Moving Images - Static Spaces: Architectures, Art, Media, Film, Digital Art and Design

• Paper / Proposal Title:
Soft Infrastructure: Use of Real Time Virtual Engines and Big Data to Enable Robust Public Consultation on Urban Infrastructure Projects

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• Presentation Method. I would like to:

  i. present in person (with/without a written paper)

• Abstract:

With many forces acting on urban areas today, it is paramount that a strong dialogue between disciplines and stakeholders is established to address and to create successful design, governance and construction of cities. The rise in public opposition of proposed infrastructure in the New Zealand built environment, born from an expressed desire to be engaged and empowered in matters of both the city and the natural environment, and the presentation of the proposed infrastructure failing to collect support, has led to social, governmental and legislative concern. How can ‘big-data’ and ‘real time virtual engines’ be used to facilitate an innovative and equitable public consultation tool?

This paper proposes that through an interdisciplinary approach we can tackle how to build and live within sustainable, innovative and equitable urban environments.
It is hypothesized that the scalability and wide ranging distribution of realtime virtual engines and MMOG’s (Massively Multiplayer Online Games) offer an interesting platform to explore how a new mode for public consultation might occur that may
achieve a greater level of investment. The case investigated is the central and local government’s management of the “blue belt” in the greater Wellington region. In the context of New Zealand, the ‘blue belt’ defines many city limits and as such often play an important social function for public as close proximity locations of rest and recreation. To date, the mechanisms applied to resolve flooding and erosion, to protect property, assets and infrastructure, have been low in science and often result in an ‘overly heavy handed engineered outcome’. These methods have historically received poor appraisal from the general public and governmental departments concerned with natural resources and the aesthetic qualities of natural waterways. Therefore, with these conflicting pressures, this project researched public consultation as means to provide more effective and equitable tools to sustainable and productive dialogue. The tool developed enables rich information models to be visualised for a wide audience at any given time, facilitates online discussion and communication, enables streaming data to influence the design of the proposed projects and provides two way feedback between the public and key decision makers. This paper concludes with a discussion about what role virtual reality and online interaction plays in urban design and how the new visualisation and online forum that serious gaming provides can lead to greater success and public approval in urban design.

• Author(s) Biography:

**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.

**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.

Maria Walker

Recently graduated with a Bachelor of Architectural Studies majoring in Architecture at Victoria University of Wellington, Walker is a current Research Scholar for Tane Moleta. Walker has received the PFM Burrows Award and the NZIA Cadimage Design Award in 2016 for third year students in New Zealand, and the NZIA Cadimage Design Runner-Up Award in 2015 for second year students. During her six months of study on an exchange at the University of Liverpool, Walker received the Jonathan Falkingham UrbanSplash Graduate Prize for Best Hand Rendering and was nominated for the University of Liverpool Sikorski Prize and nominated to be the University of Liverpool entrant for the RIBA Bronze Medal. Walker is interested in the realm of urban design and plans on pursuing internships during her year out that will focus on urban regeneration in the States and in the UK before beginning her Masters of Architecture at Victoria University of Wellington.