

# **The Use of Simulations and Visual Feedback in Learning Spatial Design and Analysis Concepts**

**Mark SHORTIS, Frank LEAHY, Cliff OGLEBY, Allison KEALY and Fiona ELLIS,  
Australia**

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## **ABSTRACT**

This paper describes the process and results of the transformation of the curriculum delivery of four different areas of the syllabus of the geomatics programs at the University of Melbourne. In each case the transformation addresses the teaching and learning problems associated with spatial relationships in two or three dimensions by providing a rich resource of theory material, animations of spatial concepts and, most importantly, visualisations or simulations of real world survey problems that provide immediate feedback. The visualisations and simulations allow students to investigate the design and analysis of spatial geometry and spatial relationships at their own pace, using immediate feedback to reinforce their learning. The online material affords an enhancement of the learning experience for undergraduate students, both complementing and providing an alternative to the conventional teaching methods of lectures, tutorials and practice classes.

## **CONTACT**

Assoc. Prof. Mark Shortis, Assoc. Prof. Frank Leahy, Cliff Ogleby, Dr. Allison Kealy and Dr. Fiona Ellis

Department of Geomatics

University of Melbourne

Victoria 3010

AUSTRALIA

Tel. + 61 3 8344 6401

Fax + 61 3 9349 2182

E-mail: [m.shortis@unimelb.edu.au](mailto:m.shortis@unimelb.edu.au)

Web site: [www.geom.unimelb.edu.au](http://www.geom.unimelb.edu.au)

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Mark Shortis, Frank Leahy, Cliff Ogleby, Allison Kealy and Fiona Ellis

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