Project Update

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Commercial Removal

The Task

- Remove all the commercials from a recorded TV program.
- Do this quickly.
  - ≈ 2 minutes per hour of TV is the goal.
- Fully automatic solutions do not work well enough – too many false positives and negatives.
Previous Work

Automatic solutions

- Look for black frames indicating that a commercial is starting or ending.
- Look for patterns in audio indicating commercials.
- Look for station identification “bug”.
Manual solutions

Mostly like a VCR with some extra buttons.
Cluster Editor

- Idea: generalize a show into scenes that the user wants to see and doesn’t want to see.
- So cluster similar scenes together and let the user choose the partition.
  - Something like treemaps.
Other applications

- General video editing.
  - For example, remove all scenes at a certain location.
  - Less precise, but a good quick start.
Implementation Details

- Working off of mythtv code base.
  - [http://www.mythtv.org](http://www.mythtv.org)
  - Limited user input support.

- Written in C++ using QT.
Backend mostly done.
  ▲ Scene detection speed/accuracy tradeoffs.

Still a lot to do with frontend.
  ▲ Multiple metrics.
  ▲ Better cluster interaction algorithms.
Questions?