User Manual		
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Accessibility Content Manager (ACM)

Authors: Enric Torres Feixas & Kimiasadat Mirehbar (Anglatècnic)

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C Confidential, only for members of the consortium and the Commission Services				

EXECUTIVE SUMMARY

ImAc project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 761974 and is looking for development of solutions that facilitate the procedure of production, transmission and presentation of access services on immersive media.

One of the main objectives – among many – of ImAc is a comprehensive environment for professional users with the aim to manage and control the workflow of access services production and distribution. This control system is required to act as:

- A centralized management and processing system for the production and distribution of access services such as subtitles, audio description and sign language
- A centralized system which handles and manages the necessary communication and notification among various levels of professional users of the ACM. The levels of users correspond to their role in the access service production and distribution workflow and typically are categorized as system administrators, managers, producers, providers and reviewers. This categorization is not unique and can get extended as required by the broadcaster.

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1. INTRODUCTION

One of the main objectives – among many – of ImAc is development of content manager with aims of managing the procedure of access service production for 360^o media, that is for the production of subtitles (ST), sign language (SL) and audio description (AD) files. User can upload content, assign production tasks to access service producers (professionals or service providers of access service content), check the access service files produced and so on. By reading this document you will learn to manage the contents and their production workflow using the Accessibility Content Manager (ACM) tool of the ImAc project.

2. How to access the ACM

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 (illustration 1) and enters username and password previously provided by administrator.

Illustration 1: ACM login page

3. USER MANUAL

3.1.

In this chapter, a detailed user manual of the ACM (SM+CM+ED) is introduced.



The user can open the different ACM interfaces with access rights by pressing the corresponding button in the top menu. Also the user interface language can be selected from this menu.

3.2. System Management interface

TOP MENU

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. Top menu-left hand gives access to different sub-sections of SM.

3.2.1. Users

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

5

	Users – SM											
lm .	AC Users	Profiles DI La	anguages 🗳	System 🔓 Logs		user has been successi	ully edited		×	SM CM ED	PU ^{Maxim} et	Erric Tories ast access 2019-06-25 14:98
Userli	t		9 .									/
Search		Profile:			Language:							
						(2)						
1 2 3	456>				users items	per page: 5 🖬						users found 27 Showing 1 to 5
1	alex	Alex	Soler	ame Short nam ASDF	ne Profile Administrators	è-mail alex@anglatecnic.com	Last login 2019-06-21	Subtitler	Audio describer	Signer	Language:	s Actions v
53	alex_APB	alex	solerr		Demo Users	kimia@anglatecnic.com	2019-05-22	ø		44	-	
232	anna _fi6	anna	mat		Demo Users	kimia.mirebar@gmail.com		ส		Ly.	26 🖬	
5	demo	Demo	temp	DEM	Administrators	demo@demo.com	2018-03-28	Ń		Ly.	* * =	*
12	Dionisio	Dionisio	Mas	Dioni	Subtitler	francescmas@gmail.com	2018-07-03	Ħ		kq.	= = 33	•
1 2 3	456>				users items	per page 5						users found 27 Showing 1 to 5
© 2018-2	019 Accessibility Co	ntent Manager Re	evision 46									
	1	L		With th	his tool, u	ser can sear	ch through i	the exi	sting us	ers b	ased	on three
				differer	nt criteria	a: <u>Free search</u>	<u>n, Profile ty</u>	<u>pe, Lan</u>	iguage			
	_											
	2	2		The list	t of users	is available	in this part	. All of	the reg	gister	ed use	ers can be
				found h	here with	their follow	ng informa	tion:				
					•	ID number (unique) Us	sernam	ne (hv c	lickir	ng on	it – in the
							anque), es	one of		4:4:0	-5 011 	
						case of navir	ig permissio		users e	ultion	1 - the	e logged in
						user is redir	ected to a	form p	bage for	r edit	ing th	ne settings
						belonging to	o clicked-o	n user	r – see	illu	stratio	n 3), Full
						name and s	hort name.	Profile	- tvne -	- em	ail add	dress Last
						login data a	nd time Th			vico r		stion tasks
							nu unie, n					
						they are abl	e to produc	ce (ST,	AD, SL)	, The	langu	lages they
						can create, A	Actions avai	lable (e	edition,	dele	tion, t	olock)
	3	3		By click	king on th	is positive sig	gn button. a	a new i	user car	n be a	dded	
				.,								

Table 1: Users list

At the moment of creating/editing a user, the form shown in illustration 4 appears. This form needs to be completed in order 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 of 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 (illustration 3).

Username:		
Password:		
Profile:	Subtitler 🔹	
Name:		
Surname:		
Short name:		
e-mail:		
Last login:	-	
Subtitler:		
Audiodescriptor:		
Signer:		
Languages:	American English	
	British English	
	Catalan	
	Dutch	
	French	
	Galician	
	German 💻	

Illustration 3: User edition/creation form

3.2.2. Profiles

It is important for any system at this scale to define different profile types, 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. Profile types refer to different types of permission given to a user based on their access criteria. This is described in detail in table 2.

Profiles – SM				
Profile list Seach D Name D Name Andreistators Andre Descriptors B Broadcater - Accessibility manager S Signer S Signer S Scher	profiles items per page 10 Exercipion User rights for every thing within the project Audio Descriptor broadcaster employee that manages the access services contents proceed broadcaster employee that manages whole procedure (content managem a profile belonging to signers User with subtiling rights only	profiles found 7 Showing 1 to 7 Actions res end and system boubleshootingi		
3 Subtitule manager	Subtitule manager organises the subtiting work			
1	With this tool, user can sea	rch through the existing profiles.		
2	A list of typical profiles on ACM with their description.			
	Administrator	User rights for everything within the project		

	Profile	s – SM
	Broadcaster – Accessibility manager	broadcaster employee that manages the access service procedures
	Broadcaster – System manager	broadcaster employee that manages system administration and troubleshooting
	Audio descriptor	Audio description producers (professionals or external service providers)
	Subtitler	Subtitle producers
	Signer	Sign language producers
	Subtitle manager	Organises the subtitling work
	Demo users	Profiles aimed to new users for testing purposes
3	By clicking on this button, t	he 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.

Profile form– SM				
Edit profile Nerve Der Segender derrore user Der Segender derrore user Der Segender derrore user Der Segender Tree brancher Profiles Der Segender Segender Der Segender Der S				
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 creation form

3.2.3. Languages

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

	Languages – SM				
Languag	C LUsers A Profiler	togs ∎Logs	Krone M 🚱 Kalance and de Color Market Ma Market Market M Market Market		
Search:	Q 🛃	tems per page 25	found 11 elements Showing elem		
ID	Name 🔺	(2) Locale			
8	American English	. 🔤 en_US			
4	British English	il@en_OB			
2	Catalan	Ca_ES			
9	Dutch	nl			
5	French	Llfr			
3	Galician	∕n ga.ES			
6	German	🔚 de_DE			
10	Norwegian	t a no			
7	Polish	■ pl_PL			
11	Portuguese	D pt			
1	Spanish	≡ es_ES			
1		items per pagel 25	found 11 elements Showing elements 1 t		
	1 W	ith this tool, the user can search throu	gh the existing languages		

Languages – SM				
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 and also creation of user-customized language if its not available in the list and its standard locale is know by the user as in illustration 5.			

Table 4: Languages list

Edit language		
ID:	8	
Name:	American English	
Locale:	en_US	
Illustration 4: User-customised Language creation form		

3.2.4. System

"System" section corresponds to administrative actions done by system administrators or broadcaster system managers. It is divided into four parts which will be discussed respectively in tables 5, 6, 7 and 8.

			Varial	oles – Sy	stem – SM			
	. []							3
System options	Variable list		(2)					
🗘 Variables	Search:	۹ 🕁	\mathcal{T}					
Notifications	Title		Name 🔺	Value	Description		Editable	Actions
	Id of template for notify editors	2	ID_NOTIFICATION_EDITOR	4	Notifications Template for avai subtitler, audiodescriptor or sig	ailable file to igner	1	*
	Interval to generate keyframes	s	KEY_FRAME_INTERVAL	01	This variable is used to genera from uploaded file of the asse	ate keyframes taken et	1	
	PUBLISH		Name	Value		Description	Edital	ble Actions
	Audio file name convention ten	mplate	AUDIO_FILE_TEMPLATE	loutputForma	tl/laudioFileFormatl/luidl-Imodel-Ip	phi Name template for all the audio files th	at will be 1	T
	Default video resolutions to tra	anscode in Packager	DEFAULT_VIDEO_RESOLUTIONS	1080.720.540.	480	Include, separated by commas, the diff	erent 1	v
						resolutions that will be de default parar transcode in Packager	neter to	
	SYSTEM							
	Title	N	ame 🔺	Value		Description	Editabl	e Actions
	Days to clean finished transcoo	difications D	AYS_CLEAN_TRANSCODINGS	3		Set the number of days to clean transcodification older than this value in days.	ins 1	
	Audio Renderer Receiver URL	. u	RL_WS_CLOUD_RENDERER	https://tngkiyls7Lexecu aws.com/DEV	e-api.eu-central-1.amazon	url to audio renderer receiver, starts rendering process.	1	
In this s installation Variables	Section so on and cus are divide	me syste stomizatio ed into th correspo	em variables on of ACM. ree categorie nds to gener	s can b es: al interfa	e set or r	modified, for insta es.	ance duri	ing the
• \$	SYSTEMS: (correspo	nds to systen	n variabl	es.			
:	1 With this tool, the user can search through the existing variables.							
:	2	List of variable	existing vari 's name, the	ables w user is r	ith their o edirected t	characteristics, by to an edition page	clicking	on the
:	3	By clicki	ng on the po	sitive sig	gn, the user	r is able to create a	new vari	able

Table 5: Variables of system

			Eng	ines – Syste	m – SM				
System options	Keyframes Extragon	Engine					2		
Notifications	works per page 7 ID Video ID works per page 7	Filename	Creation date	Updated date 🗸	Status	Original filename	Filesize	found Sho Retries found Sho	wing 1 to found Showing 1 to 7 Type Actions wing 1 to found Showing 1 to 7

This section shows the working queues of the ACM engines (background processes without user interaction). A limited number of engines are developed for the ImAc project which can become more extended in the future.

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

Table 6: Engines of the system

		Notif	ications – System – SM	
				Frie Town Fries
M AC Lusers	Profiles DE Languages	1 Logs		SM CM ED PU Mesons Christeness Cog-03-08 1128.00
System options	Notifications Template			3
🗘 Variables	Search:			
🗱 Engines	notifications per page	le 8 🖸		found Showing 1 to
Notifications	ID Name A	Subject	Body	Actions
	4 Mail to notice editors that the	nere is a new work New (#TYPE_INSTANCE) file assigned to	Hello. A new . .#TYPE_INSTANCEI file has been assigned to you on the ACM pple	ase check it ASAP thank you regards
	9 nou	you New [#TYPE_INSTANCEI file assigned to	<	Nk/p>
		you		-
	notifications per page	e 8 日		found Showing 1 to
	© 2018-2019 Accessibility Conte	tent Manager Revision 31		
Th :	·			
This sect	non lets th	ie user configure r	notification and mailing templates	using a special form.
The form	n is shown i	in illustration 6.		
	1		waan aan aaanah thuawah tha awistin	
	T	with this tool, the	user can search through the existin	ng notification
		templates.		
	,	List of ovisting tom	anlatos with their name, subject an	d hady by clicking on
	2		ipiates with their name, subject an	u bouy, by clicking on
		the name, the use	r is redirected to an edition page.	
	2	By clicking on the	nositive sign a creation form is one	aned
	5	by clicking on the	positive sign, a creation form is ope	incu.
L		1		

 Table 7: Notification templates list

System options	Edit notification
 ✿ Variables ֎ Engines ■ Notifications 	ID: 4 Name: Mail to notice editors that there is a new work to do Subject: New I#TYPE_INSTANCEI file assigned to you Source B I S I _x IIII = IIII = 12 Hello, Hello, A new [#TYPE_INSTANCE] file has been assigned to you on the ACM. please check it ASAP. thank you regards
	Allow delete:

Illustration 5: Template edition/creation form

Enumeration – System – SM					
System options	Genres	Ratings	Tags	Image types	
🗘 Variables	Comedy			ltem name▼	
- Enumerations	Drama				
Engines					
Notifications					
A place to let users create customized enumeration variables and edit them as they wish.					
To the moment four metadata type are added: genres, ratings, tags, image types.					

Tabla 8: Enumerations

3.2.5. Logs

Logs section can be significant for administrative tasks. Table 9 shows the interface.

					Logs – SM		
	Legist						
Notification logs	tnitial date:		Fina date:	2	v User: VSer: VSer:	Word: Q	
E Logs	1 2 3 4	5 6 7 8 9	10 > >> >>>	T.	logs items per page: 25	logs found 7381 Shawin	ng 1 to 25
	ID- Level	L Environment	Code	User Date	Description	Backtrace	Table
	7381	cm	folders	enric 2019-03-11 13 32	5 Folder ' kim 'successfuly created	llLogger->Escriu_Loggfolder.class.phptig6il.ffolder- >updategimodify_folders.inc.phptg7il llrequre_oncegasets.phptig2i0 i I	162
	7360	sm	notifications_templates	enric 2019-03-11 12:37	Transcoding 'Mail to notice editors that there is a new work to do' successfuly updated	IILogger->Escru_Log@notification class.phptggil Inotification- >update@modfy_notifications inc.phptggil Irequire_once@notifications.phptggil	4
	7359	cm	subtitles	enric 2019-03-06 130	227	III.oogen -Sicru, Log, IBBOD substite dass physiolaf Tuchttle- vupdalegatisticas physiolaf III.sech- vupdalegationd/ii.sects in: physiol/III.sech- vupdalegatisticas and substitution and substitution and filename-kay, Teng-, Jelen, - Holy, Land, en GB, Joddsolf- signitisticas, - Jelen, - Holy, Land, en GB, Joddsolf- signitisticas, - Jelen, - Holy, Land, en GB, Joddsolf- signitisticas, - Silver, - Holy, Land, en GB, Silver, - Holy, Land, - Silver, - Silver, - Holy, Land, en GB, Silver, - Holy, Land, en GB, Silver, - Holy, - Holy, - Silver, - Holy, - Holy	365
	7358 🔴	management		enric 2019-03-06 12.4	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 dates (2019-03-1" at line 3	Ill_ogger->Escriu_Log_BBDD@report class php1r5jil ineport- >getFinished@getFinishedFiles.php1r2jil iFailed to write report for finished filename *	0
	7357 🔴	management		enric 2019-03-05 12:4	You have an error in your SOL syntax; check the manual that corresponds to your MySOL server version for the right syntax to use near "WHERE dates' (2019-03-1" at line 4	Ill.ogger->Escriu_Log_BBDD@report class php(s22) ireport- >getUploads@getUploads php(s2) iFailed to write report for new files filename "	0
	7356	management	login	enric 2019-02-19 14:08	58 Incorrect user or password. enric	IILogger->Escriu_Log@logininc.phpl69)I Irequire_once@authinc.phpfsoolI (require_once@assets.php(9)I I	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 of logs sent to responsible person to the moment.

Table 9: Logs – SM

3.2.6. Scenario

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. Illustration 6 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, illustration 3 shows how it is done.

Im AC LUsers A Profiles DI Languages System	Logs		Enric Tomes Feixas
Edit profile			₩ ←
LD 3 Name Substitue manager Decorption crapanous the substitury in Superior Superior Superior Superior Superior Languages Logs	Content Manager user right: Roc Create Acosts C Create Edt Remove Download Acosts C Create C Create Remove C Create C Create Remove C Create C C Create Remove C Create C C Create C C C C C C C C C C C C C C C C C C C	Editor Tools user replat: Read Citil Subble Audo Description Syned Language Vedeos	Perflack user rights Reco Perflacks

Illustration 6: Creating the "Subtitle manager" profile

3.3. CONTENT **M**ANAGEMENT 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-chapter:

- 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

3.3.1. Assets

Due to the importance of CM and assets, this interface is going to be explained section by section. Illustration 7 shows assets main page.



Illustration 7: Assets main page

The contents are organised in a structure called "Assets". Each asset is created in order to manage the production and cataloguing of access service files (ST, SL, AD) in different languages for one 360° programme.

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 a FTP folder.

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 illustration 8. 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.



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 form.

3.3.1.1. Asset forms

As demonstrated in 3.3.1 the assets list contains all of the available assets with their metadata and files. Table 10 shows what is observed when an asset form opens.

	Asset card and its fo	orm – Assets –	см		
			a		
found	12 elements Showing elements 1 to 12				
Late night show		AssetID	297		
		Title	Late night show		
		ProgrammelD	subjects with guests.		
		Episodo Nº	49/288 2		
AssetID 297 Date created	2018-06-29	Created by	4 /		
	17:35:57	Updated by	Enric Torres		
i 📑 🖻 🚿 🖪	D Aq d ₀	Last updated	2018-06-29 17:35:57 2020-02-07 10:38:57		
		Availability start date	2020-02-01		
		Availability end date	2020-02-29		
		Folders	Root / UAB TEST / videos		
		Original Language	British English 🔻		
		Video type:	360 video 🔻		
		Genre:	Comedy 😢		
			Add genre		
		Rating:	PG-13 •		
2	availability of each access service (when the icon is green it means that all least an access service file is available right now and when it is grey it shows that it does not exist any) General information form with: 1. Title and comments 2. ID of the programme 3. User who has created it with related dates				
	4. the directory of the	asset in the fold	ders		
•	Access to the general inform	nation form (see	e table 11)		
	Access to the video form (see table 11)				
	Access to the images form (see table 12)				
Ń	Access to the subtitle form (see table 13)				
AD	Access to the audio descript	ion form (see ta	able 13)		
£9	Access to the sign language	form (see table	13)		

Table 10: Asset card and its forms



Table 11 demonstrates in detail the video form of an asset.

 Table 11: Video form of an Asset

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 12 shows more details.

Images form	Images form – Assets – CM						
🖲 🖬 🖆 🚿 🔤 🏘	The le	eft image shows the form for the image nces:					
Upload a new image: Drag & drop lle here (or click to select file) Poster	1	A place to upload a new images file from PC. 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.					
RIEND: 2	2	Image gallery, possible to view/delete images					
	3	In addition to uploading images from PC, it is possible to choose image from 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 12: Images form of the Asset

The remaining forms of the Asset for the Access Service contents (ST, AD and SL) are quite similar. In table 13 we see what these forms contain. We have chosen AD in the table and have eliminated ST and SL for convenience, as AD form contain all of the information and it is the one with more buttons and options (some specifics of the ST and SL are also explained in table 13).

	Access Se	ervice form – A	Assets – CM
6 🖬 🖾	<i>∬</i> □ 4 7	The l	eft image shows the AD form:
Catalan 353_ca_Es_Dyn	amic_Holy_Land_1ad	2 1	A place to choose the preferred AD file (instance), because an asset can contain multiple AD files by language and type
ip	ag & drop file here click to select file)	2	A button to upload an AD file with various formats. To this date following formats are available for ACM:
Asset ID Filename Filesize Creation Date Creation User Language	353 353_ca_ES_Dynamic_Holy_Land_1 ad 299 B 2020-02-05 13 32 52 Alex Soler Catalan	4	 ST: .XML – .SRT – Web-VTT – EBU-TT(D) AD: .ad – .nar – .zip SL: .sl
Review Notes Type Audio describers	N/A Dynamic Enric Torres Add Audio de	3 scriber	A button to download the existing file (the one selected in the drop-down list), with option to be exported in various formats
Total segments Last TC out Title FPS Comments Gain Levels ID Audio description S1 TCIn-00.00.013 Audio Duration- lletres blanques ID 0:00 / 0:	1 00:00:03920 high: 1 medium: 0.5 low: 0 on 60 TCOut-00:00:03920 -00:00:0000 s sobre fons negre. Jaunt Ryot. :00 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	4	 General information of the file: ID (unique) Asset ID (unique) File name File size Creation date and user Language Status of work (see table 14 for details on task status) Type of AD (static, dynamic, classic)
		5	A button to a dialogue to assign the production task to a producer (in this case to an audio describer, in the case of the ST and SL forms to a subtitler and signer respectively). When assigned, the producer is able to see the task in their working space (ED).
		6	Preview of the AD file
		Ũ	Deletes the file

Access Service form – Assets – CM		
	Copies (Clones) the file with existing TC and segments with possibility to choose new AD type and language	
	Adds an empty AD file to be produced (possibility to choose AD type and language)	
C	Opens the corresponding editor with the LQ video and AD 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	
-5	This button only exists in AD and SL form and it mainly serves in following conditions:	
	• When in AD, it lets the user choose 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 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 sing language file and it facilitates the procedure. 	

Access Service form – Assets – CM		
	8	Closes the form (warns the user if they have unsaved changes)



Table 14 explains in details the different status types any access service task would bear. These status are marked by the user and corresponds to the condition in which the task is in.

	Access services task status			
Pending	At first all instances are at this status by default and when created.			
In progress	Once the producer has started the work the status changes to "In progress".			
Completed	When the producer finishes, they can change the status to "Completed" via ED interface.			
Verified After being completed the broadcaster's Quality Assurance Department nee to either validate or reject the file after reviewing it. If everything is correct, the status will change to "Verified".			aster's Quality Assurance Department needs after reviewing it. If everything is correct, ".	
Rejected	After being completed to either validate or re have some comments they change the status In this case the task w will be able to answer task. An example of how a r figure. This dialogue a card (see table 13). Revision history	the broadc ject the file on the worl to "Rejecte ill automatic the rejectio revision histo ppears whe	aster's Quality Assurance Department needs after reviewing it. It is possible that they k and not satisfied with the result, for that ed" along a rejection note for the producer. cally be assigned again to the producer who in note and proceed to the completion of the ory of a task looks like is seen in below n clicked on the "Review notes" in the asset	
	Date	User	Note	
	2020-02-05 12:28:55		Good day. This is not ok yet due to styling	
	2020-02-05 13:11:55		Styling is corrected. check again please	
	2020-02-05 13:13:02		Take a look at order of subtitles	
	2020-02-05 13:13:41		Done, recheck please	
	2020-02-05 13:15:19		Time codes are wrong	
	2020-02-05 13:15:37		I have checked and they seem OK!	
Mark as Verified Ac		Mark as Verified Add a new review note Close		



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. Lets 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.

3.3.1.2. Asset 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 illustration 9). If the user uses the search engine on the top, only the results in the specific folder 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 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 Illustration 9). 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.



Illustration 9: Folders and branches in CM

3.3.1.3. 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 15 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".

Assets file view – Assets – CM				
Files list				
	dems per page 15			
esperandary High Land High Land	No. Autory Autory Faulty Faulty			
This view gives	This view gives the user all the available access service files on ACM.			
1	 On the top of the page, there are search boxes with following criteria: 1. Free search 2. File type which can be either: I. Subtitles 			
	II. Audio descriptionIII. Sign language3. File status			
	4. Language			

	Assets file view – Assets – CM
2	List of files with following information and the possibility to order by them:
	1. ID
	2. File name
	3. Creation date
	4. Last updated
	5. File size
	6. Language
	7. Status
	8. Editors
	9. Asset ID
	10. Туре
3	It is possible to navigate through files by folder hierarchy as well

Table 15: File view

3.3.2. 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.

3.3.3. Reports

In this subsection, we can checkout 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. Illustration 10 shows the page clearly:

	sets 🗑 Bin 🕍 Reports			Erec Tores Penas 🚱
Reports				
Initial Date	Final date.			
	File downloads	New file	s F	inished files
Mideo	Sublitie Audookecription Sign Language	Video Subtite Audiodee	ription 📰 Sign Language	Audiodescription Sign Language
© 2018 IMAC Accessibility I		C)
		Illustration 10	· Peports	
		mustration 10	. hepoilts	

3.4. 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 ImAc editors (there are separate user manual for each ImAc Web Editor such as Web ST Editor, Web AD Editor and Web SL Editor). Table 16 shows more details.

		Task lis	st – ED		
Task List	Ent lask Last Set Constant Set				
Search: Type:	✓ Language: ✓	Status:	ited 🗶 😫 🎼		
tasks per page 12					found 12 Showing 1 to 12
ay 360 Google Spotlight Story Pearli	Ayutthaya	C dsfdsaff	💅 hola que tal	ay monica	C Opera Liceu for AST
	LEILT)	a second second	The second second second	The second second	
Deres Deres A	A CONTRACTOR				
ID asset: 338 ID file: 25 Language:	ID asset: 8 ID file: 412 Language: The second secon	ID asset: 352 ID file: 257 Language: The second sec	ID asset: 344 ID file: 298 Language:	ID asset: 416 ID file: 136 Language:	ID asset: 394 ID file: 300 Language:
Status: In progress Task completed?	Status: Rejected Task completed? ①	Status: In progress Task completed?	Status: In progress Task completed?	Status: Pending Task completed?	Status: In progress Task completed?
Filename: 338_360_Google_Spotlight_Story_P earl_ca_ES20180g26-0g5217sl	Filename: 8_Ayutthaya_de_DE_20190506-1133 06.xml	Type: Friend Filename: 297_hola_en_US_Dynamic_2019041	Filename: 344_hola_que_tal_ca_ES_20181003- 1247553_20190411-124113.xml	Filename: 416_monica_ca_ES_20190530-11570 9.sl	Type: VOG Filename: 394_Opera_Liceu_for_AST_en_US_2
Edit 🗭	Edit 🗭	Edit 🗭	Edit 🗹	Edit 🗭	Edit 🗹
© 2018-2019 Accessibility Content Manager Revision	on 43				
The page contain	ns a list of previo	ously assigned t	asks to the proc	ducer who is vie	wing the page.
1 The possibility to search through tasks based on:					
	• Type (ST. AD. SL)				
Language					
	• Status				
2	2 Existing tasks in shape of cards. The above colour of each card reflects th		ard reflects the		
	current status of it and also type of it in form of an icon. While in its		hile in its		
	bottom, characteristics are seen. When the production task is completed,		k is completed,		
	the producer should mark the corresponding option in order to change		the reasons of		
	the status. When a task is rejected, the producer can view the reasons of		and a		
	iustification	note to the con	tent manager	in the issue of S	
	Jastineation		tent managel.		
	The most be	low button ("Ed	dit") takes the u	ser to the corre	sponding editor
	with the vide	eo and the file t	o be produced.		-

Table 16: Task list via ED

3.5. User scenario

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 illustration 11.

- When the broadcaster requires access services for a programme (point 1 of illustration 11) 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 illustration 11).
- 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 (empty access service file), and edits its metadata (see table 13).
- 4. From the new instance, 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 depending on the access service type (point 3 of illustration 11).
- 5. From the ED interface a producer (professional or external service provider) completes the task of access service production that has been assigned to them (point 4 of illustration 11) and when the access service production is finished, the producer changes the task status to "Completed" (point 5 of illustration 11).
- 6. Once the production task is set to "Completed", the access service content 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 tasks are completed in order to review them. After review they either change the status to "Verified" or "Rejected" alongside a rejection reason note to the producer (point 6 of illustration 11). When rejected, the task is automatically assigned again to the producer with the rejection reason.
- 7. Once the access service files are validated by the broadcaster (verified status), the broadcaster's play-out system can access them when the 360° programme is published or broadcasted (point 7 of illustration 11). For this it is necessary that the platform is fully integrated with the broadcaster's systems.



Illustration 11: ACM workflow

ANNEX I: ICONS GUIDE

lcon	Usage
カ	Subtitle instance
AD	Audio description instance
Бş	Sign language instance
Ð	Image instance
=1	Video instance
i	General asset information
1ª	Sorts assets by numerical order
↑ ₽	Sorts assets by alphabetical order
Ľ	File view switch button
	Changes the view of assets by grid view or list 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 the HQ 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 for it then copies it to a new path
→	The user selects one or various assets (for multiple selection use the Ctrl key) and with this button chooses the new destination among folders for it then moves it to a new path
*	A button to "Select all" assets in the page
	Via this button, the user can upload and create multiple assets using a dialogue

lcon	Usage
Ê	This button lets the user edit multiple assets common characteristics at once
ତ	The user selects one or various assets (for multiple selection use the Ctrl key) and with this button create links to them
ā	The user selects one or various assets (for multiple selection use the Ctrl key) and with this button erases them
æ	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)
ď	Redirects the user to the Web Editors running the current instance
-5	Import new AD/SL file from an existing ST file
Ð	Import an audio file from PC in order to use it as an AD instance
8	Close asset form
£	Upload instance
±.	Download instance
÷	Add a new instance
5	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

lcon	Usage
	Move folder