Mechanics
Your Staff

• Professor:
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• TA:
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Who Should Take CS425?

• Juniors or higher
  – OOP or algorithms or data structure, with strong software engineering skills (OO design and programming, debugging)
  – CS425 utilizes Qt and C++ for assignments and WPF and XAML for exercises)

• 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)
  – ‘C’ minicourse
    • Tuesday, January 19th (tonight) from 8 to 9pm
  – ‘C++’ minicourse
    • Thursday, January 21st from 7-9pm
  – Java to C++ transition tutorial on course website
  – Tutors in the lab know C/C++

• Linear Algebra (vector and matrix arithmetic, dot and cross products) and aptitude for math in general
  – help session to review these concepts

• If you’re not sure you should be in CS425 or have not met the prereqs, stay after class.
Bird’s Eye View of the Course

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

- 2
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
CS425 is almost the same as CS 123 at Brown University

• Thanks to Prof. Andries van Dam.
• Approach to new book
  – by John (Spike) Hughes, Andy van Dam, Morgan McGuire, David Sklar, Jim Foley, Steve Feiner
• New Lectures and Labs on WPF besides C++ and OpenGL
  – Let you drive a simple car before you learn how to build it
• Challenges
  – 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 is here for you!
Handouts and Handins

• Course syllabus (online)
  – assignment deadlines and lecture topics are subject to change
  – must read CS425 home page on daily basis
  – CS425 also has a Moodle 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 – Thursday, January 28th, 2:15pm in TEC 230 (slide your work beneath the door if Jian is not there).
  – helpsession – Wednesday, January 27th, 5pm
  – program handin – Tuesday, January 30th, 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