



# UNIVERSITY of WINDSOR

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## SCHOOL OF COMPUTER SCIENCE

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The School of  
Computer Science at  
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present ...

**Title:** *A Comparative Study of Quadmesh Compression for  
Touma-Gotsman and Spirale Reversi Schemes*  
*MSc. Thesis Proposal*

**Student's Name:** Demin Yin

**Date:** August 29, 2006 (Tue); **Time:** 1:30 PM

**Location:** ER 2125

**Abstract:** A 3D mesh is made up of polygonal faces. A complete description of such a mesh is provided by its connectivity (adjacencies of polygons) and geometry (vertex coordinates). For most practical work, the meshes used are either triangular (all faces are triangles) or quadrilateral (all faces are quadrilaterals) meshes (quadmeshes, for short). Recently, there has been much work on compressing the connectivity information pertaining to a mesh. For quadmesh compression, existing algorithms triangulate the quadmesh first, and then apply triangle mesh compression techniques as previous researches on mesh compression were mostly focused on triangle meshes. To avoid the additional triangulation step, we propose two direct techniques to compress and decompress the connectivity of quadmeshes in linear time. In this thesis, we will describe how to extend two well-known triangle mesh compression algorithms to quadmesh compression, and how to apply encoding schemes for them. A comparison of the two algorithms for quadmesh compression is also given.

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**Thesis Proposal Announcement**