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sachs**MEDIA**

Annotation

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Speech Recognition

Retrieval

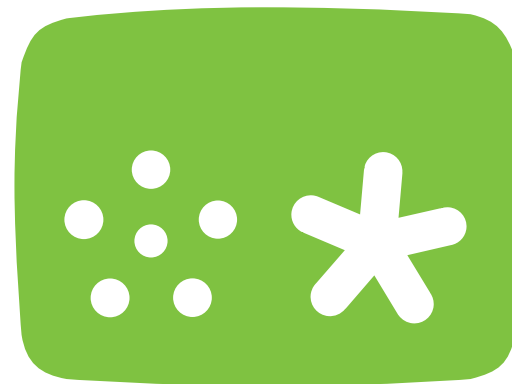
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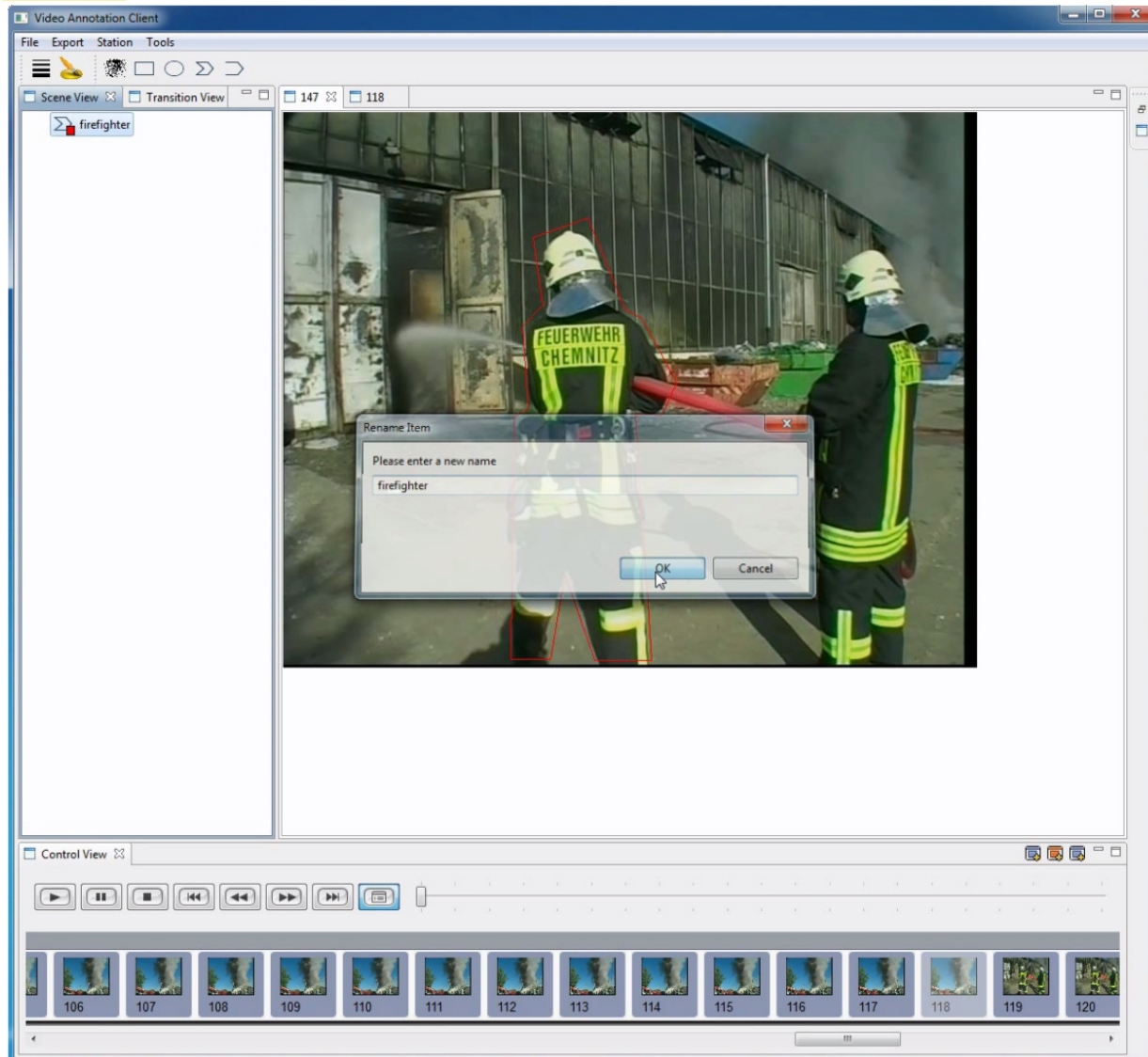
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- (1) Manual video annotation describes the process of adding meta data to specific structures within a video.
- (2) At first, we start with opening a video, which is preliminary connected via a XML file.
- (3) All video frames are directly loaded and displayed into the control view.
- (4) Double clicking enables the user to select the underlying frame for editing.
- (5) In this example a firefighter is selected by using the *Polygon Tool*. Name and color may be changed.
- (6) Finally the annotated content is exported in compliance with MPEG7 standard.



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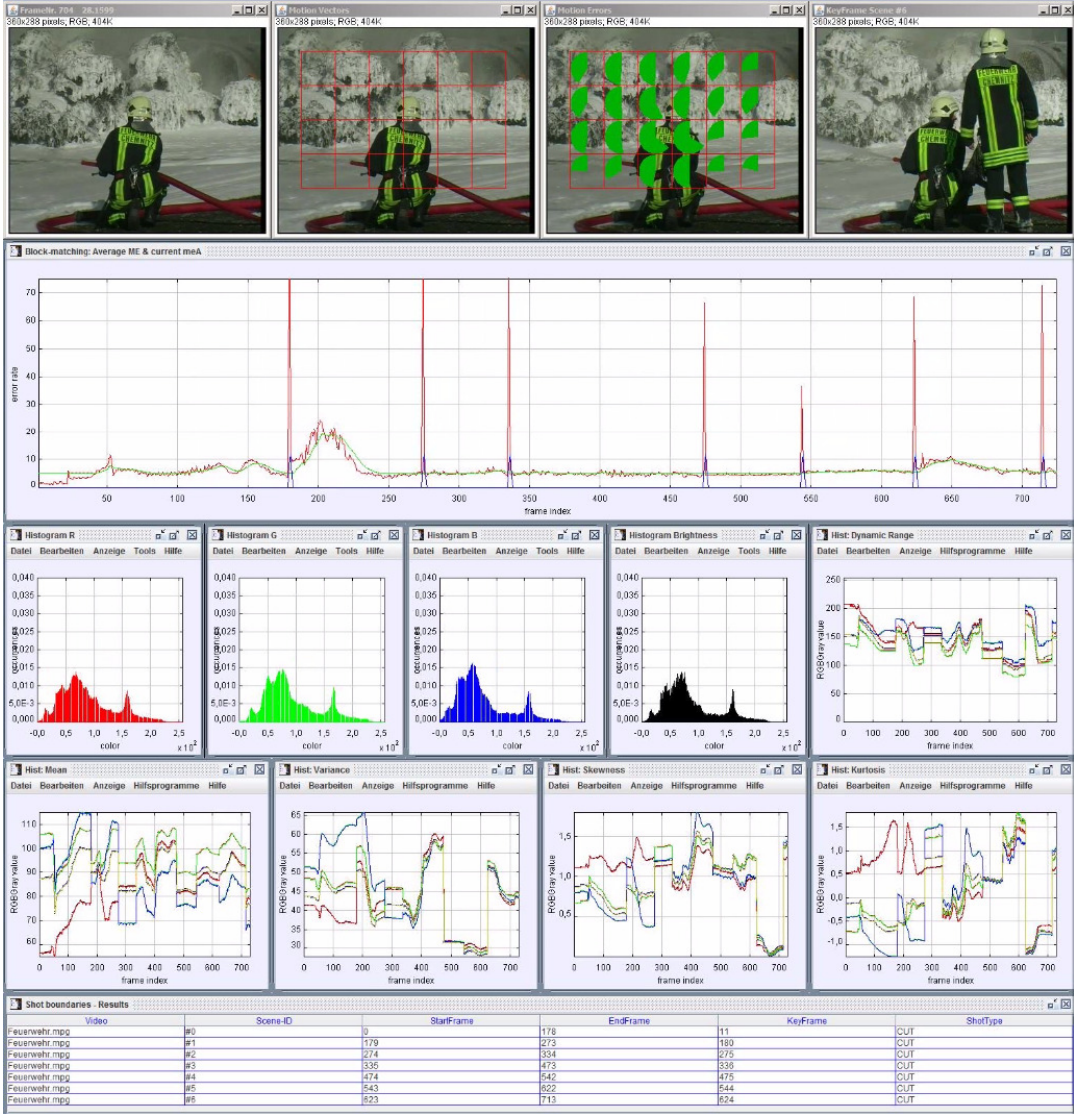
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(1) Visualization (top)

- Current original frame (leftmost)
- Motion vectors of neighboring frames (inner left)
- Errors of motion vectors – yellow and red pie charts indicate shot candidates or detected shots (inner right)
- Representative key frame of the last detected scene (rightmost)

(2) Mean average Errors (2nd row)

- If the ratio of red and green curve exceeds a limit of a predetermined factor, trigger detection of a shot.

(3) Histogram extraction (3rd row)

- Red, green, blue, and grey channel of the current frame

(4) Calculate statistics from histogram channels (4th row)

(5) Show information about detected scenes (bottom)



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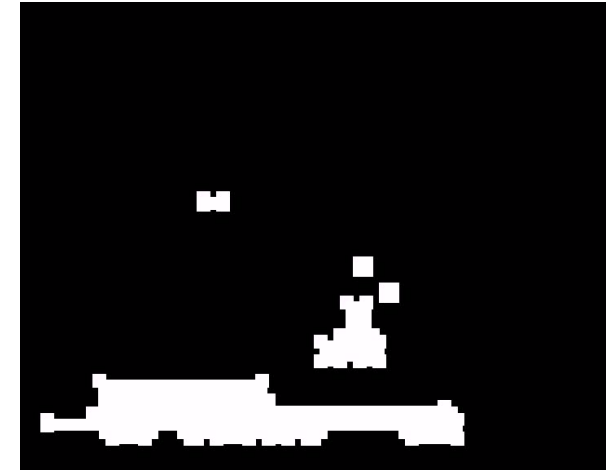
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Original



Weighted DCT



Bitmapping



Text block Composition



Region-based Thresholding



Inverting and Handover to OCR



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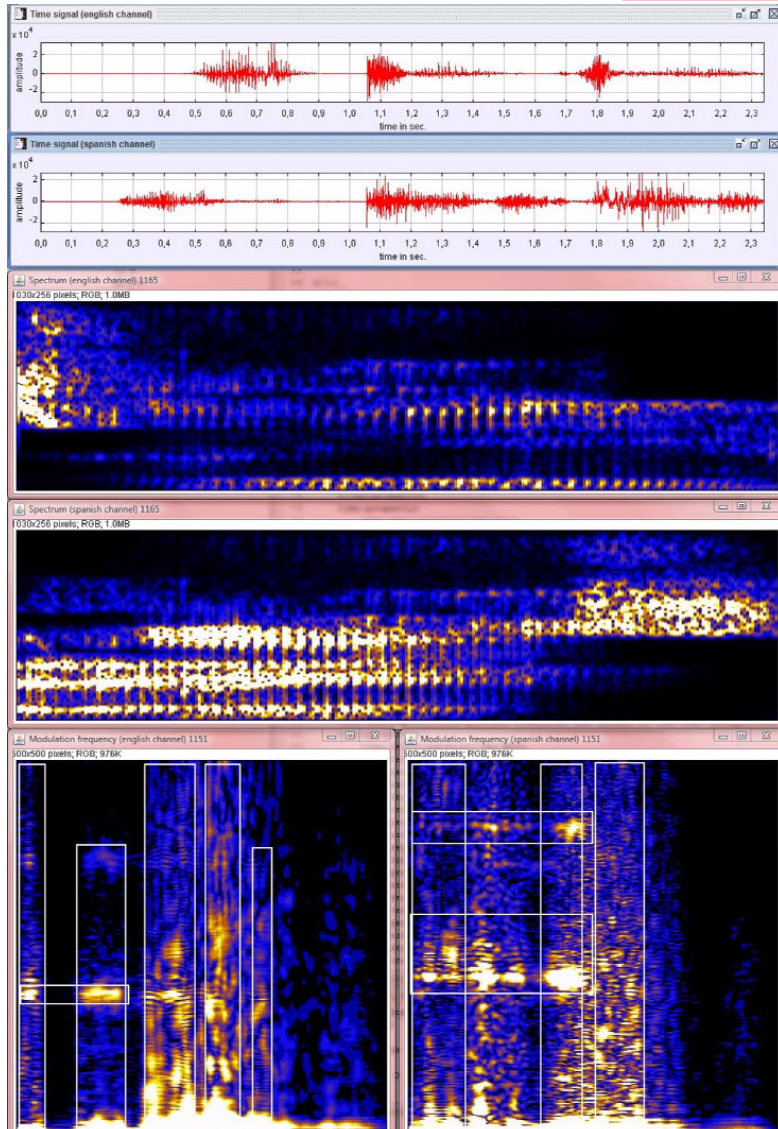
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(1) Amplitude display (1st pair of rows)

- 1st row shows the signal of an English speaker
- 2nd row illustrates the signal of a Spanish speaker

(2) Spectrogram (2nd pair of rows)

(3) Modulation Frequency (bottom)

- Long term analysis of the signal (one window describes a period of two sec)
- Fourier transformation of the frequencies over the time
- Lines, rows and peaks displaying typical features of the speaker (highlighting of the lines and rows with rectangles)
- The left picture shows the English speaker and the right Spanish



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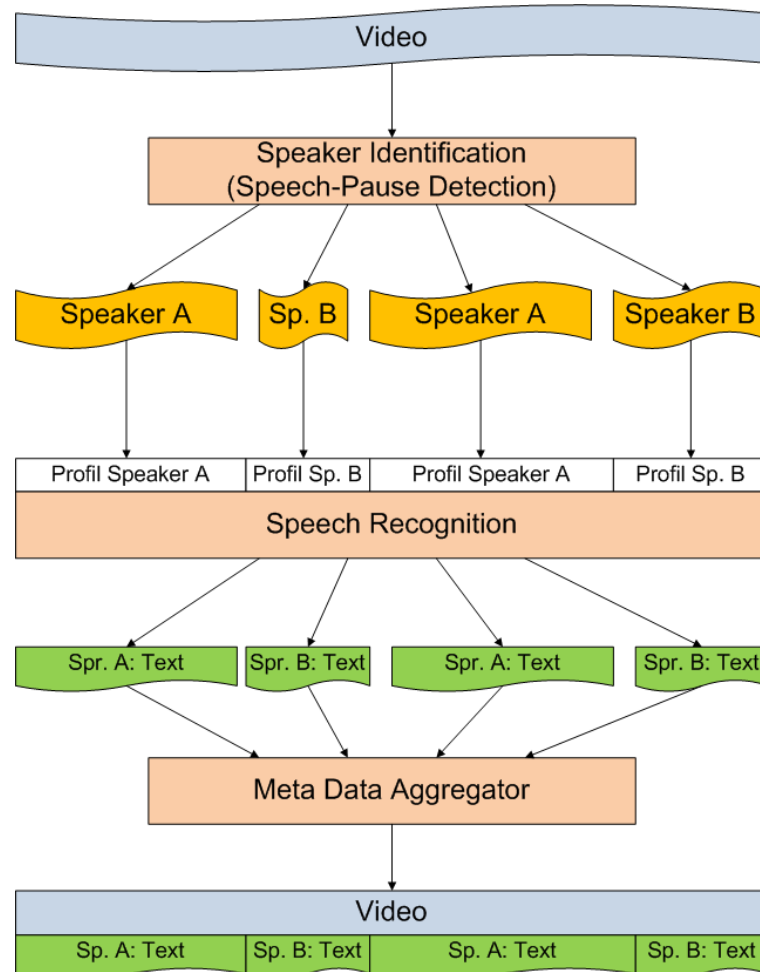
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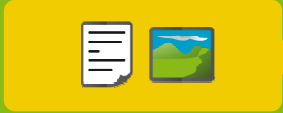
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- Speaker identification using vector quantization
- Splitting up the video in segments of the speakers
- Speech recognition using speech profiles of the recognized speakers
- Combining recognized text incl. time stamps and speaker with the video by using a meta data aggregator



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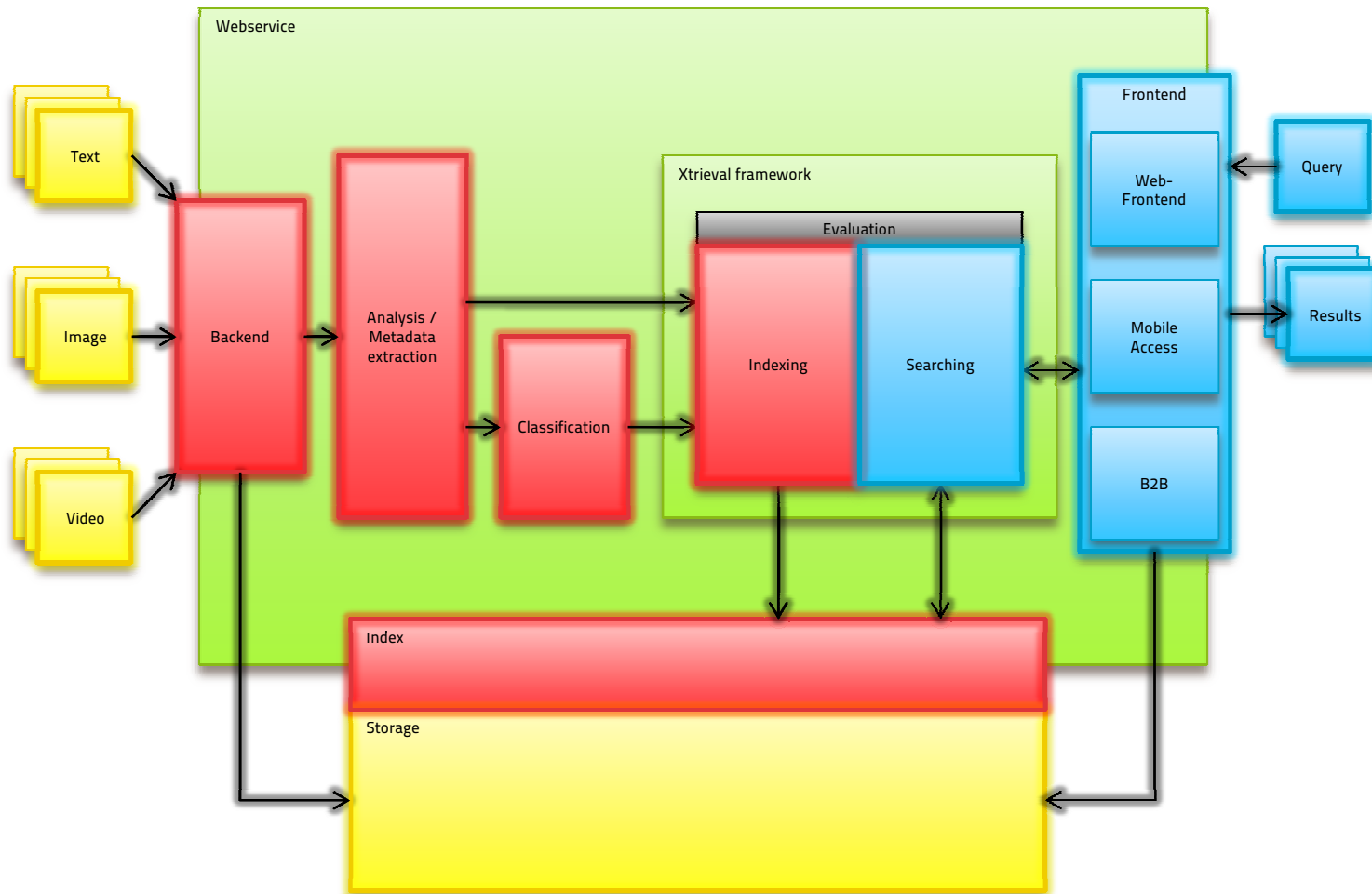
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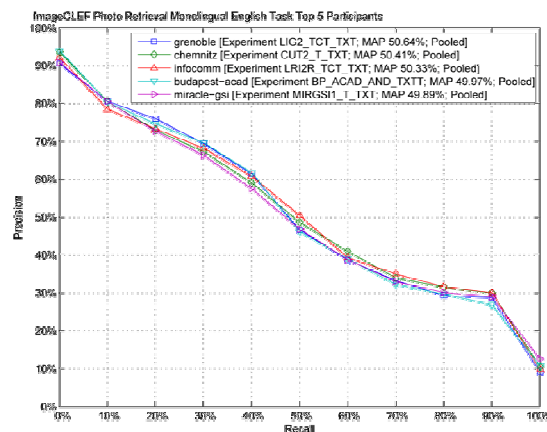
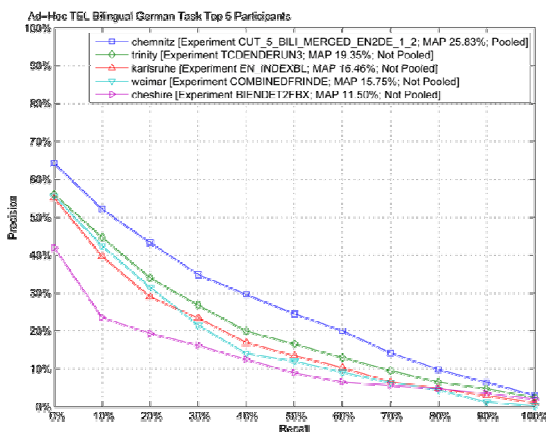
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- Framework for retrieval evaluation
- Top results in CLEF competition
 - Ad-hoc text retrieval: 2009
 - ImageCLEF: 2006, 2009
 - VideoCLEF: 2009
- Integrates SoA IR toolkits like
 - Apache Lucene
 - Lemur toolkit (CMU, UMass)
 - Terrier Framework (UGIa)
- Graphical user interface allows
 - Managing relevance assessments
 - Import/export of experiments
 - Fast comparison of experiment configurations





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sachsMedia - Xtrieval Video Search Engine - Mozilla Firefox

http://sachsmedia-vr8000/index.html

sachsMedia Fussball go

BE Fussball

Klassifikation: Nationale Meisterschaft 1. Stufe, Fußball, Sportereignisse, Weltmeisterschaft, Sport



...das zweite spielen Fußball Sachsen
FFF zwei...

Talk Fussball

Klassifikation: Nationale Meisterschaft 1. Stufe, Fußball, Sportereignisse, Sport



NIF Jahre FSV Gruena

Klassifikation: Verein, Fußball, Sportereignisse, Modernes Leben, Sport, Freizeit




...Valentin eines zehnjährigen Fußball
Kicker aus grüner... ...viel für den Fußball getan und das...

sachsMedia - Xtrieval Video Search Engine - Mozilla Firefox

http://sachsmedia-vr8000/index.html

BE Fussball



Tino Vogel
Trainer Chemnitzer FC

FFF für beide Mannschaften das zweite spielen Fußball
Sachsen FFF zwei FFF Gesetz BCC fünf immer nun stand die
zweite Runde in Sachsen haben über einen sehr langen
Spielzeit hinweg die Inhalte, die erste Halbzeit Muskau alle
Klassenunterschiede der Führer aus beiden Seitenziele
geschossen. Bei dem die besseren die Gastgeber
Spitzenreiter der Landesliga boten den Himmel blauen
ebenfalls Tabellenführer allerdings eine wieder höher weiter
Paroli dieses Fazit zog auch Alexander als völlig vom FV
Dresden sechs in der Halbzeit sehr ausgeglichen das wäre
hatten auch drei gute Chancenmittelpunkt Uhr 610 FFF
Chemnitzer durchaus ein zwei Chancen aber stände das nul
nul dessen zurückliegenden AP war nichts mehr
hinzufügen noch bis zum 75. Minute sollte es aber
trotzdem blauen als das erste Tor fiel und FFF hätten dem
FFF CCE treffen fünften Sonnenberg den Frieden kurz



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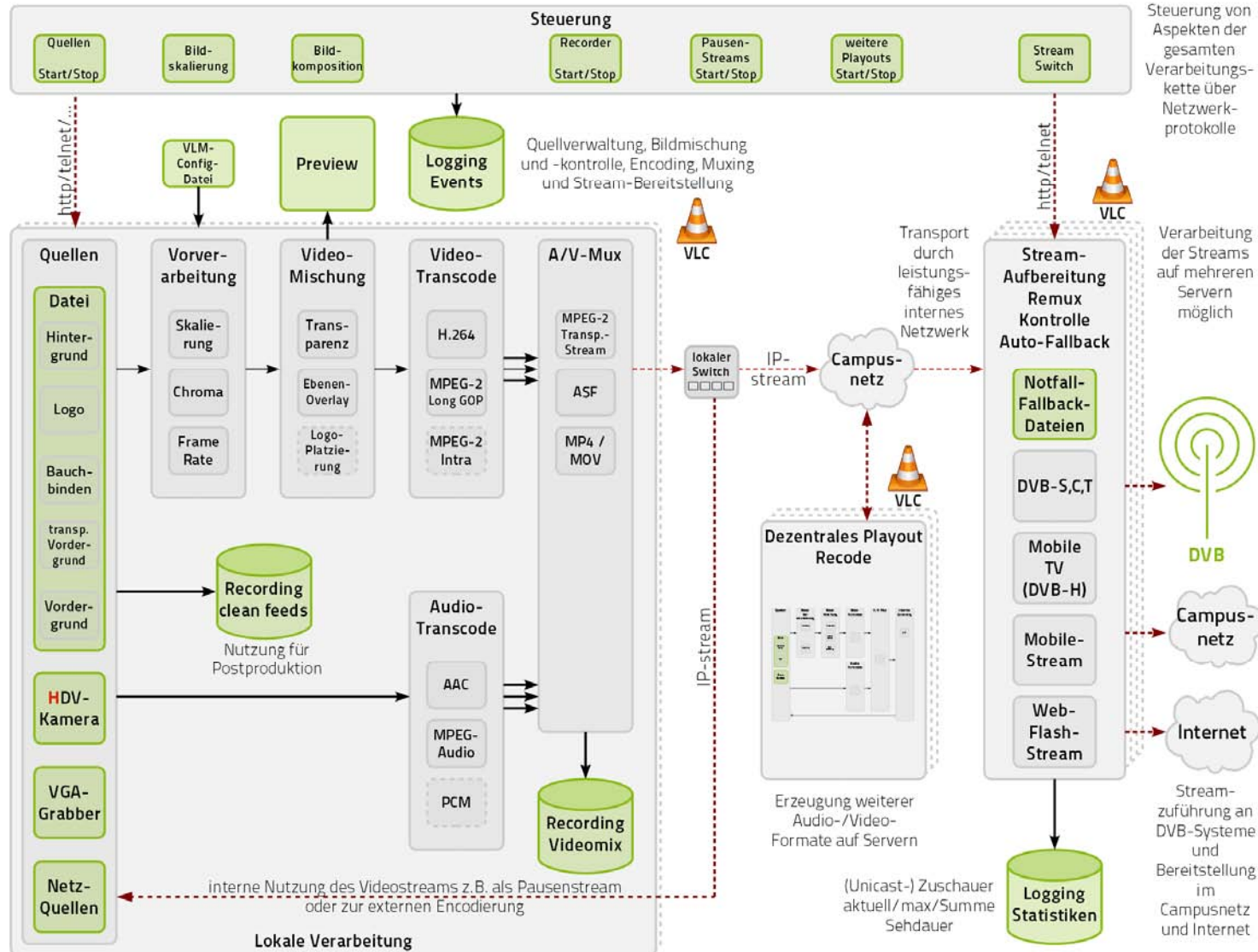
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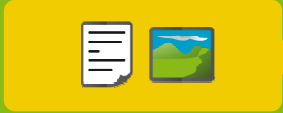
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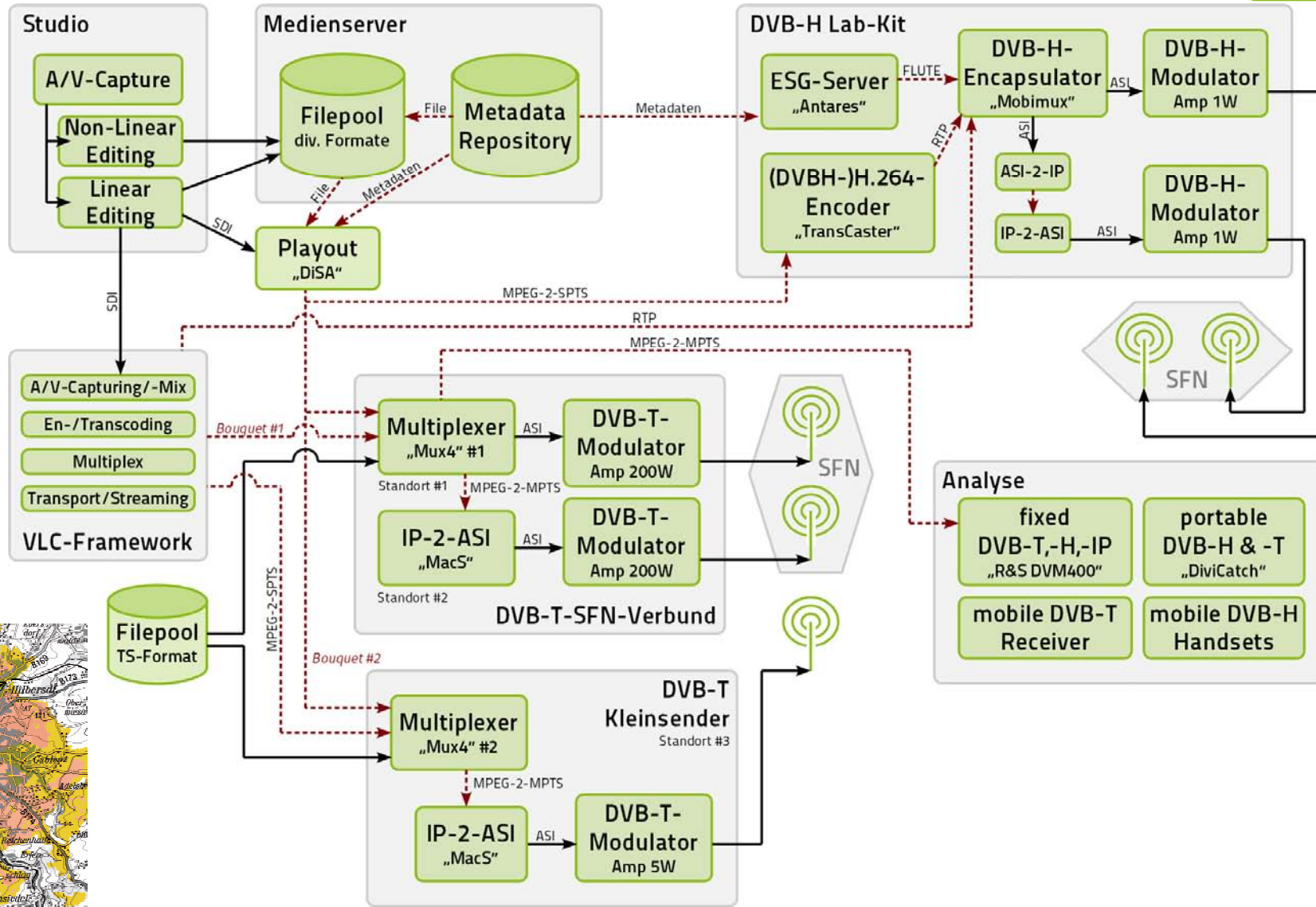
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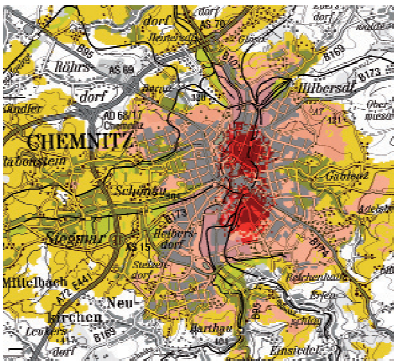
Live Production

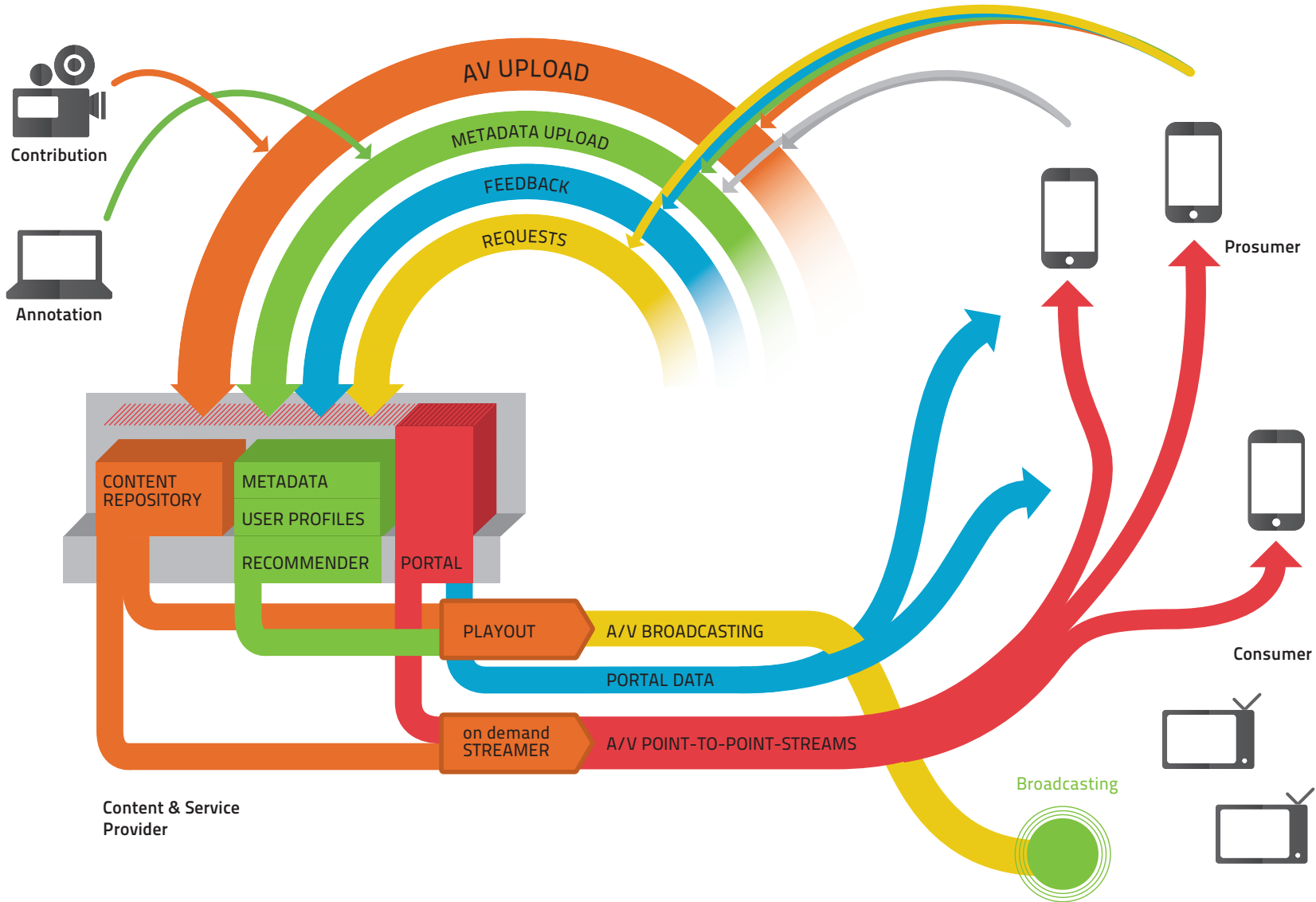
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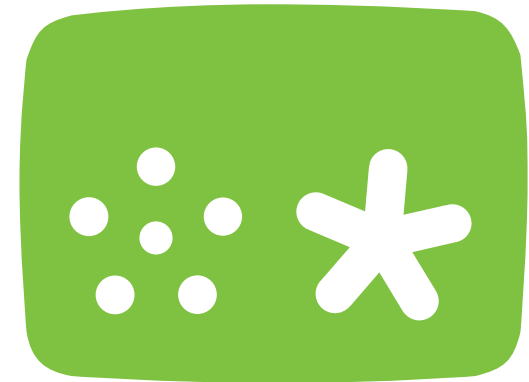
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