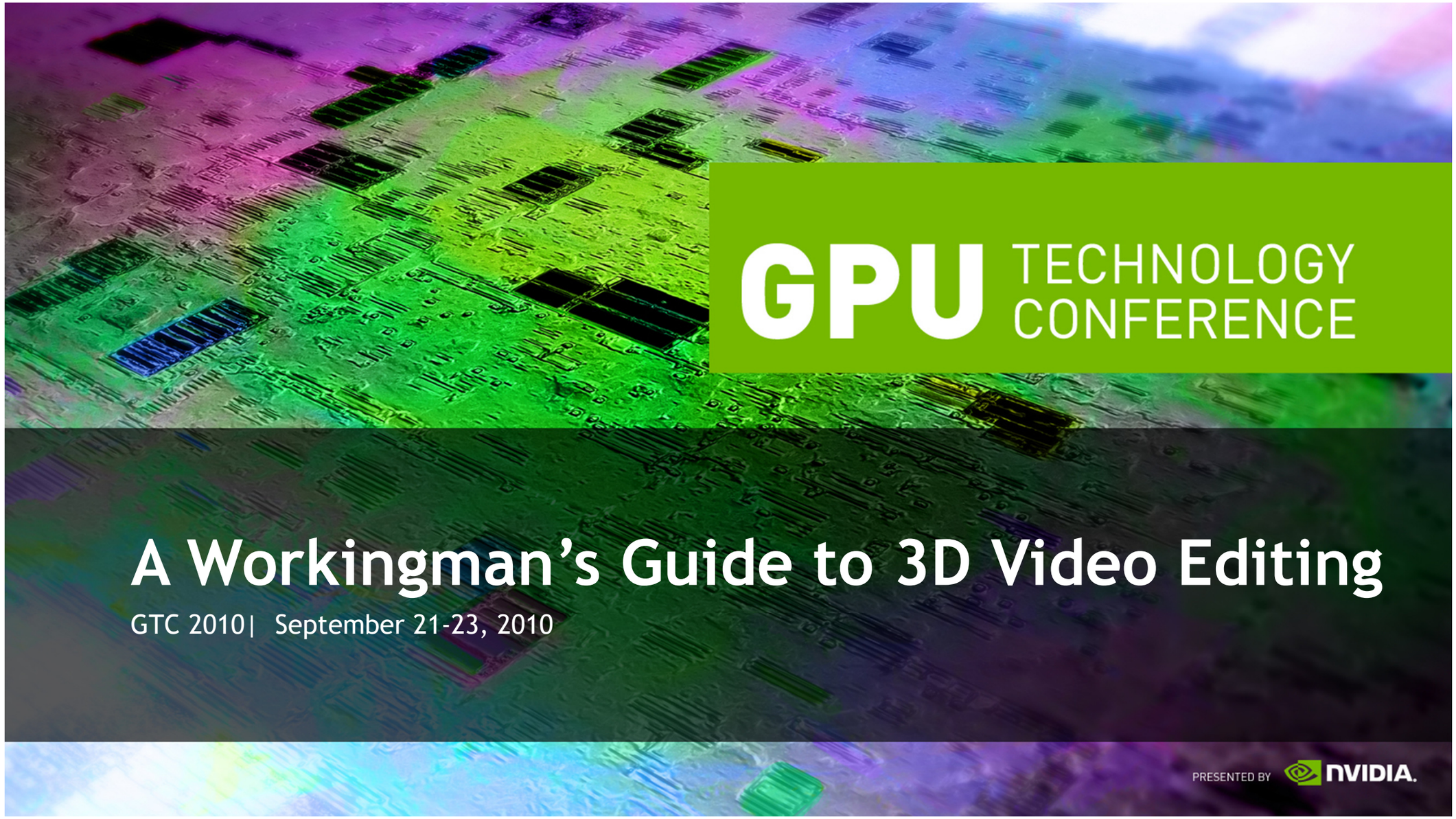
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A Workingman's Guide to 3D Video Editing
GTC 2010| September 21-23, 2010
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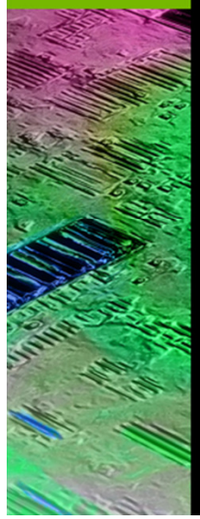

Contents

- Motivation
- Distribution Chain & Delivery Format
- Acquisition & Viewing
- Shooting & Production Techniques
- Workflows and Examples
- What's next

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Motivation for 3D

- Who is the target Market?
  - Is it essential to see it in 3D?
- How does 3D add value?
  - Feature Films
    - Stop Motion DSLR
  - Corporate Videos
  - Sports Clinics - Golf, Football, Soccer
  - ESPN and Extreme Sports
  - Youtube

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3D Distribution Chain & Delivery Format

- Market will dictate the delivery format
- No non-studio 3D Blu-ray creation tools (yet)
- Youtube
- Files
  - 3D viewers on PCs etc.

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3D Acquisition

- Existing Cameras & Rigs

PSTechnik

- 3D cameras
  - Beginning to appear

Fuji FinePix

Panasonic

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3D Viewing Technologies

- Anaglyph

- 3D TVs
  - HDMI 1.4

Samsung

Panasonic

Mitsubishi

- 3D LCDs

Asus

Acer

Samsung

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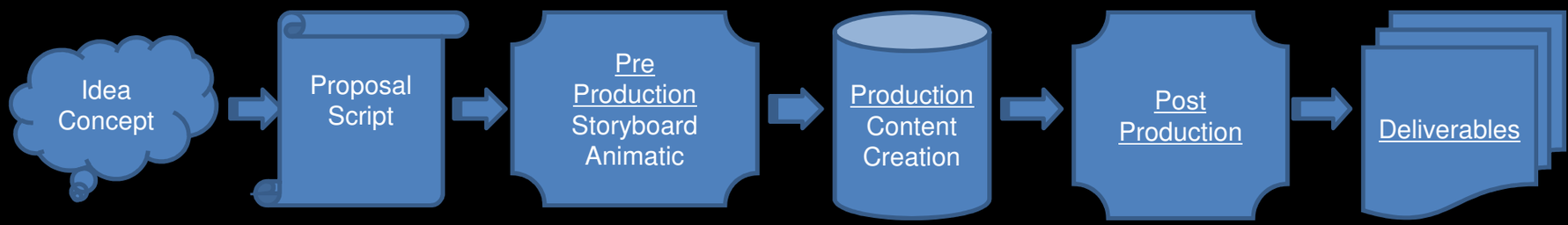
Professional Production Overview



Idea Concept	Proposal Script	Pre Production Storyboard Animatic	Production Content Creation	Post Production	Deliverables
MS Word docs	MS Word docs	CS5 Design	RED Camera	CS5 Illustrator	DCP
CS5 Design	CS5 Design	Final Cut	Arri Camera	CS5 Photoshop	HDCAMSR
PDF docs	PDF docs	CS 5 Premiere	Silicon	Final Cut	HDCAM
Video	Final Draft	Vegas	Imaging	CS 5 Premiere	DigiBeta
Film	Adobe Story	Avid	HD Cameras	Avid	DVD
Commercials	Online	3DS Max	3DS Max	Assimilate Scratch	Blu-Ray
	Collaboration	Maya	Maya	Maya	MPEG2
		Redboard	CS5	Smoke	H264
		Final Draft	Illustrator	DaVinci	
		Adobe Story	CS5	Pablo	
		Online	Photoshop	Online	
		Collaboration	Final Cut	Collaboration	
			CS 5		
			Premiere		
			Avid		
			Vegas		
			Online		
			Collaboration		

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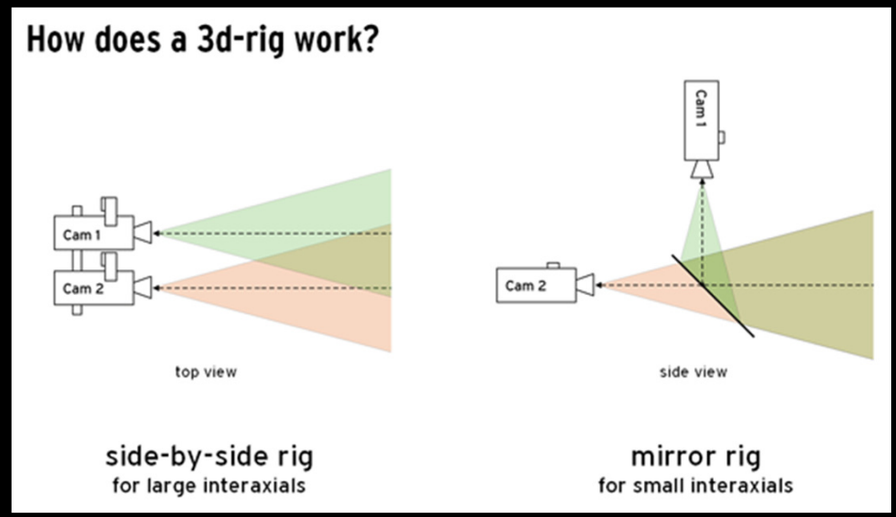
3D Production Technology

- Capturing Techniques
  - Rigs and Design
  - Side by side vs Top-bottom



http://www.pstechnik.de/en/3d-basics.php

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3D Production Technology

- Content Ingest
  - Full frame left right to separate uncompressed files on SSD or HD tapes

Left image

Right image

  - Consumer formats often anamorphic combined left and right and compressed to single file on SSD

Panasonic

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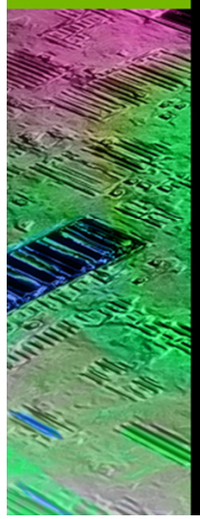

Shooting the Scene & Production Techniques for 3D

- How to Shoot
  - Full manual
  - Contrast
  - Separation
  - Distance to object
  - Ghosting
    - Captioning, high contrast
  - Rapid movement and panning

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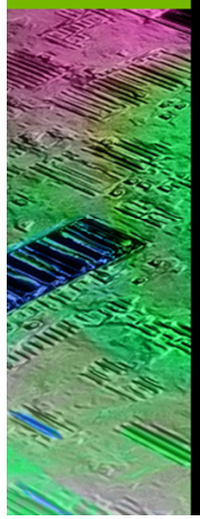

Workflow Considerations for 3D

- Overall workflow
  - Alternatives depending on content type, format etc
- Separate left+right footage
  - Clean, Mux, Edit
  - Synchronizing
- Combined left+right footage
  - Edit

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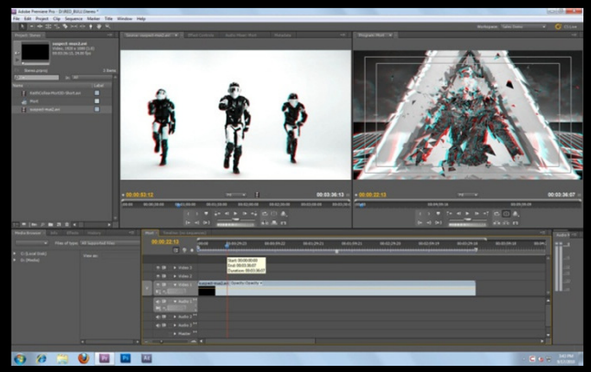
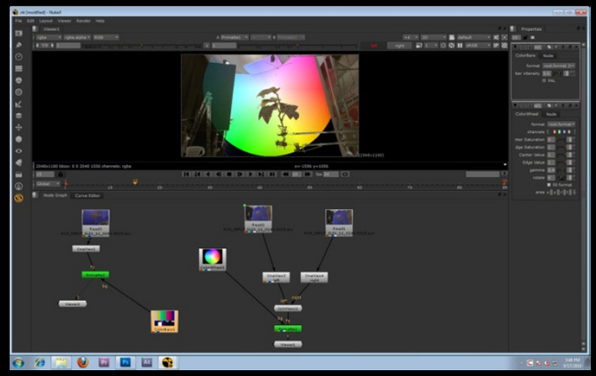
3D Workflow Examples





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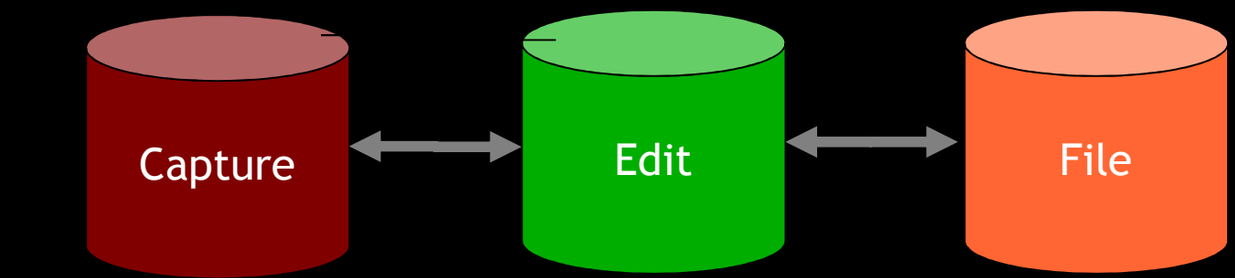
Example #1 – Point and Shoot 3D



Fuji FinePix REAL 3D

Sony Vegas

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Example #1 - Point and Shoot 3D

Demo

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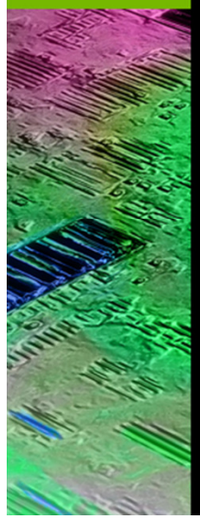

Example #1 - Point and Shoot 3D

- Consumer Camera
  - From Fuji FinePix REAL 3D, Panasonic
- Compressed content
- Fair Quality
- Accessible to everyone

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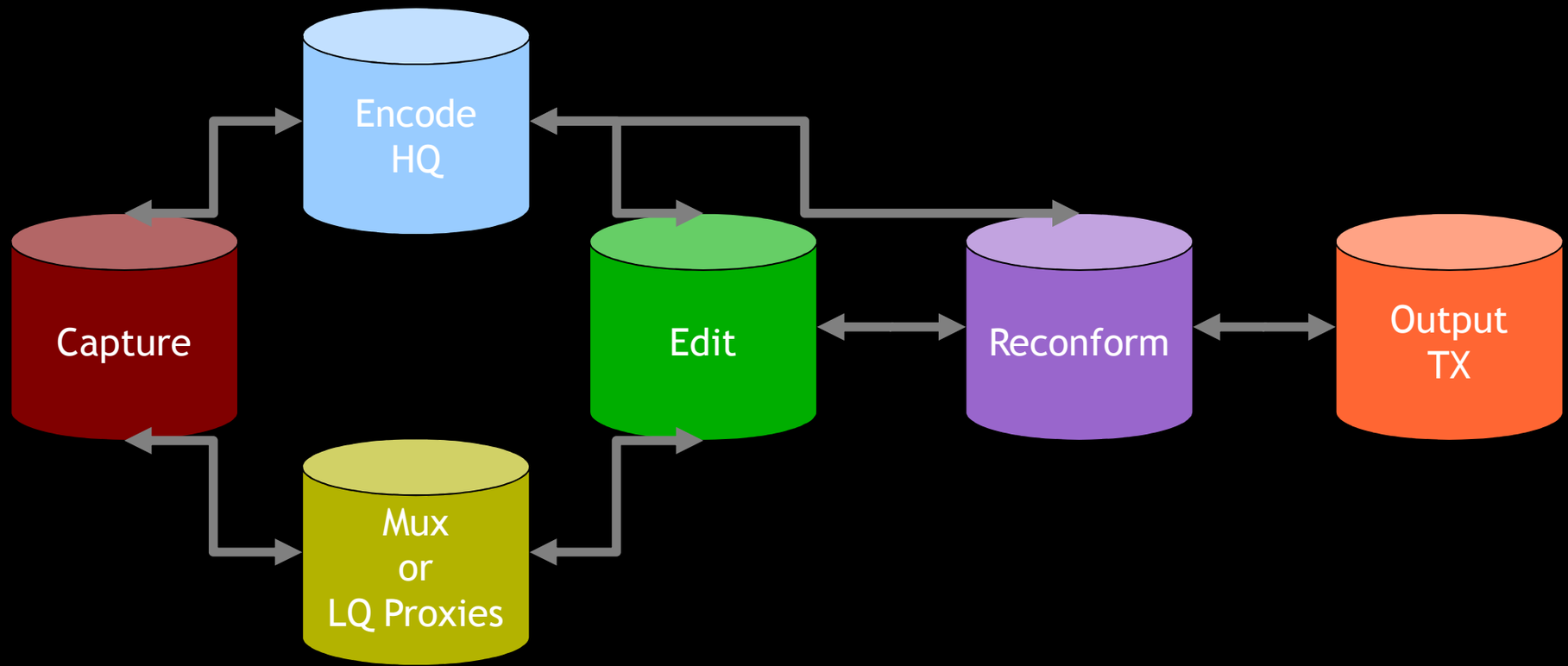
Example #2 - HD Footage in 3D



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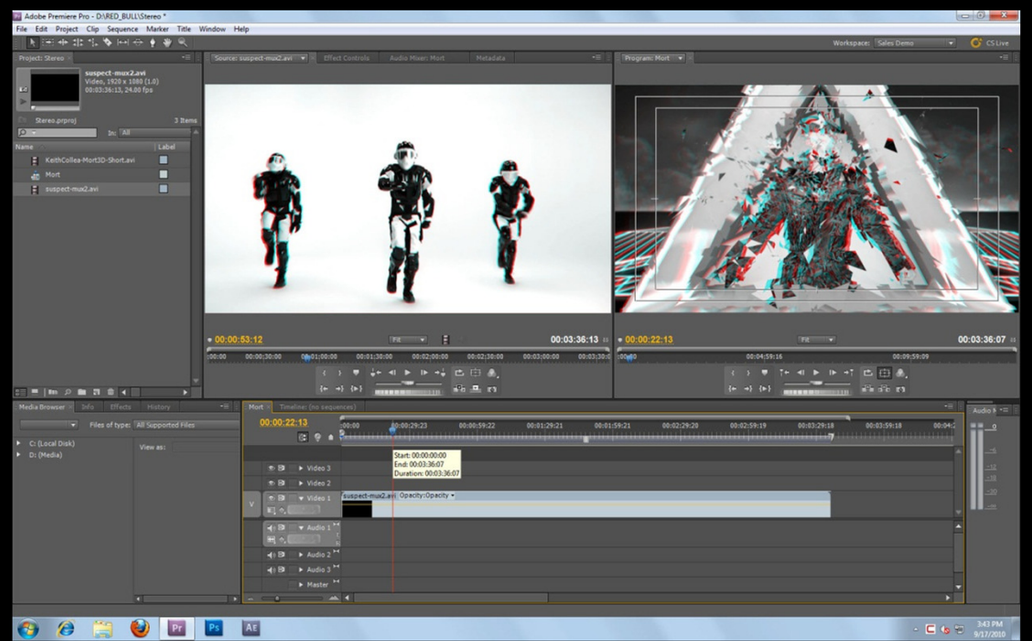
Example #2 - HD Footage in 3D



Demo

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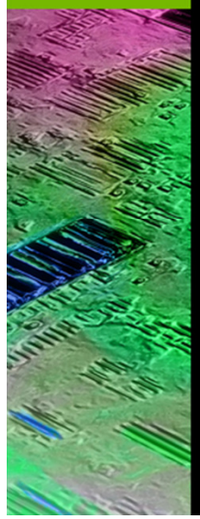

Example #2 -HD Footage in 3D

- HD Stereo Footage
  - From Panasonic P2, XDCam, HDCam, DSLR
- Full frame 1080P acquisition
- Sync’d and not Sync’d
- High Quality
- Cost (prohibitive to non-professional)

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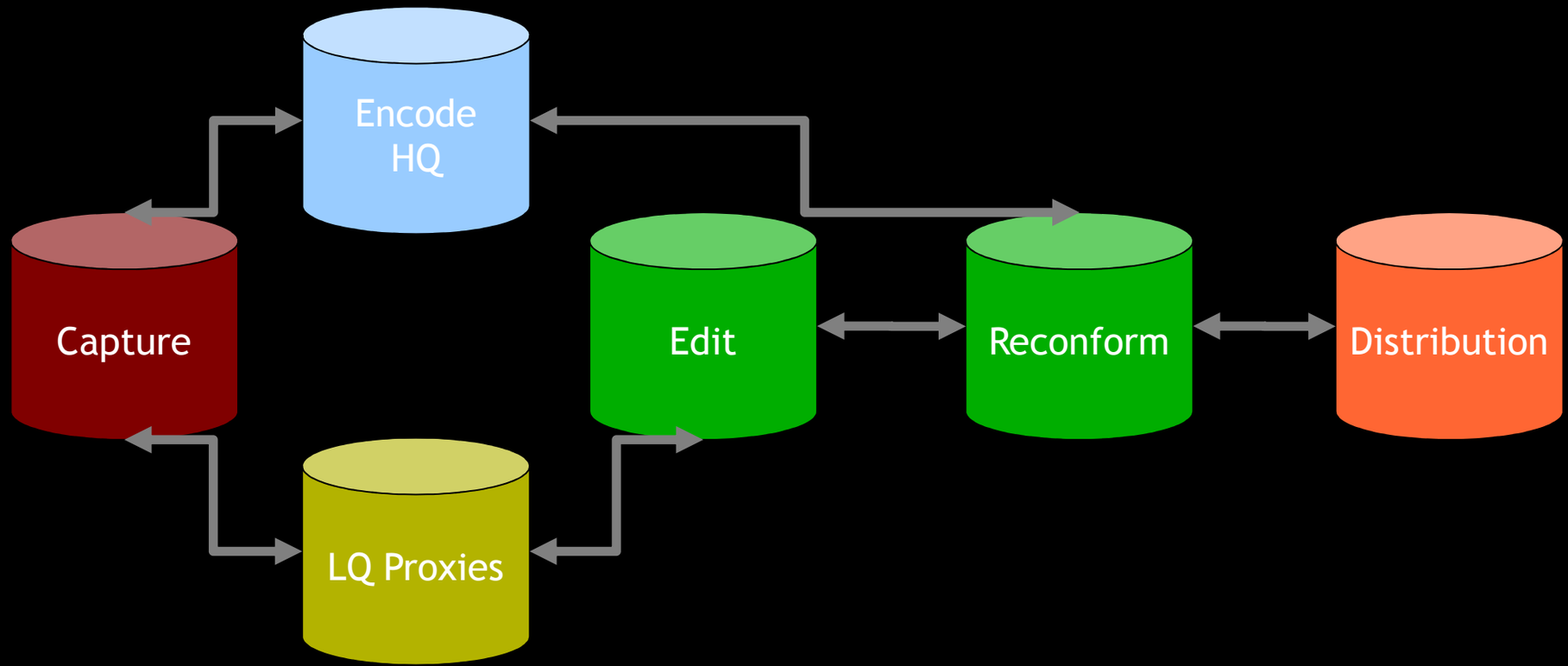
Example #3 - 2K and higher in 3D



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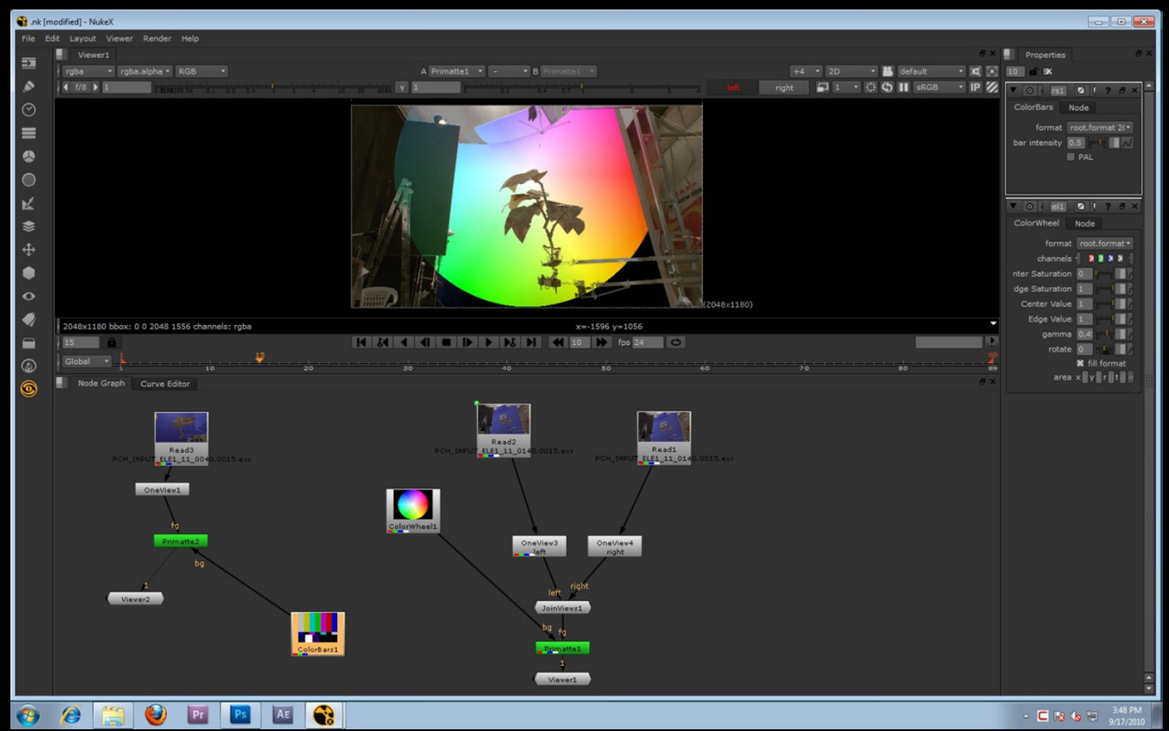
Example #3 - 2K and higher in 3D



Demo

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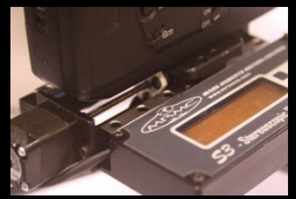
Example #3 - 2K and higher in 3D

- 2K or 4K Stereo Footage
  - From Film scans, RED, ARRI Alexa, Genesis
  - DSLR (Stop Frame Animation)



- Minimum 10bit
- Sync'd
- Ultra High Quality
- Studio and Commercials

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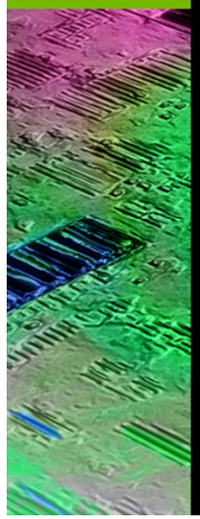

What's Next

- 3D is becoming pervasive
- 3D Cameras are beginning to appear at all levels
- 3D integrated into "new media" delivery formats
- GPU is a key element of the 3D video pipeline

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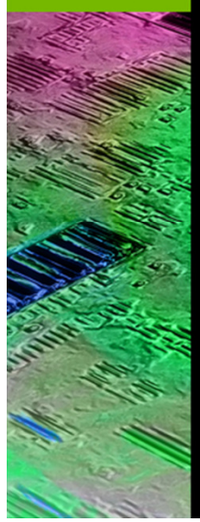

Thank You

- Questions ?

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