

CMP205: Computer Graphics



CAIRO UNIVERSITY

Lecture 0: Introduction

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Agenda

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

Computer Graphics

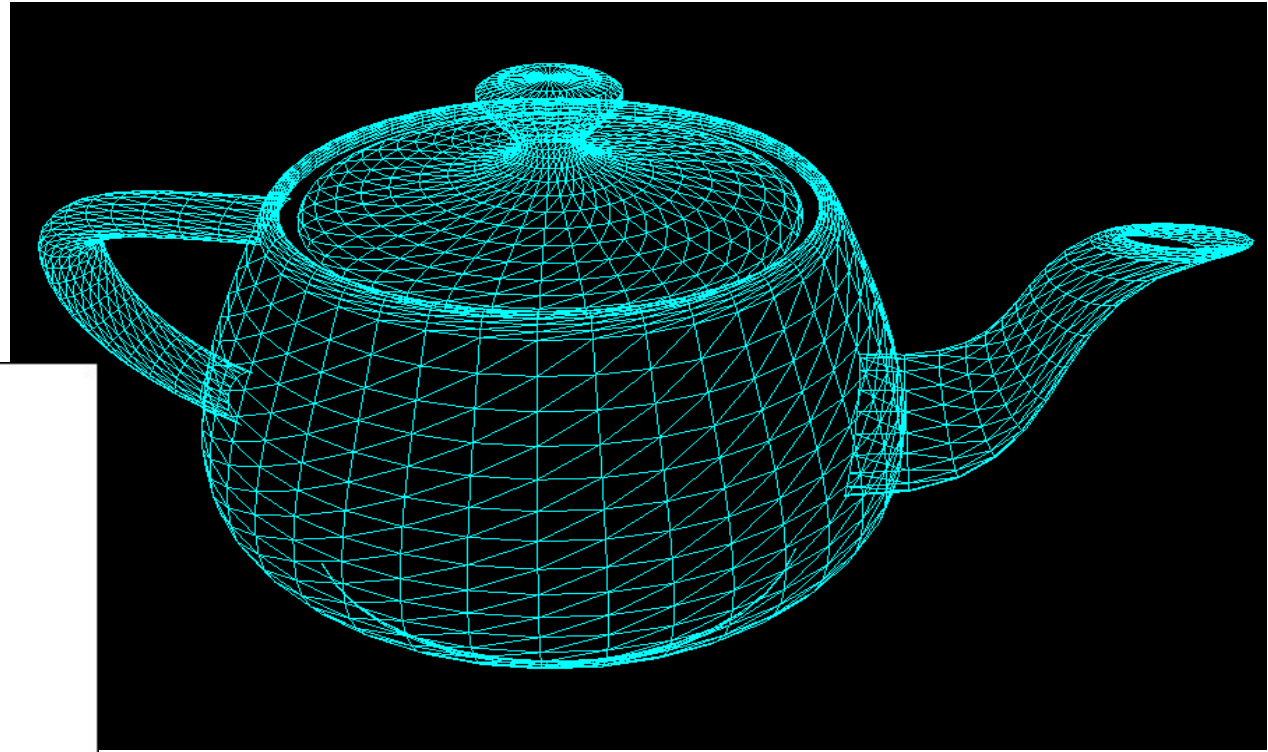
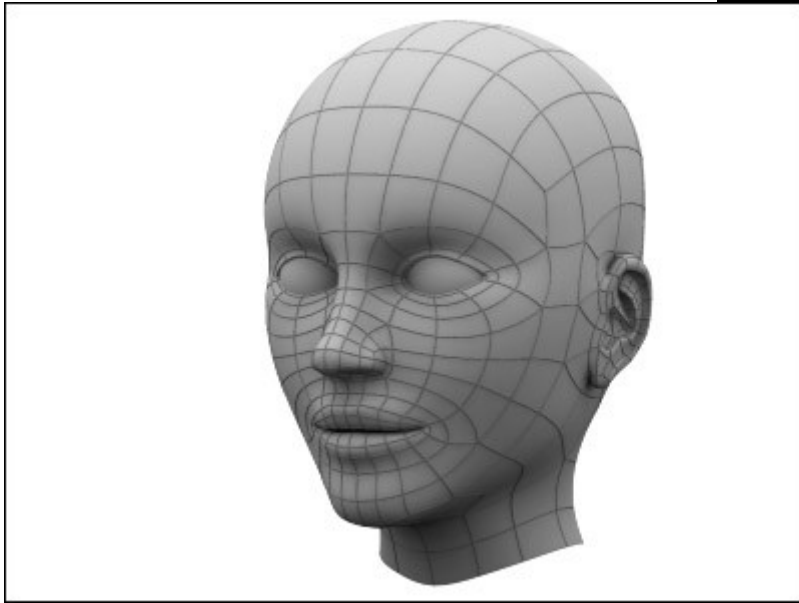
The study of creating, manipulating,
and using images on the computer

Areas

- Modeling
- Rendering
- Animation

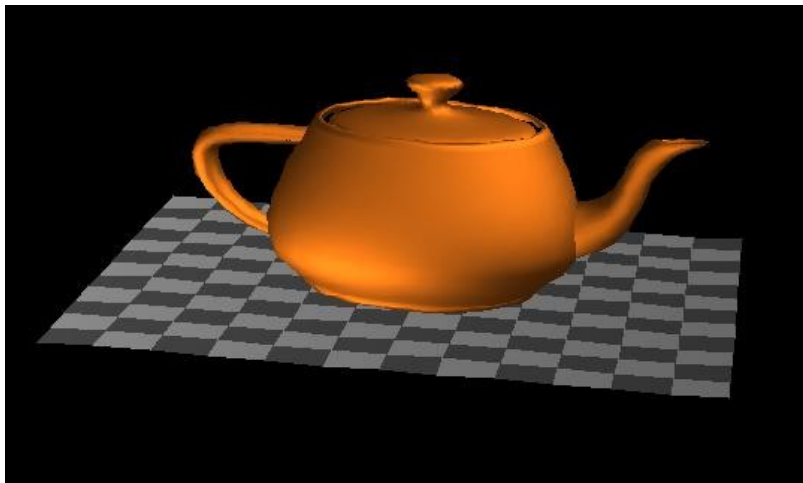
Areas

- Modeling



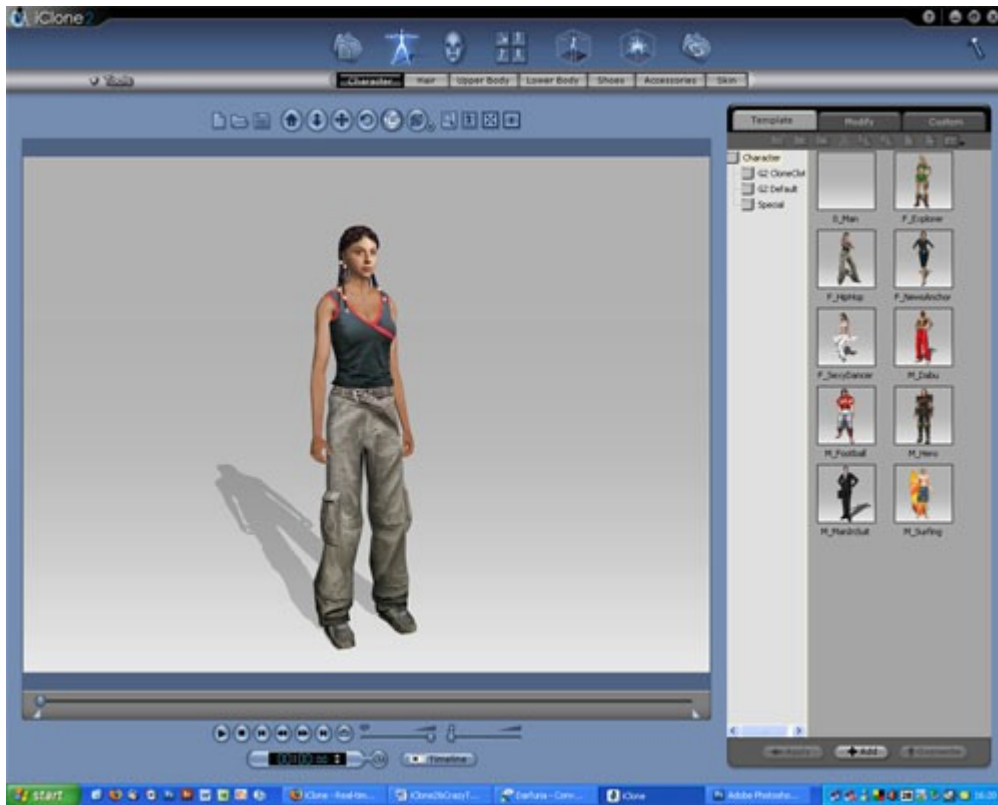
Areas

- Rendering



Areas

- Animation



Applications

- Entertainment
- Science and Engineering
- Training and Simulation

Applications

- Entertainment



Applications

- Entertainment



Pixar—Toy Story

Applications

- Entertainment



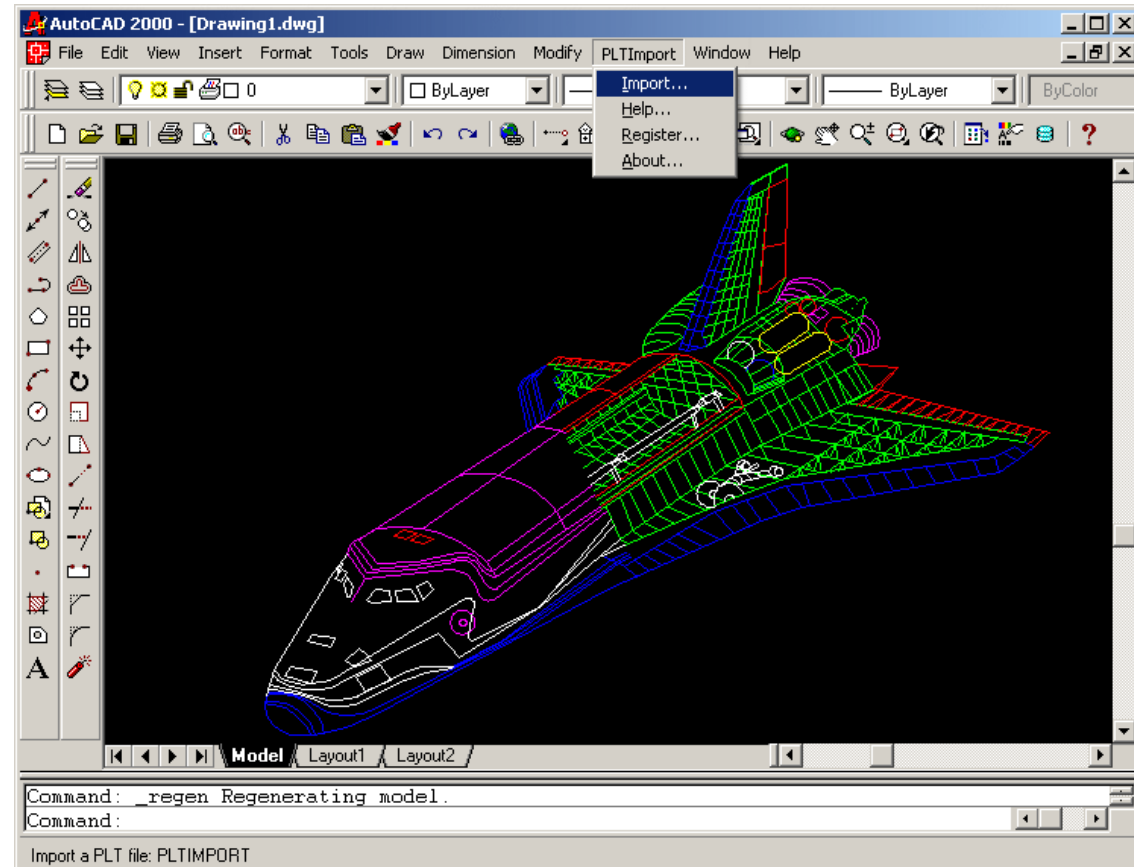
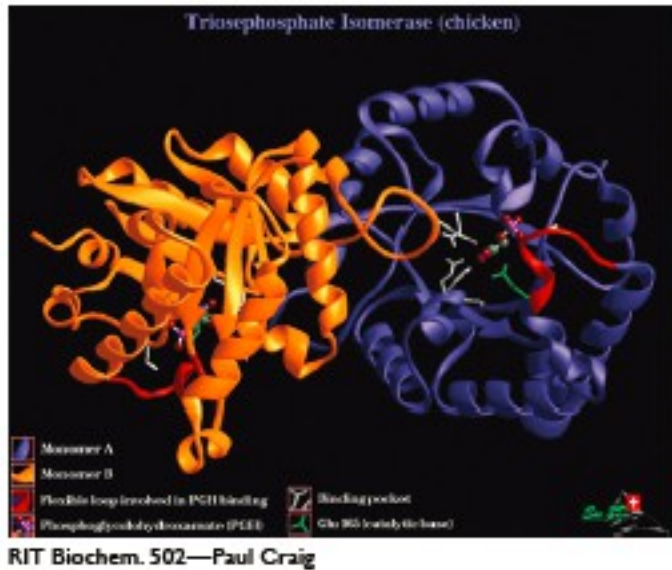
Applications

- Entertainment



Applications

- Science and Engineering



Applications

- Training and Simulation



Topics

- Line and Triangle Rasterization
 - Transformations
 - Graphics Pipeline
 - Shading
 - Texture Mapping
 - Ray Tracing
 - Animation (?)
-
- Textbook: Fundamentals of Computer Graphics 3rd Edition, Peter Shirley

Course

- Homeworks
 - 9-10 programming assignments with C++ under Linux
 - 25 points
- Project
 - Game with OpenGL or WebGL
 - 15 points
- Labs
 - ~6 labs
 - 10 points
- Midterm: 2 points bonus
- Final: 75 points

Skills

- C++ development under Linux
- OpenGL/WebGL
- Math

Questions?