

A Brief History of Shaders



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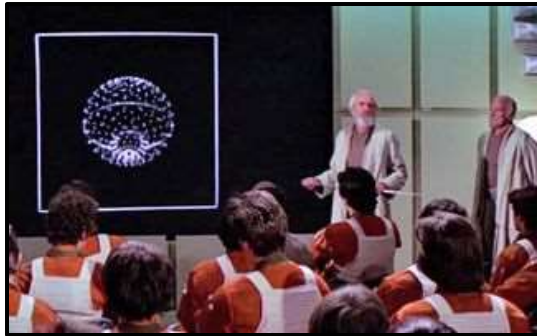
HistoryOfShaders.pptx



mjb – December 8, 2023

History of Shaders, I

1977: Star Wars IV: A New Hope



1979: Ed Catmull, Alvy Ray Smith, and others leave NYIT to form the Computer Division of Lucasfilm

Image Processing

Digital Editing and Compositing

Effects

Image/Volume Rendering Hardware

1984: John Lassiter leaves Disney Animation to join Pixar

History of Shaders, II

Image/Volume
Rendering
Hardware

Pixar Image
Computer

Rendering
Software



Star Trek II (1982)
Young Sherlock Holmes (1985)



1984 (1984)

REYES

RenderMan

Pixar Animation
Studios

RIB

Shade Trees

prman

History of Shaders, III

Pixar Animation Studios

1986: Steve Jobs buys Pixar for \$10M

Steve Jobs adds another \$60M to keep Pixar running

1986: *Luxo Jr.* – Nominated for an Academy Award



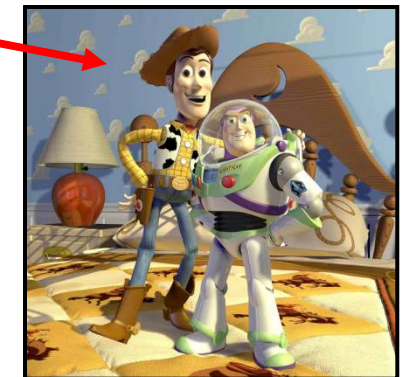
1988: *Tin Toy* – won Academy Award for Best Animated Short



1993: RenderMan wins a Technical Academy Award

1995: *Toy Story*

1995: Pixar IPO -- Steve Jobs's stake is now worth \$1.2B



2004: Pixar bought by Disney for \$7B, making Steve Jobs's stake worth \$3.5B

Steve Jobs's estate is now Disney's largest shareholder (7%) – way ahead of even Roy Disney's estate (1%)

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History of Shaders, IV

2004: OpenGL 2.0 / GLSL 1.10 includes Vertex and Fragment Shaders

2008: OpenGL 3.0 / GLSL 1.30 adds features left out before

2010: OpenGL 3.3 / GLSL 3.30 adds Geometry Shaders

2010: OpenGL 4.0 / GLSL 4.00 adds Tessellation Shaders

2012: OpenGL 4.3 / GLSL 4.30 adds Compute Shaders

2017: OpenGL 4.6 / GLSL 4.60

There is lots more detail at:

https://www.khronos.org/opengl/wiki/History_of_OpenGL

2014: Khronos starts Vulkan effort using GLSL and SPIR-V

2016: Vulkan 1.0

2016: Vulkan 1.1

2020: Vulkan 1.2

2022: Vulkan 1.3

2023: Vulkan 1.3 with new extensions

There is lots more detail at:

[https://en.wikipedia.org/wiki/Vulkan_\(API\)](https://en.wikipedia.org/wiki/Vulkan_(API))

