A Brief History of Computer Graphics

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1950s

• Pen Plotters
• Computer-controlled oscilloscopes
**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
1980s

- 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!

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

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**Immense Virtual Movie Sets are a Big Thing Now**

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

- Animation
- Art
- Simulation
- Games
- Cartoons
- Art
- Navigation
- Architecture
- Planning
- Biology
- Scientific Visualization
- Surgery
- Medicine
- Construction
- Veterinary Science
- Training
- Movies
- TV
- Commercials
- Education
- Design
- Chemistry
- Manufacturing
- Land Use Management
- Traffic
- History
- Advertising
- Cartography
- Amusement Parks
- Navigation
- Planning
- Styling
- Data Visualization
- Manufacturing
- Land Use Management

Computer Graphics is for everyone!