User scenarios and user requirements from media professionals

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1. CCMA Profile

• **Who are we?**
  - We are **Broadcasters**: 5 TV & 4 radio channels
  - **CCMA** was founded on May 30, **1983**
  - Our hallmarks: quality, public service
  - TV3 and Catalonia Radio are **Catalonia’s main communication media**: TV3 is the most watched TV by the country’s citizens.
  - We also publish on other media: **DTT**, PDAs, podcast, internet, mobile phones, etc
1. CCMA Profile

• ICT department is involved in 2 R&D projects:
  • SEMEDIA
    • FP6, STREP, 2007-2009
    • Objective: To develop tools that improve access, search and retrieval of media content in 3 different environment
1. CCMA Profile

• I3MEDIA

• Co-Founded by CDTI, 2007-2010
• Objective: To investigate and develop technologies that will allow automatic intelligent media creation and management
1. CCMA Profile

• Our role in the project:

1. No R+D.
2. Provide **Data set**
3. Lead **user requirements** and scenarios. Industrial requirements.
4. But we **integrate** others technologies, and use our MAM as a **prototype bed**
5. **Test and feedback** from profesional and end users
1. CCMA Profile

• Why R+D projects?
  
  • Face research with less risk and in an open and collaborative way
  
  • Get in touch with SOA
  
  • Mainly, we want to improve our MAM!!!
    
    • Full digital workflow at CCMA since 2003
    • > 100,000 digitized hours (3 petabytes)
    • > 1,850 users
    • Integrates all needs of a broadcaster, BUT NEEDS EVOLUTION
1. CCMA Profile

From videotapes archive, text database ...

to digital archive, online accessible.
2. Importance of User Requirements

- There is a gap between researchers and industrial partners needs & objectives
- Industrial partners have pressure on P&L
- Innovation (product, process, mkt, business model) is necessary for them to survive
- User requirements must be present in the whole lifecycle of innovation

Invention
- New Idea, Create

Innovation
- Bring to “market”

Dissemination
- Create demand
3. Process followed at SEMEDIA

• One year process to understand:
  • the 3 scenarios of use
  • their users’ requirements

Results were…
3. Process followed at SEMEDIA

- One year process to understand:
  - the 3 scenarios of use
  - their users’ requirements
- 634 + 1,338 questionnaires
- Also used: focus groups, interviews, observation, external group meetings
- BBC, S&M, Yahoo! & CCMA

Results were…
3. Process followed at SEMEDIA

- Initial results were:
  - We were able to understand a wide range of industry practices
  - Clarified the 3 scenarios for media search
  - Selected the 15 technologies to develop
  - Identified users’ main requirements

- And then we asked:
  - How can we help you to do your work more efficiently? An with more quality?
  - What are your typical daily tasks? **What do you need** exactly?
  - would you like new tools to look like?
  - Others: **time-saving, usability, usefulness**
3. Process followed at SEMEDIA

- Guiding technical research by means of UR should be an iterative process
- Best way to assure it:
  1. Establish a group of test users (in our case, 9 professionals from Archives, 5 from News, and 2 from Sports Department)
  2. Integrate technologies
  3. Perform tests
  4. Analyze results
  5. Give feedback to researchers
4. URs from media professionals

Results on time-saving:

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<tr>
<th>Task</th>
<th>BBC</th>
<th>CCRTV</th>
<th>S&amp;M</th>
<th>Yahoo!</th>
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<tr>
<td>Textual annotation</td>
<td>Average</td>
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<td>Detection Events (Goals) and static-dynamic events</td>
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<td>Content Browsing using Stripe Images</td>
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<td>User mining and user activity</td>
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<td>The video hotspots</td>
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No time  A little time  Some time  Quite time  A lot of time
4. URs from media professionals

Results on usefulness:

- Textual annotation
- Detection Events (Goals) and static-dynamic events
- Video Summaries
- Video Material and Video Search
- Visual content clustering
- Camera motion detection
- Visual recognition: logo detection and OCR detection
- The video marker
- Retake detection
- The video summary
- Content Browsing using Stripe Images
- User mining and user activity
- The video hotspots

(Average)

BBC
CCRTV
S&M
Yahoo!
4. URs from media professionals

Results on acceptance:

- Video Search
- The video marker
- Video Material
- Textual annotation
- Video Summaries
- Detection Events (Goals) and static-dynamic events
- Keyframe Selection
- The video summary
- Object Highlighting
- The video hotspots
- Visual content clustering
- Visual recognition: logo detection and OCR detection
- User mining and user activity
- Content Browsing using Stripe Images
- Camera motion detection
- Retake detection

Bar chart showing acceptance levels for various media-related tasks with categories ranging from <20% to >80%. The chart includes data from BBC, CCRTV, S&M, and Yahoo! with labels indicating degree of satisfaction.
4. URs from media professionals

• Some conclusions:
  • Technologies are highly welcomed by users
  • Need to be integrated in own systems, scalable, and speedy or no success at all
  • Specific details for each technology
  • Some technologies are a doubt and have to demonstrate their usefulness in prototypes
  • Use cases and user requirements are dynamic (users skills evolve)
  • The direction: large scale, distributed management, streaming services
4. URs from media professionals

• For the future practices, common research interests can be identified:

**Computer vision (+audio):**
Visual and similarity search, copy detection, event detection, Face/Audio/Logo/Product recognition

**Text analysis:**
Semi-automated tagging, controlled vocabularies, semi-automated indexing, collaborative search, UGC

**User interfaces:**
Clustering, Ambient Displays, Timelines, User profiling, Fast & Intuitive Navigation, effective ranking

**Production automation:**
Audit trail, Federated search, Metadata generation
5. Brief demo

Time for a demo...

Any questions before, please?