

CMP205: Computer Graphics



Lecture 1: Introduction

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Introductions

- Mohamed Alaa El-Dien Aly
- BS Computer Engineering 2003
- MS Computer Engineering 2005
- PhD Electrical Engineering 2011
- Google
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Agenda

- What is Computer Graphics?
- Areas
- Applications
- Topics
- Course

Computer Graphics

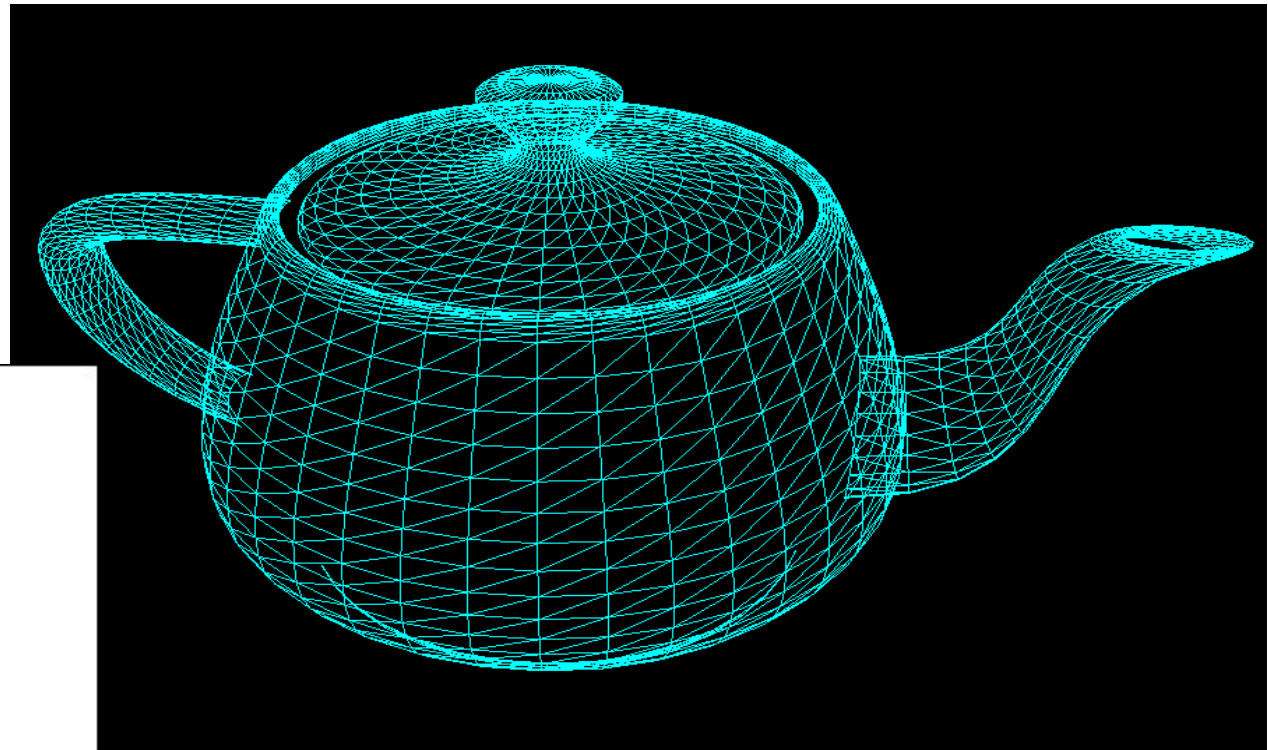
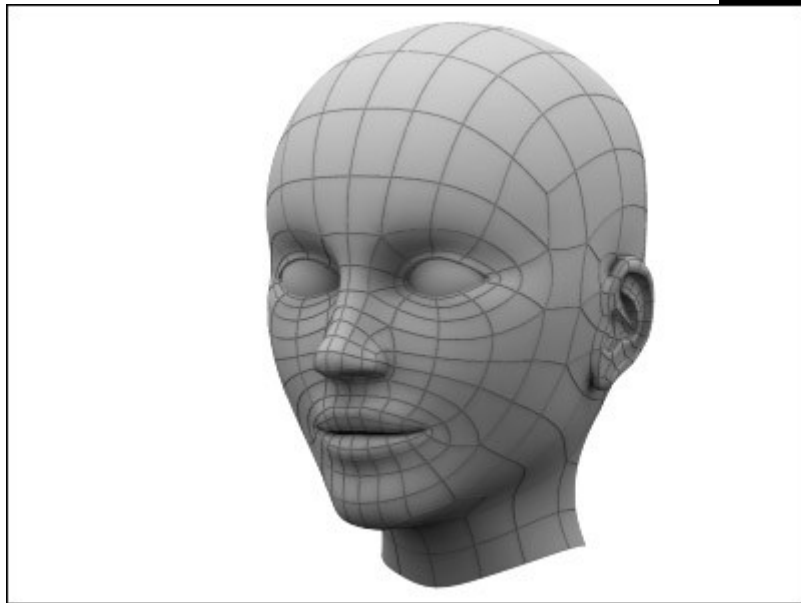
The study of creating, manipulating,
and using images on the computer

Areas

- Modeling
- Rendering
- Animation

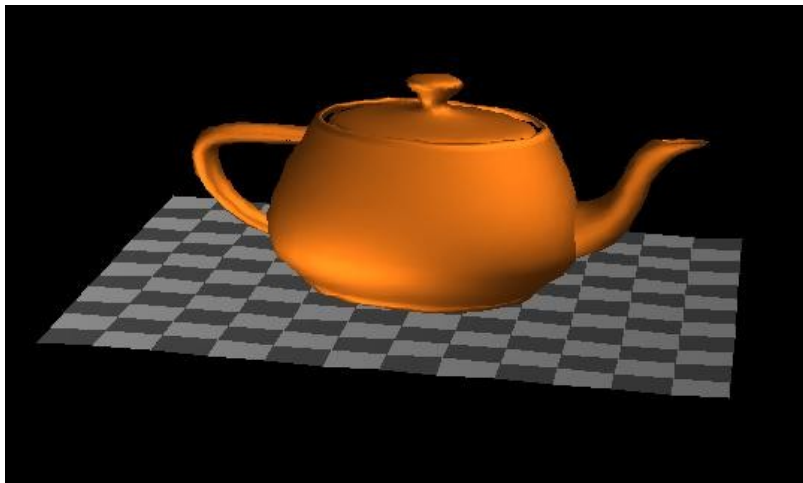
Areas

- Modeling



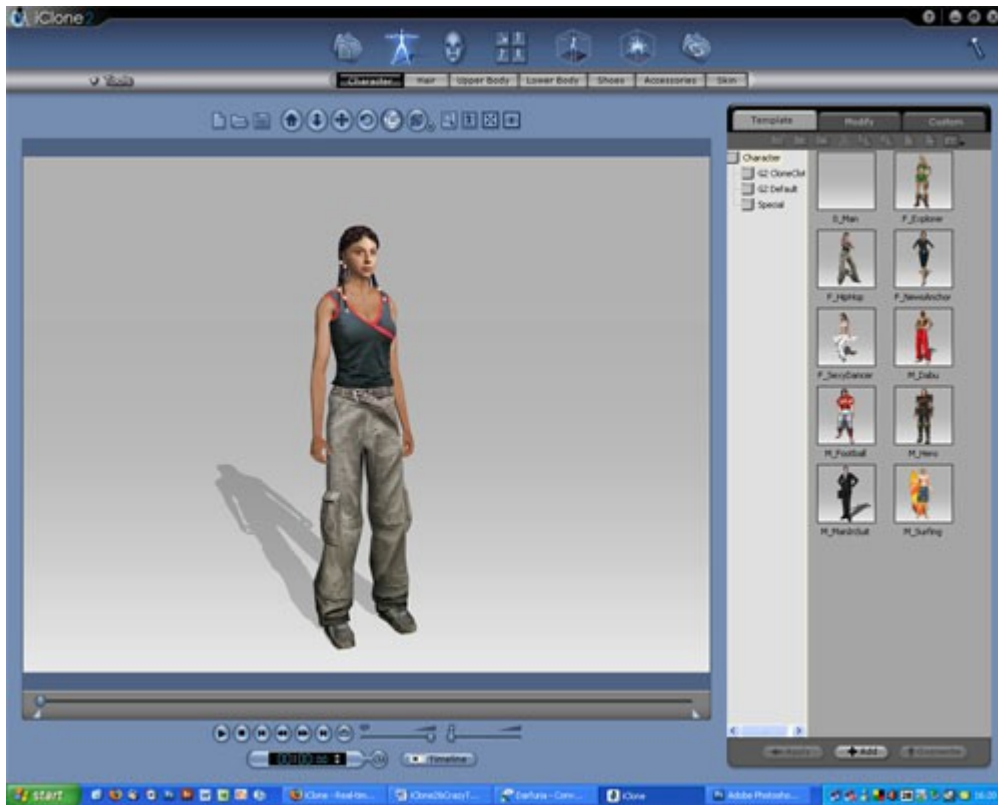
Areas

- Rendering



Areas

- Animation



Applications

- Entertainment
- Science and Engineering
- Training and Simulation

Applications

- Entertainment



Applications

- Entertainment



Applications

- Entertainment



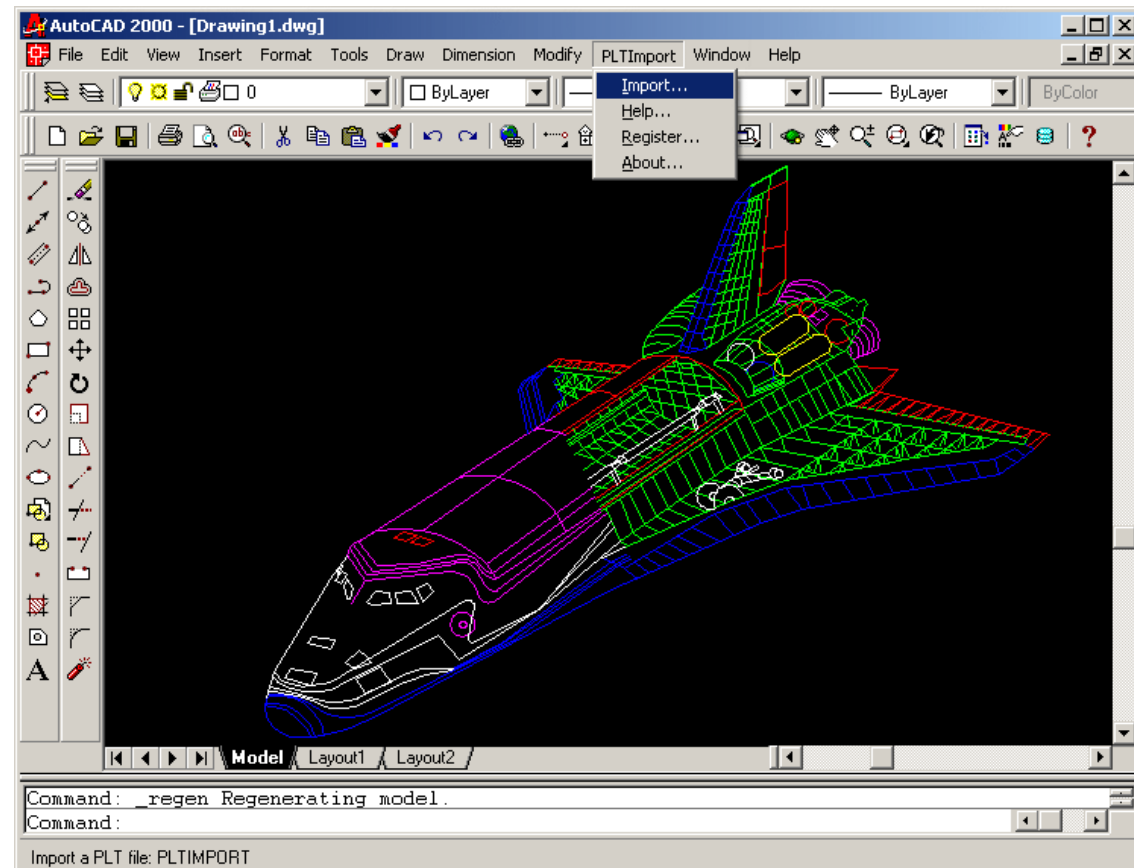
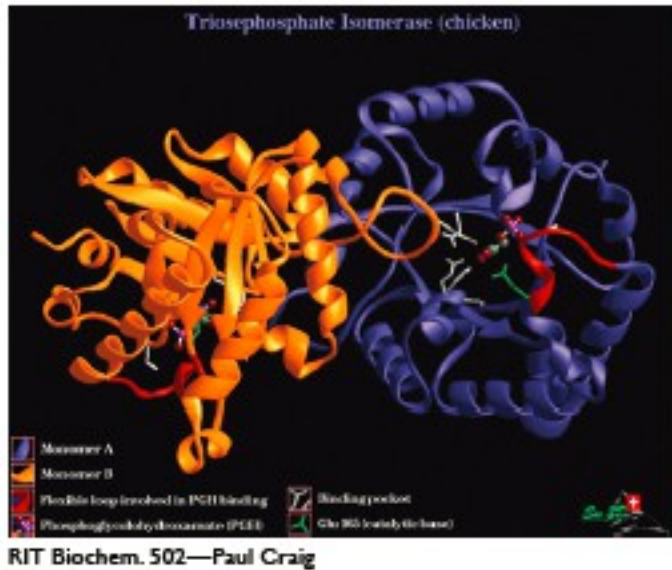
Applications

- Entertainment



Applications

- Science and Engineering



Applications

- Training and Simulation



Topics

- Line and Triangle Rasterization
- Transformations
- Graphics Pipeline
- Shading
- Texture Mapping
- Ray Tracing
- Animation (?)

Course

- Homeworks
 - Programming
 - Wikipedia Article
- Project
- Final
- Textbooks:
 - Fundamental of Computer Graphics 2nd Edition, Peter Shirley. (Main)
 - Computer Graphics with OpenGL 3rd Edition, Donald Hearn and M. Pauline Baker. (Secondary)

Skills

- C++ development under Linux
- OpenGL
- Math
- Wikipedia!