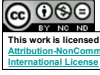






A Brief History of Shaders



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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




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History of Shaders, II

Image/Volume Rendering Hardware

Pixar Image Computer



1984 (1984)

Rendering Software


REYES

RenderMan

RIB


Shade Trees

prman



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

Pixar Animation Studios



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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



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History of Shaders, V

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))



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