A Brief History of Computer Graphics

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1950s

- Pen Plotters
- Computer-controlled oscilloscopes

Calcomp

Tektronix
### 1960s
- Vector displays
- Interaction
- Ivan Sutherland’s SketchPad project

### 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**

- Dynamic 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 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
Matrix Resurrections Looks Awesome!

Keanu Reeves walking through a flexible mirror.  

December 22??

We need to wait until December 22?

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 movies

We're waiting for December 22. That's where we are.
That Last Picture Needs Some More Discussion

Uses for Computer Graphics

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