks have been recreated as 3D models, which can be explored inside and out. Around the island are photographic panorama bubbles offering 360° views of the island. These bubbles have been captured using a special panoramic photography process - stepping inside a bubble allows you to see the island from that point exactly as it was in 2013.

Keywords: Virtual environments, virtual reality, heritage, Unity3D.

Index Terms: • Computing methodologies~Virtual reality • Human-centered computing~Virtual reality • Human-centered computing~Geographic visualization

ACKNOWLEDGMENTS

Aaron Cross - Building models and other asset contributions

Conducted as part of the ARC Linkage project "Shipwrecks of the Roaring Forties: a maritime archaeological reassessment of some of Australia's earliest shipwrecks" (LP130100137)

Principal Investigators: Alistair Paterson (University of Western Australia) and Jeremy Green (WA Museum).

REFERENCES

- [1] Paul Bourke, and Jeremy Green. Keeping it Real: Creating and Acquiring Assets for Virtual Environments. In *Computer Games Journal*, volume 5, issue 1, September 2016.
- [2] Andrew Woods, Nicholas Oliver, Paul Bourke, Jeremy Green, and Alistair Paterson. Beacon Virtua – a virtual reality simulation detailing the recent and shipwreck history of Beacon Island. In *3D-Modelling and Interpretation for Underwater Archaeology* (in review).



Figure 1: A 360° view of Beacon Island from the Beacon Virtua simulation

* A.Woods@curtin.edu.au