

The Computer Graphics Process and the Graphics Pipeline



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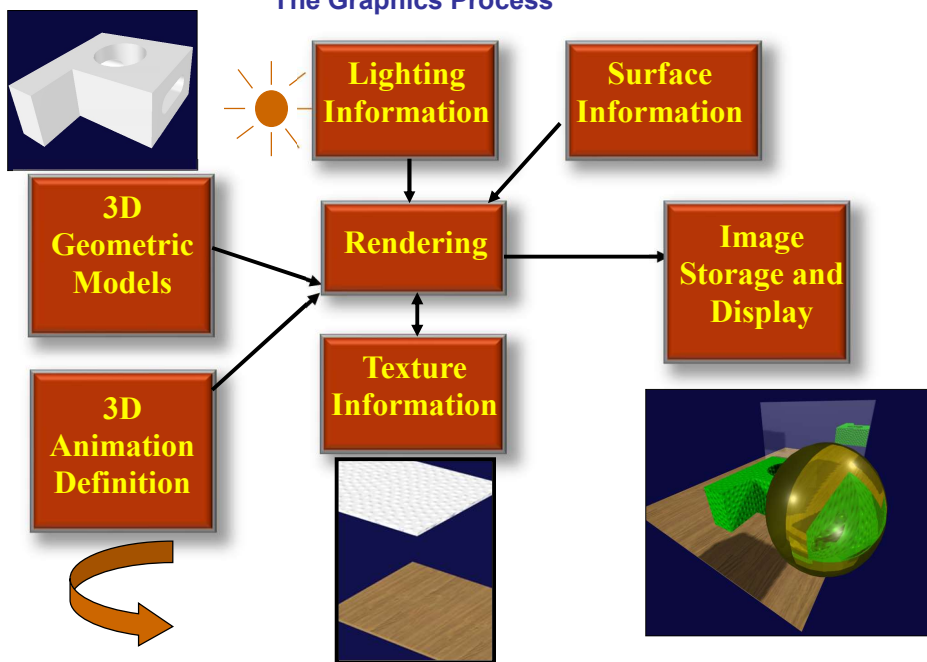
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ComputerGraphicsProcess.pptx

mjb - July 26, 2021

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The Graphics Process

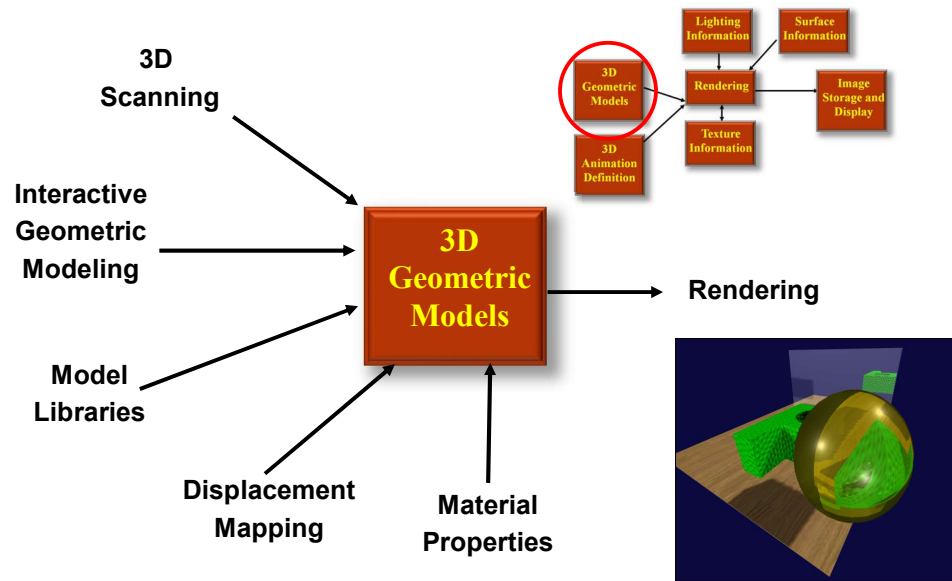


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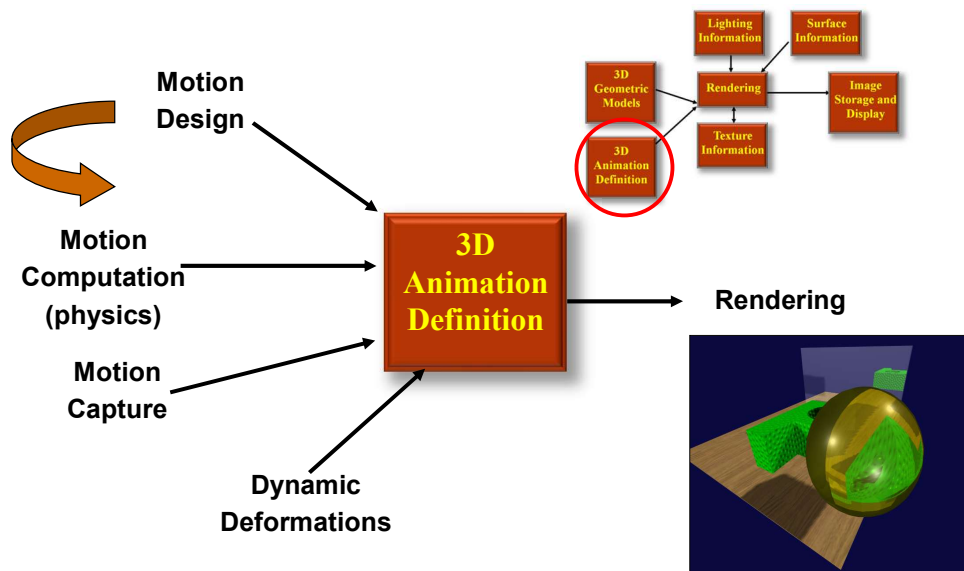
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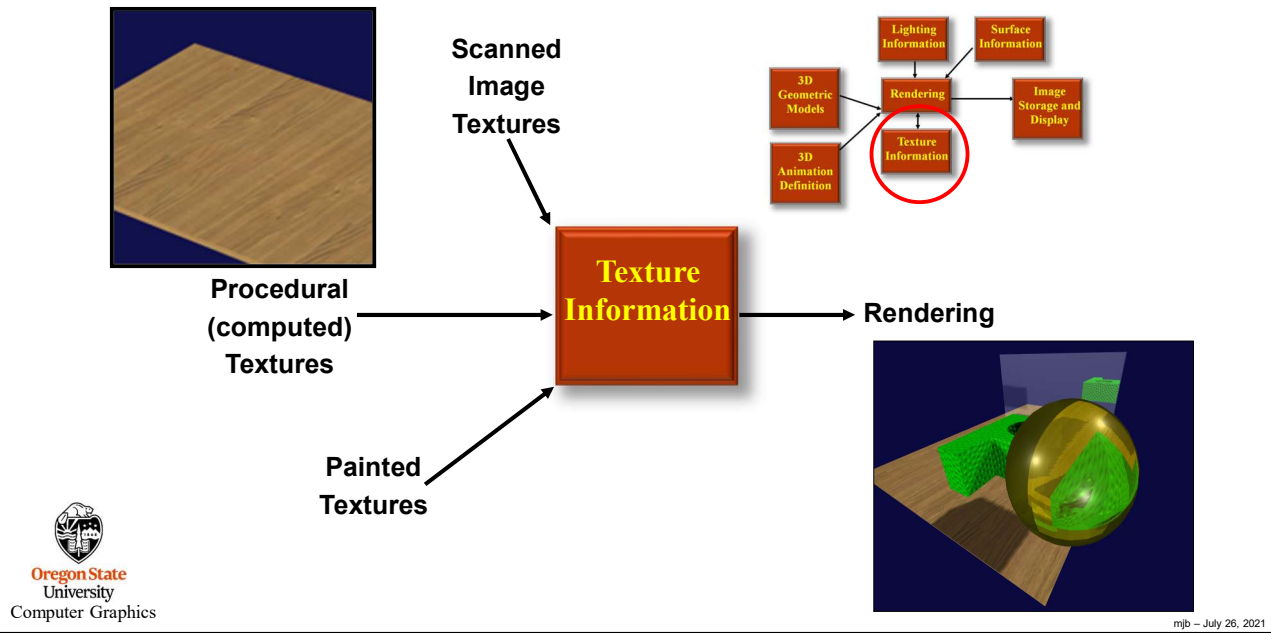
The Graphics Process: Geometric Modeling



The Graphics Process: 3D Animation

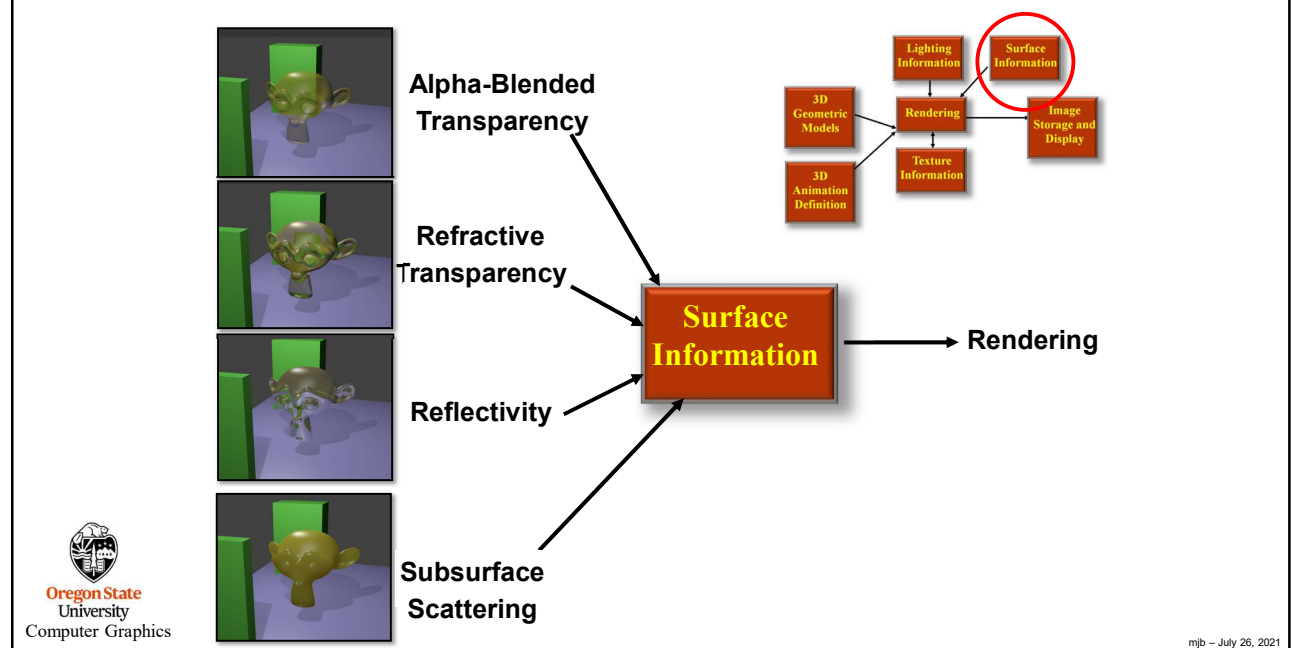


The Graphics Process: Texturing



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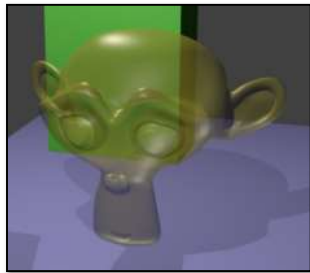
The Graphics Process: Surface Information



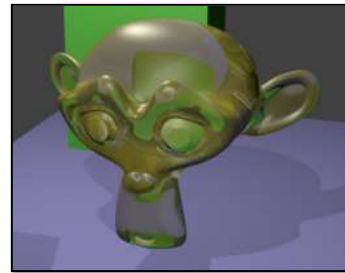
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The Graphics Process: Surface Information

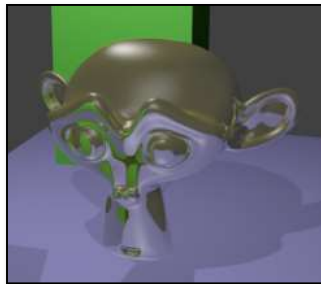
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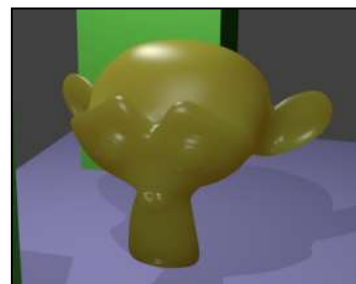
Alpha-Blended Transparency



Refractive Transparency



Reflectivity



Subsurface Scattering

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The Graphics Process: Lighting

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Lighting
Types
(point, directional, spot, ...)

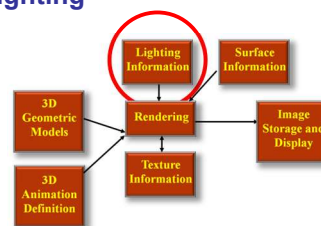
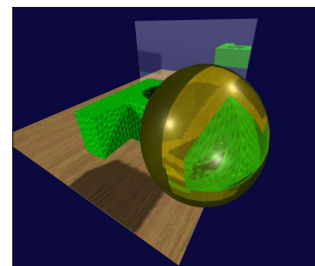
Light
Positions

Light
Colors

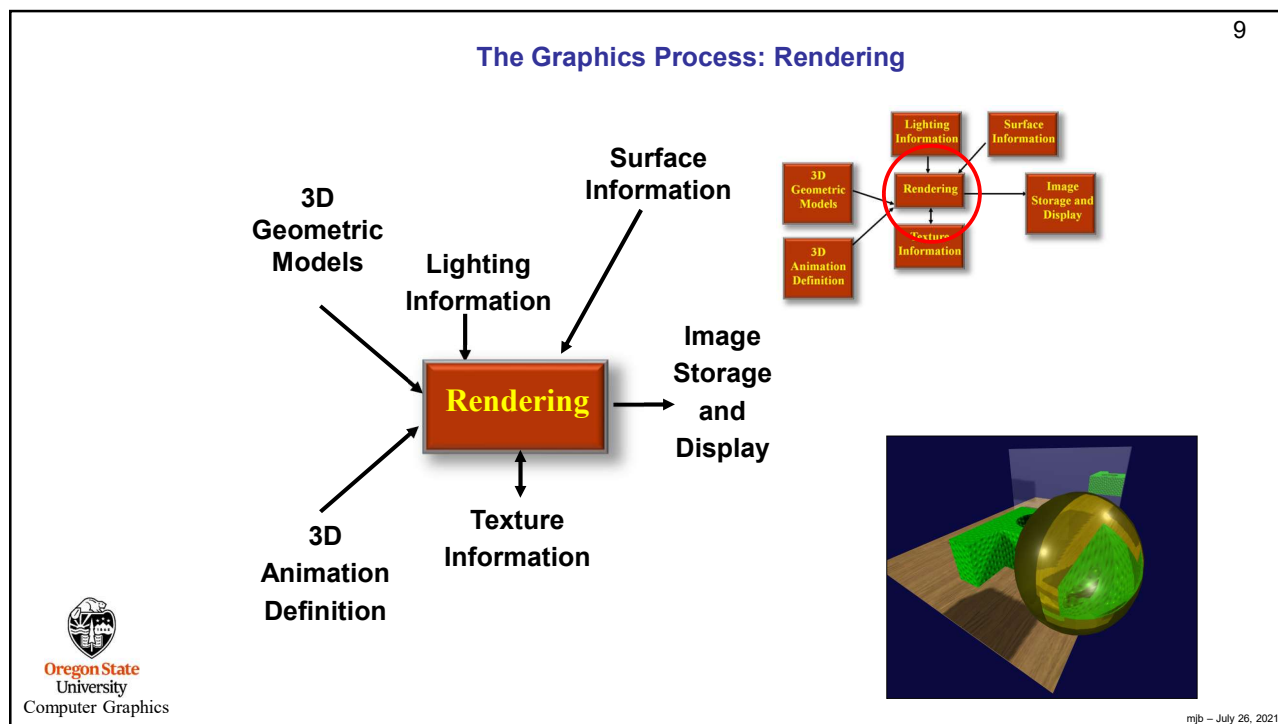
Light
Intensities

**Lighting
Information**

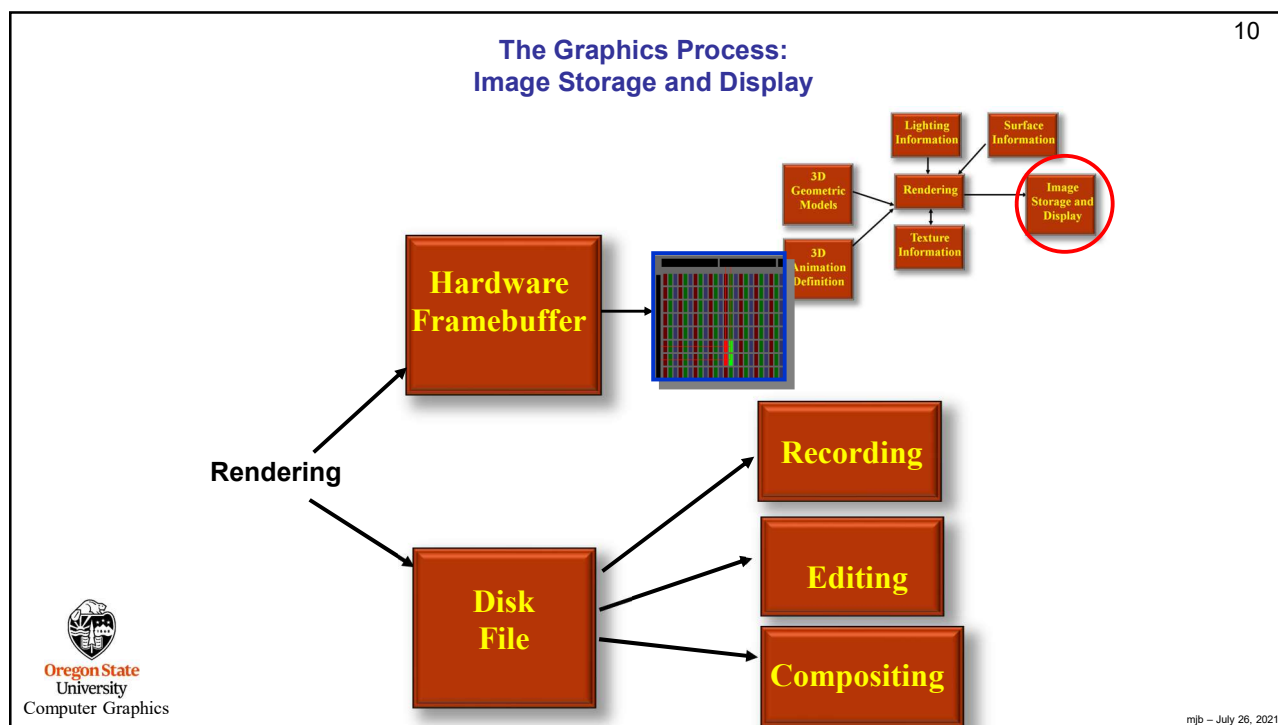
Rendering



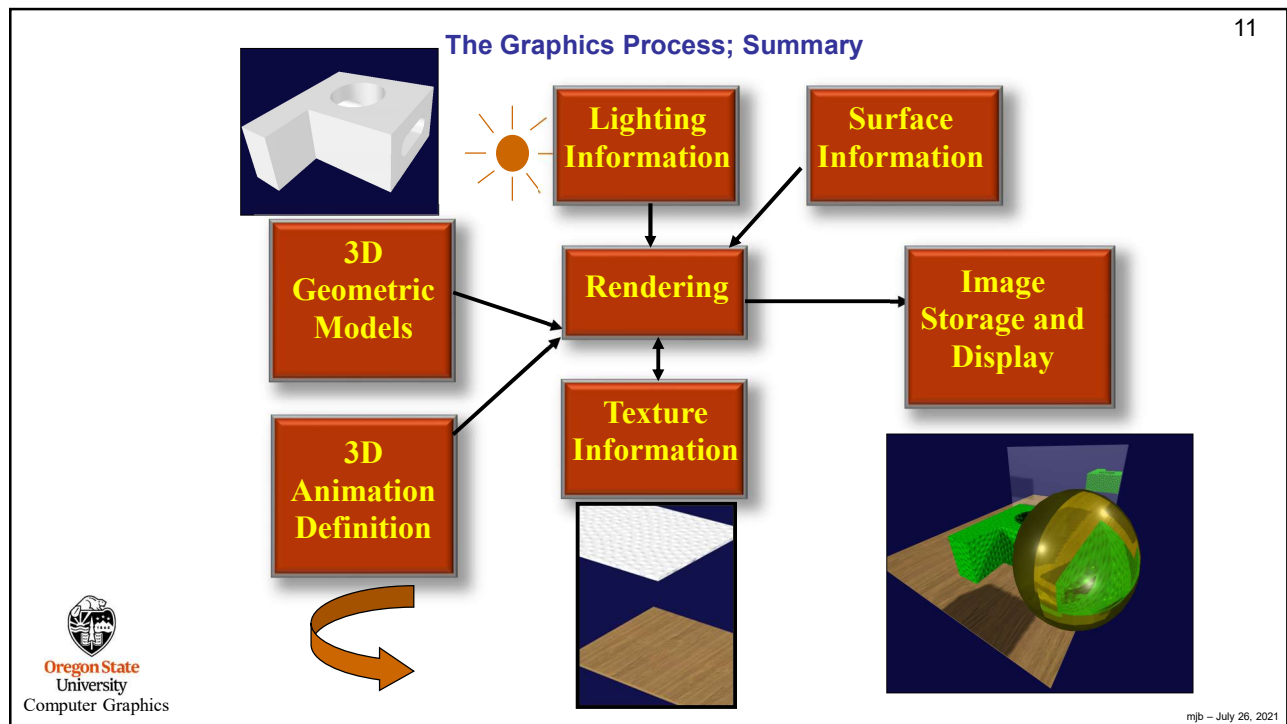
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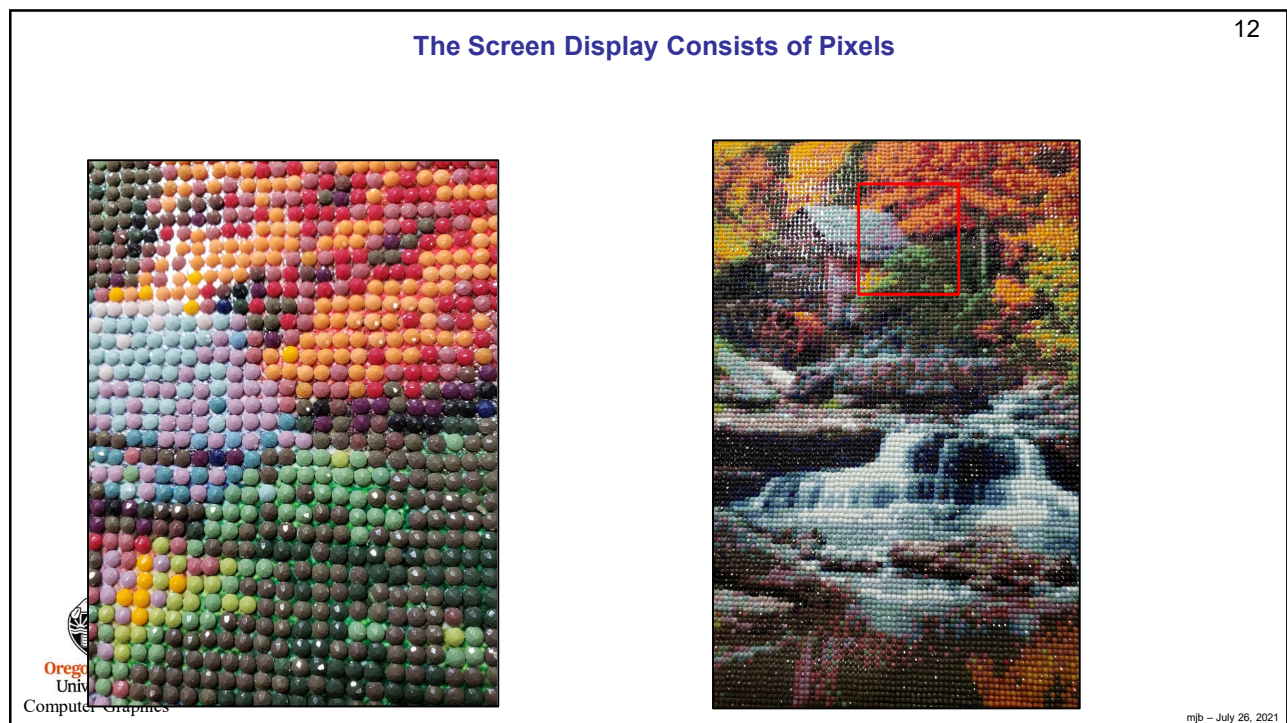
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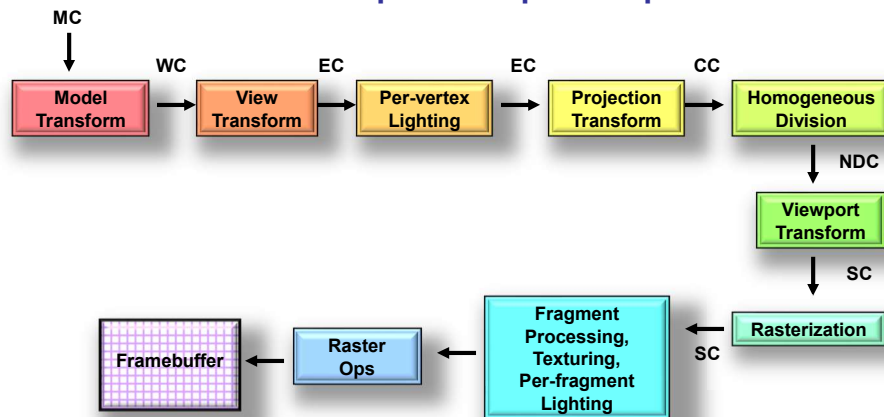
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The Basic Computer Graphics Pipeline

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MC = Model Coordinates
 WC = World Coordinates
 EC = Eye Coordinates
 CC = Clip Coordinates
 NDC = Normalized Device Coordinates
 SC = Screen Coordinates