Moving Magic:
Creating Compelling 4K Content on a Budget

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What is 4K?

• 4K refers to Ultra-High Definition Video
• 4K Video Resolution varies (huh?)
• Here, 4K means 4096h X 2160w, pixels
Types of 4K Content

• Recorded Media (Local)

• Streaming Media (Networked)

• Live (Streaming and Local)

• Tiled Visualizations (Optiportal)

• Scientific Visualizations (Rendered & Real-time)
Why 4K?

- It's a very demanding network application
- It requires huge amounts of storage
- It looks really cool

http://helmer.sfe.se/HelmerRendertest1.jpg
The Problem with $K$

- Video Cameras for making 4K movies are very expensive ($50K - ?$)
- DSLRs show promise, but so far are limited to 1080p
- Display devices...well, they’re expensive, too
- Networking is hard (but not too hard)
Yes, 4K is Cool, but...

- Be aware of it’s technical limitations
- Please consult an artist or designer
- If it’s not moving, it’s not interesting
- Always have sound!
What are the minimum investments in media development tools?
First of All...

The most important tool for 4K
The Script

Even a simple outline will do.

People who know what is expected do better than people who don’t.

Teleprompters help.
4K Time-Lapse
Still Cameras Capable of 4K Time-lapse

Digital SLRs (minimum 12.8 megapixel)

$3499.95

$7999.95*

*Camera body only
DSLR Entry Level Costs

- Camera and accessories ($5K)
- Computer to Control (don’t buy new)
- Image Processing Software ($500)
- Knowledge of Photography, image processing and digital film production

Lots of time and patience
Arne de Laat’s 4K Time Lapse

Easter Cactus Going to Bed
4K Video Cameras
4K Video Camcorders

- Olympus SH-880TM prototype 4K (not available outside Japan)
- Dalsa Origin II 4K camera (rental)
- Red One*

*Not really 4K (huh?)*
Partial Raster
4K Video Camera Costs

• Dalsa Rental >$5K per day
• Red One
  • Purchase ~$45K
  • Rental $1150/day, $3450/week
• Olympus...who knows? Anyone?

Plus many more unforeseen costs...
Sorry, this page was not found
3D Modeling as 4K Source
3D Modeling 4K Rendering

Maya Unlimited

$6490.00 Single Seat, Windows/Mac/Linux with Update Subscription

$4995.00 Single Seat, Windows/Mac/Linux without Update Subscription

$399.98 Student/Faculty Price from JourneyEd.com
3D Modeling 4K Rendering

3D Studio Max

$3990.00 Single Seat, Windows/ Mac/Linux with Update Subscription

$3495.00 Single Seat, Windows/ Mac/Linux without Update

$399.98 Student/Faculty Price from JourneyEd.com
Blender

Single Seat, Windows/Mac/Linux

Everyone’s Price from Blender.org

$0.00
“Elephant’s Dream” World’s first Open movie, rendered in 4K by SARA Computing and Networking
3D Modeling Skills

• 3D Modeling is complicated
• Highly interdisciplinary
• Artful combination of technical expertise and aesthetics
• Beautiful when done well
Covers the basics of 3D Modeling
No Programming Experience Required
A Quick Word about Sound
Sound is Energy
4K Sound Sources

- Microphones (Don’t skimp...buy a good one or two)
- Sound Libraries (Apple Loops)
- Cameras (be wary)
- Live Sound
We Covered...

• What is 4K?
• Why 4K?
• Tools and Techniques
The End
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