

# A Brief History of Computer Graphics



**Oregon State**  
University

**Mike Bailey**

mjb@cs.oregonstate.edu



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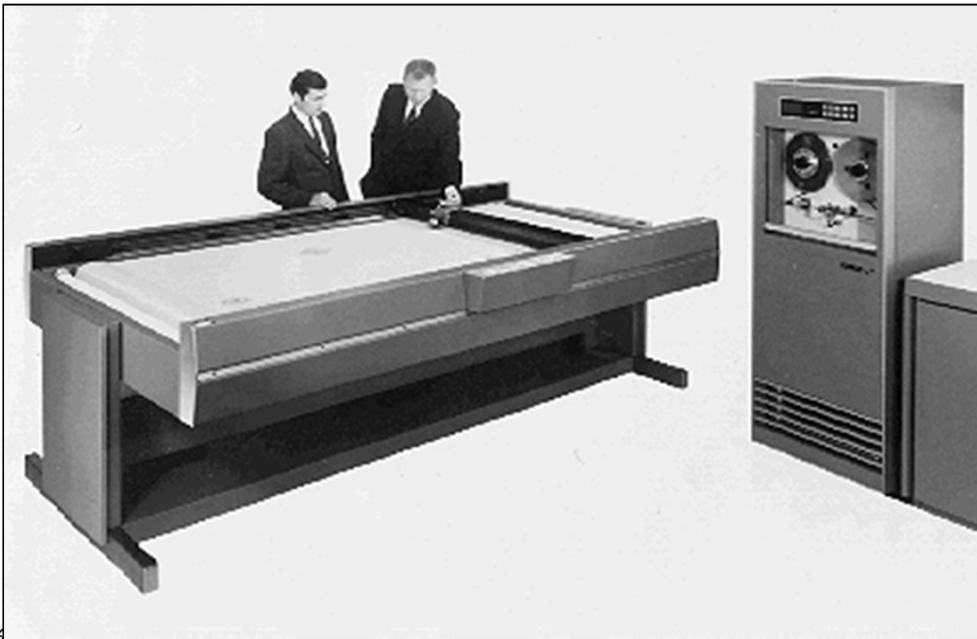


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## 1950s

- Pen Plotters
- Computer-controlled oscilloscopes

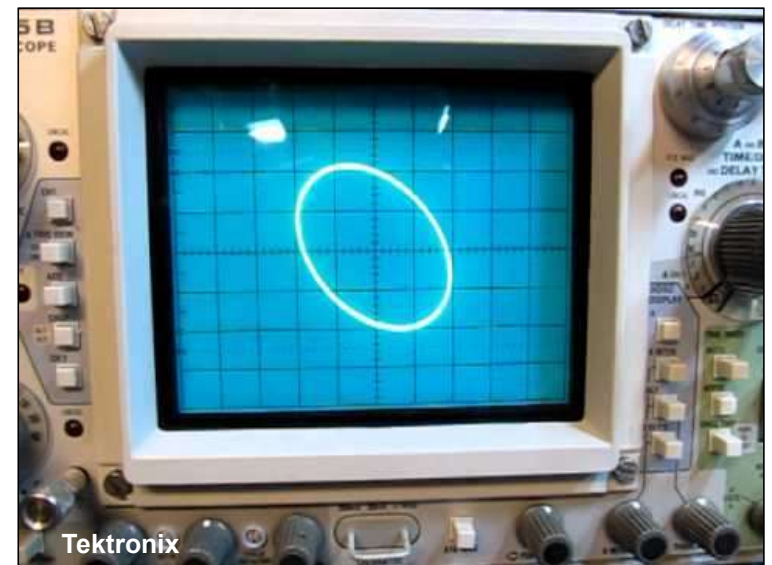


Calcomp



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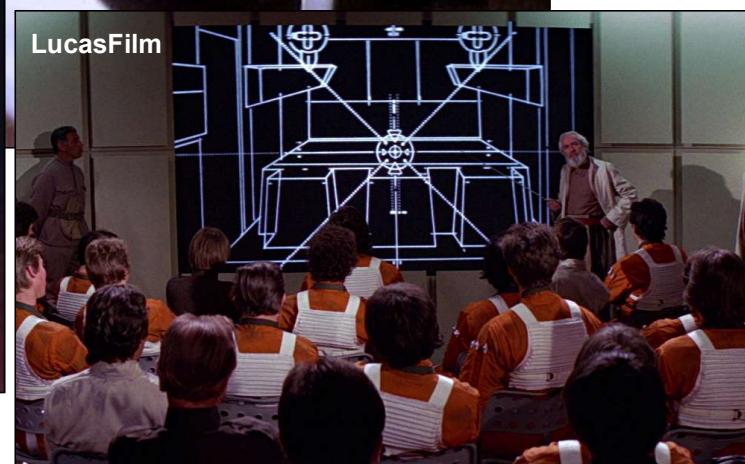
## 1960s

- 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



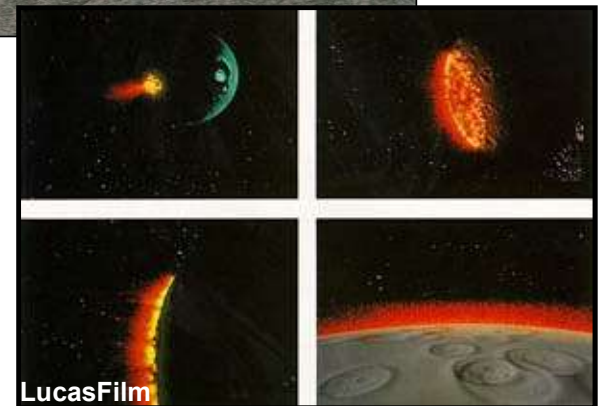
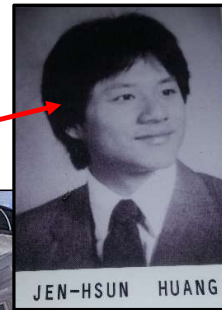
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## 1980s

- 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**

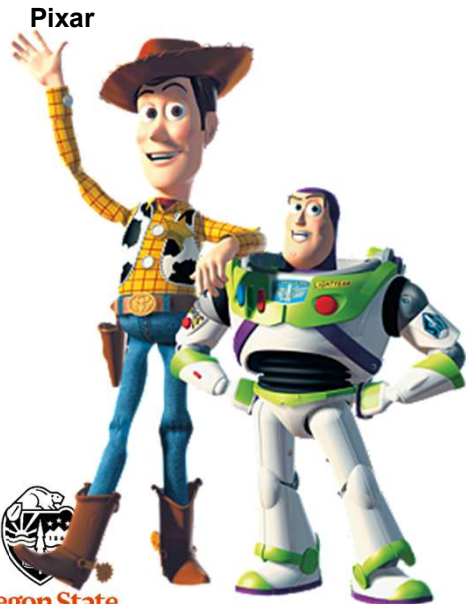


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## 1990s

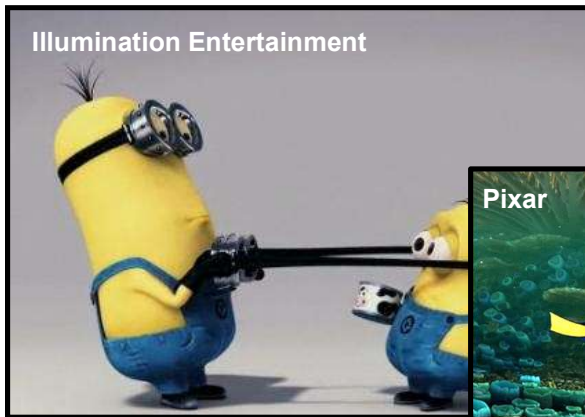
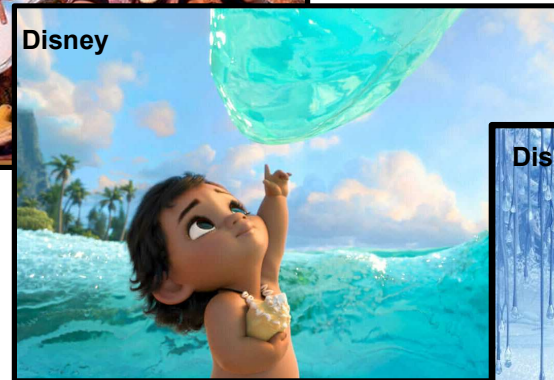
- Texture-mapping in hardware
- OpenGL
- PC graphics cards
- Terminator 2, Jurassic Park, Toy Story, Star Wars Episode 1





## 2000s

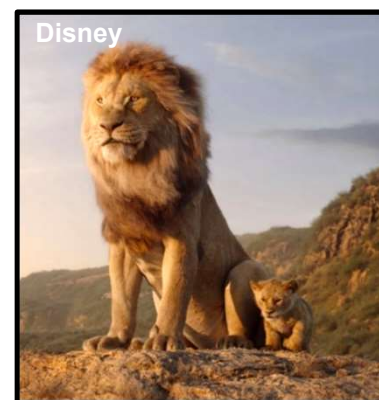
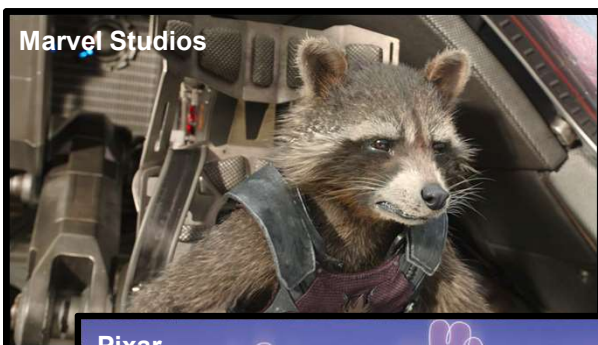
- Hardware Shaders
- OpenGL-ES (Embedded Systems, i.e., intended for underpowered hardware)
- More movies!





## 2000s

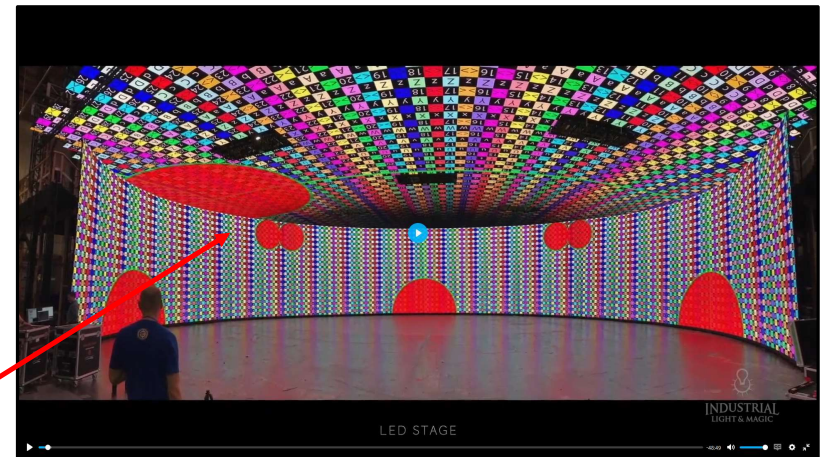
- CG is now so much a part of movies that we don't even think about it



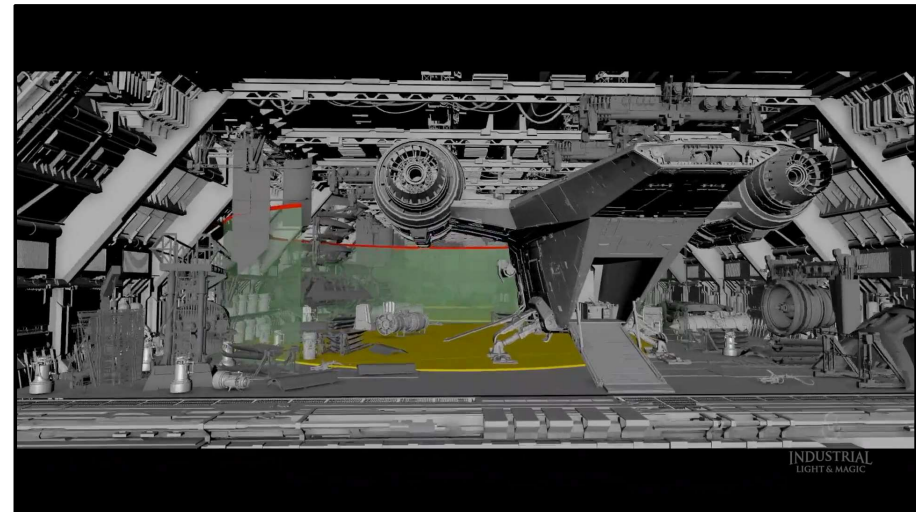
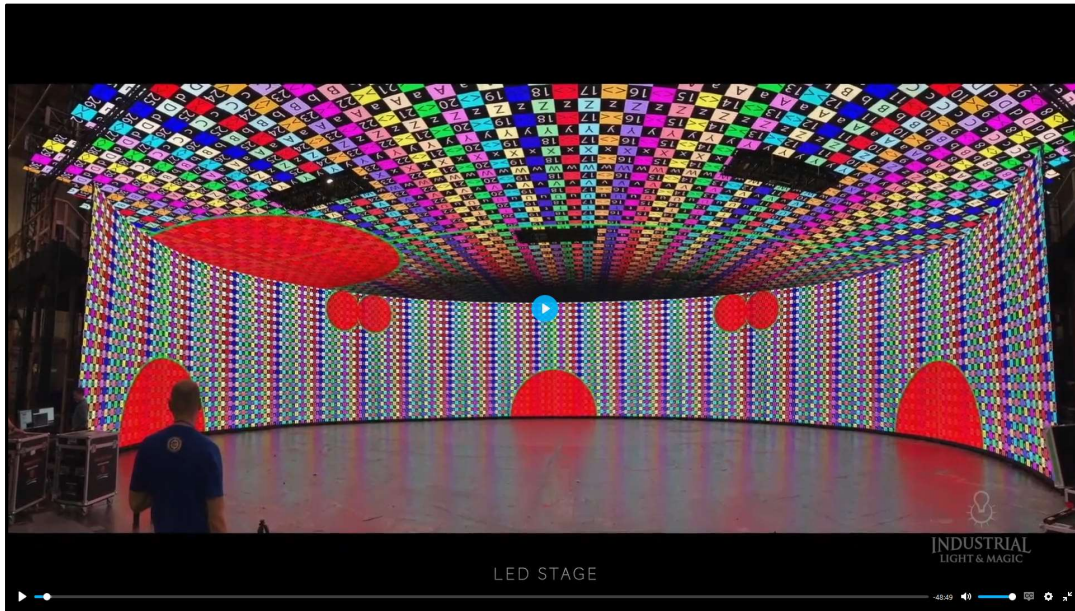


## Where Are We Now?

- 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



## Immense Virtual Movie Sets are a Big Thing Now



The screen is 270° around and 20 feet high!



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# Uses for Computer Graphics

11

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

**Computer Graphics is for everyone!**



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