

Handouts: Raster Graphics Hardware

An Introduction to Graphics Software



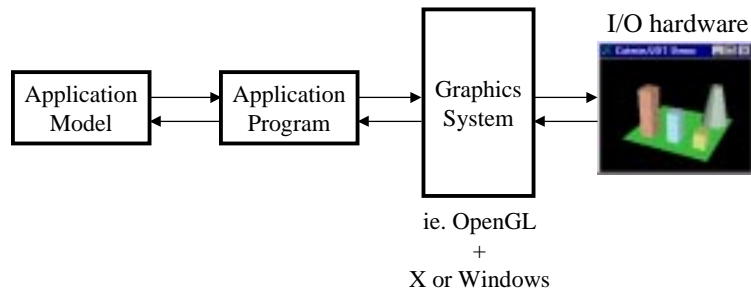
Questions?



- A1?
- Visual Studio ... soon!
 - Who want it? Who wants a tutorial on OpenGL/GLUT using VS on Windows?

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Simplified Application Framework



Application Model

- Representation of domain objects
 - Geometric -> Abstract
- Actions on those objects
 - Manipulate model

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Application Program



- Manipulate objects based on input

- Generate views based on model, other
 - Say *what/how* to draw
 - Changes of view, multiple views

Application Example: Airplane Design



- Objects
 - Plane, wing, wheel, wire, seats, ...
 - Exact surface models, materials, ...

- Actions
 - Add, remove, move, ...
 - Adjust control points, change material, ...

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Example Application:



- Input response
 - Select object, select control, move object ...
 - Change view, lights, rendering mode

- Generate views
 - 3 ortho views, perspective view
 - realistic rendering
 - parts list

Application Example #2: Colored Squares



- Domain Objects:
 - 100 colored squares: position, color
 - Implicit!
- Actions:
 - Click, change color
- Views:
 - Fill window with grid of squares

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Consider new views ...



- Shimmering squares
 - Screen color not equal to "defined" color
- 3D floating squares
 - No longer in grid

Model/View Separation



- Model is defined conveniently
- Views are graphics lib specific
- Often blurred