

User Manual

**Accessibility Content Manager
(ACM)**

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1 INTRODUCTION

The **Accessibility Content Manager** (ACM) is a cloud-based user friendly application of FingerCloud for a centralised management and processing of access services such as **Subtitles for the Deaf or Hard-of-Hearing (SDH)**, **Open Subtitles**, **Spoken Subtitles**, **Audio Description** and **Sign Language**.

The application consists of the following components:

- ACM User Interfaces.
- ACM Engines for automatic background processes.
- ACM Web-Services and Interconnections with the broadcaster's systems.

This document explains how the different stakeholders (chapter 2) can access the ACM User interfaces (Chapter 3) and use the following ACM User Interfaces (Chapter 4):

- System Management interface (Chapter 4.1): Interface for administrative, configuration and maintenance issues related to the suite functionality and users coordination.
- Content Management interface (Chapter 4.2): Most significant ACM interface for the access service production workflow management and the access to the catalogue contents.
- EDitor interface (Chapter 4.3): Interface for the producers (service providers or freelancers) to access their production tasks (jobs that have been assigned to them).

Finally as an example for the user interfaces, an scenario is explained with the complete workflow (Chapter 4.4).

In the Annex the user will find an explanation of each icon in the User Interfaces.

2 STAKEHOLDERS

This document is aimed at different stakeholders such as:

1. **Broadcaster's IT and maintenance departments**, may use System Management Interface (Chapter 4.1) for:
 - Configuring the system settings, templates, and engines
 - Users and profiles creation, configuration, and management
 - Handling errors and incidences by reviewing system logs and engine status
 - Accessing the engine job queues and their status

2. **Broadcaster's Accessibility department**, may use Content Management Interface (Chapter 4.2) for:
 - Creation/edition of assets (see Interfaces), which can be either manual or automatic (see interconnections)
 - Creation of access service files (manual or automatic)
 - Workflow management of access service file production
3. **Access service producers** (service providers and freelancers) will be given access to one of the following User Interfaces:
 - Editor Interface (chapter 4.3) when the access service production is done in the broadcaster's FingerCloud licence. In this case all the production tasks are assigned by the broadcaster and all the support materials such as the LQ video file and metadata are also provided. In this case producers can:
 - a. View the assigned access service tasks and navigate through them
 - b. Run the integrated Online Editors via the assigned tasks and complete them
 - c. Change the task status to "Completed" when the job is finished and therefore the access service file is produced.
 - d. View feedback and comments coming from broadcaster and act accordingly
 - Content Mangement Interface (Chapter 4.2) when the producers perform all the workflow of uploading the programme suport materials such as the LQ video and metadata, and also perform the access service file production. In this case producers can:
 - a. Upload support materials such as LQ video and metadata
 - b. Create, import, and export access service files
 - c. Run the integrated Online Editors to edit the access service files
4. **Broadcaster's QA department**, may use Content Management Interface (Chapter 4.2) for:
 - Listing the access service files pending validation
 - Running the integrated Online Editor to verify the access service files that are pending validation. If the quality is not right, the QA Team returns the corresponding production tasks back to the producers with the "Rejected" status and feedback information.
 - Communicating with the Access service producers using the "Communication" interface.

- Validating the access service files when the quality is right for airing or publication. External systems can only get the access service files if they have been validated, although users with the right permission can access to all the access service files using the different views of the CM interface
 - Statistics and reports
5. **Broadcaster's playout/publication department**, may use Content Management Interface (Chapter 4.2) for:
- Search access services that are catalogue in ACM
 - Download access service files in specific file formats
6. **Broadcaster's systems**, may use the ACM interconnections and web-services as for example:
- The playout or publication systems can retrieve access service metadata, status and files for airing and publication purposes (only the verified access services are available for these systems)

3 HOW TO ACCESS THE ACM USER INTERFACES

In order to access the ACM, there are some basic requirements:

- Hardware: PC with at least i5 processor, 8 GB RAM. Screen resolution should be at least 1920×1080 pixels (a good graphics card is recommended).
- Browser: Last version of Chrome or Firefox (at least Chrome version 74 or Firefox version 65).
- Fast internet connection as the tools are online and videos are used along the workflow.

The user accesses ACM via the web browser (figure 1) and enters username and password previously provided by administrator.

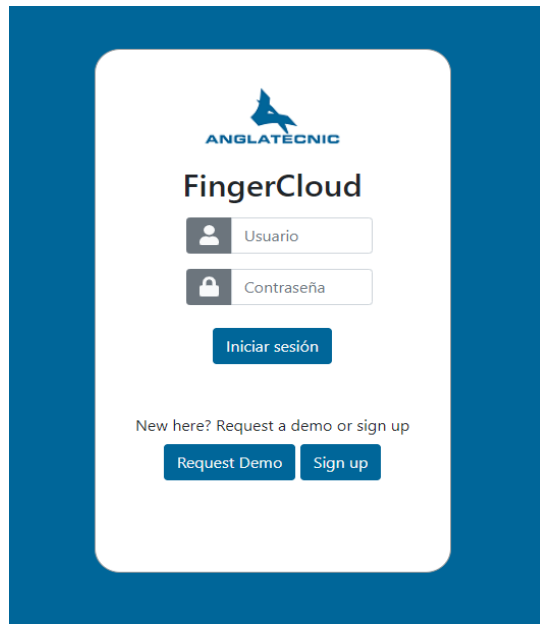


Figure 1: Login page

4 ACM USER INTERFACES

In this chapter, a detailed user manual of the ACM interfaces is presented.



Figure 2: Top menu

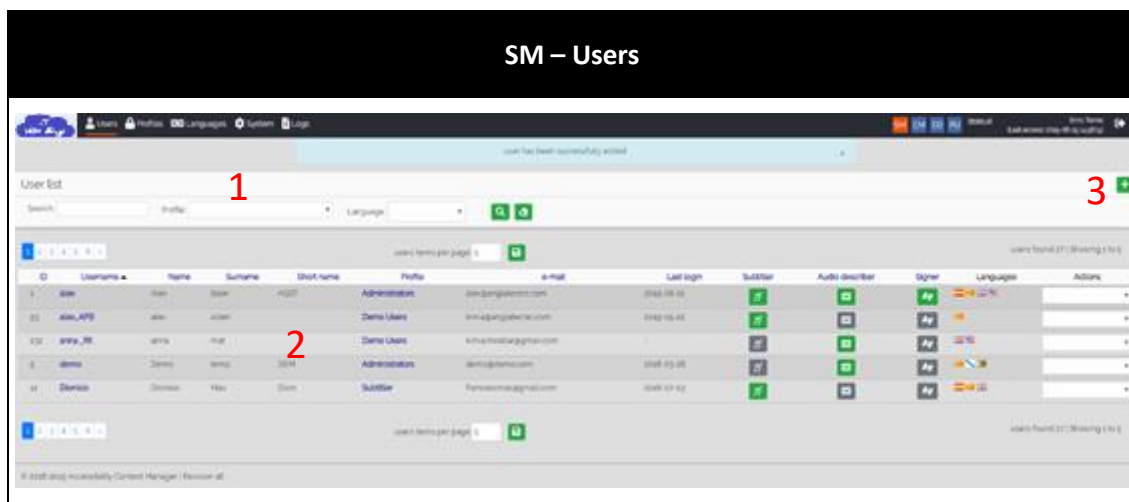
The user can open the different ACM interfaces with access rights by pressing the corresponding button at the top menu. Also, the user interface language can be selected from this menu. In this chapter, a detailed user manual of the ACM various interfaces (SM+CM+ED) is presented.

4.1 SYSTEM MANAGEMENT INTERFACE

System Management is defined as platform administrative interface and allows administrators and broadcaster managers with system administrative duties to control and manage the settings and permissions of professional users working in the ACM. The top left menu gives access to different sub-sections of SM.

4.1.1 USERS

An interface to view/create/edit users which is described in detail in table 1.



1	With this tool, user can search through the existing users based on three different criteria: <u>Free search</u> , <u>Profile type</u> , <u>Language</u>
2	The list of users is available in this part. All the registered users can be found here with their following information: <ul style="list-style-type: none"> ID number (unique), Username (by clicking on it – in the case of having permissions of user edition – the logged in user is redirected to a form page for editing the settings belonging to clicked-on user – see figure 3), Full name and short name, Profile type – email address, Last login date and time, The access service production tasks they are able to produce (ST, AD, SL), The languages they are allowed, Actions available (edition, deletion, block)
3	By clicking on this positive sign button, a new user can be added

Table 1: Users list

At the moment of creating/editing a user, the form shown in figure 3 appears. This form needs to be completed to create/edit users. The required information in the form is typical and basic (access user and password, personal information, and access profile).

It is noteworthy that all the users including broadcasters and access service producers are created here. In the case of a producer such as subtitler, audio describer or sign interpreter the corresponding options should be marked and also the languages they aim to work with (figure 3).

Figure 3: User edition/creation form

4.1.2 PROFILES

It is important for any system at this scale to define different profiles, because the level of permissions is different for each user depending on their duties, so there is a need to define different levels of access and permissions for groups of users. This is described in detail in table 2.

SM – Profiles	
1	With this tool, user can search through the existing profiles
2	A list of typical profiles on ACM with their description
3	By clicking on this button, the user can add a new profile

Table 2: Profiles

By clicking on the positive sign button on the top right of the page, the user is redirected to a separate page consisting of a form for profile creation. In this environment, the technician can choose different capabilities and access permissions for the profile (reading, editing, deleting, downloading). The detailed description of the profile form is presented in table 3.

SM - Profile form	
1	General information of the profile (name and description).
2	Access permission to different tree branches of CM, with possibility to choose among existing folders on the ACM as the root of new tree branch.
3	Various access permission to various sections of the ACM.

Table 3: Profile form

4.1.3 LANGUAGES

In this sub-chapter, new languages for the access service contents can be created or existing ones can be edited (table 4).

SM – Languages	
1	With this tool, the user can search through the existing languages
2	List of existing languages with their locales, by clicking on the language name, the user is redirected to the edition page
3	Add a new language to this list depending whether its locale is known or not

Table 4: Languages list

4.1.4 SYSTEM

“System” section corresponds to administrative actions operated by system administrators or broadcaster IT/IS managers. It is divided into five parts which will be discussed respectively in tables 5, 6, 7, 8, 9 and 10.

SM- Variables

System options		Variable list			
Variables		Search <input type="text" value=""/> 1 + + 3			
Engines		GENERAL			
Notifications		Title	Name	Value	Description
		Id of template for notify editors	ID_NOTIFICATION_EDITOR 2	4	Notifications Template for available file to subtitle, audiodescriptor or signer
		Interval to generate keyframes	KEY_FRAME_INTERVAL	0.1	This variable is used to generate keyframes taken from uploaded file of the asset
		PUBLISH			
		Title	Name	Value	Description
		Audio file name convention template	AUDIO_FILE_TEMPLATE	{audioFormat}/audioFormat/audioModel.tph resolution	Name template for all the audio files that will be requested to Cloud Renderer
		Default video resolutions to transcode in Package	DEFAULT_VIDEO_RESOLUTIONS	1080 720 540 480	Include, separated by commas, the different resolutions that will be default parameter to transcode in Package
		SYSTEM			
		Title	Name	Value	Description
		Days to clean finished transcodifications	DAYS_CLEAN_TRANSCODINGS	3	Set the number of days to clean transcodifications older than this value in days
		Audio Renderer Receiver URL	URL_WS_CLOUD_RENDERER	https://tr@kylis7.execute-api.eu-central-1.amazonaws.com/DEV	url to audio renderer receiver starts rendering process

In this section some system variables can be set or modified, for instance during the installation and customization of ACM. By default, this list is empty and IT admins create variables according to broadcasters needs. Some examples may include: Default image sizes, video keyframes generation time interval, default video resolution.

Variables are divided into three categories:

- **GENERAL:** corresponds to general interface variables.
- **PUBLISH:** corresponds to variables related to web service in general.
- **SYSTEMS:** corresponds to system variables.

1	With this tool, the user can search through the existing variables.
2	List of existing variables with their characteristics, by clicking on the variable's name, the user is redirected to an edition page
3	By clicking on the positive sign, the user is able to create a new variable

Table 5: System variables

SM - Engines

This section shows the working queues of the ACM engines (background processes without user interaction). New engines can be added in the future. Some examples may include: Trans-codification of multimedia

1	With this tool, the user can search through the existing engines
2	List of existing engines with their characteristics

Table 6: System engines

SM - Notifications

This section lets the user configure notification and mailing templates using a special form. The form is shown in figure 4.

1	With this tool, the user can search through the existing notification templates.
2	List of existing templates with their name, subject and body, by clicking on the name, the user is redirected to an edition page.
3	By clicking on the positive sign, a creation form is opened.

Table 7: Notification templates list

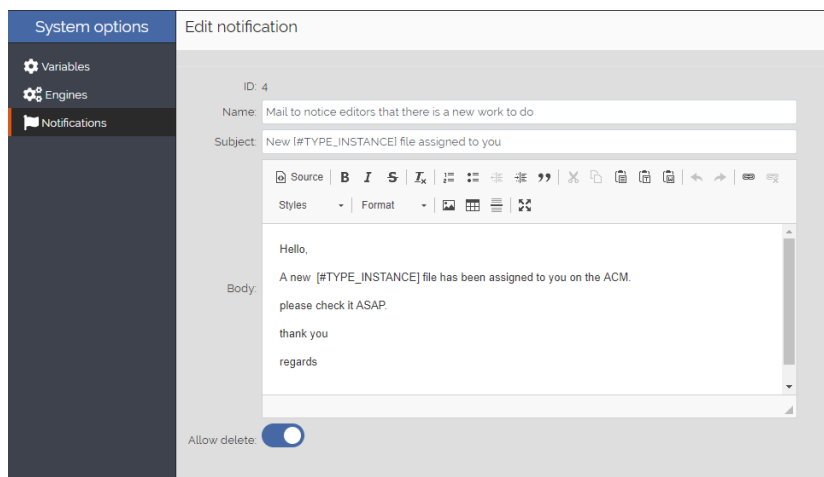


Figure 4: Template edition/creation form

SM - Enumerations									
Opciones del sistema	Géneros	Calificaciones	Etiquetas	Tipos de imágenes	CDN de Publicación	Archivos de publicación	Resolución de la publicación	Pr-eajustes de publicación	Attribute keys
Variables	Nombre			Orden					
Enumeraciones	Romantic			1					
Motores	Drama			2					
Notificaciones	Comedy			3					
Translation strings	kids			4					

A place to let users create customized enumeration variables and edit them as they wish to be used in the interfaces.

Some examples may include: Programme genres, ratings, tags, image types, publication (airing) variables, attributes.















Table 8: Enumerations

SM - Translations					
Opciones del sistema	Work Status	Audiodescription Type	Idioma	Descripción	Act
Variables	Pending	DB text	English	Pending	<input type="checkbox"/>
Enumeraciones	Pending		Español	Pendiente	<input type="checkbox"/>
Motores	Pending		Français	Pendant	<input type="checkbox"/>
Notificaciones		In performance	English		<input type="checkbox"/>

For direct translations of database strings based on available system languages (currently English, Spanish, French).

Table 9: String translations

SM - Channels

ID	Name	Description	Actions
1	Telecinco		 
2	EE MAD		 
3	CUATRO		 
4	DIVINITY		 
5	ENERGY		 
6	BOING		 
7	TEST		 

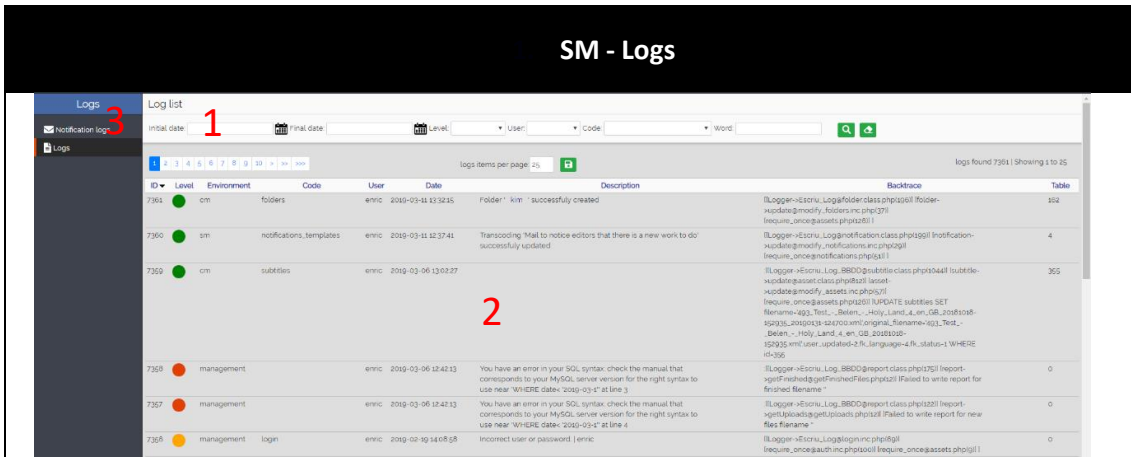
This sections allows the user to add or edit the channel configuration for the Playlist interface.

Table 10 Channels

4.1.5 LOGS

Logs section can be significant for administrative tasks especially when an incidence occurs on the interface. Table 10 shows the interface.

SM - Logs



ID	Level	Environment	Code	User	Date	Description	Backtrace	Table
7361	cm	folders		enric	2019-03-11 12:32:35	Folder "kim" successfully created	illogger->Escriu_Logs[folder class.php1261] folder->update[modify_folders.inc.php:37] require_once[assets.php:283]	102
7360	sm	notifications_templates		enric	2019-03-11 12:37:41	Transcoding "hal to noble editors that there is a new work to do" successfully notified	illogger->Escriu_Logs[notification class.php1259] notification->update[notify_notifications.inc.php:69] require_once[notifications.php:41]	4
7359	cm	subtitles		enric	2019-03-06 13:03:27		illogger->Escriu_Logs[BBDD[update class.php1244] subtitle->update[update class.php1244] asset->update[modify_assets.inc.php:37] require_once[assets.php:283] UPDATE subtitles SET filename=app_Test_0_Belien_0_Holy_Land_4_en_US_20190306-152913_121700.amf.original_filename=app_Test_0_Belien_0_Holy_Land_4_en_US_20190306-152913_en_US.update-0_n_language=4_n_status=1 WHERE id=365	365
7358	management			enric	2019-03-06 12:42:13	You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'WHERE date='2019-03-4'' at line 3	illogger->Escriu_Logs[BBDD[report class.php1175] report->get[finishedFiles.php:12] Failed to write report for finished	0
7357	management			enric	2019-03-06 12:42:13	You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'WHERE date='2019-03-4'' at line 4	illogger->Escriu_Logs[BBDD[report class.php1175] report->get[uploadAndGetUploads.php:14] Failed to write report for new	0
7356	management	login		enric	2019-02-10 14:08:58	Incorrect user or password enric	illogger->Escriu_Logs[login.inc.php:69] require_once[auth.inc.php:100] require_once[assets.php:11]	0

This section lets the user check the logs at the system level. All events happened on the platform are registered here with their useful data. These can be user, system, background and interconnection events.

1	With this tool, user can search through the logs based on various factors (date, user, section, level of event, code, word).
2	List of existing logs with their name, level, date, description and backtrace.
3	Notification logs are a list of notifications sent to the responsible person.

Table 11: Logs

4.1.6 USE CASE

In this sub-chapter, the following scenario is elaborated to clarify SM functionality. This scenario is an example on how to create a new profile for subtitle managers, setting the access permissions of this profile conveniently and then creating a new user based on this profile.

1. We enter the form (table 3) and we create a new profile named “Subtitle manager”.
2. This profile aims to people who want to manage the subtitling workflow.
3. Figure 5 shows the specifications of this profile, note the permissions this profile has.
4. Next move, we go to User creation form to create a new user, now it is possible to assign the profile we just created to the new user, figure 3 shows how it is done.

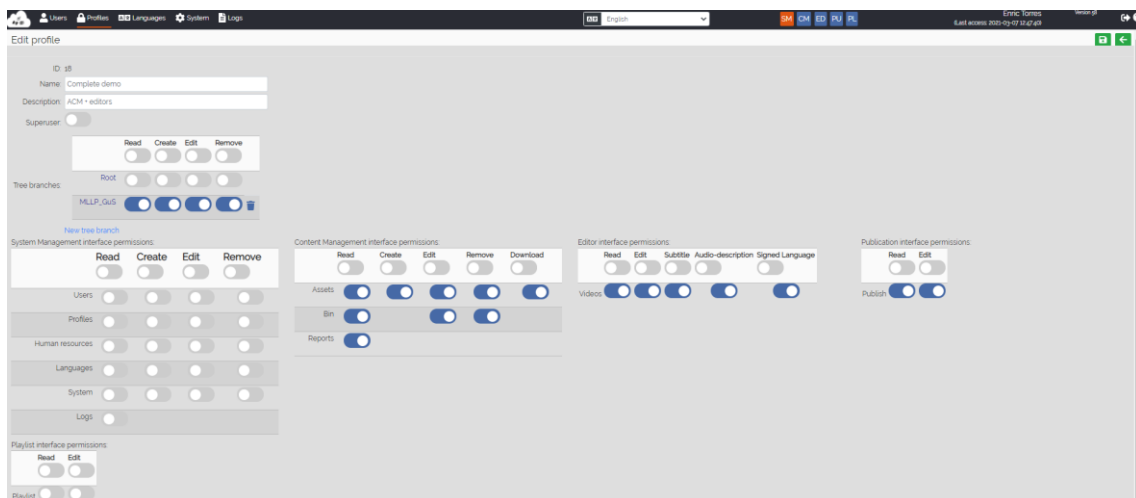


Figure 5: Creating the “Subtitle manager” profile

4.2 CONTENT MANAGEMENT INTERFACE

Content Management interface is the place where all the access service contents can be found, managed and controlled. It is divided into the following subsections that are explained in the next three sub-chapters:

- Assets – management of assets with their access service contents and production tasks
- Bin – a temporary bin to keep deleted assets
- Reports – stores statistical data and information about the CM

4.2.1 ASSETS

Due to the importance of CM and assets, this interface is going to be explained section by section. Figure 6 shows assets main page.

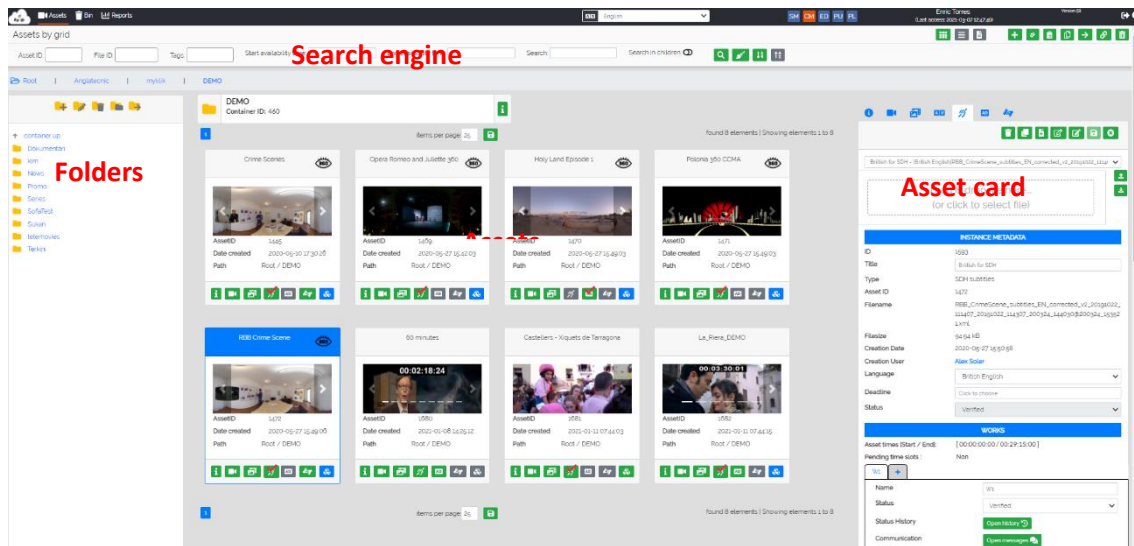


Figure 6: Assets main page

The contents are organised in a structure called “Assets”. Each asset is created to manage the production and cataloguing of access service files (ST, SL, AD) in different languages for one 2D or 360° programme. It also contains all the necessary metadata to describe the asset and its instances.

It is both possible to create a **single** asset by the button on the top right or create **multiple** assets via another button in the same place (see Annex I). Assets can also be created automatically by the background process of importing LQ videos from an FTP folder, or using the dedicated API call.

At the creation phase, the user is required to upload the 360° video and enter some metadata and to finally save the action. As a result, an asset is created as in figure 7. This illustration demonstrates how an asset looks like. As seen, some icons are still in grey which means there are no files available from that type of content. However, video is uploaded by the user so it has turned green.

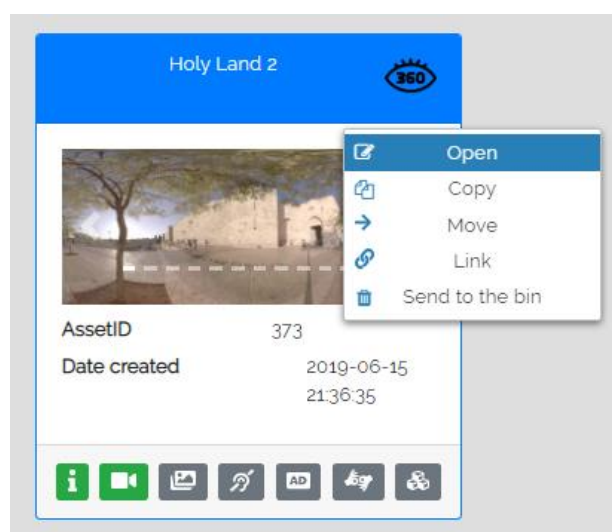
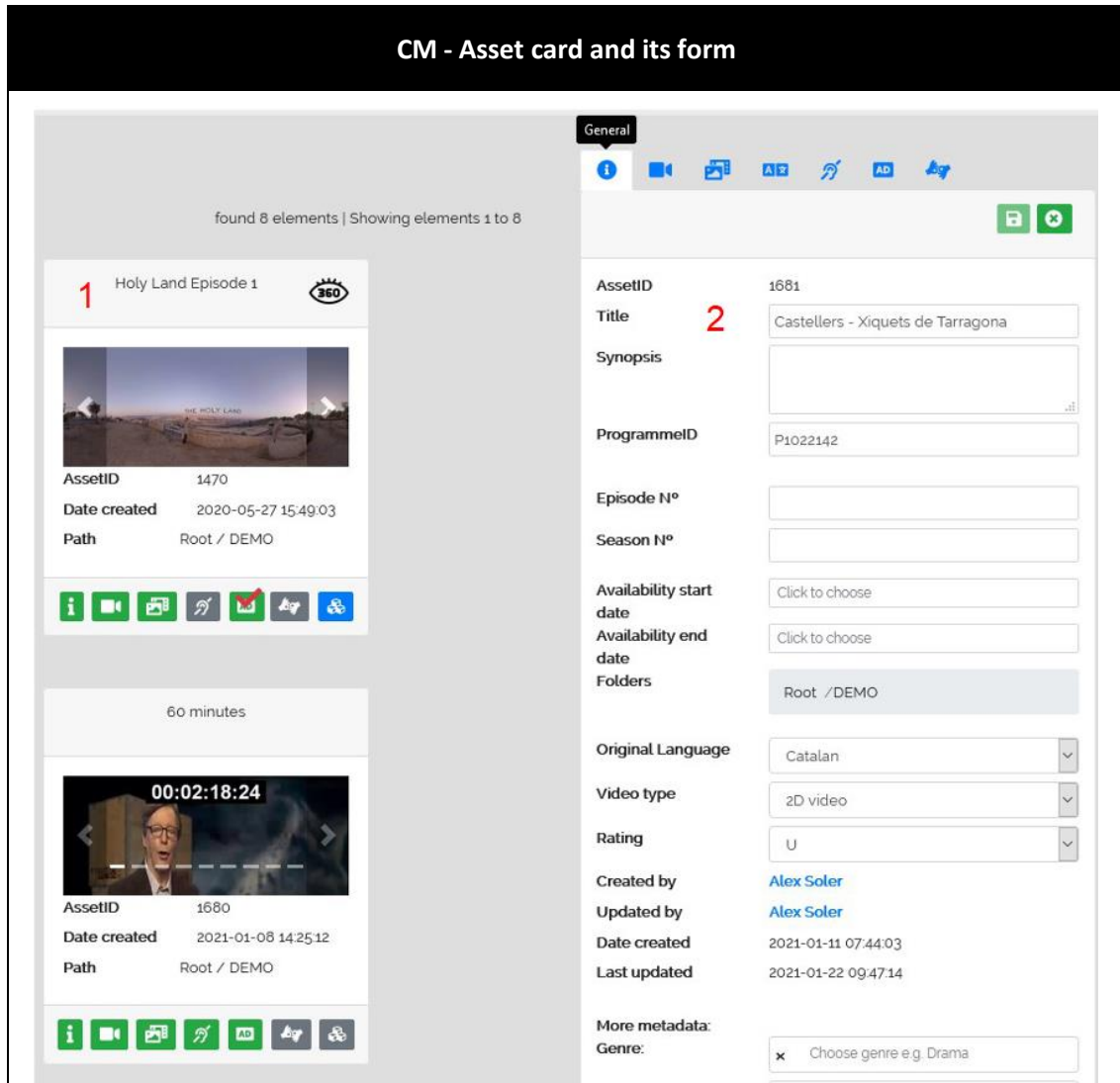


Figure 7: Asset card

By right-clicking a user is able to perform typical actions on the asset such as moving it to another folder, copying it to another folder, linking it or sending it to the bin (all actions can be done by using complementary buttons on the top right – see Annex I). Additionally, it is also possible to open the asset card. Next, we are going to see what is inside an asset card known as asset forms.

4.2.1.1 ASSETS FORMS

As demonstrated in 3.3.1 the assets list contains all of the available assets with their metadata and files. Table 12 shows what is observed when an asset form opens.



1	The asset card is shown with a video preview, basic information and the availability of each access service (when the icon is green it means that at least an access service file is available right now and when it is grey it shows that it does not exist any)
2	General information form with: 1. Title and comments







CM - Asset card and its form	
	<ol style="list-style-type: none"> 2. ID of the programme 3. Episode N° 4. Session N° 5. Availability 6. Original Language 7. User who has created it with related dates 8. The directory of the asset in the folders 9. Other useful metadata
	Access to the general information form (see table 12)
	Access to the video form (see table 13)
	Access to the images form (see table 14)
	Access to the subtitle form (see table 15)
	Access to the audio description form (see table 16)
	Access to the sign language form (see table 17)

Table 12: Asset card and its forms

Table 13 demonstrates in detail the video form of an asset.

CM – Asset video form																									
<p>The screenshot shows the 'CM – Asset video form' interface. At the top, there is an 'Upload a video file:' section with a dashed box for dragging and dropping a file (1). Below this is a row of video keyframes (3) and a green download button (2). A video player (4) is shown below the keyframes, displaying a scene with people in a white tent. At the bottom, there is a metadata table (5) with the following information:</p> <table border="1"> <tr><td>ID</td><td>252</td></tr> <tr><td>Asset ID</td><td>343</td></tr> <tr><td>Filename</td><td>497288-Life_On_Mars-low.mp4</td></tr> <tr><td>Filesize</td><td>17.52 MB</td></tr> <tr><td>Creation Date</td><td>2018-10-01 14:23:32</td></tr> <tr><td>Creation User</td><td>Partners Test</td></tr> <tr><td>Duration</td><td>00:00:00</td></tr> </table>	ID	252	Asset ID	343	Filename	497288-Life_On_Mars-low.mp4	Filesize	17.52 MB	Creation Date	2018-10-01 14:23:32	Creation User	Partners Test	Duration	00:00:00	<p>The left image shows the video form</p> <table border="1"> <tr> <td style="text-align: center;">1</td> <td>A place to upload a new video file from the hard drive</td> </tr> <tr> <td style="text-align: center;">2</td> <td>A button to download the existing video to the hard drive</td> </tr> <tr> <td style="text-align: center;">3</td> <td>A preview of the video shown in keyframes from it. Clicking on a keyframe takes you to that moment of the video. Right click shows you options</td> </tr> <tr> <td style="text-align: center;">4</td> <td>Video player but in a small scale alongside with video control buttons (play, pause, stop, etc.)</td> </tr> <tr> <td style="text-align: center;">5</td> <td>General information of the video: <ul style="list-style-type: none"> • ID (unique) • Asset ID (unique) • File name • File size • Creation date • Creator • Video duration </td> </tr> </table>	1	A place to upload a new video file from the hard drive	2	A button to download the existing video to the hard drive	3	A preview of the video shown in keyframes from it. Clicking on a keyframe takes you to that moment of the video. Right click shows you options	4	Video player but in a small scale alongside with video control buttons (play, pause, stop, etc.)	5	General information of the video: <ul style="list-style-type: none"> • ID (unique) • Asset ID (unique) • File name • File size • Creation date • Creator • Video duration
ID	252																								
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5	General information of the video: <ul style="list-style-type: none"> • ID (unique) • Asset ID (unique) • File name • File size • Creation date • Creator • Video duration 																								

Table 13: Asset video form

The next form is for “Images”. Every asset may contain several images which either can be uploaded by the user or be chosen among video frames. Table 14 shows more details.








CM – Asset Images form							
	<p>The left image shows the image form</p> <table border="1"> <tr> <td data-bbox="798 443 874 734">1</td> <td data-bbox="874 443 1361 734">A place to upload a new image file from the hard drive. When the image is uploaded to the server, the user needs to choose a type for it. The image types are configurable in enumerations in SM. However, Thumbnail and poster are by default added to the system.</td> </tr> <tr> <td data-bbox="798 734 874 857">2</td> <td data-bbox="874 734 1361 857">Image gallery, possible to view/delete images of different types</td> </tr> <tr> <td data-bbox="798 857 874 1344">3</td> <td data-bbox="874 857 1361 1344">In addition to uploading images from PC, it is possible to choose an image from the video keyframes (see table 11). By right clicking on a keyframe, the user can choose an image type and send it to image gallery.</td> </tr> </table>	1	A place to upload a new image file from the hard drive. When the image is uploaded to the server, the user needs to choose a type for it. The image types are configurable in enumerations in SM. However, Thumbnail and poster are by default added to the system.	2	Image gallery, possible to view/delete images of different types	3	In addition to uploading images from PC, it is possible to choose an image from the video keyframes (see table 11). By right clicking on a keyframe, the user can choose an image type and send it to image gallery.
1	A place to upload a new image file from the hard drive. When the image is uploaded to the server, the user needs to choose a type for it. The image types are configurable in enumerations in SM. However, Thumbnail and poster are by default added to the system.						
2	Image gallery, possible to view/delete images of different types						
3	In addition to uploading images from PC, it is possible to choose an image from the video keyframes (see table 11). By right clicking on a keyframe, the user can choose an image type and send it to image gallery.						

Table 14: Asset Images form

The remaining forms of the Asset for the Access Service contents such as Subtitles (ST), Audio Description (AD) and Sing Language (SL) are quite similar. In table 15 we see what these forms contain. We have chosen ST in the table and have eliminated AL and SL for convenience, as ST form contain all of the information and it is the one with more options (some specifics of the AD and SL are also explained in table 15).

CM – Access service forms of the asset											
	<p>The left image shows the ST form</p> <table border="1"> <tr> <td data-bbox="801 564 874 757">1</td> <td data-bbox="874 564 1361 757">A place to choose the preferred ST instance (with metadata and ST file), because an asset can contain multiple ST files by language and type</td> </tr> <tr> <td data-bbox="801 757 874 1209">2</td> <td data-bbox="874 757 1361 1209">A button to upload an ST file from the hard drive with various formats. To this date following formats are available for ACM: ST: .SRT, WebVTT, TTML (IMSC), EBU-TT(D), .SBT, .STL, .SBM, .PAC, .RAC, .890 AD: .NAR, .AD, ADPT (TTML2), ESEF, .BWAV, WebVTT, audio track SL: TTML-based format</td> </tr> <tr> <td data-bbox="801 1209 874 1366">3</td> <td data-bbox="874 1209 1361 1366">A button to download the existing file to the hard drive, with option to be exported in various formats</td> </tr> <tr> <td data-bbox="801 1366 874 1832">4</td> <td data-bbox="874 1366 1361 1832">Instance metadata: <ul style="list-style-type: none"> • ID and Asset ID (unique) • Title and type • File name and size • Creation date and user • Language • Deadline • Status (see table 14 for details on status) </td> </tr> <tr> <td data-bbox="801 1832 874 2042">5</td> <td data-bbox="874 1832 1361 2042">A section called Works to create and assign the production tasks to a producer, change the status of the work, preview its history and communication messages between</td> </tr> </table>	1	A place to choose the preferred ST instance (with metadata and ST file), because an asset can contain multiple ST files by language and type	2	A button to upload an ST file from the hard drive with various formats. To this date following formats are available for ACM: ST: .SRT, WebVTT, TTML (IMSC), EBU-TT(D), .SBT, .STL, .SBM, .PAC, .RAC, .890 AD: .NAR, .AD, ADPT (TTML2), ESEF, .BWAV, WebVTT, audio track SL: TTML-based format	3	A button to download the existing file to the hard drive, with option to be exported in various formats	4	Instance metadata: <ul style="list-style-type: none"> • ID and Asset ID (unique) • Title and type • File name and size • Creation date and user • Language • Deadline • Status (see table 14 for details on status) 	5	A section called Works to create and assign the production tasks to a producer, change the status of the work, preview its history and communication messages between
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4	Instance metadata: <ul style="list-style-type: none"> • ID and Asset ID (unique) • Title and type • File name and size • Creation date and user • Language • Deadline • Status (see table 14 for details on status) 										
5	A section called Works to create and assign the production tasks to a producer, change the status of the work, preview its history and communication messages between										

CM – Access service forms of the asset

		producer and broadcaster. When assigned, the producer is able to see the production tasks in their working space (ED).
	6	Preview of the ST file
		Deletes the file
		Copies (Clones) the file with existing TC with possibility to choose new ST type and language.
		Adds a new ST instance with an empty ST file to be produced (possibility to choose Title and language)
		Runs the corresponding Online Editor with the LQ video and ST file
		Saves the changes (if no change is detected, the button is disabled)
		This button which only exists in the AD form, lets the user import mp3, wav and m4a audio tracks. These tracks are converted into AD files automatically with segments (at the moment of importing, choosing type and language is possible). The silences are detected to determine time codes for conversion of this track to an .ad file
		<p>This button only exists in AD and SL form and it is used for the following cases:</p> <ul style="list-style-type: none"> • When in AD, it lets the user chooses from an existing subtitle files in the same asset to be imported as an AD file with the same timings and script. • When in SL, it lets the user choose from existing subtitle


CM – Access service forms of the asset	
	files in the same asset to be imported as an SL file. This import helps the user to have the same timing and script from ST in order to transform the format to a sign language file and it facilitates the procedure, mainly when the sign language interpreter is deaf or hard of hearing.
	Closes the form

Table 15: Access Service forms of the Asset

Table 16 explains in details the different status types of any work would bear. These statuses are marked by the user and corresponds to the condition in which the task is in. The access service status is the worst of its work statuses.

Work status	
Pending	At first all instances and works are at this status by default and when created
In progress	Once the producer has started a job, the work status changes to <i>“In progress”</i>
Completed	When the job is finished by the producer, they can change the work status to <i>“Completed”</i> from the task card in the ED interface.
Verified	After the production task has being completed the broadcaster’s Quality Assurance Department needs to either validate or reject the file after reviewing it. If everything is correct, the work status will change to <i>“Verified”</i> .
Rejected	<p>After being completed the broadcaster’s Quality Assurance Department needs to either validate or reject the file after reviewing it. It is possible that they have some comments on the work and not satisfied with the result, for that they change the work status to <i>“Rejected”</i> along a rejection note for the producer. In this case the work will automatically be assigned again to the producer who will be able to answer the rejection note and proceed to the completion of the task.</p> <p>An example of how a status history of a task looks like is seen in the figure below. This dialogue appears when clicked on the <i>“Open history”</i> button in the work form on the asset card. Communication messages can also be used (see table 18).</p>


Work status	
Status History	
Alex Soler Rejected	2021-03-05 15:42:45 ^
Enric Torres Rejected	2021-03-05 16:05:21
Enric Torres Rejected	2021-03-05 16:06:49
Alex Soler Rejected	2021-03-05 19:17:14
Alex Soler In progress	2021-03-05 19:17:39
Enric Torres Pending	2021-03-05 20:06:08
Enric Torres	2021-03-05 20:06:08 v

Table 16: Work status

This section allows the user to manage and catalogue the assets and also their contents and properties individually. How an asset is managed and edited was explained above. Let's take a look on how the assets are catalogued. In addition to actions and buttons explained in the previous chapter and also In Annex I, there are two ways to catalogue assets as indicated in 3.3 introduction:

- By metadata (when in metadata view), so to find an asset the user needs to use the search bar on top.
- By folder tree (when in hierarchical view), so only assets in the folder are shown.

4.2.1.2 ASSETS CATALOGUING

Folder tree of CM have the objective of creating a more flexible and organised interface. They can contain assets in its folders which are editable. The folders which are accessible by the user are those that are in the tree branches defined and configured in the profile of the user from SM (see table 3). The tree branches which are granted access to the user will appear on top of the CM interface page (see tree branches list in figure 8). If the user uses the search engine on the top, only the results in the specific folder and children folders (if the "Search in children" checkbox is marked) will appear as a search result.

It is possible to create/delete/edit/move/copy folders and navigate through them. Navigating by folder comes in handy when the work volume of broadcaster is high and the programmes are

numerous, so the user can organise the work based on criteria they look for (based on schedule of emission, importance, channels, etc.).

There are basically two methods to perform basic operations on folders such as edit, copy, etc: by buttons on the top of the folder tree or by right-clicking on any of them.

There is a small folder icon on the left of the tree branches list which lets the user switch between metadata view and hierarchical view (see folder icon in figure 8). When the icon shows a closed folder the metadata way is selected, when it is an open folder the hierarchical way is selected. If the user uses the search engine on the top when in this metadata view, the search will be performed in all the database but only from the folders that the user has access rights.

Search engine

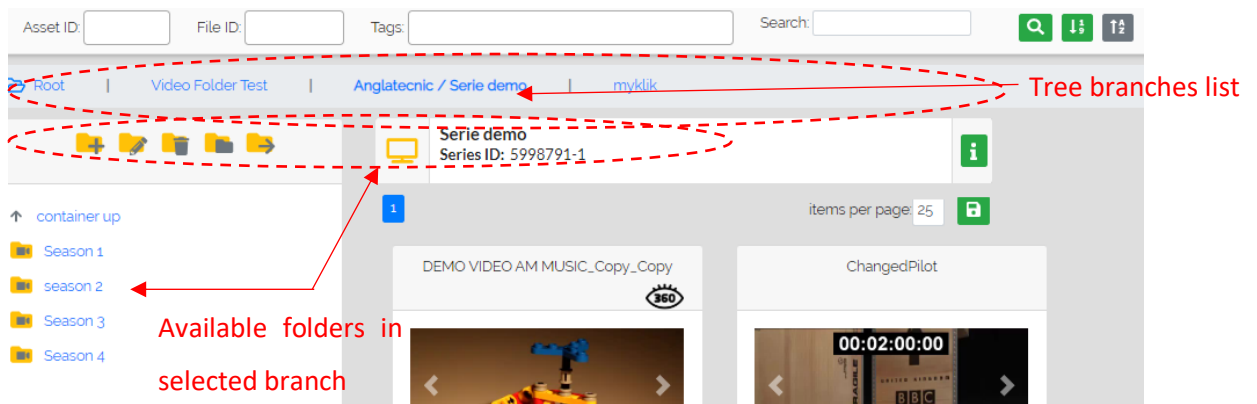
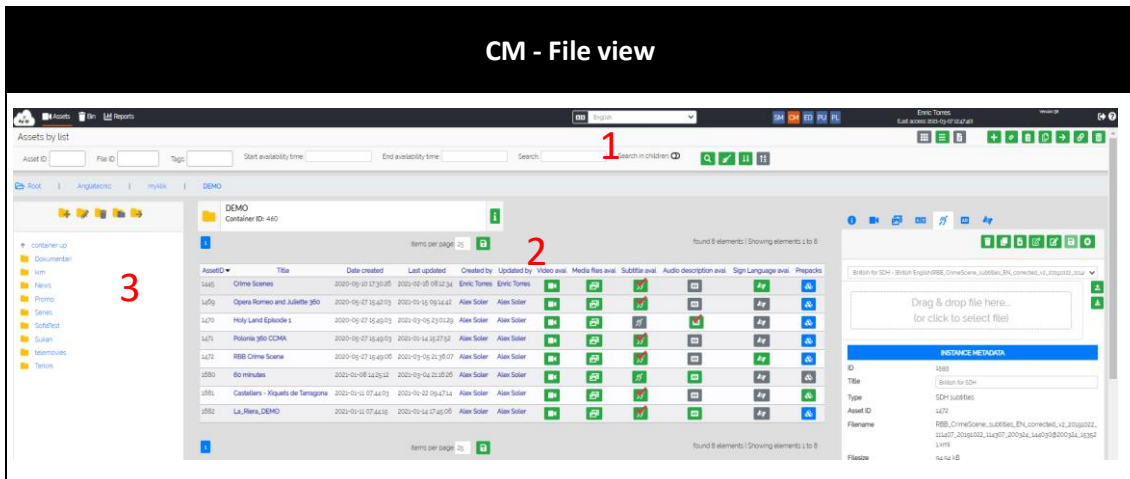


Figure 8: Folders and branches in CM

4.2.1.3 FILE VIEW

In addition to the points mentioned in previous chapters, CM gives the user the possibility to navigate through assets and their instances in three different modes. The default mode elaborated earlier views assets as a collection ("List view" or "Grid view"). However, in addition to these, it is possible to switch to a "File view" that shows not assets, but all the access service files available on the folder. By file, we mean three different access service file types available (ST, AD and SL). Like assets, files can either be displayed on metadata view or hierarchical one. Table 17 displays more information in this sense.

This view is very useful for the quality assurance (QA) department users that need to find the files that have the "Completed" status and therefore they can review them and set the new status to "Verified" or "Rejected".



This view gives the user the available access service files


	<p>This is the button that gives the user this view on the top menu</p>
<p>1</p>	<p>On the top of the page, there are search boxes with following criteria:</p> <ol style="list-style-type: none"> 1. Free search 2. File type which can be either: <ol style="list-style-type: none"> I. Subtitles II. Audio description III. Sign language 3. File status 4. Language
<p>2</p>	<p>List of files with following information and the possibility to order by them:</p> <ol style="list-style-type: none"> 1. ID 2. File name 3. Creation date 4. Last updated 5. File size 6. Language 7. Status 8. Editors 9. Asset ID 10. Type
<p>3</p>	<p>It is possible to navigate through files by folder hierarchy as well</p>

Table 17: File view

4.2.2 BIN

Bin acts like a recycle bin for the system. Contents which have been moved to bin cannot be edited or changed but it can be restored back into Assets or can be deleted forever.

4.2.3 REPORTS

In this subsection, we can check out the statistical data and information showed in an interactive manner that can be understood by all users. To this date, three charts are displayed:

- Downloaded files
- New files
- Finished files

We can search through this data by date. Figure 9 shows the page clearly:



Figure 9: Reports

4.3 EDITOR INTERFACE

This is the interface specially destined to access service producers and lets them view their previously assigned tasks, search through them and more importantly gives them direct access to online editors (there are separate user manual for each Online Editor such as Web ST Editor, Web AD Editor and Web SL Editor). Table 18 shows more details.

ED - Task list	
Search bar (1)	With this tool, the user can search through their assigned production tasks based on file type, status, media type (immersive/non-immersive) and language and view them alphabetically, including finished tasks or not, etc.
Task icon (2)	These icons show the type of production task: it can be either a subtitle, a sign language, or an audio description task. The colour of the row shows the status of the task (<i>Pending</i> : in grey, <i>In progress</i> : in yellow, <i>Completed</i> : in blue, <i>Rejected</i> : in red, and <i>Verified</i> : in green).
Task status (3)	The user can view the status of the work and only can changed it to <i>Completed</i> when the job is done.
Online Editor (4)	By clicking on this button of a task the corresponding Online Editor will be executed with the video file, metadata and the access service file for the production with specific ID number.
System language (5)	ED interface and the Online Editors are available in different languages. There is an option on top right of the ED interface page to select the language which will be saved as the user preference for all the interfaces and editors.
Communication messages (6)	Communication messages between the producer and the broadcaster can be done through this option. For instance, when a work is <i>Rejected</i> by the Accessibility Quality Assurance Department of a broadcasting station, the person who has rejected it needs to explain and justify the reasons of the decision to the producer. The producer is able to see this justification by clicking on the Communication icon in the task card on the ED interface.



ED - Task list	
	<p>Then the user can either accept the justification and put the task into “<i>In progress</i>” or send back an explanatory note to the QA department.</p> <p>Communication </p> <hr/> <p>Enric Torres 2021-03-05 20:06:08 W1 message</p> <hr/> <p>Alex Soler Now Thanks, I will review the file and upload it again.</p> <p>Enter a new message:</p> <div style="border: 1px solid #ccc; height: 60px; width: 100%;"></div> <p style="text-align: right;"></p>

Table 18: Task list

4.4 USE CASE

Now that the reader is familiar with every section of ACM, we will explain how it works through a given scenario. The complete workflow is shown in figure 10.

1. When the broadcaster requires access services for a programme (point 1 of figure 10) an asset corresponding to that programme is necessary in CM and it can be created in either of the following ways:
 - a. Manually using the top right buttons to create a new asset (see annex I), uploading the LQ video of the programme and editing its metadata.
 - b. Automatically by receiving a LQ video of the programme via FTP (point 2 of figure 10), or by a background process using the API.
2. After the asset with the LQ video is created there are some typical operations for assets like moving, copying, linking and erasing.
3. The user goes to the desired access service form when a new access service content is required, creates a new instance (with an empty access service file), and edits its metadata (see table 15).
4. From the new instance, the user assigns the task of producing the access service content (editing/producing the access service file) to one or various producers such as subtitlers, audio describers or signers who comply with the criteria for this specific production (point 3 of figure 10). Optionally, the user can create various works to distribute the production to different producers, each work with its start time and end time

parameters will be assigned to producers (by default there is only one work from the start time to the end time of the asset).

5. From the ED interface a producer (professional or external service provider) performs the production task that has been assigned to them using the Online Editor (point 4 of figure 10) and when the job is finished, the producer changes the production task status to “Completed” (point 5 of figure 10).
6. Once the production task is set to “Completed”, the access service work (the same access service can be divided in several works if the production is distributed) is ready to be reviewed and validated by the broadcaster’s quality assurance (QA) department. One good recommendation to the QA user is to change the CM interface to “File list view” and order the files by their status to find out which production tasks are completed in order to review them. After review they either change the work status to “Verified” or “Rejected” alongside a rejection reason note to the producer (point 6 of figure 10). When rejected, the task is automatically is re-assigned to the producer with the rejection reason in the communications dialog.
7. Once the access service status is verified (only when all the works of the access service have the verified status), the broadcaster’s play-out system or other publication systems can access the access service files in order to air or publish the access service (point 7 of figure 10). For this it is necessary that the platform is fully integrated with the broadcaster’s systems.

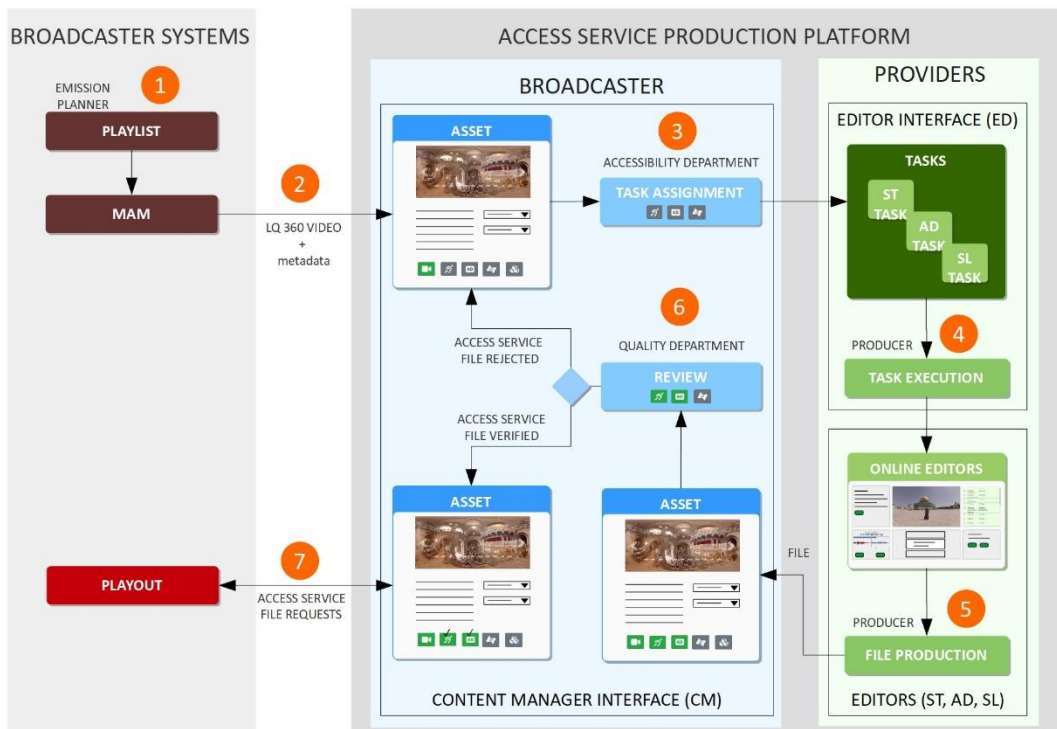









































Figure 10: Production and publication/airing workflow

ANNEX I: ICONS GUIDE

Icon	Usage
	Subtitle form
	Audio description form
	Sign language form
	Image form
	Video form
	General asset information form
	Communications
	Status history
	Sort assets by numerical order
	Sort assets by alphabetical order
	File view switch button
	Change the view of assets to list view
	Change the view of assets to grid view
	To be used when the user wants to add a new asset
	When the user wants to import assets from FTP where the high resolution video resides
	The user selects one or various asset (for multiple selection use the Ctrl key) and with this button chooses the destination among folders where they are copied
	The user selects one or various assets (for multiple selection use the Ctrl key) and with this button chooses the new destination among folders where they are moved
	A button to “Select all” assets in the page
	Upload and create multiple assets using a dialogue

Icon	Usage
	This button lets the user edit multiple assets common characteristics at once
	The user selects one or various assets (for multiple selection use the Ctrl key) and with this button create links to them
	The user selects one or various assets (for multiple selection use the Ctrl key) and with this button erases them
	Publish assets with at least one verified access service file (it turns blue)
	Save changes (when no change is made, the button is disabled)
	Copy access service instance into a new language (TCs are kept)
	Open the Online Editor with the access service file
	Import new AD/SL file from an existing ST file
	Import an audio file from PC in order to use it as an AD instance
	Close asset form
	Upload instance
	Download instance
	Add a new instance
	Restore the asset inside bin back to asset list
	Delete the asset in the bin forever
	Add a new folder
	Edit folder
	Send folder to the bin
	Copy folder
	Move folder