

Mechanics

Your Staff

- Professor:
 - Andy van Dam (avd)
- Head TA:
 - Lyn Fong (lfong) 2010
- Undergraduate TAs:
 - Milagro Feijoo (mfeijoo) Masters
 - Travis Webb (jtwebb) 2011
 - Ryan Zelen (rzelen) 2011
 - Ben Herila (bherila) 2011
 - Ferdi Adeputra (fadeputr) 2011

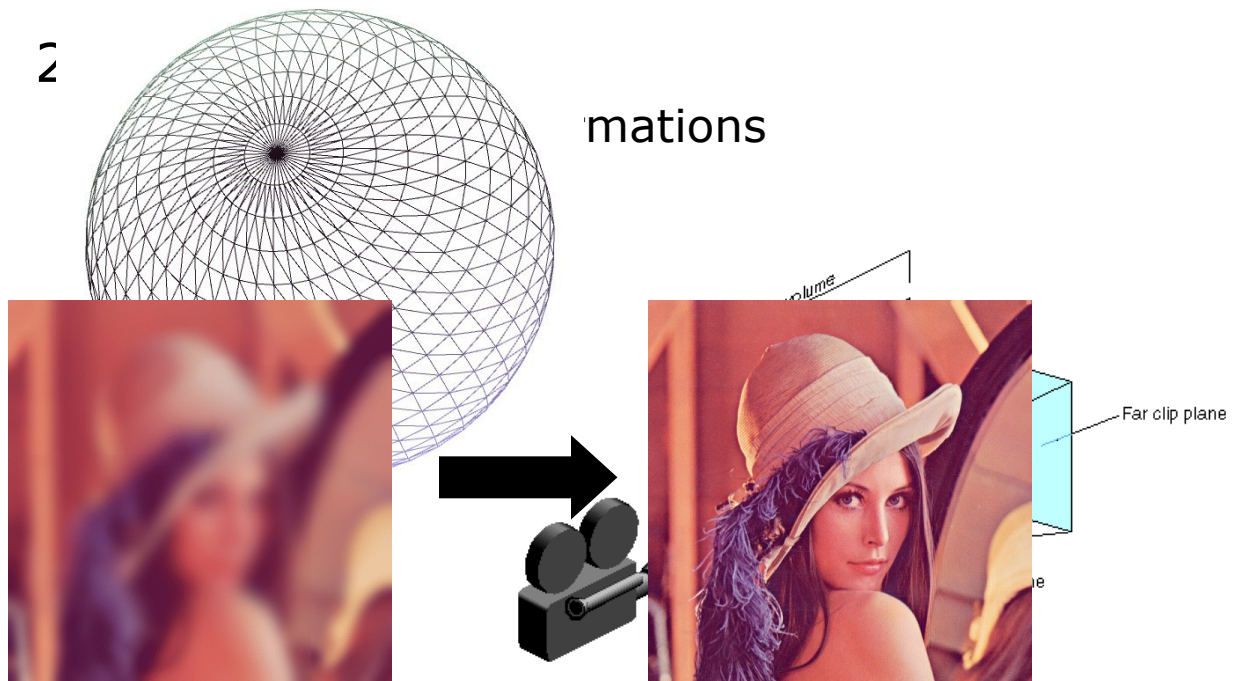
Who Should Take CS123?

- Juniors or higher
 - CS15-16, CS17-18, or CS19 and CS32
 - or equivalent, with strong software engineering skills (OO design and programming, debugging)
 - CS123 utilizes Qt and C++ for assignments and WPF and XAML for labs
- Sophomores
 - did well in intro sequence
 - consider themselves strong programmers
 - willing to put in extra time up front
- **If you don't know C++, you CAN take this class** (but get ready to invest some time early on)
 - combined CS123 and CS167/9 'C' minicourse
 - Thursday, September 10th (tonight) from 8 to 9pm
 - CS123 'C++' minicourse
 - Monday, September 14th from 7-9pm
 - CS123 Java to C++ transition tutorial on course website
 - you'll be assigned a C++ mentor TA
- Linear Algebra (vector and matrix arithmetic, dot and cross products) and aptitude for math in general
 - help session to review these concepts
 - Consider Philip Kleins CS53: The Matrix in Computer Science
- If you're not sure you should be in CS123 or have not met the prereqs, stay after class and see Lyn or email cs123htas@cs.brown.edu

Bird's Eye View of the Course

- Basic 3D scene management
 - tessellation of curved surfaces
 - transformations (translation, rotation, scale)
 - virtual camera model
 - scenegraph traversal

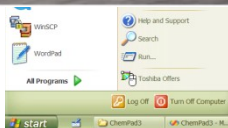
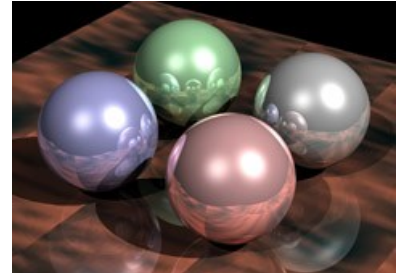
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Bird's Eye View of the Course

- Modeling and Rendering
 - intersecting rays with simple solids
 - ray tracing
 - lighting and shadowing of polygonal models
 - radiosity for photorealistic rendering
 - hardware rendering (GLSL)

- Other Topics
 - Animation



CS123 is in Transition

- From old book and approach to new book
 - by John (Spike) Hughes, Andy van Dam, Morgan McGuire, David Sklar, Jim Foley, Steve Feiner
- Preserving most of past CS123 in sequence of assignments, C++ and Open GL
- New Lectures and Labs on WPF
 - Let you drive a simple car before you learn how to build it
- Challenges
 - Shortest semester
 - We don't want a killer course but expect 15-20 hours of work per week
 - Course is front-loaded, lots to learn in the first three weeks
 - Reading chapters in progress, you'll have to tolerate some trial-and-error
- Don't worry: TA's are here for you!

Handouts and Handins

- Course syllabus (online)
 - assignment deadlines and lecture topics are subject to change
 - must read CS123 home page on daily basis
 - CS123 also has a Google Group for assignment questions and course updates
- Course missive (online)
- Collaboration Policy
 - read collaboration policy carefully before you sign because it is a contract (We use Moss)
- First assignment, Brush: warm-up exercise in C++
 - algorithm paper handin – Saturday, September 12th, 3:00pm in the CS123 handin bin on the second floor of the CIT.
 - helpsession – Saturday, September 12th, 5pm
 - program handin – Thursday, September 17th, 11:59pm

Assignments

- 2 WPF Labs
 - learn what modern graphics systems can do before you get caught up in the hard stuff
- 8 Programming Projects
 - each project is preceded by a short “algo” assignment, which ensures that you understand the concepts behind the project before diving in
 - Grad Credit: you are expected to implement extra credit on every assignment
- 1 Homework on Image Processing
 - we *really* want to make sure you understand this material
- Now for a quick demo!