Ogg Theora

Dr. Timothy B. Terriberry
Ogg Theora: Activity

• New decoder
  - `theora-exp` decoder and API promoted to mainline
  - Supports full specification
  - Additional asm optimization by Nils Pipenbrinck

• Monty developing new encoder: “thusnelda”
  - Uses `theora-exp` motion search, mode decision
  - New rate control module planned

• Google Summer of Code: André Costa
  - FPGA decoder implementation on a LEON3
  - Works at 96x80, but needs memory controller
Ogg Theora: Challenges

• Getting active developers
  – Require highly specialized technical background
  – Corporate interests focused on MPEG

• Good tool integration
  – Seeking support usually poor or broken
  – Virtually no chaining support
    • Needed for hybrid streams that are a mix of 24fps and 30fps content, since Theora is fixed-framerate

• Adoption
Ogg Theora: Dependencies

- Libraries in use: libogg
- Projects dependent upon
  - Players (totem, vlc, xine, mplayer, etc.)
  - Content creation (ffmpeg2theora, Cinelerra, LiVES)
Ogg Theora: Next Steps

- Decoder
  - ARM/DSP optimization (Nokia N800, etc.)

- Encoder
  - Make “thusnelda” the new mainline
    - Still much work to do before it is ready

- Opera/Firefox integration
  - The codec issue in HTML5 is still not resolved
  - A defacto standard is better than nothing