

DIGITAL – Institute for Information and Communication Technologies



DIGITAL AV MEDIA DAMAGE
PREVENTION AND REPAIR



VidiCert

Efficient Video Essence Quality Assessment Tools
DigiBETA & Noise Restoration

IBC 2014, Amsterdam



Focus on Essence Defects

- File integrity
- Wrapper (MXF, MOV, AVI) standards compliance
- Stream (MPEG,....) standards compliance
- **Essence (base band, content based) quality assessment**
 - Analysis of raw image data – independent of encoding
 - Video and movie degradations
 - Detects multi-generation defects
 - Analogue and digitally born
 - Resolution independent
 - No reference video required





Use Cases for Essence Quality Checking

- Archive
 - Archive digitisation/migration QC
 - Selection of / search for content with specific quality properties
- Production & Post
 - Rushes
 - Incoming & outgoing quality assessment in video and movie post-production
 - Estimation of the restoration effort
- Delivery
 - Quality assurance before broadcast / distribution
- Streaming services & portals
 - Quality based video selection



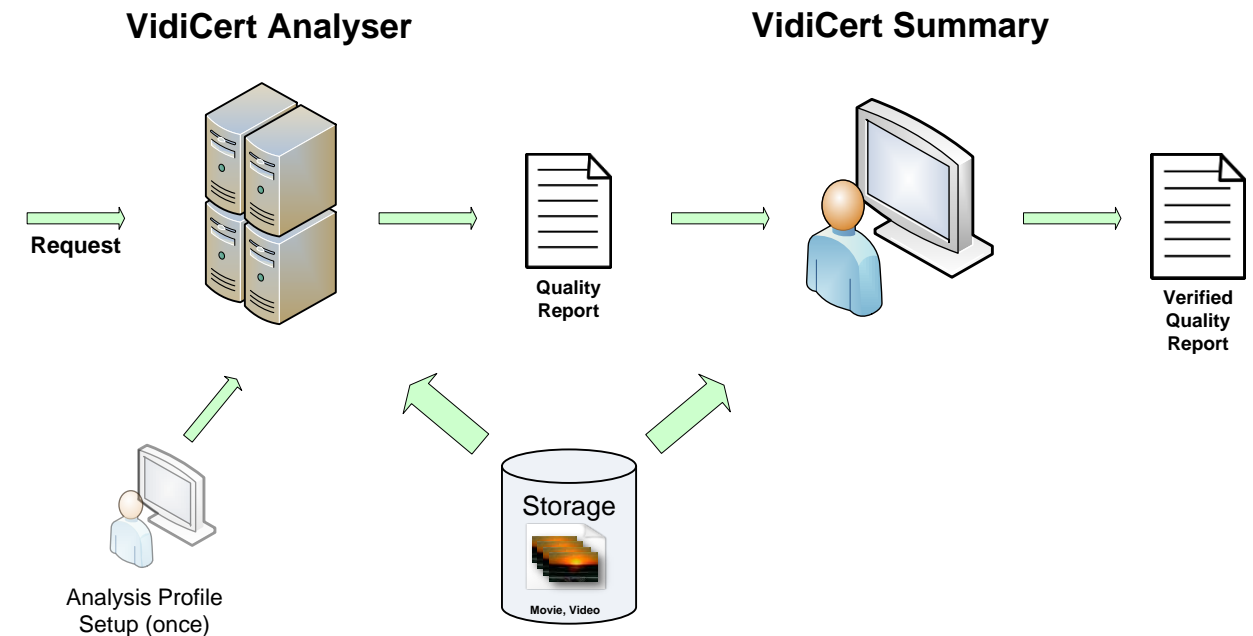
Preservation Use Cases for Essence Quality Checking

- Content Ingest/Migration
 - monitor if the video player shows problems (head clog, drop-out, video breakup, off-lock,.....)
 - monitor the scanning process (instability, out of focus, white/black point, ...)
 - ingest only high quality content (no up-scaled one, ...)
 - check the encoding/transcoding (blocking, sharpness,)
- Content Selection/Access/Usage
 - select my 'best quality copy'
 - search for a video with minimum quality for a certain usage
 - noise reduction necessary?
 - Sharpness high enough?
- Restoration Planning
 - estimate costs
 - select tools/systems



Automation of Essence Checking

- Fully manual
 - Highest quality, extremely expensive
- Fully automatic
 - Limited functionality, very cheap
- Automatic analysis + Human verified
 - Cost efficient and high quality





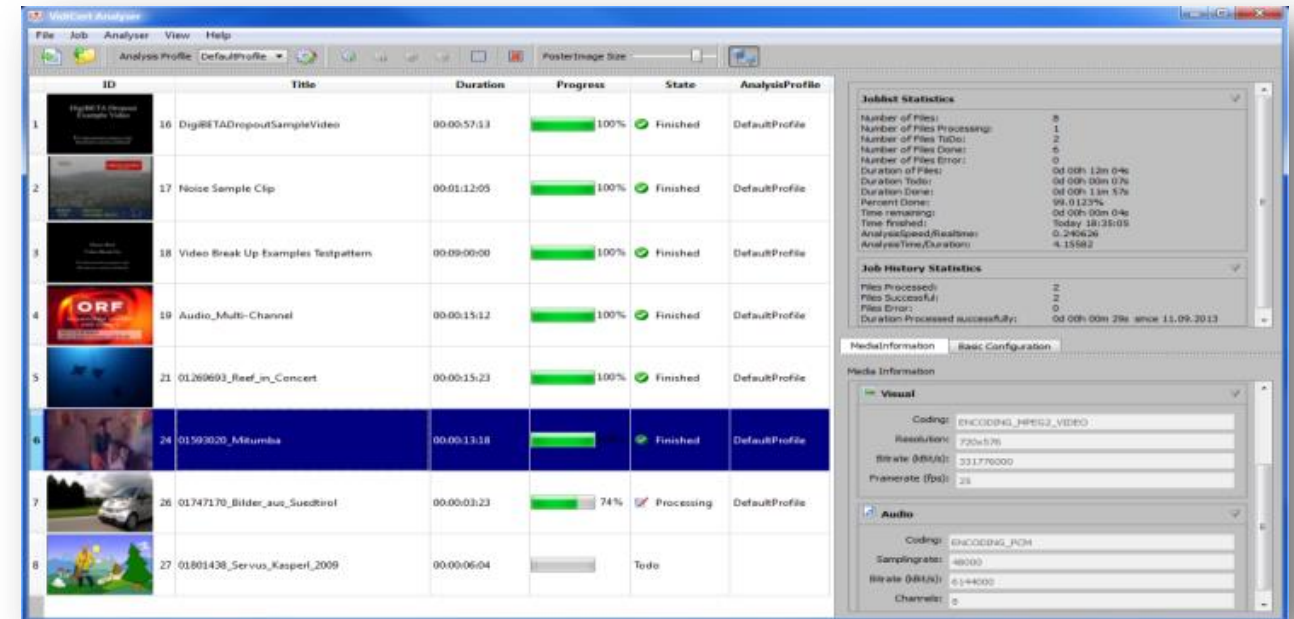
Automatic Quality Analysis

VidiCert Analyser Integration

Detectors

- Video Breakup (major analog video disruptions)
- Noise/Grain (electronic & film grain)
- Digital Tape Dropouts (e.g. Digital BETACAM™)
- Blurriness
- Monochrome Frames
- Test Pattern
- Silence
- Dolby®E™
- Field Order Errors
- Scanning Type Errors (Progressive/Interlaced, Cadence)
- If you need a specific solution we are here to implement it!
 - e.g. Line Dropout Detector

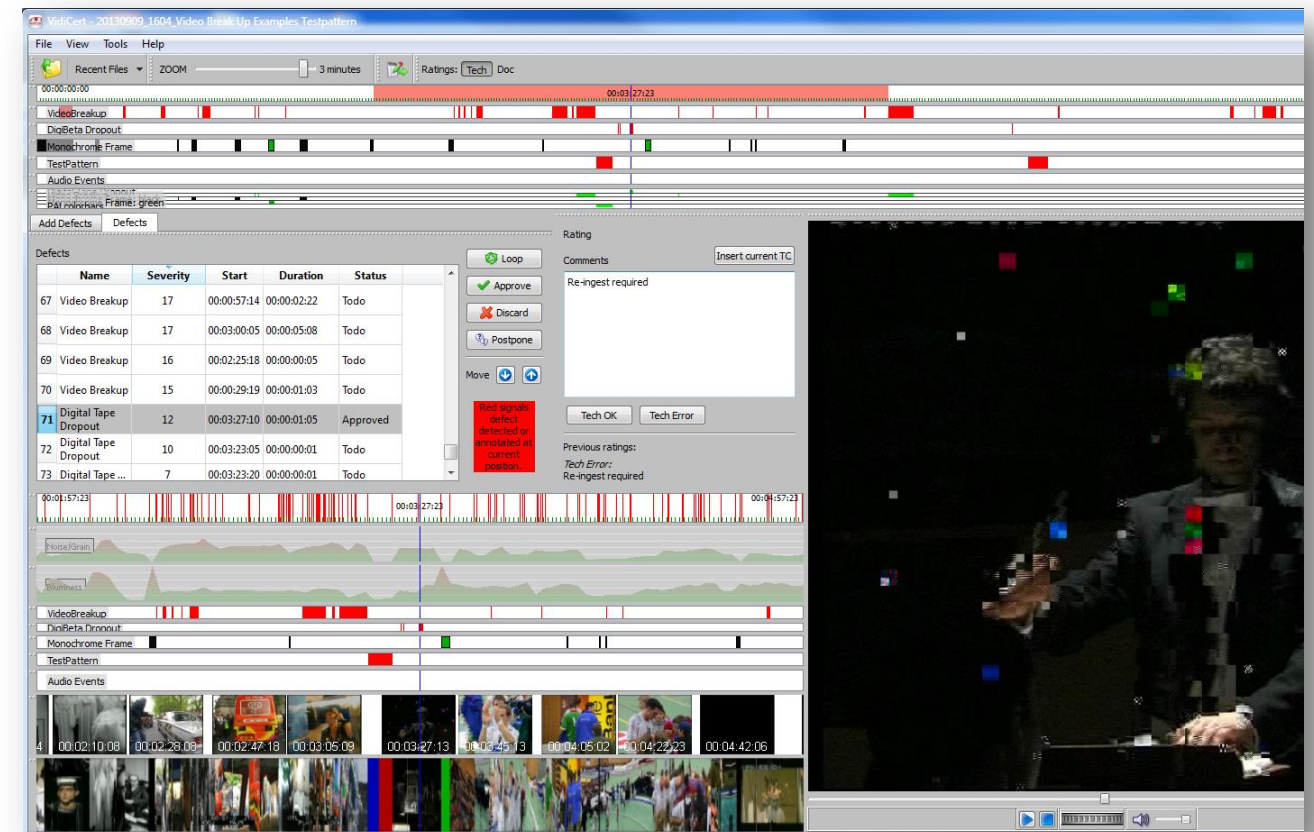
- Metadata fully compliant to MPEG-7/AVDP (XML)
- Customizable analysis profiles
- Highly optimised GPU accelerated algorithms
- Workflow integration via web service & drop folder





Efficient Interactive Essence Quality Verification

- VidiCert Summary Integration
 - Advanced summarisation and navigation by various timeline based metadata views
 - Efficient human quality judgement by severity based inspection
 - Fully customizable user interface (including full screen video player support on second monitor)
 - Rating support for multi-stage QC





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Restoration Digital BETACAM Dropout





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Restoration Digital BETACAM Dropout

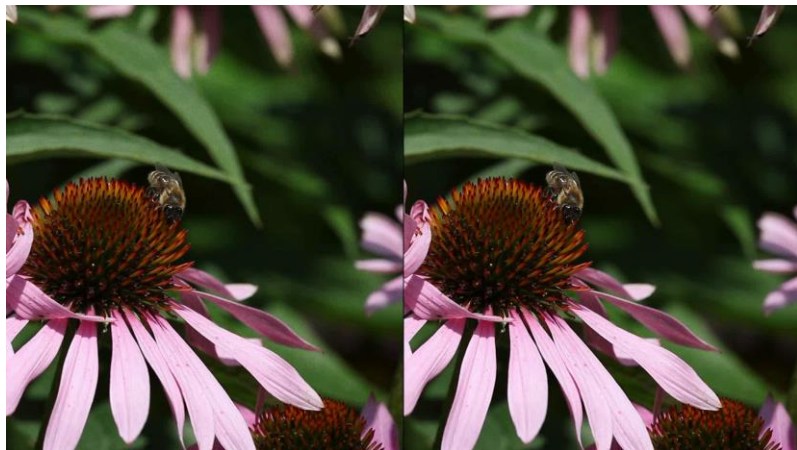




Noise Restoration

Goals

- Support broad range of noise (sensor, film-grain...)
- High degree of automation



Applications

- Restore archive content to reach target program quality
- Avoid blocking problems in distribution channels (satellite, Blu-ray, DVD)
- Video storage reduction





www.vidicert.com

Contact

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