Moving Images in Digital Heritage: Architectural Heritage in Virtual Reality

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The politics embodied within modern architecture is defined by the general public’s unawareness of the period’s architectural and historical origins. Following such criticisms of modern architecture within the contemporary urban landscape; in order to make decisions about the fate of buildings from this era, it is important to present a range of informational forms about the building to engage interested members of the public. This paper investigates the case of the ‘Gordon Wilson Flats’, a modernist apartment block in Wellington, New Zealand - the preservation status of which is under public discussion. The present work offers contextual insight into the building’s background by developing novel digital platforms that present the heritage value of the Gordon Wilson Flats. To engage public interpretation of the architectural form, a multi-dimensional Virtual Environment experience has been developed. The research explored methods to virtually reconstruct the spatial qualities of the building and document the flats in both their current and original states, completed using a combination of 3D modelling, laser scanning, and photogrammetry. This digital heritage project aimed to document both the tangible and intangible characteristics of the building to, in turn, inform public discussion focused upon the flats. The investigations captured the effect of time on the tangible elements of the flats, and with the addition of intangible aspects, developed a narrative - that facilitated architectural understanding and heightened engagement within an immersive virtual environment. The relationship between the tangible and intangible was explicitly
connected, which resulted in the creation of a Virtual Living Museum. The paper presents the spaces of the flats to show the embodied social and cultural values within each physical space, to be experienced in virtual reality. The findings disclose the building’s evolution toward a state of decay. The outcome of the project presents a methodology for curating different forms of architectural information to encourage individual interpretations of each user, for members of the public to make informed judgments about the heritage significance of architecture, and the role it plays in their city. This paper concludes with a discussion about what role ‘virtuality’ plays in digital heritage, how creative content-making in digital heritage leads to novel avenues in architectural representation, and how this can contribute to architectural understanding within the domain of the moving image.

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

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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; 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 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.

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.

Tane Moleta

Tane Moleta is a Senior Lecturer in Interdisciplinary Digital Design at the School of Architecture, Victoria University of Wellington. Over the past 5 years Tane Moleta has developed a research platform that centers on simulation and visualisation of Architectural and Urban environments. This has in the past few years evolved into the use of real time virtual engines and especially importing real time data into these environments to effect or simulate fluctuating weather conditions. More recently, in the past 2 years, Moleta has focused on producing tools from within virtual environments as a means to explore VR and MR as a design tool for Architecture and Urban design. Moleta has also produced work in the field of game mechanics, whereby, we begin to understand how particular activities can be promoted, or how to encourage greater participation in such activities.

Serdar Aydin

Serdar Aydin is an architect and design-researcher based in Wellington, New Zealand. He teaches digital design courses at School of Architecture and Design in Victoria University of Wellington (VUW). In Wellington, Serdar continues his PhD that started at the Chinese University of Hong Kong (CUHK). After his graduation with a BArch degree from Karadeniz Technical University, Serdar practiced at different architecture offices in Turkey. He completed his Masters’ degree with merit at the School of Architecture, University of Liverpool in the UK. In Hong Kong, Serdar worked at Zaha Hadid Architects for their Changsha Meixihu International Culture and Arts Centre in China. His PhD is a design-research work which is about active participation for the making of digital heritage in the context of Kashgar, the westernmost city in China. The research involves insurmountable challenges, such as authenticity. To deal with them, a set of computational methods is deployed based on photogrammetry, game design, immersive and interactive virtual reality techniques.

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