Ogg: Roadmap

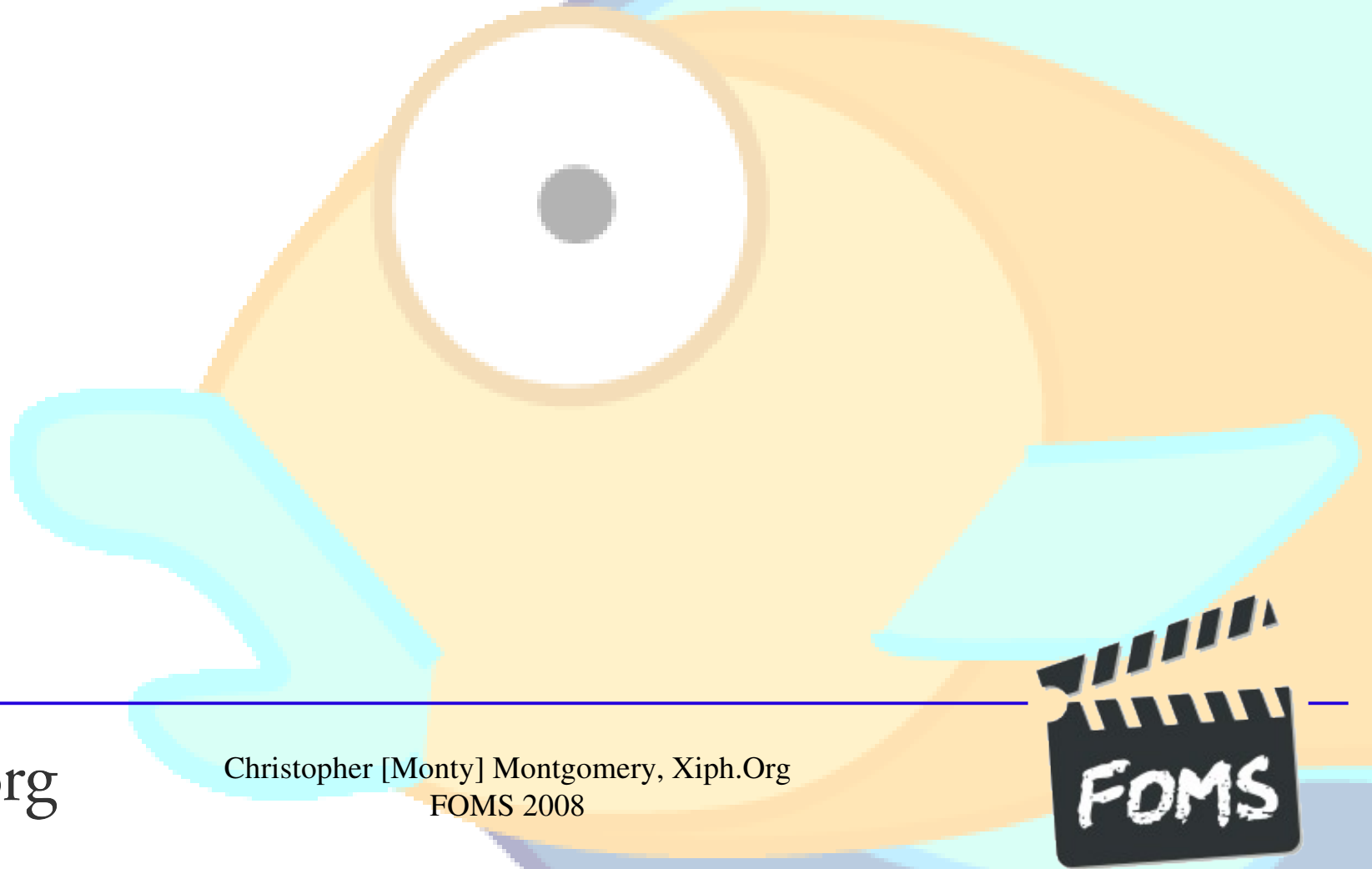Christopher [Monty] Montgomery, Xiph.Org
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xiph.org

FOMS

Ogg: Current Generation

- Ogg Encapsulation
  - Ogg format
    - Intended for **linear** stream storage and 'last mile' delivery
    - maximal flexibility combined with lowest overhead
    - mature, established, proven
  - libogg1
    - very low level 'mechanism' library for handling Ogg streams
    - does not provide self-sufficient muxing API, application responsible for handling mux and demux decision making, tracking

The current generation is clearly 'unfinished'. Leaving several pieces of infrastructure to third-parties to implement has resulted in highly inconsistent client software.

Ogg: Current Generation

- ## Ogg Codecs: Vorbis

  - general purpose audio codec: oldest/best known of Ogg codecs

  - exceptionally wide encoding 'sweet spot'

  - still best-in-class across most of sweet spot

  - mature/proven

  - despite age, several utilities/features never implemented:

    - detailed surround couplings (eg, 5.1)

    - peeling

    - integer / free high-speed encoder

Most 'unimplemented' features undone due to sporadic or light demand. Nevertheless, demand exists.

Ogg: Current Generation

- Ogg Codecs: Theora
  - Originally adopted from On2's open-sourced VP3 codec
  - Solidly previous-generation codec, but still competitive
  - Low complexity for delivered performance
  - Original VP3 encoder not particularly high performance, to be replaced by new encoder ('Thusnelda', now in progress)
  - Original VP3 decoder already replaced in mainline

Theora is reliable and mature, but suffers from a low-performace encoder. If necessary, the Theora format will be extended to keep it competetive with MPEG4/h.264 until a clear OSS successor eventually appears.

Ogg: Current Generation

- ## Ogg Codecs

  - Speex: best in class narrow-/wide-band speech codec
  - FLAC: OSS lossless audio compression

- ## ....etc

  - Annodex
  - Skeleton / Metadata

Ogg: Challenges

- Primary challenges are nontechnical
  - Willing contributors, insufficient sponsorship
  - Patent FUD

- Technical challenges mostly 'getting the work done'
  - More and more detailed documentation
    - Technical reference documentation
    - Design rationale: fight technical FUD with logic
  - Complete 'unfinished' infrastructure to curtail implementation chaos
  - Improve existing infratructure where imperfect
  - Official certification vectors

Ogg: Next Generation

- Ogg2: Proposed revision of encapsulation (minor tweaks)

- libogg2: libogg with a higher-level API

- Next Generation codecs:

  - Ghost, successor to Vorbis

  - Celt, low-latency audio codec

  - Dirac (form the BBC), next generation video codec

Although the Next Generation is in progress, several aspects of the current generation are still castles in the sky. Do not fall prey to Babbage's Disease! Finishing the current generation is the most useful work.