The Department of Computer Science and Engineering

University of Nevada, Reno

cordially invites you to a Master's colloquium

Evolution of the Graphical Processing Unit

A professional paper submitted in partial fulfillment of the
requirements for the degree of Master of Science
with a major in Computer Science.

by

Thomas Scott Crow

Abstract: In this paper we discuss some major contributions to the field of computer graphics that have led to the implementation of the modern graphical processing unit. We also compare the performance of matrix-matrix multiplication on the GPU to the same computation on the CPU. Although the CPU performs better in this comparison, modern GPUs have a lot of potential since their rate of growth far exceeds that of the CPU. The history of the rate of growth of the GPU shows that the transistor count doubles every 6 months where that of the CPU is only every 18 months. There is currently much research going on regarding general purpose computing on GPUs and although there has been moderate success, there are several issues that keep the commodity GPU from expanding out from pure graphics computing with limited cache bandwidth being one.

4:00 pm, Thursday, February 3^{rd}, 2005

Access Grid Node, Scrugham Engineering and Mines (SEM) room 201

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