



Multimedia Department Research Presentation

Prof. Bernard Mérialdo

24 January 2013

Multimedia Communications Department

- **Who :**
 - 5 assistant professors and professors
 - 15 PhD students
 - 2 post-docs
- **What :**
 - Content processing
 - Audio
 - Image and video
 - Web

Audio Processing

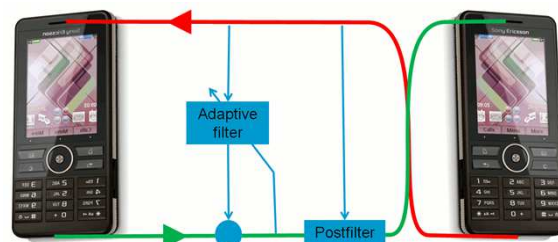
■ Speaker Diarisation

- Identify and recognize speakers
- Multiple microphones
- Participation to NIST evaluation



■ Speech Enhancement

- For mobile phones
- Non-linear echo cancellation
- Noise reduction



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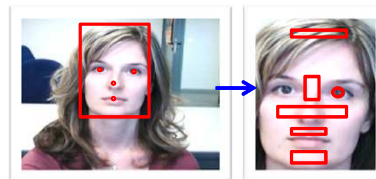
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Image and Video: Biometrics

■ Biometrics

- Face Identification from 3D models
- Face identification from video
- Soft biometrics: identify genre, sex, eye and hair color, height, weight...
- Combination with audio



■ Surveillance

- Gait identification
- Multi-camera person tracking



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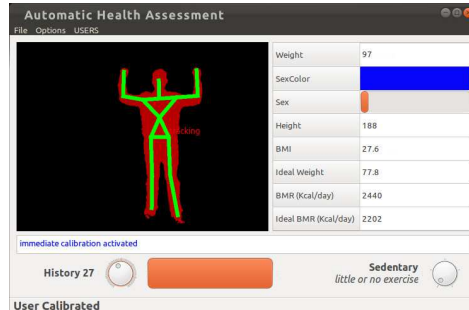
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Image and Video: Advanced Sensors

- **Measuring weight and height with the Kinect**



- **Drone automatic control**
 - Camera and wifi enables



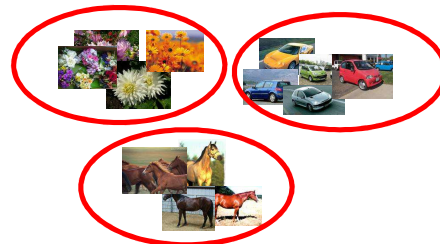
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Image and Video: Classification and Summarization

- **Semantic classification**
 - Identify the content of a video shot
 - Use multimedia fusion techniques: audio/video/text
 - Evaluate in TrecVid campaign
- **Video summarization**
 - Extract important information from video
 - Application to Wikio.fr



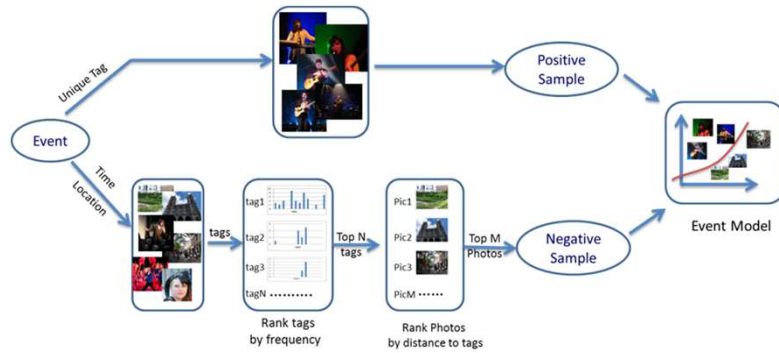
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Image, Video and Web

▪ Social Event Visual Modeling



Associate data to events

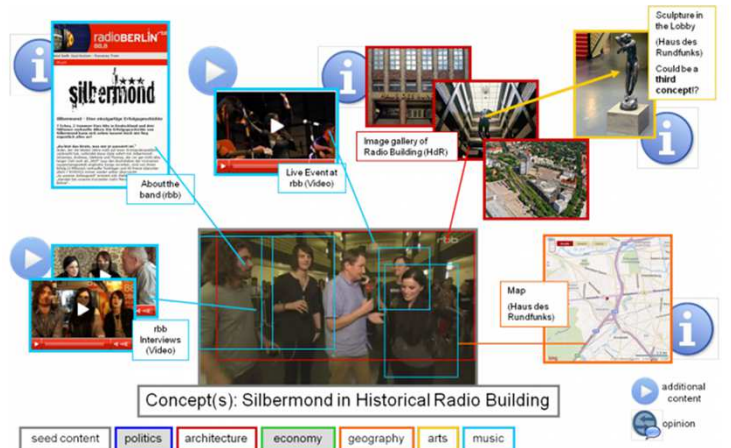
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Web Mining for hyperlinking

Silbermond in the Haus des Rundfunks



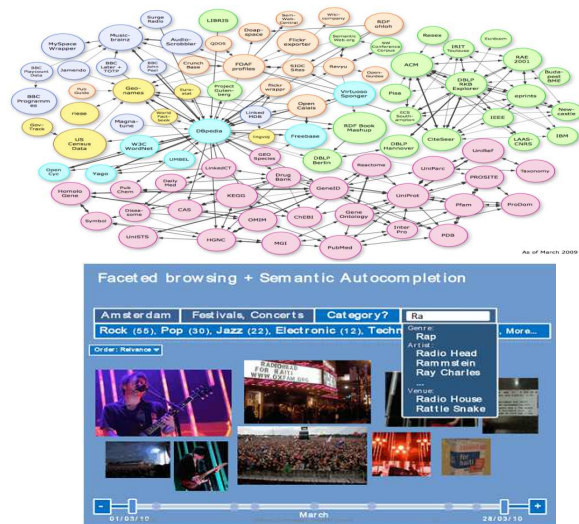
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Web Semantics

- **Semantic modeling**
 - Ontologies
 - Interlinking content
 - Multimedia indexing with background knowledge
- **Semantic interaction**
 - Event-centric user interfaces
 - MediaEval evaluation campaign
- **Standardization**
 - W3C Media Fragments

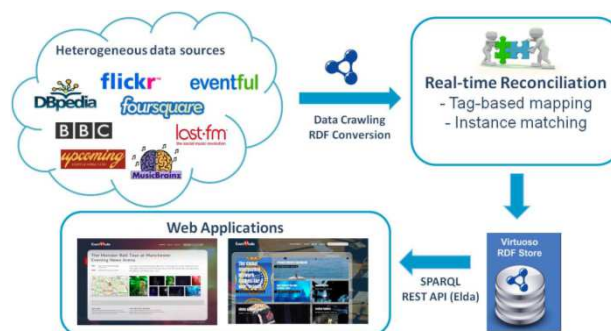


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Web Content Monitoring

- **EventMedia**



- **First prize at the Semantic Web Challenge 2012**

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