Stereoscopic 3D TV

From the cameras to post production and broadcast

- “3D TV”
  - Mark Northeast, VP Sales, Quantel

- “Shooting live 3D events”
  - What we have learned along the way
    - David J. Woods, 3reedom Digital

- “Single lens 3D technology”
  - Payman Sultani, ISee3D &
  - Tom Mitchell P.Eng, CTO and Director, ISee3D

- “3D in the living room”:
  - From stereoscopic TV, DVD players and interactive games consoles.
    - Jean-François Ridel, Sensio Technologies

Organisateur/Organiser:
Pierre Louis Landry, Incospec 450-686-0033 x108

Commanditaires/Sponsors:

Incospec Communications Inc.
Radio-Canada

http://www.radio-canada.ca/
ISee3D Inc.

Still and Real Time 3D Images from a Single Camera and Lens
History

- 5th spin out company from MacDonald Detwiller – a large space systems contractor

- Build many 2 camera system for Space, Military and Subsea harsh applications

- Biggest lesson - Learned how to make viewers sick with expensive mismatched dual optics and cameras.
• Discovered the ability to capture two views through a single lens (multi-element) by attempting to prove that the effects we were seeing were invalid.

• Once discovered, quickly patented the technology and build systems for the Medical endoscopy/arthroscopy market with an FDA 510. Thousands of procedures done with no strain of surgeon’s critical eyes.
Weakness a Decade Ago

- We were limited to NTSC and PAL resolution and CRTs.
- Low resolution and dim screens.
- Worked extremely well in a darkened operating room but not a living room.
Enter HD, LCD & Plasma

- While the capture technology was excellent had to wait for higher resolution and brighter displays - welcome HD LCD and Plasma displays.

- Over the last 9 months have modernized the technology to HD and filed more patents
Dalsa 2k 60 frames per second industrial camera

Nikon 85 mm commercial lens COTS

ISee3D Optical Switch in a large housing to work with several sized lenses
3mm Lens Real Time Endoscope / Cell Phone Camera
Hardware and Software

• Proprietary Fast Software using Matrox Imaging Boards
Technology

- Patented Optical Switch and electronics control
  - Additional patents filed

- Software and fast computer system to talk to the various cameras and many 3D displays.

- Allows capturing two views through a single lens system

- Single camera or imager for cost, size reduction and longer battery life
Advantages

- No eye strain - Natural 3D
  - Uses matched left and right side of the lens system
- Single Camera
  - Reduced weight and cost
- Single Lens System (large and small)
  - Reduced weight and no alignment required
- Has been used successfully
  - Zoom lens
  - Endoscopes
  - Telescopes
  - High magnification microscopes
- No change of Zoom and Focus function of lens system
  - System tracks toe-in by nature of the optics
  - Infinity focal plane for 3D occurs where the lens is focused
  - Ideal for real time imaging with or without Z axis calculations/transforms
Going Forward

• ISee3D is a technology and licensing company

• We are looking for partners who are interested in licensing this technology to build products in various market sectors
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