A Brief History of Computer Graphics

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1950s

- Pen Plotters
- Computer-controlled oscilloscopes

Calcomp

Tektronix
1960s

- Ivan Sutherland’s SketchPad project
- Interaction
- Vector displays
1970s

- Direct View Storage Tubes (Oregon’s own Tektronix!)
- Color raster displays (CRTs)
- Hardware-accelerated vector displays
- Commercial production companies emerge
- SIGGRAPH conferences (started in 1974)
- Star Wars Episode IV
• Hardware-accelerated color raster displays
• Flight simulators
• Silicon Graphics, Inc. (SGI)
• Pixar
• Scientific visualization
• Luxo Jr., Tin Toy
• The Last Starfighter, TRON, Star Trek II: The Wrath of Khan, Young Sherlock Holmes, The Abyss
• Jen-Hsun Huang graduates from Oregon State University with a BSEE degree, 1984
1990s

- Texture-mapping in hardware
- OpenGL
- PC graphics cards
- Terminator 2, Jurassic Park, Toy Story, Star Wars Episode 1
2000s

- Hardware Shaders
- OpenGL-ES (Embedded Systems, i.e., intended for underpowered hardware)
- More movies!

Pixar

21st Century Fox

Disney

Illumination Entertainment

Pixar

Oregon State University
Computer Graphics

mjb – September 11, 2023
2000s

• CG is now so much a part of movies that we don’t even think about it
Where Are We Now?

- Ongoing OpenGL-ES/WebGL merger with OpenGL desktop
- Mobile platforms (tablets, phones)
- 3D movies
- Virtual and Augmented Reality
- Hardware support for ray-tracing
- Vulkan, DX12, Metal
- Game Engines and giant screens being used for live backgrounds in movie-making
Immense Virtual Movie Sets are a Big Thing Now

The screen is 270° around and 20 feet high!
Uses for Computer Graphics

Animation
Art
Cartoons
Games
Architecture
Commercials
Education
Styling
Amusement Parks
Manufacturing

Navigation
Training
Movies
TV

Traffic
History
Advertising
Cartography
Design
Chemistry

Scientific Visualization
Data Visualization

City Planning
Biology
Planning

City Planning
Biology
Planning

Construction

Veterinarian Science

Computer Graphics is for everyone!