

Learning & Teaching Showcase 2017

Scholarship of Learning & Teaching Grants (SoLT)

An Immersive 3D Virtual Environment to Support Team Collaboration

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Built Environment

Aim

New collaboration technologies such as online immersive 3D virtual environments offer students great opportunities to undertake online communication and collaboration.

This project was aimed to investigate an immersive 3D virtual platform TERF developed by 3DICC and ways to improve both the undergraduate and graduate built environment curriculum through the use of such a platform.

Trials were undertaken in the following undergraduate and graduate courses:

- CODE1230 Urban Modelling, undergraduate course, 2016
- MUPS0006 Digital Cities, graduate course, 2016

Outcome

The two trials using the immersive 3D virtual platform were successfully completed in the BE undergraduate course CODE1230 Urban Modelling (by Dr Lan Ding) and BE graduate course MUPS0006 Digital Cities (by Professor Chris Pettit) in Semester 2 2016.

Students in both courses completed their projects using the online 3D virtual platform.

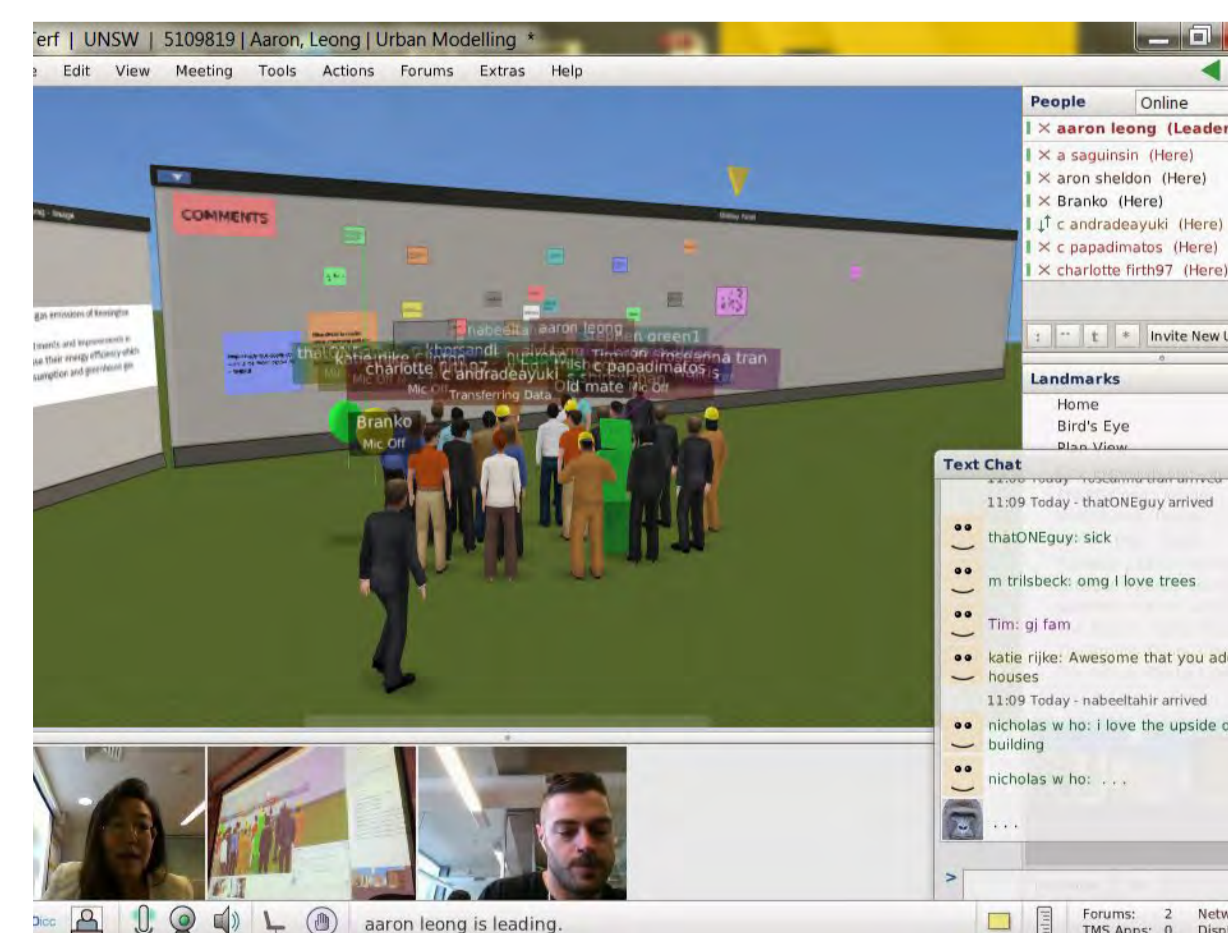
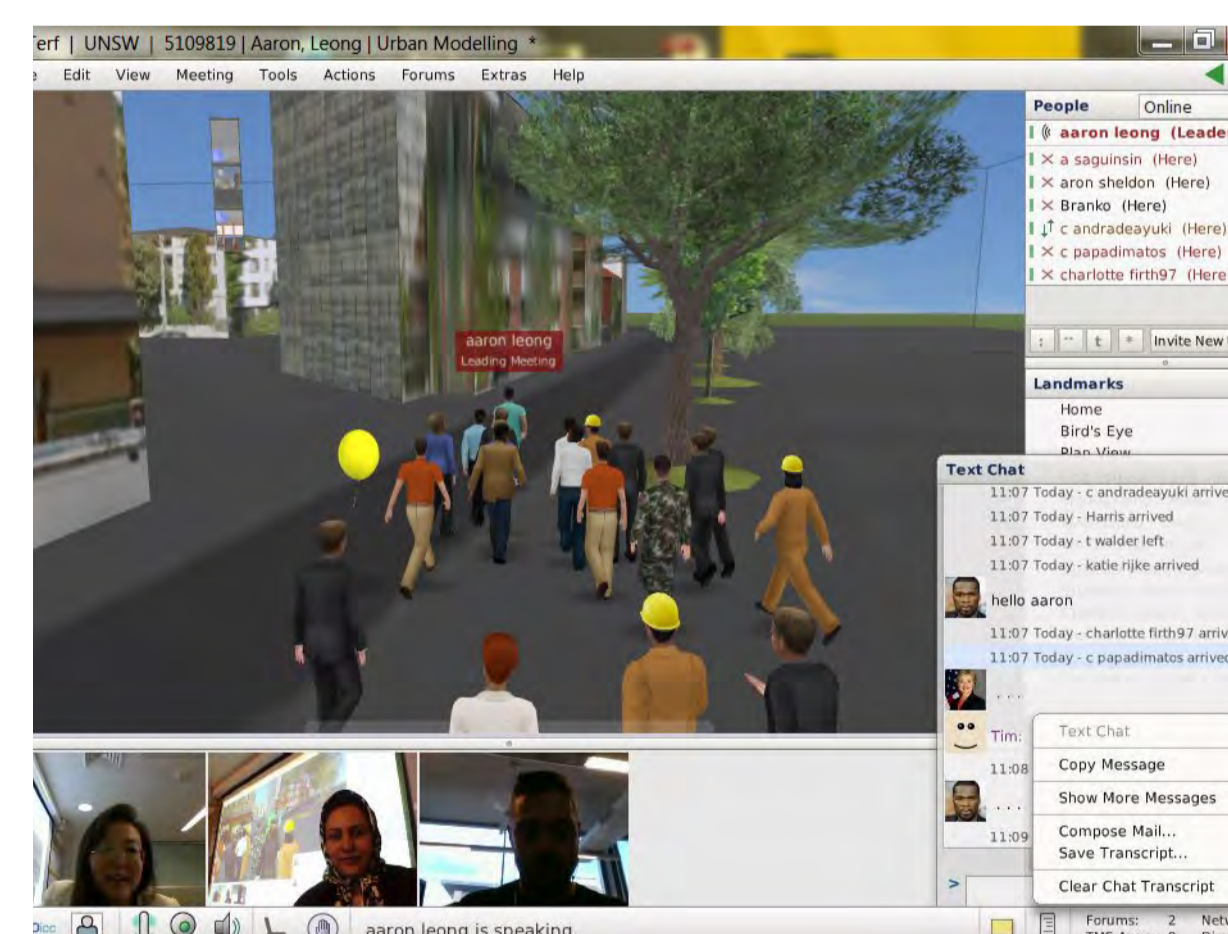
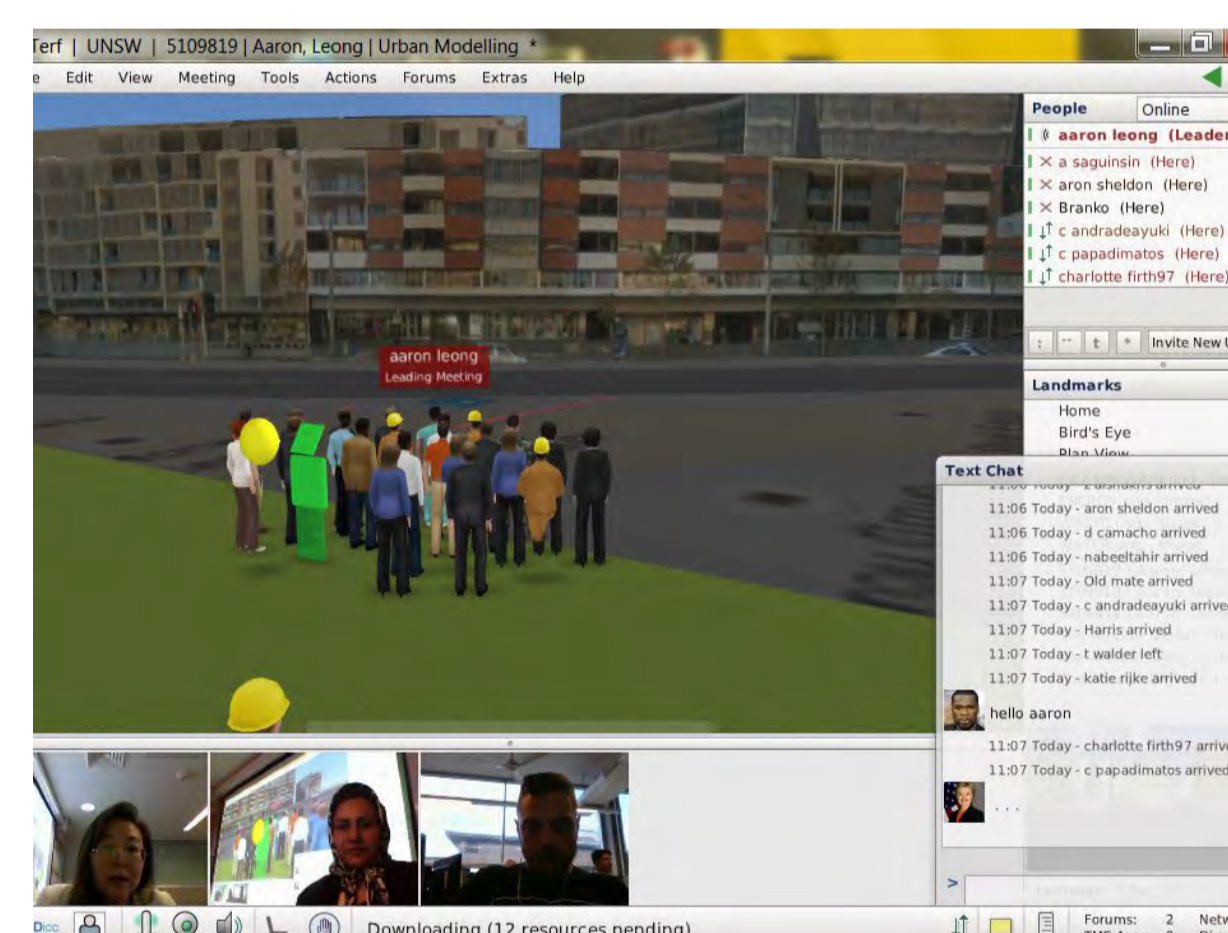
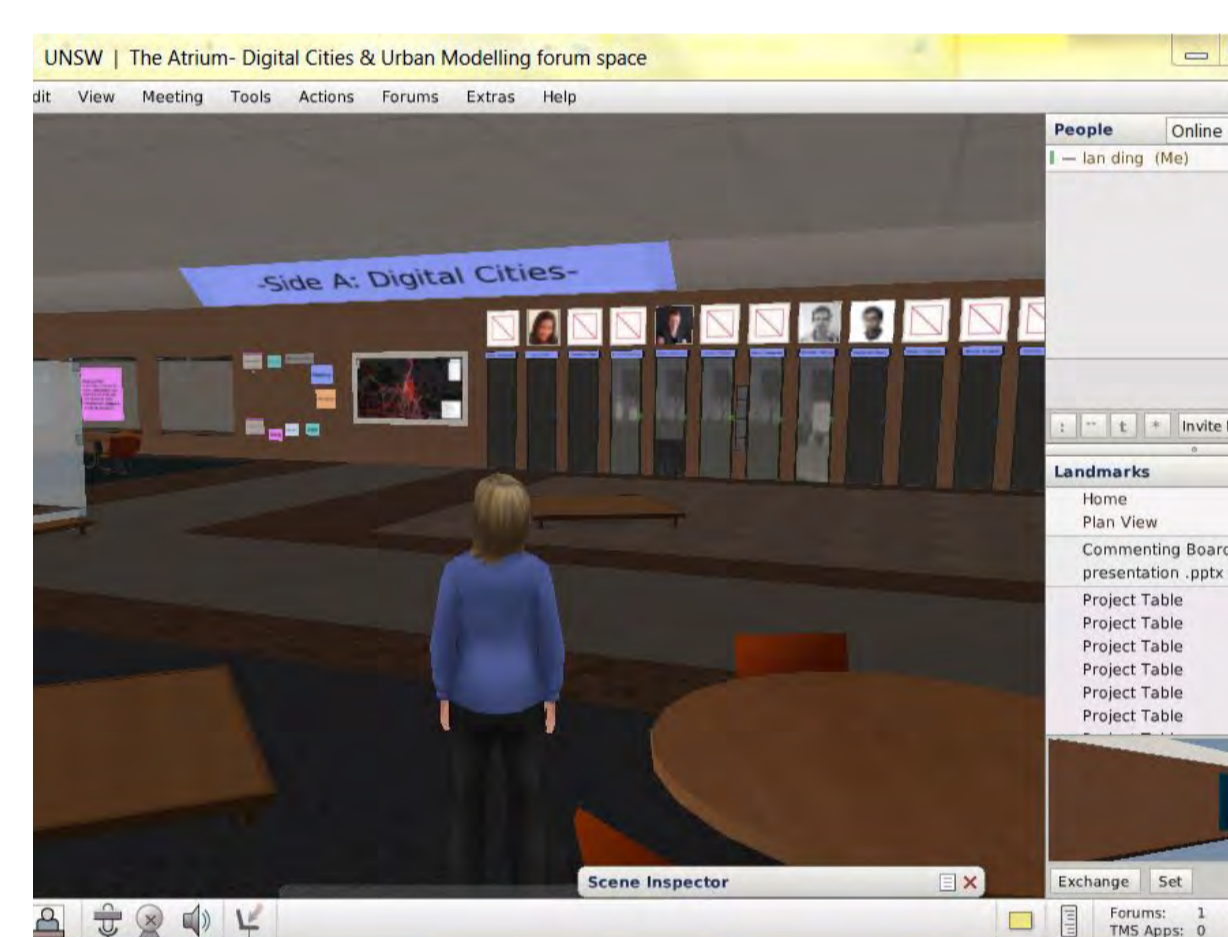
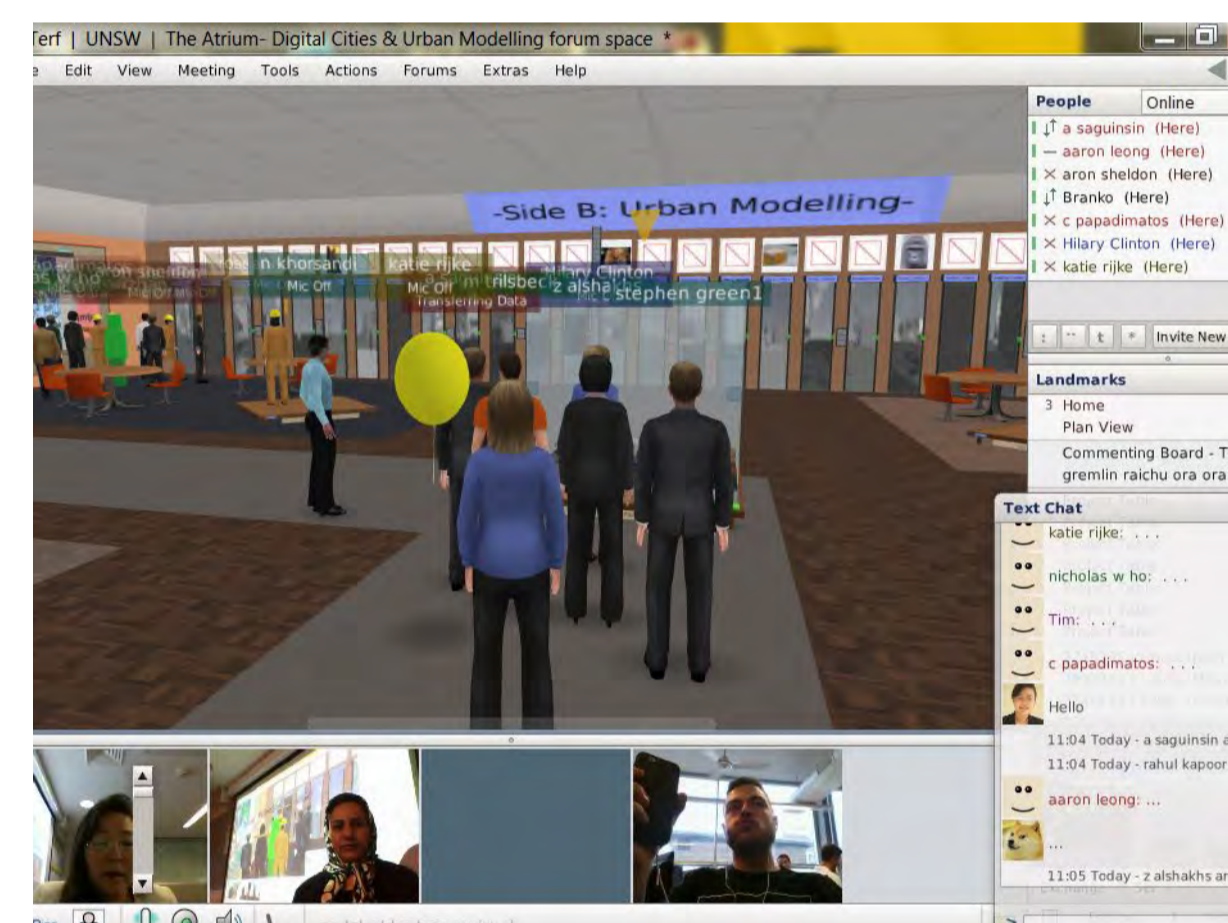
A summary of the survey data analysis was completed to inform future curriculum improvement.

The production of a research paper that describes the project and its findings is currently in progress. It will be submitted to the Journal of Geography in High Education.

Approach

Two trials were conducted in the courses CODE1230 Urban Modelling and MUPS0006 Digital Cities through the following approaches:

- TERF was used to create an online immersive 3D virtual environment for students to work collaboratively on their group projects and communicate with team members;
- the immersive 3D virtual environment consisted of a shared space for all students and individual spaces for students to import their building or precinct model;
- students met in the shared or individual virtual spaces, 'walked' or 'flew' through building or precinct models they created, experienced live changes of their models, shared building information, and discussed further improvements;
- the live voice, video, web camera, whiteboard and chat functions in TERF were used to support real-time communication in teams;
- students completed their group projects and virtual presentations in the immersive 3D virtual environment;
- feedback on the TERF platform was collected from students through a survey.



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