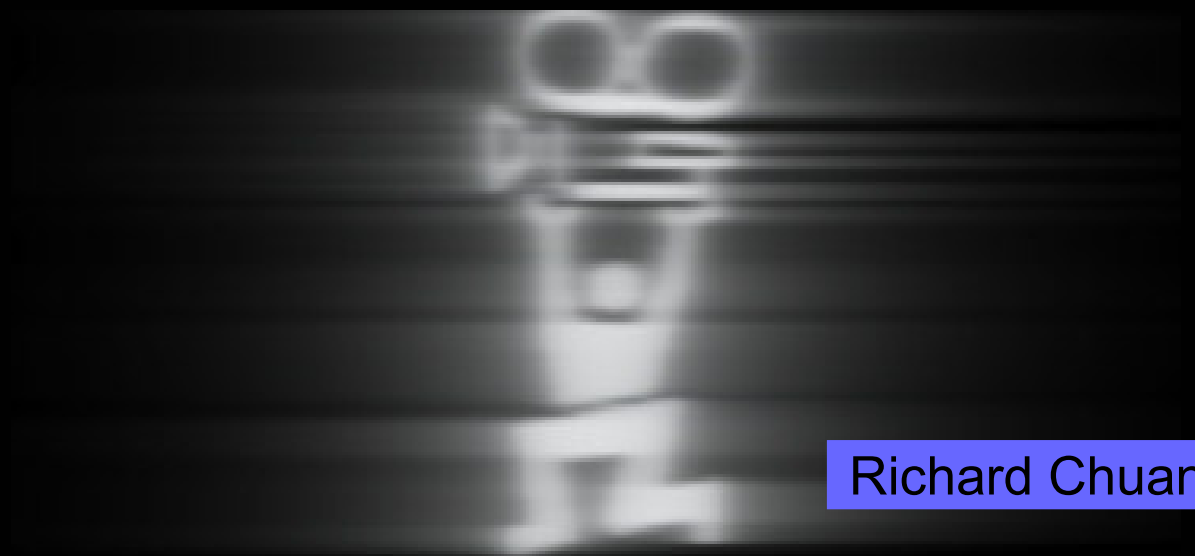
DREAMWORKS
ANIMATION SKG™

25TH ANNIVERSARY
PDI
1980-2005

25 years of PDI – 1980 to 2005



Richard Chuang, PDI/DreamWorks

Agenda

- History
- Some facts
- How we got here

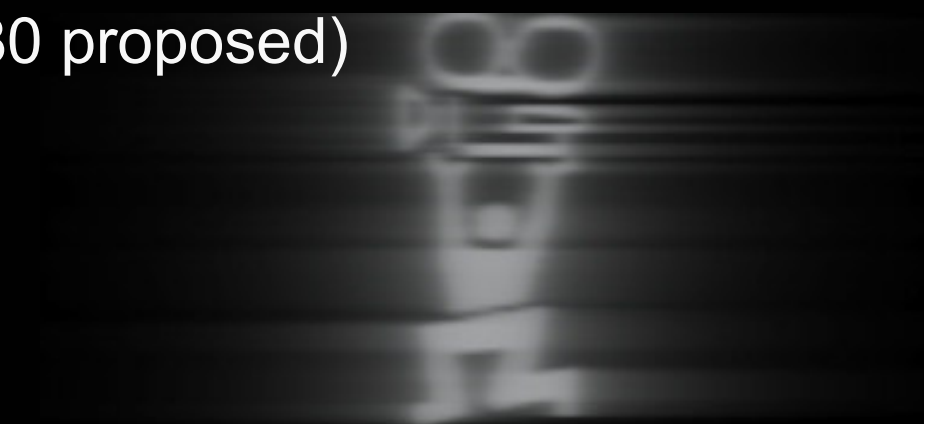
Brief History

- PDI's 25th Anniversary
  - Founded in 1980 by Carl Rosendahl (1980-2000)
  - Co-founder Richard Chuang (81) and Glenn Entis (82-94)
- 3D software started at end of 1981
- 3D production started in the fall of 1982
- "Entertainment using 3D computer animation"
- Over 1000 projects completed
- Staff size grew from 3 to over 400 during Shrek
- 1982-2002 Service business in Animation and EFX in film and television
- Became division of DreamWorks in 2000

1982

1980s

- 1980s
  - First generation of home video games (Pac-Man 80 and Donkey-Kong 81)
  - IBM pc (1981), MAC (1984)
  - TCP/IP and Internet (1982)
  - Compact disk (CD) (1980 proposed)

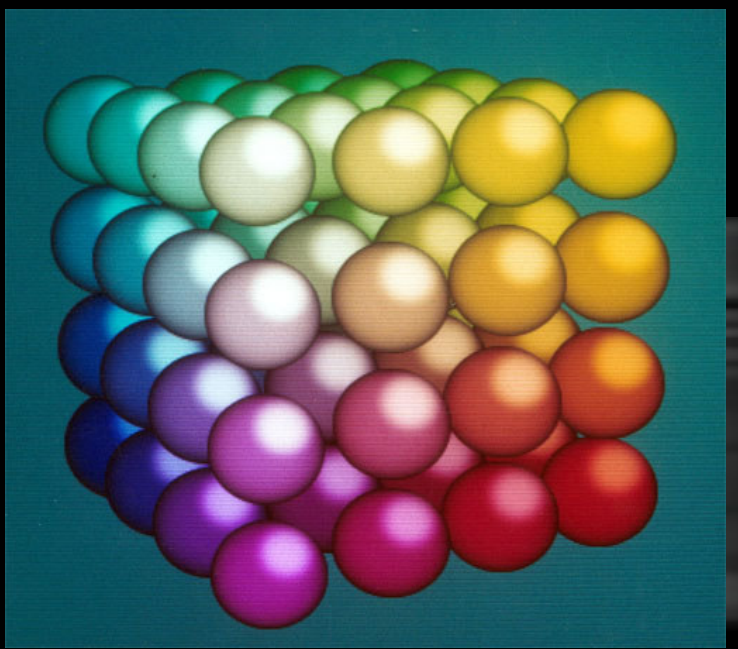


Technology that started PDI

- First computer at PDI
  - PDP 11/44 with 128 Kbytes of memory
  - 20 Mbytes disk
  - $65,000 512x512x32 framebuffer
  - 64 Kbytes (16 bits) address space

First 3D image rendered at PDI

- March 12, 1982
- Implicit rendering of spheres
- Fully anti-aliased
- 512x480x24
- On PDI-11/44
- Render time – 2 minutes



Other images from 1982

The business

- Initial $250,000 investment [about $600,000 in 2005 dollar adjusted for inflation]
- Started 1981 in Sunnyvale
  - Moved to our first building in 1985 (Sunnyvale), 1995 (Palo Alto)
  - Moved to current location in 2002 (Redwood City)
- Financed growth through profit
- Open-book, monthly financial review with company
- Monthly detailed financial analysis
- Worked with a yearly 5 years long-term plan
- Debt free when we made the deal with DWA
- Did not take money out of the company
- Maintained a 7% minimum investment in R&D
- Low margin service business

The Early (logo) Years 1982 to 1987

- First Client – Global TV from Brazil
- Business of TV motion graphics logo animation
- Concurrent work on: ABC, NBC, CBS, HBO, Cinemax, VH1, MTV, TNT, Showtime
- Animated at 60 fields/sec
- First mass production of 3D animation. 2 major network's graphics package over 400 stations.
- Planned and proposed a CG film production in 1985

1987-1992 Transition

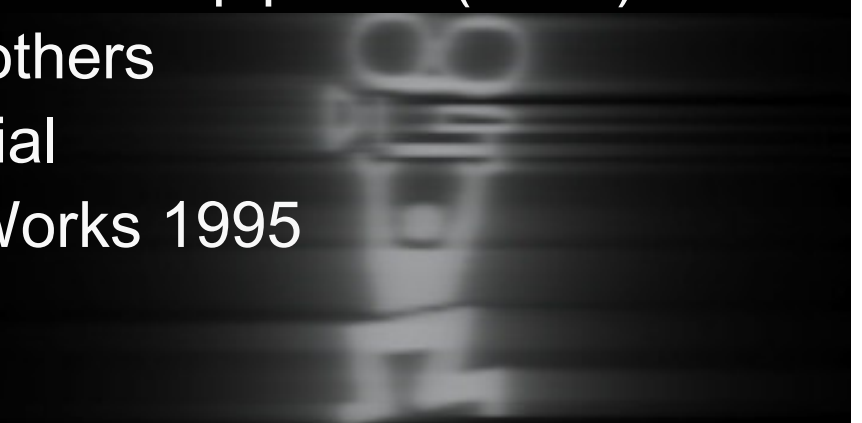
- Commercials and the beginning of 3D VFX
- Morph – a new era and business
- 3D and Hollywood

Start of 3D character animation 1987-1992

- A fun new direction
- Setting the goals
- Forming the character animation group
- Making the plan
- Building the tools and the pipeline
- Shorts
- Finding the project

Getting the First Film

- First CG feature plan in 1985
- “Last Halloween” – Emmy Award winner for CG characters in a TV special
  - Worked with Hanna-Barbara
  - Built first 3D character production pipeline (1991)
- 3D Daffy Duck for Warner Brothers
- Simpson 3D Halloween Special
- Production Deal with DreamWorks 1995



PDI/DWA feature animated films

- Antz (1995-1998)

- Shrek (2001)

- Shrek 4D (Universal)

DWA Feature Animated Films

- Shrek 2 (2004)

- Madagascar (2005)

- Shrek 3 (in production)

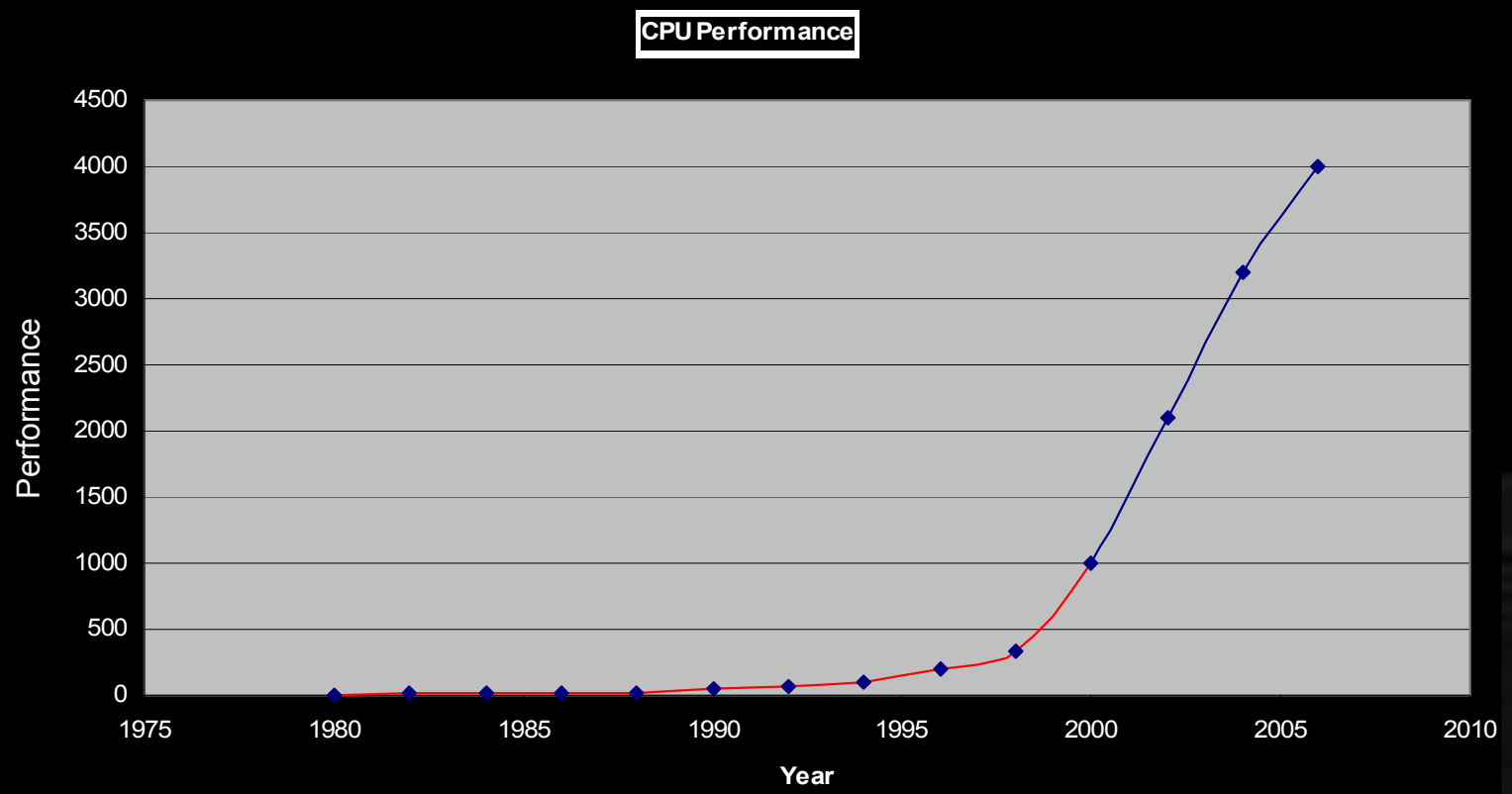
DWA CG feature films

- Over The Hedge (2006)

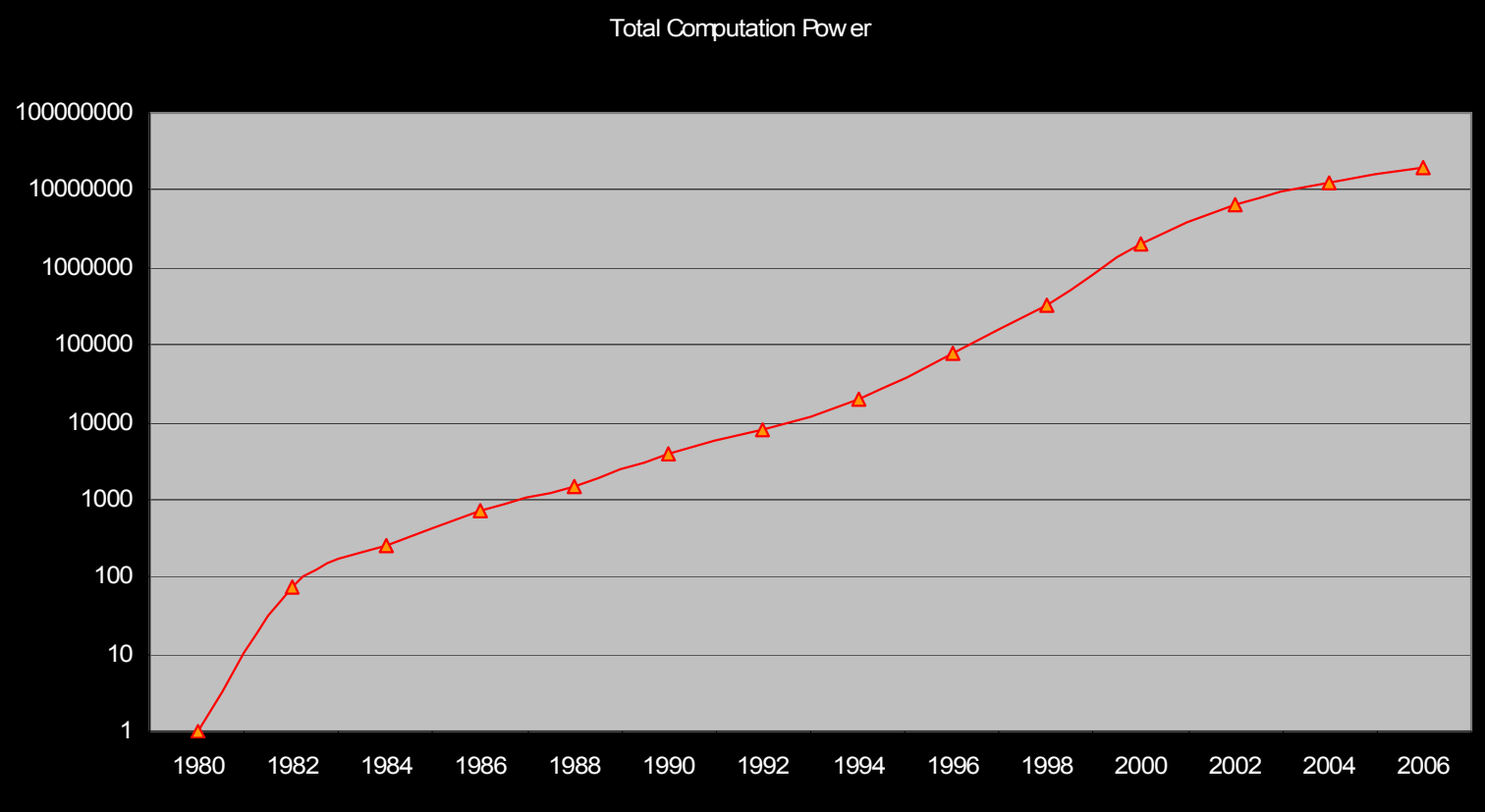
- Flushed Away (2006)

Changes in the past 25 years

CPU Speed 1980-2005

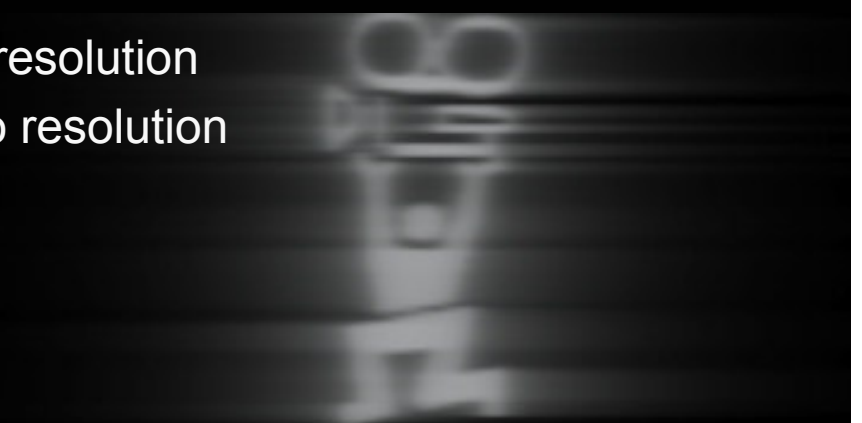


Total Computational Power (studio wide)



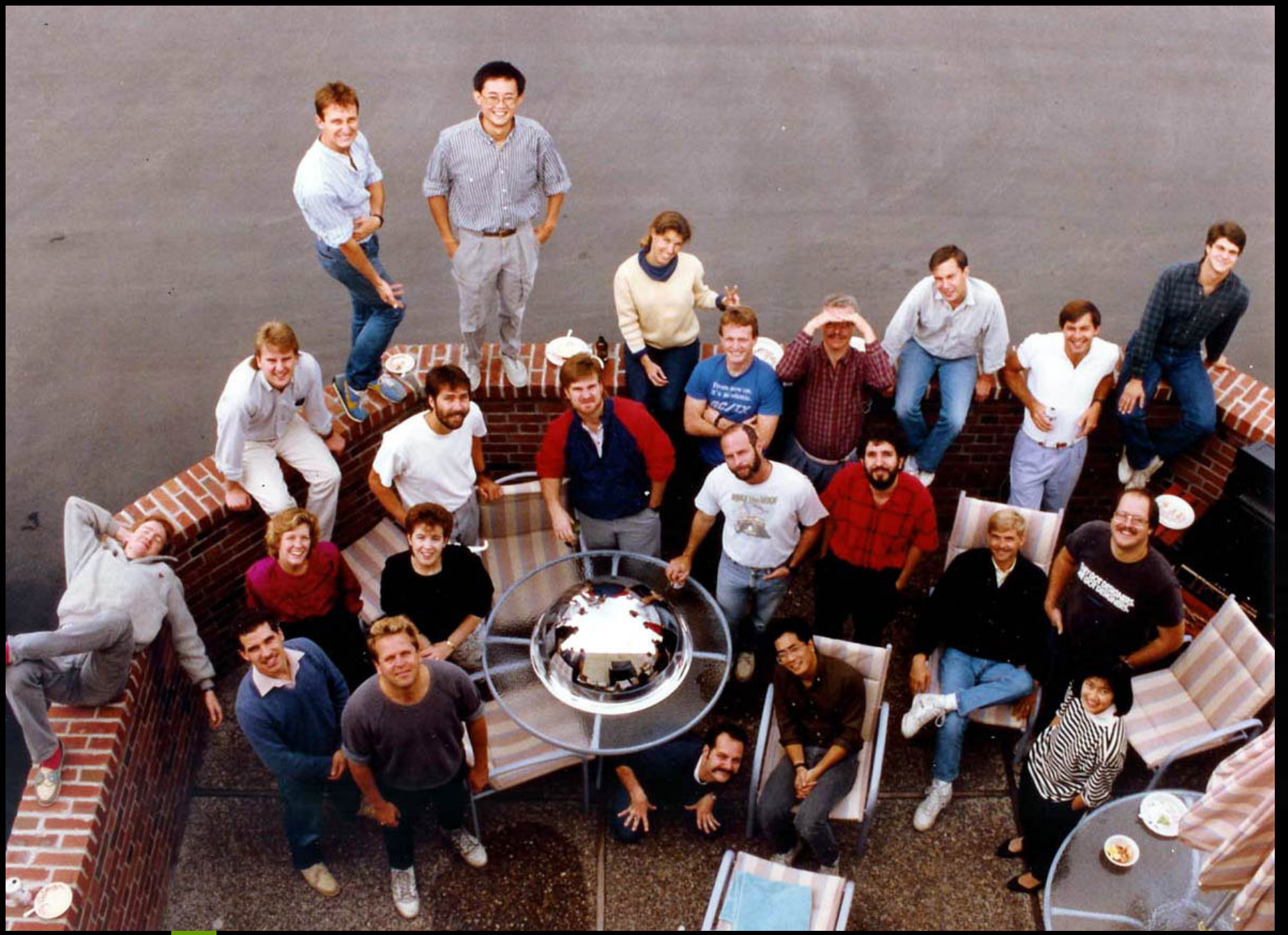
25 years of Changes

- More things change
  - 10 million times more computational power
  - 20 million time more disk storage
- More things stay the same
  - 200 pixels per seconds
    - About 3 hours per frame at film resolution
    - About ½ hour per frame at video resolution
  - Still no reliable viewing method



Keys to success

- Hire good people that fits in with your team
- Train and support your team
- Make mistakes and learn from mistakes
- Backup your team
- Take risks
- Keep things simple
- Plan cash flow and delay spending
- Run an open and honest business
- Challenge your team
- Share the rewards and challenges
- Encourage innovations across the company
- Creative freedom – personal projects



DREAMWORKS
ANIMATION SKG™