EBU
OPERATING EUROVISION AND EURORADIO

# MDN 2014 WORKSHOP

## TUESDAY 3 JUNE

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| 09.00 | **Registration** | |
| 09.30 | **Welcome** | |
| 09.45 | **Collecting metadata close to the lens**<br><br>It's a challenge to collect high-quality metadata, both during productions and after. We present some of our and our users experiences using Cam Report and Drylab Dailies on TV and film" productions. Mobile data entry on-set reduces the distance in both spaceti and time between what happened and what was recorded. Easy, metadata-based retrieval and navigation both while shooting and afterwards motivates users to provide high-quality information from the beginning. | Audun Vaaler<br>(Drylab R&D AS) |
| 10.30 | **The value of production metadata - or the lack thereof**<br><br>For the time being, large sensor camera's (Type SonyF55) tend to be technically less complex compared with than many television camera's we have been using lately (Panasonic P2, Sony XDCam) or consumer-grade equipment (iPhones, HTC,...). They produce RAW or XAVC wrapped in MXF, but contain little or no valuable metadata. Due to the lack of metadata, the cost and the lead time of post-production often explodes. While perfectly fine for the DoP or the director, the migration to 4k often turns out an economical struggle for the producer. In this session, you will learn about the value of production metadata and how producers can control the cost of modern digital workflows. | Maarten Verwaest<br>(Limecraft) |
| 11.15 | *Coffee break* | |
| 11.45 | **Rights description using semantic technologies**<br><br>Digital media is produced and exploited in ever-growing forms of delivery and consumption.<br><br>The new technologies allow the management of the full life-cycle of the production, from intention to brokerage: the process that creates the foundations for ownership on Rights.<br><br>The management of rights would be easily made, including in re-use and archives situations, if contents were ideally bundled with their associated rights.<br><br>We discuss here how both the expression and the clearance of the rights can be integrated through the processes of creating the works and then exploiting them, by means of semantic technologies.<br><br>The frameworks considered here are: the MPEG-21 standard of ISO/IEC, with its part 19 “Media Value Chain Ontology” (MVCO) and part 21 “Media Contract Ontology” (MCO); the model called “Functional Requirements for Assets & Rights” (FRAR), which is a generalization of the conceptual model called “Functional Requirements for Bibliographic Records” (FRBR); the EBU Core RDF; and some references to Premis OWL.<br><br>The contracts cover and govern the existence of rights, with their possible exploitations, and are agreed by business parties, physical or moral persons, who exchange permissions, prohibitions or obligations. The parties, or their agents (including tools), are thus covering specific roles with respect to the contract clauses, the other parties, and especially all kind of intellectual property entities (from the scenario to the last media object).<br><br>The convergence of the models, the possibilities of concrete applications, the possible options for adddressing the issues, will be presented and discussed on the basis of practical examples. | Laurent Boch (RAI)<br><br>Jaime Delgado (Universitat Politècnica de Catalunya)<br><br>Dieter van Rijsselbergen (Limecraft)<br><br>Roger Roberts (RTBF)<br><br>Guy Maréchal (Titan) |
| 13.00 | *Buffet lunch* | |
| 14.00 | **The Audio Definition Model in EBU Core 1.5**<br><br>Audio for broadcasting and cinema is evolving towards an immersive and interactive experience which requires the use of more flexible audio formats. A fixed channel-based approach is not sufficient to encompass these developments and so combinations of channel, object and scenebased formats are being developed and the need for the production chain to accommodate them.<br><br>The central requirement for allowing all the different types of audio to be distributed, whether by file or by streaming, is that whatever file/stream format (e.g. Broadcast | David Marston (BBC) |

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| | Wave Format (BWF)) is used,metadata should co-exist to fully describe the audio. Each individual track within a file or stream should be able to be correctly rendered, processed or distributed according to the accompanying metadata. To ensure compatibility across all systems, the Audio Definition Model is an open standard that will make this possible."<br><br>The Audio Defintion Model is a major new part of the EBU Core v1.5, adding metadata that will allow the technical format and content of audio to be fully described, enabling a fully flexible approach to audio formats in the future. | |
| 15.00 | **THE USE OF THE MPEG-7 AVDP PROFILE IN 3DTV AUDIOVISUAL CONTENT DESCRIPTION**<br><br>A framework devised for the storage of metadata describing 3DTV content, derived from the application of several 3DTV media analysis tools such as shot/scene boundary detection, person detection/tracking/recognition, facial expression recognition, music/speech segmentation, speaker diarization and music genre/mood characterization, in an MPEG 7/AVDP compatible manner will be presented in this contribution. Research prototypes of a 3D video analysis tool and a video search and retrieval platform that are making use in this description framework will be also showcased. | Ioannis Pitas &<br>Nikos Nikolaidis<br>(Aristotle University of Thessaloniki) |
| 16.00 | *Coffee break* | |
| 16.30 | **Building an API for television and radio program metadata**<br><br>The Finnish Broadcasting Company Yle is currently implementing an API strategy where all Yle's information will be made available via publicly available APIs on the web. APIs makes it easier both for Yle itself and the internet developer community to use Yle's data in websites, mobile apps and other applications. In this presentation we share our experiences from building one of the many APIs, the Programs API, which is the access point to Yle's information about all current and past television and radio programs including schedules, series, classifications, technical details about the program and much more. Technically the Programs API is a REST API where the data is represented as linked data to attain interoperability both between Yle's APIs and between Yle's data and the web of data. The metadata schema follows Dublin Core, EBU Core,Schema.org and other metadata practises and the data is serialised as JSON-LD. The first version of the Programs API was published in February 2014 and the first applications are already built on top of it. | Kim Viljanen (YLE) |
| 17.30 | **Wrap-up of the first day** | |

# WEDNESDAY 4 JUNE

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| 09.00 | **Welcome** | |
| 09.15 | **Task-based benchmarking and cost simulation**<br><br>We propose the use of task models modelling automatic metadata extraction processes. In addition to orchestration of analysis services, these task models are used to perform task-based benchmarking, i.e., to assess the performance of a specific automatic metadata extraction tool in the context of more complex task. This is used to select the best tool (or tool configuration) for a specific task context, but also to build models of error propagation throughout the analysis process.<br><br>We use the data gathered to perform cost simulations that allow to compate total costs of annotation manual processes with those of automatic tools with a certain performance, as well as considering costs for manual verification and correction to achieve a desired output quality. | Alberto Messina (RAI)<br><br>Werner Bailer (Joanneum Research) |
| 10.15 | *Coffee break* | |
| 11.30 | **Speech technology as an opportunity for disclosing the radio archive**<br><br>Automatic information extraction tools enable the automation of the usual manual annotation process of a broadcast archive. VRT Research & Innovation investigated the possibility of using speech technology on unannotated radio content. For this purpose, results of speaker diarization, speech recognition, keyword extraction and keyword spotting technologies have been analysed on one year of Dutch spoken radio archive. The main goal was to explore whether these technologies<br><br>are suitable for disclosing the content and as a consequence making it retrievable for a | Marieke Lycke (VRT) |

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| | bigger public. Therefore the results were gathered in a search engine. This session will include a demonstration of the results and a discussion of the main findings of the project**.** | |
| 12.30 | **Digital Repository of Ireland (DRI)**<br><br>In this presentation, we report on our experience using the EBU Core OWL ontology for annotating audiovisual archival content stored in an EBU Core XML Schema compliant tool used by RTÉ, the national public service broadcaster of the Republic of Ireland. We first describe the goal of the project and elaborate on the role of Semantic Web ontologies and technologies. We continue with a report on some of the challenges while using the EBU Core OWL ontology. We finally formulate several recommendations on the conceptual model and the ontology development method. | Christophe Debruyne (RTE/DRI) |
| 13.00 | *Seated lunch* | |
| 14.00 | **LARGE SCALE METADATA EXTRACTION AT BBC R&D**<br><br>Some of our recent projects in BBC R&D focus on scalable automatic metadata extraction. They include building infrastructures for processing very large audio-visual archives, and selecting algorithms that help in making these archives more accessible for internal production or the wider audience. We will present a case study that incorporates both aspects, starting with a collaborative project building a cloud-based media analysis platform, and how the platform can be used to extract video fingerprints for copy detection. The copy detection is based on the recent MPEG7 standard for video signatures, and we will present some early results on its ability to match rushes (uncut raw video material) to the final edited programme, as well as finding re-used video clips in broadcast programmes. | James Harrison & Jana Eggink (BBC) |
| 15.00 | *Coffee break* | |
| 15.30 | **EBU.io - Beyond paper recommendations**<br><br>The EBU Media Technology and Innovation recently started to develop online tools and reference implementations in order to support and complement the dissemination of paper recommendations and facilitate their adoption by Members and other stakeholders. EBU.io is an online platform which provides a flexible environment to host tools to apply agile methods to standardization as well as gathering software development and open source efforts among our Members. This talk will give you a taste of the architecture and will show few examples of hosted services. | Michael Barroco (EBU) |
| 16.00 | **Eurovision Sport ontology**<br><br>EBU acquire sports rights with major sport federations. For that reason a preliminary project started on the analysis of data received during sport events such as athletics or biathlon world championships, which led to the definition of an RDF/OWL ontology for the purpose of archive management combined to the search and retrieval of Eurovision footage. The result of this work will be presented during the seminar. | Jean Pierre Evain (EBU) |
| 16.30 | **Using RDF Metadata to Facilitate Conversion to Other Formats**<br><br>This presentation will describe a method to drive conversion from RDF triples to other schemas using RDF metadata. This approach leverages the ability to accumulate RDF statements and feed those statements into a conversion routine, resulting in a data-driven mechanism that is very extensible. The approach shows how to build "conversion schemas" as an alternative to embedding conversion data in algorithms or other formats. The approach will be demonstrated in Java using the Apache Jena RDF package. | Roger Sacilotto (AVID) |
| 17.15 | **Wrap-up and end of meeting** | |