

EE 4702-1

GPU Programming

Where/When

Room 3141 P. Taylor Hall, MWF 8:30–9:20 **Fall 2012**
<http://www.ece.lsu.edu/koppel/gpup/>

Who

David M. Koppelman
Room 3191 Patrick Taylor Hall
(225) 578-5482, koppel@ece.lsu.edu,
<http://www.ece.lsu.edu/koppel>
Office Hours: Monday–Friday: 14:00–15:00.

Prerequisites

By Course: CSC 3102.

By Topic: Programming in C++.

Topics

- Introduction
 - Graphics software/hardware organization.
 - Physical simulation quick overview.
 - Term project introduction.
- Basics of 3D Computer Graphics
 - Coordinates, vectors, lines, planes, intercepts, transforms, ...
 - Primitives and scene representation.
 - Material properties, color, lighting approximations, texturing.
- GPU Organization and Shader Programming
 - Rendering pipeline, programmable shaders, and OpenGL Shading Language.
 - Shader programming for graphical and non-graphical computations.
 - OpenGL Shading language.
- GPU Physical Simulation and CUDA or OpenCL Programming
 - Physical simulation techniques.
 - CUDA or OpenCL programming for physics.

Topics subject to change.

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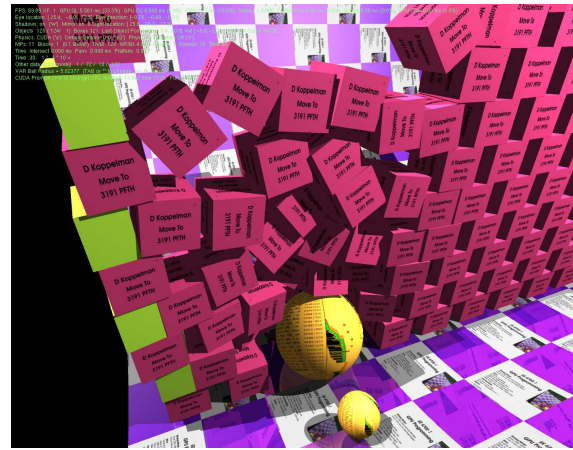
To be determined.

Grading

35% Midterm Exam • 35% Final Exam • 30% Homework and Projects

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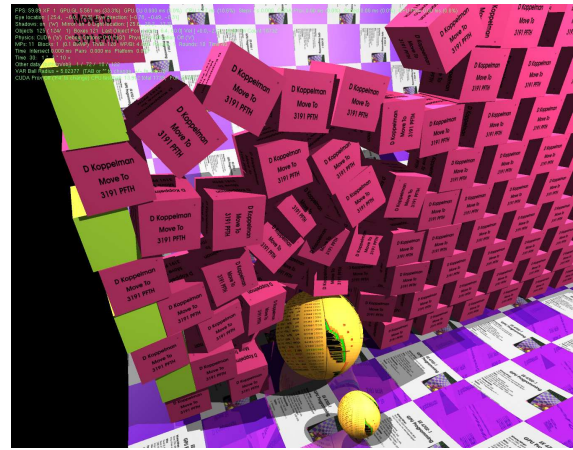
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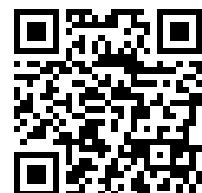
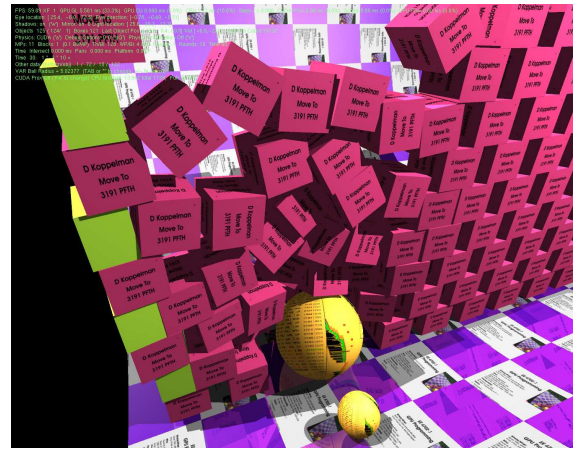
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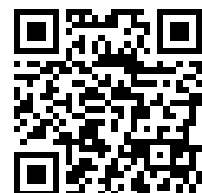
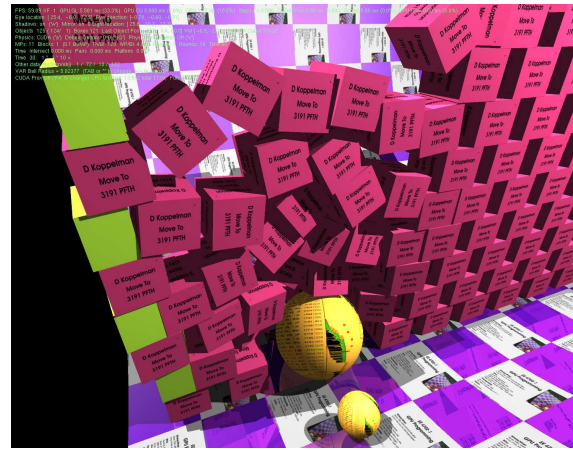
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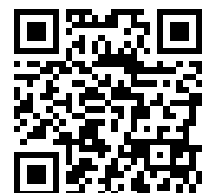
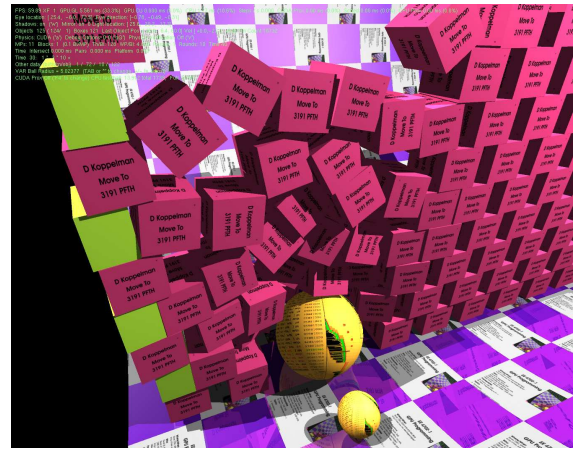
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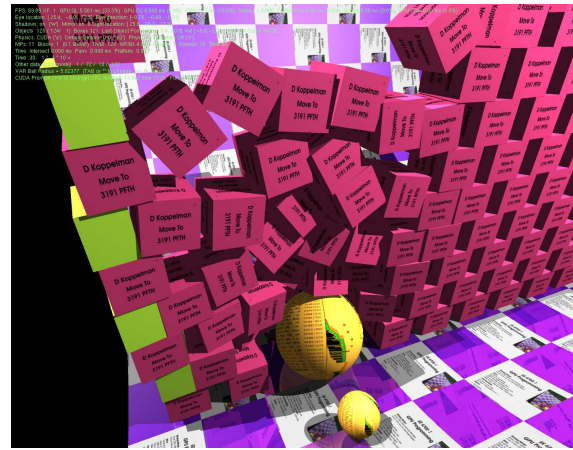
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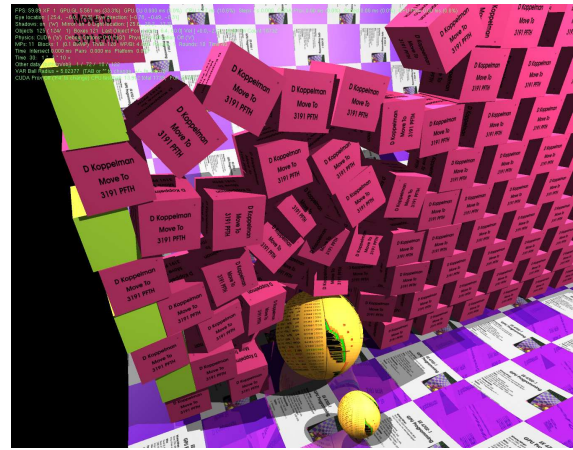
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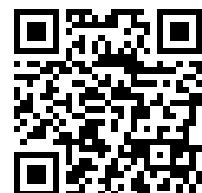
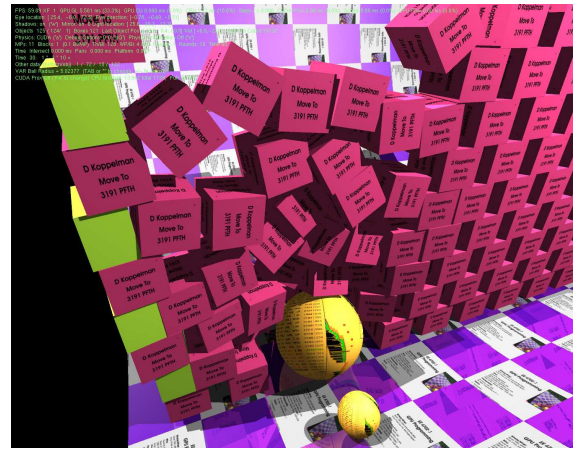
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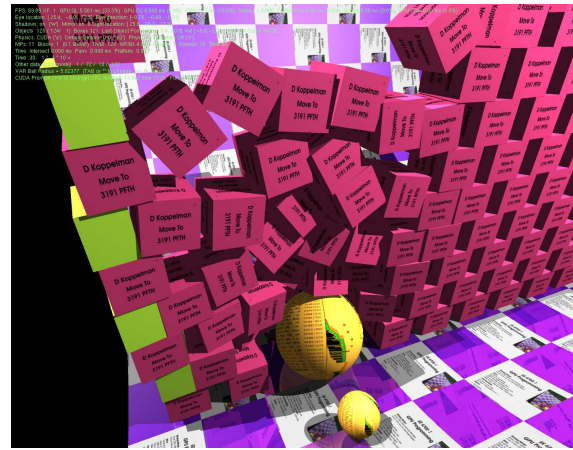
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