



Relevant Tasks in the A/V Media Production Workflow

Deliverable D4.1



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3	2011-12-22	Completed questionnaire, added material from MIM/SCAIE
4	2012-01-24	Revised questionnaire considering results of D6.1
5	2012-04-26	Added task description sheets collecting results of survey (version for internal review)
6	2012-05-08	Final version, addressing reviewer's comments, added results from further questionnaires received
7	2012-07-30	Added further results from questionnaires, updated description sheets
8	2012-08-06	Added annex 2

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1 Executive Summary

This document collects a set of real-world tasks in the media production workflow, that are considered relevant for TOSCA-MP, as they can be supported by the research performed in the project. The document collects attributes of these tasks that help to characterise them and to formalise task models and success metrics based on them. The collected information will be used for the orchestration of services performing steps needed in the tasks, and for defining benchmarks for (chains of) components needed to (partly) automate the tasks

In TOSCA-MP, the term *task* denotes a sequence of actions performed by one or more users to achieve a defined goal in the production process, possibly using a set of tools. The task has a defined set of input documents and produces a set of output documents.

The first part of this document describes the sources used for gathering information about tasks. These are the scenarios collected in *D6.1 Usage Scenarios*, an online questionnaire filled by professionals in media production and information collected for the EBU MIM/SCAIE request for technologies. The second part of the document contains the collected information condensed into task description sheets. An annex contains the complete questionnaire, and a mapping between the tasks and the processes identified in *D6.2 Requirements*.

2 Introduction

2.1 Purpose of this Document

This document collects a set of real-world tasks in the media production workflow, that are considered relevant for TOSCA-MP, as they can be supported by the research performed in the project. The document collects attributes of these tasks that help to characterise them and to formalise task models and success metrics based on them.

The collected information about tasks in media production will be used for the orchestration of services performing steps needed in the tasks, and for defining benchmarks for (chains of) components needed to (partly) automate the task.

2.2 Scope of this Document

The document collects a set of relevant tasks in media production and their attributes. It does not yet attempt to formalise task models.

2.3 Status of this Document

This is the final version of D4.1.

2.4 Related Documents

The scenarios described in *D6.1 Usage Scenarios* form a framework for the tasks considered in this document. Annex 2 relates the task descriptions to the processes described in *D6.2 Requirements*.

This document forms the basis for the formalised description of tasks in *D4.3 Task Models (M12)*.

2.5 Definitions

The terms used in this document follow the definitions agreed by the consortium and documented in version 3 of *D1.2 Project Handbook*. In particular, the following definitions are important for this deliverable:

Task A sequence of actions performed by one or more users to achieve a defined goal in the production process, possibly using a set of tools. The task has a defined set of input documents and produces a set of output documents. For example, a “Content Search Task” would be defined as “The action performed by a Broadcast Employee to find an audiovisual content item with a specified Title”.

Task metamodel Is the language to define and describe task models

Task model Is an abstract representation of a task, i.e. an orchestrated set of actions performed by Actors in order to reach a specific objective. The objective is expressed in terms of conditions that have to be satisfied by the reference domain. Pre- and Post-Conditions may pertain to single objects or sets of objects or to the entire domain. For example, assuming that the task metamodel is natural language, the “Content Search” task model would be defined as “The action performed by a user in order to find a Content Item having specified Metadata properties”

3 Collecting Information about Tasks

The information contained in this document comes mainly from three sources:

- An initial list of relevant tasks has been derived from the scenario descriptions contained in *D6.1 Usage Scenarios*.
- A web-based questionnaire has been published, and members of the user partners in the consortium as well as members of relevant EBU groups have been asked to provide information about tasks.
- The EBU MIM/SCAIE group prepared a request for technologies in 2009, for which a number of technical tasks were considered, and their properties and goals described.

The information collected from these sources has then been condensed into task description sheets, which can be found in Section 4.

3.1 Tasks Derived from Scenarios in D6.1

The following tasks have been distilled from the scenario descriptions collected in D6.1. Some of the tasks are specific to one of the scenarios, while others are sufficiently general to be building blocks of diverse scenarios. Note that the descriptions here might differ from the task description sheets, when users have put different focus on certain aspects of the tasks.

Identification and annotation persons in news material: Attaching name and possibly role to persons appearing in news.

Annotation of topics of incoming news items: Assign a topic label to new current news items, whether produced in the organisation or retrieved from feeds (e.g., the Eurovision network)

Annotation of relevant places and objects in archive material: Assign names to salient places and/or objects (e.g., landmarks) in archive material.

Annotation of live sports content: Provide annotation of relevant actions in live feeds from relevant sports events.

Performing quality analysis of a/v material: Annotate the most relevant defects/impairments of audiovisual content that might influence material selection.

Search for specific content items in repositories of different content providers: Search content items across repositories of different organisations/networks.

Search for multilingual news material: Search for news items from different content providers, including content in different languages as the target language of the production.

Gathering material for use in a documentation: Search material with described properties and content for use in a documentation.

Editing by a geographically distributed team: Perform collaborative editing of a production by a team with remotely connected members.

Creating summary about evolving news story: Create a summary containing all relevant facts about an evolving news story at a certain point in time.

Creating highlight summaries about sports events: Create a summary of a sports event containing relevant information about the results as well as salient segments.

Generating subtitles for news: Generate near real-time subtitles for news broadcasts.

Producing news content for personalised mobile services: Create news items to be used in a personalised news broadcast delivered on mobile devices.

Assessing impact of a topic in broadcast and web: Assess the impact of a specific topic on the audience across broadcast and web-based media.

3.2 Questionnaire

The questionnaire asks for relevant tasks and their attributes. The list of tasks has been populated with the tasks described above, but users can also add other tasks if needed. The questionnaire and the related descriptions can be found in the annex 1 in Section 7.

The questionnaire has been published at <http://www.tosca-mp.eu/tasksurvey>. It is still accessible and any further inputs received will be used to update the task description sheets.

One additional task has been proposed by a user filling the survey:

- Collecting and registering identification information for an asset

3.3 EBU MIM/SCAIE Request for Technology

The EBU MIM/SCAIE group has issued a request for technology (RfT) for four types of automatic analysis tasks. [SCAIE, 2009], focusing clearly on annotation rather than on search. It has to be noted that in the context of the MIM/SCAIE documents, the term task is used more technically than in TOSCA-MP, denoting an action performed by a single (semi-) automatic tool (or a set of tightly integrated tools used together). The documents also propose evaluation measures, partly directly derived from the task goals, partly considering what can be measured with reasonable effort.

In preparing the RfT, MIM SCAIE has considered the following tasks

- Speech Recognition
- Audiovisual Segmentation – Shot, Audio and Scene Segmentation
- Content Summarisation
- Copy/Repetition Detection
- Genre/format detection
- Personality identification
- Subject detection
- Keyword extraction

The following four were considered the most relevant, and included in the public RfT:

- Speech Recognition
- Audiovisual Segmentation – Shot, Audio and Scene Segmentation
- Content Summarisation
- Copy/Repetition Detection

Most of these analysis tasks are already considered in the scenarios or included as a step to be done in some of the tasks described above. Some of the tasks descriptions sheets have been enriched with the outputs and success criteria from the MIM/SCAIE RfT.

In TOSCA-MP, genre/format detection is a preprocessing step that will be performed if this information is not yet part of the metadata in order to enable adaptive processing.

The following two analysis tasks have been found not adequately covered and have been added to the set of tasks:

- High-level temporal segmentation
- Identification of (near) duplicates

4 Task Description Sheets

This section contains the collected information in the form of task description sheets, which will be used as a basis for the formalisation of the tasks.

4.1 Identification and annotation persons in news material

Context <i>process the task is part of, type/genre of production</i>	Archive documentation or annotation of incoming news feeds (e.g. EBU, Reuters)		
Description <i>what are the scope and aims of this task</i>	Recognizing and identifying significant persons appearing in news material, current affairs stories and raw field footage, by face and/or voice, including associated associated function and organisation, and establishing the correct spelling of their names, adding them to the catalogue record for the footage, with an appropriate designation		
Actors <i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i>	<table border="1"> <tr> <td>Documentalist</td> <td>involved in the task (checks spelling of names provided by journalist and identifies and names other significant people who appear (i.e. people who aren't interviewed))</td> </tr> </table>	Documentalist	involved in the task (checks spelling of names provided by journalist and identifies and names other significant people who appear (i.e. people who aren't interviewed))
	Documentalist	involved in the task (checks spelling of names provided by journalist and identifies and names other significant people who appear (i.e. people who aren't interviewed))	
	<table border="1"> <tr> <td>Archivist, researcher</td> <td>customer of the task (uses name details to locate library footage on archive database)</td> </tr> </table>	Archivist, researcher	customer of the task (uses name details to locate library footage on archive database)
	Archivist, researcher	customer of the task (uses name details to locate library footage on archive database)	
	<table border="1"> <tr> <td>Feed pilot</td> <td>involved in the task</td> </tr> </table>	Feed pilot	involved in the task
	Feed pilot	involved in the task	
	<table border="1"> <tr> <td>Editor</td> <td>customer of the task</td> </tr> </table>	Editor	customer of the task
Editor	customer of the task		
<table border="1"> <tr> <td>Journalist</td> <td>involved in the task (adds names of people interviewed to script for story)</td> </tr> </table>	Journalist	involved in the task (adds names of people interviewed to script for story)	
Journalist	involved in the task (adds names of people interviewed to script for story)		
<table border="1"> <tr> <td>Journalist</td> <td>customer of the task (later uses name details to locate library footage on archive database)</td> </tr> </table>	Journalist	customer of the task (later uses name details to locate library footage on archive database)	
Journalist	customer of the task (later uses name details to locate library footage on archive database)		
<table border="1"> <tr> <td>Broadcaster's other staff (licensing, non-news programmes, etc.)</td> <td>customer of the task (use name details to locate library footage on archive database or via archive researcher)</td> </tr> </table>	Broadcaster's other staff (licensing, non-news programmes, etc.)	customer of the task (use name details to locate library footage on archive database or via archive researcher)	
Broadcaster's other staff (licensing, non-news programmes, etc.)	customer of the task (use name details to locate library footage on archive database or via archive researcher)		
Inputs <i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i>	raw audiovisual material (incoming news feeds or edited news items), script, archivist's observational powers and general knowledge, archive database (to enter, check and search for details), Internet & other reference sources, verbal description of material needed, news planning		
Outputs	identified persons (by face/voice/both), incoming feed or		

<i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i>	news item with relevant metadata stored in database, metadata within catalogue record on archive database, archive users able to locate relevant library footage on archive database.
Frequency <i>how often is the task performed in the organisation/department</i>	>10 times per day
Completion time (hours)	minimum: 0.01, maximum 1
Success criteria <i>how do you know that the task has been successfully completed</i>	correct identification of all persons, NOTE: SAME WORKFLOW APPLIES FOR OTHER ENTITIES, e.g. locations etc, in news items, metadata appears on archive database checked and correct, archive researchers and broadcaster's other staff able to find pictures of relevant person.

4.2 Annotation of topics of incoming news items

Context <i>process the task is part of, type/genre of production</i>	Either newly generated material internally, or coming from international news feeds.	
Description <i>what are the scope and aims of this task</i>	Being able to efficiently use the incoming material in subsequent phases of production	
Actors <i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i>	Documentalist	involved in the task
	Archive	customer of the task
	Journalist	involved in the task
Inputs <i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i>	raw material, Eurovision metadata where present	
Outputs	correctly identified topics, possibly translated from original	

<p><i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i></p>	<p>language</p>
<p>Frequency</p> <p><i>how often is the task performed in the organisation/department</i></p>	<p>>10 times per day</p>
<p>Completion time (hours)</p>	<p>minimum: 0, maximum: 1</p>
<p>Success criteria</p> <p><i>how do you know that the task has been successfully completed</i></p>	

4.3 Annotation of relevant places and objects in archive material

<p>Context</p> <p><i>process the task is part of, type/genre of production</i></p>	<p>Documentation before archiving</p>	
<p>Description</p> <p><i>what are the scope and aims of this task</i></p>	<p>Describe what pictures contain, especially if these contain points of interest as monuments, landscapes, etc.</p>	
<p>Actors</p> <p><i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i></p>	<p>Documentalist</p>	<p>involved in the task</p>
	<p>Archive</p>	<p>customer of the task</p>
<p>Inputs</p> <p><i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i></p>	<p>raw materials</p>	

Outputs <i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i>	identified points of interest and their annotation
Frequency <i>how often is the task performed in the organisation/department</i>	1- 9 times per day
Completion time (hours)	minimum: 0, maximum: 0.25
Success criteria <i>how do you know that the task has been successfully completed</i>	identified objects are really objects of interest

4.4 Annotation of live sports content

Context <i>process the task is part of, type/genre of production</i>	Production	
Description <i>what are the scope and aims of this task</i>	Highlights of live sports events of relevance (e.g., football matches)	
Actors <i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i>	Production Technician	involved in the task
	Broadcasting Dept.	customer of the task
	Archive	customer of the task
Inputs <i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i>	raw live material	

Outputs <i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i>	graphics, statistics, highlights for sport reporting programmes
Frequency <i>how often is the task performed in the organisation/department</i>	less frequent than 5 times per month
Completion time (hours)	
Success criteria <i>how do you know that the task has been successfully completed</i>	annotations are accurate and in real time

4.5 Performing quality analysis of a/v material

Context <i>process the task is part of, type/genre of production</i>	Archive Digitisation	
Description <i>what are the scope and aims of this task</i>	Annotating main defects of digitised material in order to support material selection	
Actors <i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i>	Automated Quality Check software	involved in the task
	Production Technician	involved in the task
	Archive	involved in the task
Inputs <i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i>	Raw material, low level features extracted during digitisation	

Outputs <i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i>	annotations of main defects on the timeline
Frequency <i>how often is the task performed in the organisation/department</i>	>10 times per day
Completion time (hours)	
Success criteria <i>how do you know that the task has been successfully completed</i>	annotations must be accurate (recall optimisation is preferred over precision optimisation)

4.6 Search for specific content items in repositories of different content providers

Context <i>process the task is part of, type/genre of production</i>	News production	
Description <i>what are the scope and aims of this task</i>	Search content items across repositories of different organisations (e.g., EBU network)	
Actors <i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i>	Journalist	involved in the task
	News production	customer of the task
Inputs	indication of material needed	

<i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i>	
Outputs <i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i>	selection of material (e.g., edit decision list)
Frequency <i>how often is the task performed in the organisation/department</i>	
Completion time (hours)	
Success criteria <i>how do you know that the task has been successfully completed</i>	rights are checked for utilisation of selected material and selected material is relevant to the specific news item to be produced

4.7 Search for multilingual news material

Context <i>process the task is part of, type/genre of production</i>	news production, editorial overview plus market analysis
Description <i>what are the scope and aims of this task</i>	Search on EBU Network material, comparison between coverage of different media sources on the same topic
Actors <i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i>	Journalist involved in the task
	News Production customer of the task
	Editor customer of the task
	Archivist (information broker) involved in the task
	Translator involved in the task
	Market & media researcher involved in the task
Inputs	Eurovision data, list of topics provided by editor

<i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i>	
Outputs <i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i>	selection of material (e.g., edit decision list), synopsis of news multilingual news coverage covering one specific topics (translation provided if necessary)
Frequency <i>how often is the task performed in the organisation/department</i>	>5 times per month
Completion time (hours)	minimum 4 maximum 24
Success criteria <i>how do you know that the task has been successfully completed</i>	rights are checked for utilisation of selected material and selected material is relevant to the specific news item to be produced; benchmarked against list of international media sources including leading blogs in specific target markets

4.8 Gathering material for use in a documentation

Context <i>process the task is part of, type/genre of production</i>	<p>Programme Production</p> <p>Gathering material for use in a TV-documentation is linked with the pre-production phase (planning, commissioning); the production phase (shooting, finding material in the archive) and the post production phase (editing). The workflow is complex and based on a high division of labor, where the author/journalist is performing (towards the commissioning editor as a customer), but customer towards most other people involved.</p>
Description <i>what are the scope and aims of this task</i>	<p>Search for pieces of archived programmes to be used in general purpose programmes, re-use of archived material in a newly produced documentary</p> <p>The video material actually used in a TV-documentation can either come from the archive or be shot from scratch. Besides that, some textual information is viable for the process (e. g. briefing, metadata).</p> <p>Usually the author wants to find suitable footage of scenes he can not manage to shoot himself. This footage should blend in seamlessly in the piece. A slightly different scope is looking for old footage as historical evidence, to use as a</p>

	<p>quotation in the piece. As the archive databases are accessible, most searches are performed online by the author. In some more complex cases the assistance of an archive specialist is required.</p>
<p>Actors <i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i></p>	<p>Assistant Director involved in the task</p>
	<p>Assistant to the Producer involved in the task</p>
	<p>Assistant Editor / Assistant Visual Editor involved in the task</p>
	<p>Production Department customer of the task</p>
	<p>Documentalist / Information Broker involved in the task</p>
	<p>Editor customer of the task</p>
	<p>Author customer of the task</p>
	<p>Author involved in the task</p>
<p>Inputs <i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i></p>	<p>Text information identifying the archive material intended for reuse. Indications about the kind of material to be searched, themes, actors, persons that have to appear; specific requests on topics, persons, locations, buildings etc. from author of documentary</p>
<p>Outputs <i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i></p>	<p>edit decision list of the selected material, annotations, search results provided either as a print-out of archival notes, digital tapes or video file already containing the relevant sequences, text information on the legal status</p>
<p>Frequency <i>how often is the task performed in the organisation/department</i></p>	<p>1-9 times per day</p>
<p>Completion time (hours)</p>	<p>minimum: 1, maximum: 40</p>
<p>Success criteria <i>how do you know that the task has been successfully completed</i></p>	<p>requests of author being met, material is in good quality for the target production, relevant to the programme content</p>

4.9 Editing by a geographically distributed team

Context	Programme production
----------------	----------------------

<i>process the task is part of, type/genre of production</i>	
Description <i>what are the scope and aims of this task</i>	perform editing of a programme in a team distributed over different sites
Actors <i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i>	Editor involved in the task
	Assistant Editor involved in the task
	Visual editor involved in the task
	Production Dept. customer of the task
	involved in the task
Inputs <i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i>	raw material, script
Outputs <i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i>	edited programme
Frequency <i>how often is the task performed in the organisation/department</i>	
Completion time (hours)	
Success criteria <i>how do you know that the task has been successfully completed</i>	

4.10 Creating summary about evolving news story

Context	News Programme Production
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<i>process the task is part of, type/genre of production</i>	
Description <i>what are the scope and aims of this task</i>	Creating dossiers about current events of various genre, to be presented occasionally during newscast programmes
Actors <i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i>	Journalist involved in the task
	Editor involved in the task
	Automated cross-modal analysis system involved in the task
	News Production Dept. customer of the task
Inputs <i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i>	General information about the event to cover, previously available material on the same topic (video or web content)
Outputs <i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i>	Updated versions of dossiers over time
Frequency <i>how often is the task performed in the organisation/department</i>	less frequent than 5 times per month
Completion time (hours)	
Success criteria <i>how do you know that the task has been successfully completed</i>	The current version of the dossier is complete and updated w.r.t. to the story, and does not contain redundant or outdated information

4.11 Creating highlight summaries about sports events

Context	Programme Production
----------------	----------------------

<i>process the task is part of, type/genre of production</i>	
Description <i>what are the scope and aims of this task</i>	Give a shortened version of the event to be used in sport reporting programmes, remove redundant information
Actors <i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i>	Editor involved in the task
	Production Technician involved in the task
	Production Dept. customer of the task
Inputs <i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i>	raw material, target duration
Outputs <i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i>	list of highlights
Frequency <i>how often is the task performed in the organisation/department</i>	>5 times per week
Completion time (hours)	minimum: 0, maximum: 0.25
Success criteria <i>how do you know that the task has been successfully completed</i>	highlights are accurate (no main events are missed); no redundant content segments; time elapsed since the end of the main event to availability of the summary is reduced to a minimum

4.12 Generating subtitles for news

Context <i>process the task is part of, type/genre of production</i>	Programme Production
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Description <i>what are the scope and aims of this task</i>	Provide live subtitling for teletext applications		
Actors <i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i>	Production Assistant	involved in the task	
	Production Dept.	customer of the task	
	Broadcasting Dept.	customer of the task	
Inputs <i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i>	Audio tracks		
Outputs <i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i>	synchronised text		
Frequency <i>how often is the task performed in the organisation/department</i>	1-9 times per day		
Completion time (hours)			
Success criteria <i>how do you know that the task has been successfully completed</i>	The text must be provided nearly real time for live contributions. For studio parts, the subtitles may be prepared in advance (teleprompter). The text must be adherent to the actual content, minor paraphrases are allowed		

4.13 Producing news content for personalised mobile services

Context <i>process the task is part of, type/genre of production</i>	News Programme Production
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Description <i>what are the scope and aims of this task</i>	Creating news items to be used in a personalised news broadcast delivered on mobile devices.			
Actors <i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i>	Journalist	involved in the task		
	Editor	involved in the task		
	News Production Dept.	customer of the task		
Inputs <i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i>	raw material, previously available material on the same topic (video or web content), general information about the events to cover			
Outputs <i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i>	news story items			
Frequency <i>how often is the task performed in the organisation/department</i>	[Empty cells for frequency data]			
Completion time (hours)				
Success criteria <i>how do you know that the task has been successfully completed</i>				

4.14 Assessing impact of a topic in broadcast and web

Context <i>process the task is part of, type/genre of production</i>	Reporting, target audience analysis, business intelligence, marketing decision supporting			
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<p>Description</p> <p><i>what are the scope and aims of this task</i></p>	<p>Giving a compact visualisation of the impact of a topic on various platforms</p>										
<p>Actors</p> <p><i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i></p>	<table border="1"> <tr> <td>Automated analysis system (DWH)</td> <td>involved in the task</td> </tr> <tr> <td>Marketing Manager</td> <td>customer of the task</td> </tr> <tr> <td>Marketing Assistant</td> <td>involved in the task</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table>	Automated analysis system (DWH)	involved in the task	Marketing Manager	customer of the task	Marketing Assistant	involved in the task				
Automated analysis system (DWH)	involved in the task										
Marketing Manager	customer of the task										
Marketing Assistant	involved in the task										
<p>Inputs</p> <p><i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i></p>	<p>Audience scores, web reputation/opinion scores, thematic dossiers</p>										
<p>Outputs</p> <p><i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i></p>	<p>Synthetic overview of impact of a topic across different media</p>										
<p>Frequency</p> <p><i>how often is the task performed in the organisation/department</i></p>	<table border="1"> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										
<p>Completion time (hours)</p>											
<p>Success criteria</p> <p><i>how do you know that the task has been successfully completed</i></p>	<p>Data are actually useful to support decisions</p>										

4.15 Collecting and registering identification information for an asset

<p>Context</p>	<p>first stage in the archiving process for a programme</p>
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<i>process the task is part of, type/genre of production</i>	
Description <i>what are the scope and aims of this task</i>	This task is concerned with the collection of all the relevant identification information of an asset, including official titles of the parent series and brand, main production contributors,
Actors <i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i>	Documentalist involved in the task
	Archive customer of the task
	Automatic analysis system involved in the task
Inputs <i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i>	Administrative information about contracts, centres of costs
Outputs <i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i>	Correct identification of the asset
Frequency <i>how often is the task performed in the organisation/department</i>	>10 times per day
Completion time (hours)	minimum:1, maximum: 1
Success criteria <i>how do you know that the task has been successfully completed</i>	Titles are filled properly for each element (programme, series, brand). Main contributors are identified.

4.16 High-level temporal segmentation

Context	archiving
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<i>process the task is part of, type/genre of production</i>	
Description <i>what are the scope and aims of this task</i>	create a high-level temporal segmentation of the content (e.g., into news stories) as basis for further documentation
Actors <i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i>	Documentalist involved in the task
	Archive customer of the task
Inputs <i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i>	raw material, possibly production metadata
Outputs <i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i>	list of time codes of segment boundaries
Frequency <i>how often is the task performed in the organisation/department</i>	
Completion time (hours)	
Success criteria <i>how do you know that the task has been successfully completed</i>	correct number of segments, temporal accuracy of segment boundaries

4.17 Identification of (near) duplicates

Context	archiving
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<i>process the task is part of, type/genre of production</i>	
Description <i>what are the scope and aims of this task</i>	identify content segments that are copies of archived items (or slightly modified versions, e.g., adapted aspect ratio)
Actors <i>up to 5 actors (persons, departments, external organisations) involved in the task and their roles</i>	Automatic copy detection tool involved in the task
	Documentalist involved in the task
	Archive involved in the task
Inputs <i>list all materials used in the task, e.g. script, verbal description of material needed, ...</i>	raw material
Outputs <i>List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...</i>	list of copy segments
Frequency <i>how often is the task performed in the organisation/department</i>	
Completion time (hours)	
Success criteria <i>how do you know that the task has been successfully completed</i>	complete set of copies, no false copies

5 Conclusions

This document describes the method for collection information about relevant tasks in media production and summarises the information in task description sheets. The majority of the tasks have been derived from the scenario descriptions in D6.1. The professional filling the questionnaire mainly added information to these tasks, and proposed only one additional task. The analysis tasks considered in the MIM/SCAIE RfT were mostly covered/included in the list of tasks from D6.1, only two further tasks have been added.

While the information is already complete for some tasks, some attributes are missing for some of the tasks. The questionnaire remains open, and some more answers are expected to close these gaps. The diverse of tasks will be used to evaluate different candidates of task metamodels (e.g., ConcurTaskTrees, ANSI/CEA-2018) for formalising the task descriptions.

6 References

[SCAIE, 2009] P/SCAIE First Call for Technologies, 2009, <http://tech.ebu.ch/groups/pscaie>

7 Annex 1: Task Questionnaire

In the following, we define a short questionnaire to gather information on relevant task. We use a web-based questionnaire for collecting this information, which should make it easy to distribute the request for input to a wider group of users.

The questions are structured per task, and collect a list of attributes per task. Users responding to the questionnaire can respond to the questionnaire independently for several tasks.

7.1 Guidelines

The following guidelines are presented to users responding to the questionnaire.

7.1.1 Introduction

This survey is conducted by the TOSCA-MP (Task-oriented search and content annotation for media production, <http://www.tosca-mp.eu>) project, which aims to develop user-centric content annotation and search tools for professionals in networked media production and archiving (television, radio, online), addressing their specific use cases and workflow requirements

In order to build models of tasks in the audiovisual media production workflow, we collect information on key tasks in this workflow. The list of tasks is not final, so you are free to add tasks you consider relevant, and describe their properties. The collected information will be used to develop content analysis and search tools that support these tasks and to research benchmarking that assess such tools for their performance in these real-world tasks rather than lab setups.

How will the result be used?

The results of this survey will be made publicly available on the TOSCA-MP website. The project partners will use the results to build formal models of relevant tasks. Those will be used to benchmark and configure the metadata extraction and search tools developed in the project.

About TOSCA-MP

The TOSCA-MP project brings together 10 partners from 5 European countries including industry partners providing solutions for the media industry, public service broadcasters as well as their European association, a university and research centres. TOSCA-MP is a project under the 7th Framework Programme of the European Union, running from October 2011 to March 2014.

Questions?

Please send questions regarding this questionnaire to tosca-mp-tasksurvey@joanneum.at.

7.1.2 How to fill in this questionnaire

- Information is collected per task. You can enter information for one task below. After completing the page, you can enter information for further tasks.
- Any task related to production, documentation, search, reuse ... of audiovisual material is considered in scope
- Keep tasks focused, i.e., "collecting highlights of a sports event for a summary" is better than "searching material in sports production"
- For each task, the questionnaire asks for a list of properties. Describe as best as possible, but note that all are optional.
- Questions marked with an asterisk (*) are mandatory.

7.1.3 User identification

The user can optionally leave her email address.

7.2 Task Attributes

In the following, we describe the attributes asked for a task in more detail.

- Please enter your email address

- one line free text
- Name/Title of the task (required), *Select a task from the list or add a new task*
 - List from Section 3.1 and one line free text
- Please describe what you consider the main scope and aim of the task.
 - five lines free text
- What is the context of this task in the workflow?
 - one line free text
 - (hint) Describe e.g. type/genre of production, process that the task is part of
- Who are the actors involved in the task?
 - *Please specify up to 5 actors.*
 - *For each actor, please specify whether he/she performs (part of) the task and or is customer of the results of the task.*
 - Describe roles of the actors (persons or departments), e.g. editor, archivist, documentalist, ...
- What are the inputs to the task?
 - one line of free text
 - list all materials used in the task, e.g. script, verbal description of material needed, ...
- What are the expected outputs of the task?
 - one line of free text
 - (hint) List all materials expected from the task, e.g. list of clips and their basic descriptive metadata, ...
- What is the frequency in which the task is performed? (*in your organisation/department*)
 - > 10 times per day
 - 1-9 times/day
 - >5 times/week
 - 1-4 times/week
 - > 5 times/month
 - less frequent
- What are the time constraints for completing the task?
 - Average time needed for completing the task (minutes)
 - Maximum time acceptable for completing the task (minutes)
- What are the success criteria for this task?
 - *How do you know that the task has been successfully completed?*
 - Five lines free text

7.3 Multiple Tasks

The user starts with entering information about one task. After sending the page, she can choose to return to a new instance of the questionnaire and enter information for another task.

8 Annex 2: Alignment between Tasks and Processes

This annex describes the alignment between the task descriptions, gathered from a survey of tasks in the media production workflow, with process descriptions resulting from a technical analysis (see D6.2). The tasks are typically on a coarser granularity, aiming at goals that can be reached by using a chain of one or more processes.

This alignment serves both as a validation of the collected process information against the higher-level tasks described by the users, as well as for identifying which parts of the tasks are not (yet) supported by the automatic processes.



	Access content	Ingest Content	Store Content	Content selection rules	Select content	Workflow selection rules	Workflow Selection	Automatic Workflow Selection	Shared content baskets	Machine Translation	Semi-Automatic Subtitle Generation	Automatic Speech Recognition	Manual Modification of Transcription	Metadata verification	Metadata Generation	Person recognition	Automatic Genre Characterisation	Shot clustering	Semi-Automatic Semantic Annotation And Linking	Recommendations	Content Search And Retrieval	Implicit Feedback on Automatic tools
Identification and annotation persons in news material	x				x	x	x	x				x	x	x	x	x						x
Annotation of topics of incoming news items	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x			x
Annotation of relevant places and objects in archive material	x			x	x	x	x	x				x	x	x	x		x	x	x			x
Annotation of live sports content	x	x	x	x	x	x	x	x		x				x	x	x	x		x			x
Performing quality analysis of a/v material	x			x	x	x	x	x						x	x							x



	Access content	Ingest Content	Store Content	Content selection rules	Select content	Workflow selection rules	Workflow Selection	Automatic Workflow Selection	Shared content baskets	Machine Translation	Semi-Automatic Subtitle Generation	Automatic Speech Recognition	Manual Modification of Transcription	Metadata verification	Metadata Generation	Person recognition	Automatic Genre Characterisation	Shot clustering	Semi-Automatic Semantic Annotation And Linking	Recommendations	Content Search And Retrieval	Implicit Feedback on Automatic tools
Search for specific content items in repositories of different content providers	x			x	x				x	x								x		x	x	x
Search for multilingual news material	x			x	x				x	x								x		x	x	x
Gathering material for use in a documentation	x			x	x	x				x								x		x	x	x
Editing by a geographically distributed team	x	x	x	x	x	x	x		x									x		x	x	x
Creating summary about evolving news story	x	x		x	x	x	x	x		x		x	x				x	x	x	x	x	x
Creating highlight summaries about sports events	x			x	x	x	x	x						x	x	x		x	x	x	x	x
Generating subtitles for news	x				x					x	x	x	x	x								x



	Access content	Ingest Content	Store Content	Content selection rules	Select content	Workflow selection rules	Workflow Selection	Automatic Workflow Selection	Shared content baskets	Machine Translation	Semi-Automatic Subtitle Generation	Automatic Speech Recognition	Manual Modification of Transcription	Metadata verification	Metadata Generation	Person recognition	Automatic Genre Characterisation	Shot clustering	Semi-Automatic Semantic Annotation And Linking	Recommendations	Content Search And Retrieval	Implicit Feedback on Automatic tools
Producing news content for personalised mobile services	x	x	x	x	x	x	x		x	x		x	x	x	x	x			x	x	x	
Assessing impact of a topic in broadcast and web										x				x							x	x
Collecting and registering identification information for an asset	x	x	x	x	x									x	x							
High-level temporal segmentation	x			x	x	x	x	x						x	x							x
Identification of (near) duplicates	x			x	x	x	x	x						x	x			x				x

9 Glossary

Terms used within the TOSCA-MP project, sorted alphabetically.

see D1.2 project handbook, version 3 or later

Partner Acronyms

DTO	Technicolor, DE
EBU	European Broadcasting Union, CH
FBK	Fondazione Bruno Kessler, FBK
HHI	Heinrich Hertz Institut, Fraunhofer Gesellschaft zur Förderung der Angewandten Forschung e.V., DE
IRT	Institut für Rundfunktechnik GmbH, DE
K.U.Leuven	Katholieke Universiteit Leuven, BE
JRS	JOANNEUM RESEARCH Forschungsgesellschaft mbH, AT
PLY	Playence KG, AT
RAI	Radiotelevisione Italiana S.p.a., IT
VRT	De Vlaamse Radio en Televisieomroeporganisatie NV, BE

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