The Tangible and Intangible: Interpreting Modern Architectural Heritage Through Virtual Realities

Hannah Rushton
David Silcock
Jessie Rogers
Marc Aurel Schnabel

Victoria University of Wellington

I would like to:

i. present in person (with a written paper)

This project study makes use of virtual realities to determine the place of Modern Architectural heritage within the urban environment; in order to consider the role virtuality plays in interpreting heritage significance. Investigating the case of the 'Gordon Wilson Flats', modernist apartments in Wellington, New Zealand, this paper discusses the virtual reconstruction of the flats. As the building’s preservation status is under debate, the aim of this digital heritage project was to develop a presentation that offered contextual insight into the building’s background. To achieve this, a multi-
A dimensional virtual environment experience was developed. This digital heritage project documented both the tangible and intangible characteristics of the building to inform public discussion focused upon the flats. The approach captured the effect of time on the building’s tangible elements. Collectively, with the addition of aural histories, a comprehensive narrative was developed, intending to facilitate user architectural understanding and heighten engagement within the immersive virtual environment. Objectively, this immersive virtual environment is a medium that has allowed us to present a range of architectural information within virtual space. Multiple forms of architectural information are included to develop a user's understanding of the building’s history, so they can create their own interpretations of the building’s architectural significance. Our research continues the development of this experience, taking an experimental approach to the current output, which derives a digital twin.

This paper investigates the user experience of the ‘Gordon Wilson Flats’ in virtual reality. We determine how the user’s interpretations are influenced by representations of the modern architectural heritage within virtual space. We consider how these interpretations are produced, testing 3D CAAD modelling, laser scan modelling and photogrammetry modelling presented within virtual realities using the HTC VIVE and the Hyve 3D. This allows the user to experience a different form of immersive technique, although still a virtual experience. The paper concludes with a discussion about how representations can facilitate heritage interpretation through different immersive experiences. In order to determine how creative content-making leads to novel avenues in the representation and interpretation, and thus perception of modern architectural heritage within virtual environments.

• Author(s) Biography (200 words each):

Hannah Rushton

Hannah Rushton studies a Bachelor of Architecture majoring in Architecture, along with a Bachelor of Arts majoring in Art History at Victoria University of Wellington. Currently she is completing a Summer Scholars program, working as a researcher at Victoria. The project she is involved in explores Digital Heritage and architecture in Virtual reality. Her academic interests lie in the topic of architectural heritage and history; which are informed by her degrees in Architecture and Art History. This specialization encompasses a wide range of topics concerned with heritage, and its place in the world today – particularly the area of Digital Heritage, and how changing technologies can assist in documenting historically significant architecture to encourage conservation and preservation efforts of architectural heritage within the built environment.

David Silcock

David Silcock is a fourth year student and Victoria University of Wellington. Having just completed his Bachelor of Architectural Studies, majoring in Architecture, he is now in the first year of his two year professional degree. Silcock started tertiary studies in 2015
and was accepted into the Architecture programme in 2016 after completing his first year of study. Silcock is interested in the area of virtual reality, and how this rapidly advancing technology can be used not only in the educational and professional sector, but also in the area of heritage and the preservation of historically significant buildings around the world. He is part of the Victoria University of Wellington Summer Scholarship program, specializing in digital heritage and architecture in virtual reality.

Jessie Rogers

Jessie Rogers is a fifth year Master of Architecture (Professional) student at the Victoria University of Wellington. Rogers specialises passionately within the area of virtual reality design and visualisation including new and heritage projects while creating novel and new experiences. Rogers has worked collaboratively with Fair Intelligent Transport Wellington for the Lets Get Wellington Moving Scenario A+ submission visualising the Light Rail Transport car at specific locations within Wellington City. Rogers has gained a summer research scholarship with the Victoria University of Wellington by combining heritage buildings with virtual reality in a multi-dimensional immersive environment.

Marc Aurel Schnabel

Marc Aurel Schnabel is the Dean of the Faculty of Architecture and Design, Professor in Architectural Technology at the School of Architecture, Victoria University of Wellington, New Zealand and Visiting Professor at the School of Architecture, Sheffield University. Trained as an Architect, he is leading research and education in the field of Architectural Technology and Computation. He has taught and worked in Germany, Australia, and Hong Kong for over twenty-five years and has become highly recognised for his work in the areas of computational design, virtual environments and digital heritage. He has established several networks connecting professionals and researchers of innovative digital spatial design.