

Stencil Buffer Examples

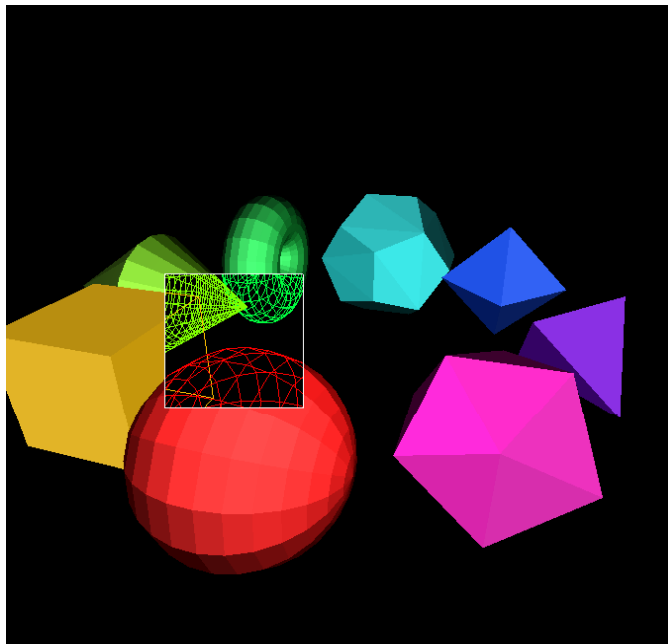
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Oregon State University



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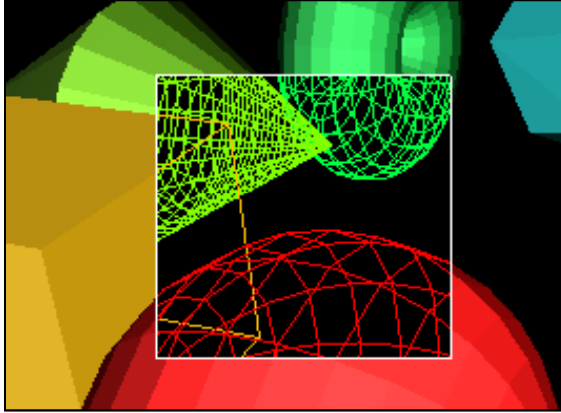
Using the Stencil Buffer to Create a *Magic Lens*



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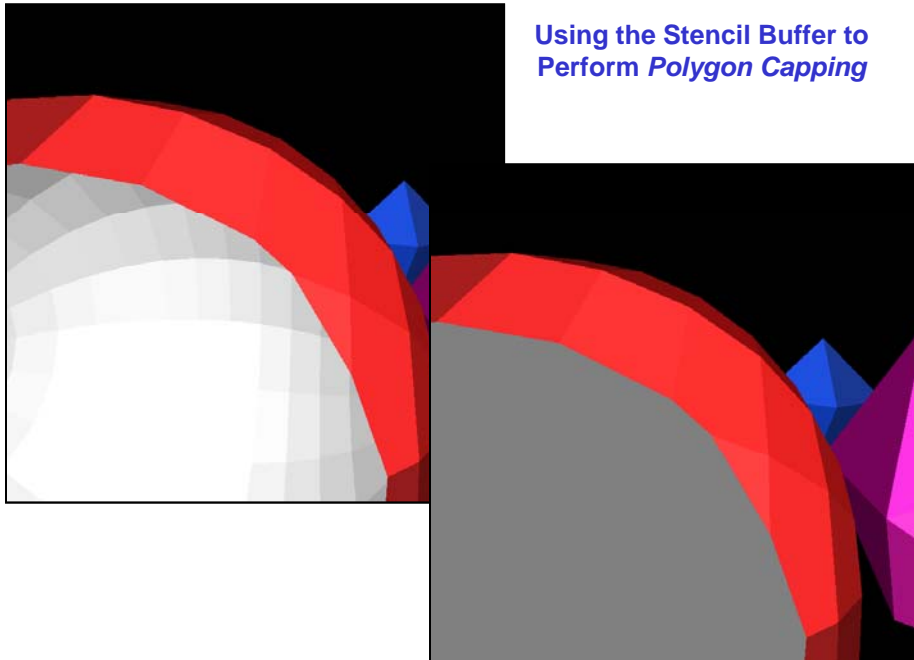
Using the Stencil Buffer to Create a *Magic Lens*

1. Clear the SB = 0
2. Write protect the color buffer
3. Draw a square, setting SB = 1
4. Write-enable the color buffer
5. Draw the solids wherever SB == 0
6. Draw the wireframes wherever SB == 1



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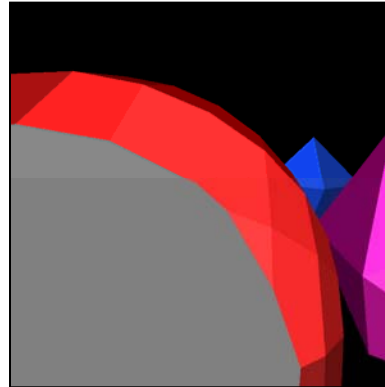
Using the Stencil Buffer to Perform *Polygon Capping*



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Using the Stencil Buffer to Perform *Polygon Capping*

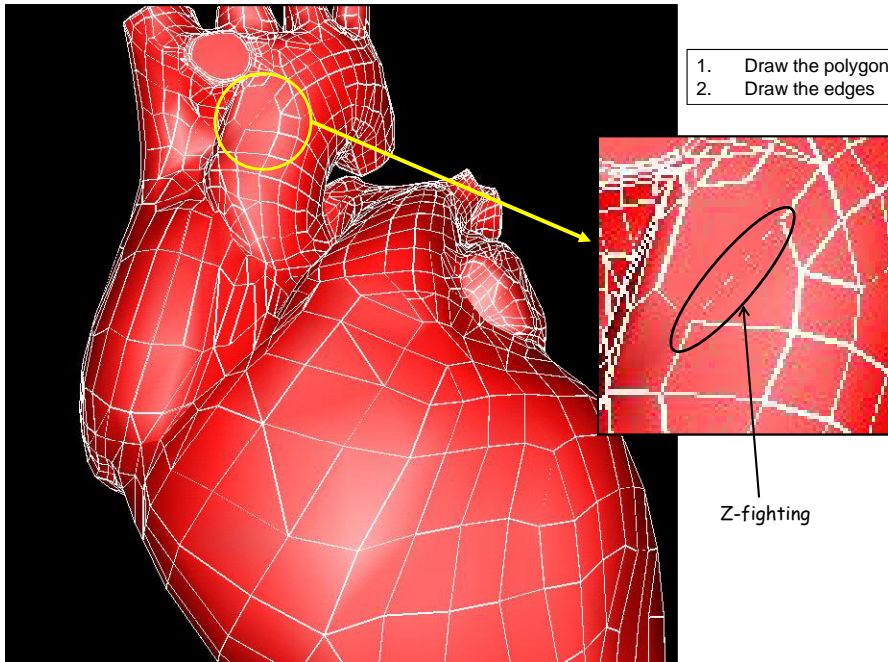
1. Clear the SB = 0
2. Draw the polygons, setting SB = ~ SB
3. Draw a large gray polygon across the entire scene wherever SB != 0



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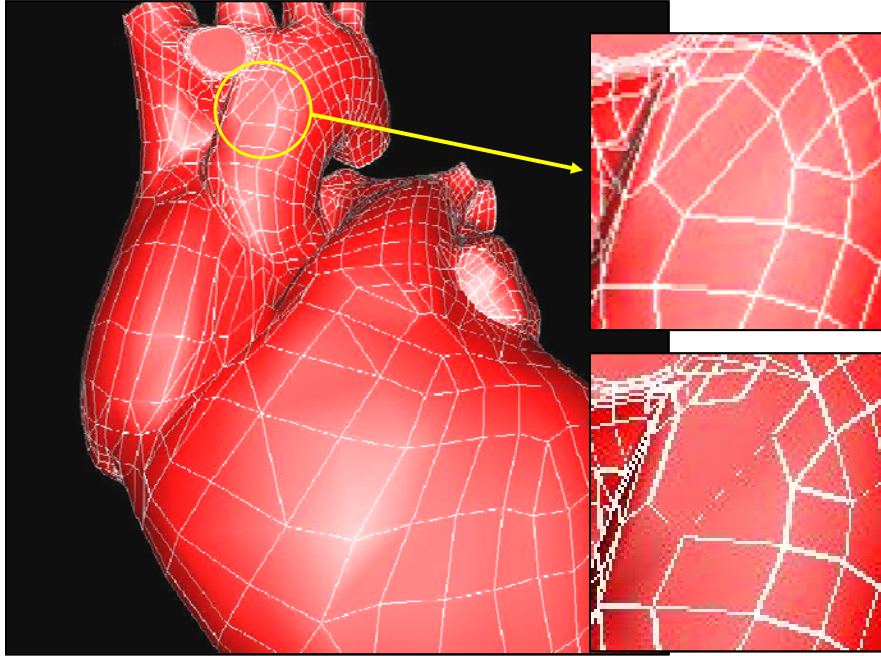
Outlining Polygons the Naive Way

1. Draw the polygons
2. Draw the edges



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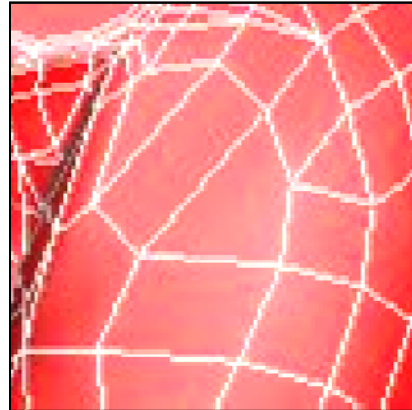
Using the Stencil Buffer to Better Outline Polygons



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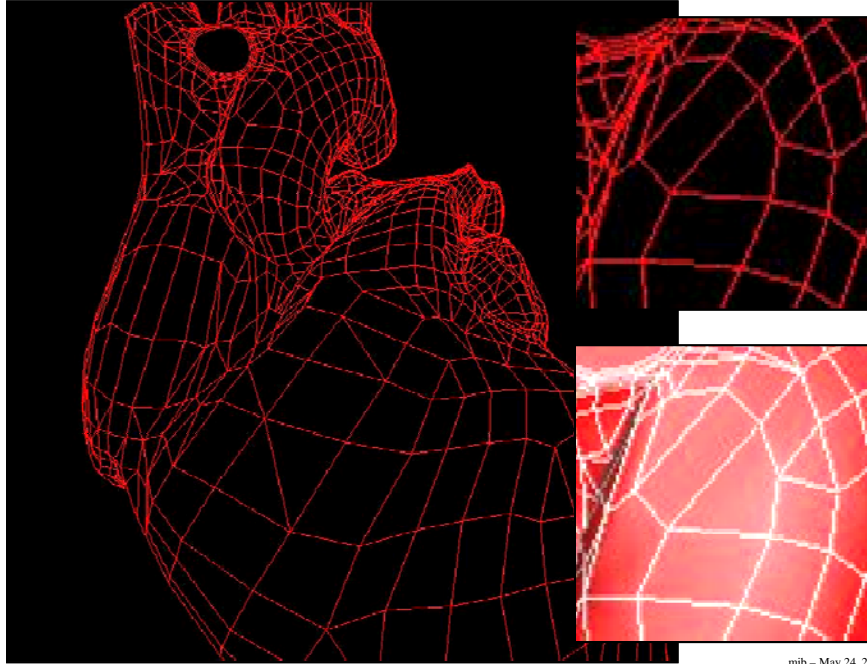
Using the Stencil Buffer to Better Outline Polygons

```
Clear the entire SB = 0
for( each polygon )
{
    Draw the edges, setting SB = 1
    Draw the polygon wherever SB != 1
    Draw the edges, setting SB = 0
}
```



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Using the Stencil Buffer to Perform *Hidden Line Removal*



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