User Manual

Project Acronym:	IMAC
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Web AD Editor User Manual

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Authors: Kimiasadat Mirehbar & Enric Torres

Abstract:

This document is meant to be a complete user manual for professional users who wish to use ImAc Web Audio Description Editor.

Contents

1. Introduction

This document aims to be a complete user manual for professional users who wish to use the ImAc Web AD Editor for the first time.

ImAc project, which has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 761974 is looking for development of solutions for access services in immersive environment.

One of the main objectives – among many – of ImAc is development of online editors aimed to **professional users** who wish to produce access services for 360º media.

Stakeholders of this environment are broadcasters and access service providers who wish to use the editors to produce access services. Being influenced from ImAc framework and with an extra effort, Anglatecnic has developed an online AD (Audio Description) editor which serves for audio describing both 360º and 2D videos.

This document is addressed to stakeholders who wish to produce audio descriptions (AD) using the ImAc Web AD Editor and is meant to be a complete user guide of this tool for learning purposes and pilots.

2. Before starting

Before starting it is important to be sure that the requirements are met:

- 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 editors are online and videos are used during the audio description production.

- Proper voice recording setup: having a good quality microphone. Additionally the room where the user works needs be acoustically silenced to achieve a better result.

- Although the video is provided to the audio describer producers it is important to notice that the video provided must be HTML5 compatible Low Quality video to assure that the web player runs smoothly.

Also it is important to be aware of the following:

- The web editors are online tools, so after executing them some features may take some time before they are available such as the waveform and some data in the info box.

3. How to start

3.1. Login

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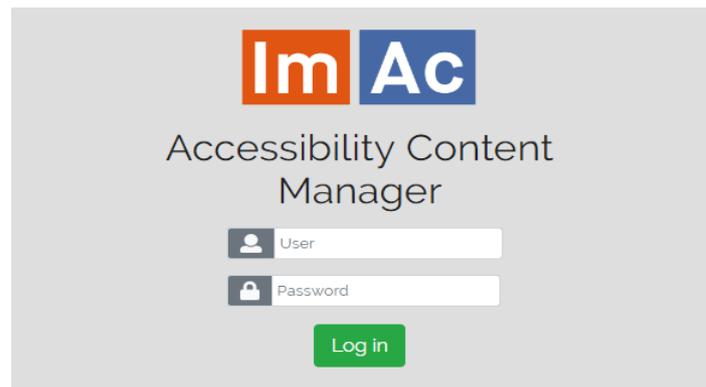

Illustration 1: ACM login page

3.2. Navigation on main page

When entered, a window with the list of assigned production tasks (audio description tasks for the purpose of this document) to the user with their corresponding videos appears (Table 1). From here the user can make use of the following tools:

| **Navigation elements on the Editor interface**	
Search bar (1)	With this tool, user can search through their assigned production tasks and view them alphabetically, including completed tasks or not, etc.
Task icon (2)	These icons show the type of production task we are dealing with: it can be either a subtitle, a sign language or an audio description task. For the purpose of this document we will only focus on the audio description tasks. The colour of the row shows the status of the task ("Pending": in grey, "In progress": in yellow, "Completed": in blue, "Rejected": in red, and "verified": in green).
Task status (3)	The user can view the current status of the work and only can changed it to "Completed" when the task is done. When a task is rejected, the producer can click on the status name to view the reasons of rejection written by Content manager department and fix them if needed or send back a justification note to Content manager.
Edit icon (4)	By clicking on this button on the audio description task (for the purpose of this document) the Web AD Editor will be executed with the video file and the audio description file for the AD production. The same applies with the other access service tasks but with the corresponding editor.
System language (5)	ED interface and the Web AD Editor 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.

Navigation elements on the Editor interface	
Feed back display (6)	When a task is "Rejected" by for instance 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 ED interface user). The user is able to see this justification by clicking on the Status name in the task card. Then They can either accept the justification and put the task into "In progress" or send back an explanatory note to the QA department.

Reasons for the task subject to further review

The syncronization of subtitles are not right. Styling needs to improve.

Justify why the above reasons do not apply (if applicable)

Explanatory notes

[Mark as In progress]   [Send Explanatory notes]
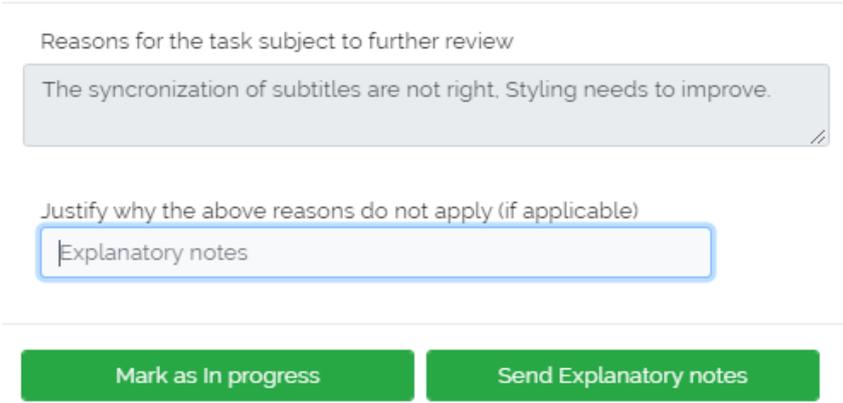
Table 1: Navigation elements on the Editor interface

The user selects the audio description task, presses the "Edit" button and the Web AD Editor will appear.

3.3. Web AD Editor

Illustration 2, displays the editor window. This window can be divided into an upper and down side. The upper side is only designed for viewing, setting and verification purposes. The down side is purely for edition, final preview and actions.

The editor is responsive, so you may wish to set the browser zoom adequately (Ctrl+mouse wheel up or Ctrl+mouse wheel down) to fit all the boxes adequately in the screen.

Moreover, it gives the possibility to the user to audio describe videos in both 2D and 360º videos. Depending on the video uploaded for the task, they are headed to the appropriate version of the editor (either 2D or 360º). In this user manual, the 360º video audio description edition/production is presented as it is more comprehensive. Functionality of 2D videos audio description edition/production is the same except for angle-related functions which are not active while the user is working with a 2D video. By reading this document, you will be able to work with both 2D and 360º videos.

Illustration 2: Web AD Editor window

4. HOW TO PRODUCE AUDIO DESCRIPTION

It is assumed that now you are inside the Web AD Editor. Let's take a look at how we use the editor to create an audio description segment from scratch.

Your first tools are the video controls. Table 2 demonstrates all the buttons with their functionality. With these buttons you navigate through the video, move the video FoV (Field of View) and jump to the video frame you wish.

Video controls
There are classic video control buttons provided to navigate the video, accompanied by buttons compatible with functionality of 360º navigation which are all elaborated in the present table.

Frame backward ◀	This button makes the video go backwards frame by frame (Alt+shift+left).

Video controls		
Fast backward	⏮	This button makes the video go backwards with a fast speed (F5).
Slow backward	◁	This button makes the video go backwards with a slow speed (F6)
Toggle play/pause	▶	This button plays and pauses the video (F2). Note: The F2 shortcut is used to Play and to Pause the video alternatively, nonetheless the F3 shortcut has also been added to Pause the video only.
Stop	◼	This button makes the video go to the beginning (F9).
Slow forward	▷	This button makes the video go forward with a slow speed (F7).
Fast forward	⏭	This button makes the video go forward with a fast speed (F8).
Frame forward	▶	This button makes the video go forward frame by frame (Alt+shift+right).
Find segment by TC	🔍	With this button, you can find the segment that contains the TC (Ctrl+Shift+F).
Jump backward	↩	This button helps the user to jump some frames backward. The number of the frames to be jumped is configurable in General Settings (see table 7) (F1).
Jump forward	↪	This button helps the user to jump some frames forward. The number of the frames to be jumped is configurable in in General Settings (see table 7) (F4).
Move FoV left	←	With this button you move the Filed of View (FoV) to the left in the spherical video (Alt+left). You can also use the mouse and left button over the video, and move to the left to do the same [only 360º edition case].
Move FoV up	↑	With this button you move the FoV up in the spherical video (Alt+up). You can also use the mouse and left button over the video, and move up to do the same [only 360º edition case].
Move FoV down	↓	With this button you move the FoV to the down in the spherical video (Alt+down). You can also use the mouse and left button over the video, and move to the bottom to do the same [only 360º edition case].
Move FoV right	→	With this button you move the FoV to the right in the spherical video (Alt+right). You can also use the mouse and left button over the video, and move to the right to do the same [only 360º edition case].
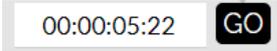
Video controls	
00:00:05:22 **GO**	Enter a specific time of the video, press GO and you are taken to that video frame.
Move FoV to "Speaker's location" ⊘	By pressing this button the FoV moves to the angle where the current segment is set (Alt+F).
▮	A wometer of the microphone audio.

Table 2: Video controls

After being in the appropriate moment of the video, you need to enter the script of the segments with their correct time-codes, illustration 3 displays all the information you need in this sense. You can enter the script text and record/synthesize the audio/voice one by one or enter all the script and then start recording/synthesizing all the AD segments. The sequence presented in this document is based on creating a single AD segment from scratch completely, that is to enter the script with TCs and record/synthesize the audio/voice one by one.

For each segment you have to enter the segment text in the text field and after finding the appropriate video frames the time codes (TCs) must be entered: TCin by clicking on the TCin clock icon (Shift+Page up) and TCout by clicking on the TCout clock icon (Shift+Page down). The third row below them shows the segment duration.
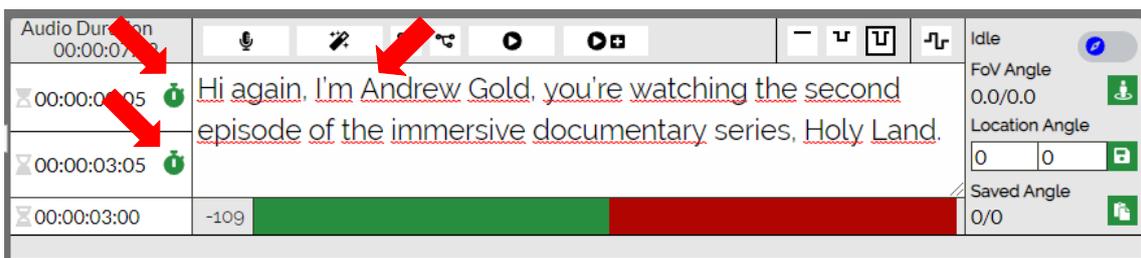
Illustration 3: Script editing

The below reading speed thermometer reflects the difficulty of the segment for the given duration. At first it is green, then if we are excessing the ideal reading difficulty it turns into red. The number (129 here) shows the remaining number of allowed characters.

When you are sure about the text itself and its time-codes next step begins. However, this editor works in 360º media and matter of angles is important. So next step is setting proper

angles for the segments which is done in the same area demonstrated in illustration 3. Table 3 gives you the appropriate information.

AD segment edition – Angles
By default, and at first, the video has the current angle as longitude: 0.00° and latitude: 0.00° Also the **Idle** option can be marked when the segment does not bear a specific spherical position.

Idle FoV Angle 0.0/0.0 Location Angle -0.8 18.8 Saved Angle 0/0	**Idle**: Only when the segment does not bear a specific spherical position.
	FoV angle: This is the current field of view angle (FoV) and it changes while we move the FoV of the video ourselves. it corresponds to the video direction that we see (you can change the FoV angle using the navigation buttons in the video control area or moving the mouse with left button over the video). The green button next to it (Alt+Enter) sets the FoV angle to the "Location angle" fields of the segment (see next row).
	Location angle: This is set by the audio describer. It corresponds to the angle in the 360º sphere where the segment is located. It is illustrated as a blue dot over the video. It is important to know how to bind an angle to the segment. This is done solely by finding the desired angle by moving the FoV and setting it to the current segment (to know how to set an FoV angle to "Location angle" see the above row). By pressing the green save button next to it, the "Location angle" values are transferred to the "Saved angle" (Alt + C) fields so the angle can be used later in other segments (see next row).
	Saved angle: This angle is kept in this register (see previous row) so it can be used in other segments. The button next to it pastes the "Saved angle" to the "Location angle" of the segment (Alt+V). The aim of this button is to use the angle from another segment that was copied previously.

Table 3: AD segment edition – angle setting

After finishing setting the proper angle for the segment, you may start the procedure of AD recording/synthesising. Table 4 explains the audio controls.

AD segment audio controls	

| Audio Duration 00:00:09:16 | 🎤 | 🪄 | ✂ | ✁ | ▶ | ▶⊡ | | — | ⊔ | 🔲 | ⎍ |

Above the text area, a number of buttons are viewed which are related to the audio of the AD segment and its presentation.

Audio record 🎤	The user is able to record the audio of the AD segment by pressing the "Record" button (Shift + F2). When pressed, a **yellow** bar under the text area appears which goes on for about 2 seconds (this time is customizable by user in the General Settings, see table 7) and it gives time to the user to prepare themselves. When the yellow bar turns **red** it means that the recording has started so the user has to speak now. Finally when the user surpasses the segment duration the red bar starts to blink, this is not potentially an error but it is something that the user needs to be aware of, because it surpasses the time assigned to this segment.
Voice synthesis 🪄	**This button is only available for the languages which have voice synthesis in the ImAc platform.** This button is an automated text to speech (**voice synthesis**) tool which converts written segments to audio automatically when pressed. (if existing a recorded segment, this will replace it as well with previous confirmation received from the user).
Short & Long test ▶ ▶⊡	After the recording/synthesising audio/voice the user can check the result using one of this two buttons: • Short test: it runs a test of the result from 2 seconds before TCin until 2 seconds after TCout of the segment (Shift + F3). • Short test: it runs a test of the result from 4 seconds before TCin until 4 seconds after TCout of the segment (Shift + F4). The durations above are customisable by user in the General Settings (see table 7).
Set dipping level to main audio — ⊔ 🔲	By pressing one of this buttons the user can change the dipping level that the main audio will perform during the AD segment. For instance the high dipping should be used when there is a lot of noise in the programme audio.

AD segment audio controls	
Dipping from previous segment 	Additionally, there is an option named "Dipping from previous segment". When being on, the dipping starts at the TCout frame of the previous segment and ends at the TCout frame of the current segment, in other words, the dipping includes the time between the previous and the current segment which is useful when the segments are very close.
Cut audio 	By pressing this button a dialogue appears from where the user can cut the ending parts of the recorded audio by moving the points indicated in the following image (Shift + F5).
Split audio 	By pressing this button a dialogue appears from where the user can split the recorded audio into several audio segments. For that the user plays the media until they find the right frame and then presses the Add Segment button. The user repeats this procedure for additional splits (Shift + F6). A new segment is created after the current one for each new audio segment.
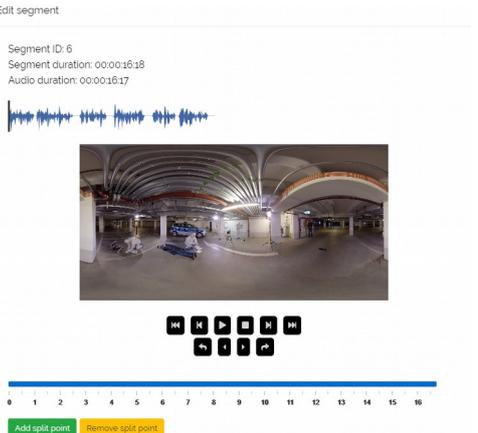
Table 4: AD segment audio controls

In addition to all the above tools, there is a graphical representation of video waveform in time (table 5) which displays important information about the AD segments and audio/voice files.

The prepared segments and then the audio/voice files are displayed along the waveform as below:

Video Waveform in time	
Purple band	Demonstration of audio/voice files for its below specific segment in time.
Blue band	Demonstration of the prepared segment in time.
	Segment TCin
	Segment TCout
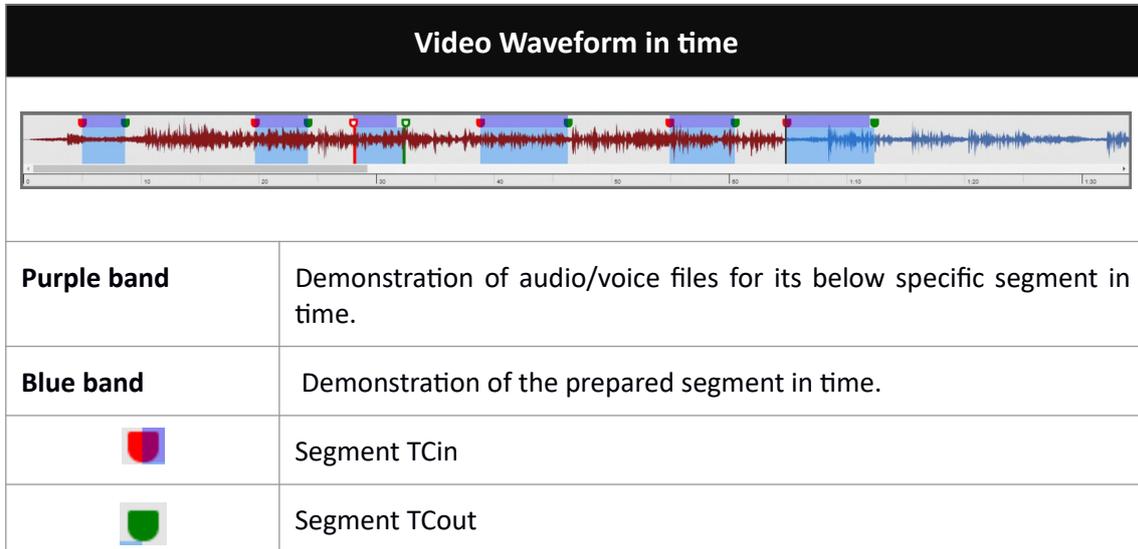
Table 5: Video waveform in time

After finishing you may need some buttons in order to organise/edit/improve the sequence of the AD segments. Table 6 shows you the buttons (and shortcuts) available for this purpose.

AD segments edition – buttons

Jump to first segment	⏫	This button takes you to the first segment (Alt + Page Up).
Previous segment	⬆️	This button takes you to the previous segment in relation to your current position (Page Up).
Next segment	⬇️	This button takes you to the next segment in relation to your current position (Page Down).
Last segment	⏬	This button takes you to the last segment (Alt + Page Down).
Jump to segment value	2 /6	This part takes you to a specific segment. But you need to enter the number of the segment. It also informs you of the number of segments.
Insert segment before	➕	This button is useful for the insertion of a new segment before the existing segment (Ctrl + U).
Split text on cursor position	⬈	This button splits the current segment text into two segments and gives us two separate segments (Ctrl + Insert). In such condition, the recorded audio will belong to the first segment and also the time-codes remain unchanged.
Remove segment	➖	As the name suggests, this button removes the selected segment (Ctrl + D).
Join this and follow texts	⬉	This button joins the current segment with its next one and creates a single segment containing both texts of the previous ones. The reading speed thermometer is modified accordingly but timings remain the same as the first previous segment (Ctrl + Delete). In such condition the audio of the resulting segment will be inherited from the first one and the audio of the second segment – in the case of existence – will be deleted. The time-codes remain unchanged.
Insert after	➕	This button is useful for insertion of a new segment after the existing segment (Ctrl + Shift + U).

Table 6: AD segment edition and navigation buttons

5. MORE OPTIONS

The procedure in which we produce a segment is over, but we still have more options to work with. Remember the dipping and buttons that were introduced earlier, all these are customisable using "SETTINGS". Table 7 shows the setting for the file and editor.

| AD settings	
General settings	GENERAL SETTINGS Pressing this icon the following dialogue appears for the general setting of the editor that are saved for the user (audio describer). Edit Settings and shortcuts Default duration for segment — 00:00:03:00 Default separation time between adjacent segments — 00:00:00:05 Minimal Duration for segments — 00:00:02:00 Minimal Separation time between adjacent segments — 00:00:00:05 Reading speed — Reading ... Video Jump — 00:00:00:05 Don't prompt me again — No Waiting recording time — 2 Save Cancel If any of the minimal numbers above are not met the user gets an error when verifying the AD and needs to fix it before continuing (see table 8).
Volume levels of AD audio	VOLUME LEVELS OF AD AUDIO Low — 60 Medium — 80 High — 100 These settings are the volumes that the final user (home user) of the 360º programme will be able to choose for the AD audio. These settings are saved in the AD file.
AD location	AD LOCATION FoV Angle : 2.7/311.4 Position Latitude — 0 Position Longitude — 0 This setting is only available when dealing with a Classic and Static AD types, as in these cases it is necessary to indicate where the AD will be anchored in the 360º sphere. A table with all AD types in 360º environment is available as an annex at the end of this document. These settings are saved in the AD file. The green button transfers the FoV location angle to AD angle.

AD settings	
Dipping levels of main audio	
	These settings are the dipping levels that can be used in the segments. When a segment with a dipping level is run, the main audio volume is lowered during the AD segment. These settings are saved in the AD file.
Shortcuts	During the production of AD segment production, it is convenient to work only with keyboard instead of changing between keyboard and mouse buttons constantly. As a result, the functions of the editors have a shortcut key as default as well. These default shortcuts are configurable and can be changed from here by the user. By pressing the "Set default shortcuts" the user can recover the default shortcuts. A list of the default shortcuts for the editor is presented as an annex at the end of this document. The shortcuts are also shown when hovering over the buttons in the Web AD Editor. **WARNING: Some shortcuts are not advisable (for example the ones that are used for editing the segment script and some that are used by the browser). There is a blacklist of key combinations that cannot be used as shortcuts, however the user must be aware when customizing specific shortcuts (for instance not to use the same key for two different shortcuts).**
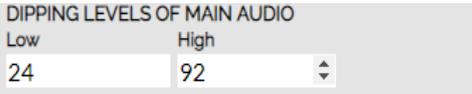
Table 7: AD settings

General settings	
Default time duration for segments	The default time duration of segments, if not set by the user.
Default time separation between segments	The default time separation between segments, if not set by the user.
Minimum time duration for segments	Minimum time duration for segments that needs to be met. If not, the user will receive and error when checking TC at the end.
Minimum time separation between segments	Minimum time separation between segments that needs to be met. If not, the user will receive and error when checking TC at the end.
Reading speed	It can either be set to WPM (Word Per Minute) or CPS (Character Per second). Both of them are measurements of average typing speed parameters but with different criteria (Word or Character/minute or second). For the purpose of typing measurement a word is standardized to five characters or keystrokes, including spaces and punctuation.
Video jump	In video controls, there are buttons that jump a number of frames backward or forward. This defines the number of frames to be jumped.
Waiting recording time	The time in seconds which the editor waits for the user to prepare to start recording (when the bar is yellow).
Short test time	The duration which editor runs a test of the result from it before TCin until the same duration after TCout of the segment.
Long test time	The duration which editor runs a test of the result from it before TCin until the same duration after TCout of the segment.

Table 8: General settings

The last step to take after finishing edition is verification and for that we use the preview modes. The general actions on the AD file are explained in Table 9, so here we can also find a description of the preview modes.

AD actions

ACTIONS		
SAVE	💾	AUTO SAVE
FORCED PREVIEW MODE		FREE PREVIEW MODE
CHECK TCS		BATCH EDIT
Find		Replace
TEXT FILE IMPORT		

AD actions	
Save	This button saves the work.
Auto save	Saves the contents automatically when activated.
Check TCs	By pressing this icon the timings are checked. As mentioned in table 6, if the minimal criteria set in the settings are not met in some segments, an error will appear for those segments. If everything is OK the icon turns green (Ctrl + Q). Hovering over the segment with the error will show the description and solution. A table containing the possible errors is presented as an annex at the end of this document.
Forced preview	This mode is used for verification. This verification mode makes it easier for the describer as the video will move the Field of View (FoV) by changing the current FoV angle when needed during the playback of the video. The user cannot freely move the FoV as the video itself takes them back to the FoV that is described (to the "Location angle" of the AD segment) each time that an AD segment starts (F11). When this mode is on, the user cannot do editing any more and needs to turn it off when edition is required (F11). **Note**: when clicking this button, Check TCs is executed first.
Free preview **[360º edition only]**	This mode is used for verification. This verification mode is more real for the describer as if playing back the video using HMD. It means that the user can move the FoV freely (it is not fixed to the segment location angle) during the playback of the video. When this mode is being on, the user cannot do editing any more and needs to turn it off (F12). **Note**: when clicking this button, "CHECK TC" (see the row before the previous one) is executed first and if there is any error the preview is not executed until the errors are fixed.

AD actions	
Batch edit	This edits a group of segments based on the operation (shifting, dipping, voice synthesis) chosen by the user similar to below figure.
	The user chooses a range of segments by their numbers and then an operation which can be: increment, decrement, first TCin or first TCout.
	This Voice Synthesis button is only available for the languages which have voice synthesis on the ImAc platform.
Find/Replace	This helps the user find specific words and replace them if needed.
Text file import	This button imports the segment texts from a text file.

Table 9: Actions

Also at the upper side you have informative sections (Illustration 4):

- On your left, general information of the production task.

- On your right, the script: texts with their numbers and time-codes.

- Blue dot, current "Location angle" [360º edition only].

Illustration 4: Informative sections

ANNEX I: AD TYPES

Term	Description
Classic	AD centred in the scene.
Static	AD anchored to the scene.
Dynamic	AD comes from where the described point of interest (AD anchored to the point of interest).

ANNEX II: ERRORS & WARNINGS

Message	Cause
Error: Minimum duration fail	This error appears in the segments that don't meet with the minimum duration (TCout – TCin < minimum duration). The minimum duration can be changed in General Settings.
Error: Minimum separation fail	This error appears in the segments that don't meet with the minimum separation between adjacent segments (TCin current segment – TCout previous segment < minimum separation). The minimum separation can be changed in General Settings.
Warning: Segment overlapping	This error appears when two segments are overlapped. Either the script TCs overlap (TCin current < TCout previous) or the audios overlap (TCin current < TCin previous + audio duration).
Error: Unordered TC values	This error appears in the segments that are not in order (TCin current < TCin previous).

ANNEX III: DEFAULT SHORTCUT BUTTONS

Functionality	Shortcut button
Toggle play/pause	F2
Pause	F3
Jump backward	F1
Jump forward	F4
Fast backward	F5
Slow backward	F6
Slow forward	F7
Fast forward	F8
Stop (Jump video to first frame)	F9
Frame backward	Alt + Shift + Left
Frame forward	Alt + Shift + Right
Move FoV left	Alt + Left
Move FoV right	Alt + Right
Move FoV up	Alt + Up
Move FoV down	Alt + Down
Move FoV to "Location angle" of the segment	Alt + F
Previous segment	Page up
Next segment	Page down
First segment	Alt + Page up
Last segment	Alt + Page down
Find segment with video TC	Ctrl + Shift + F
Set TCin	Shift + Page up
Set TCout	Shift + Page down

Functionality	Shortcut button
Jump video to TCin frame	Ctrl + Alt + Page up
Jump video to TCout frame	Ctrl + Alt + Page down
Set FoV angle to "Location angle" of the segment	Alt + Enter
Copy "Location angle" of the segment to "Saved angle"	Alt + C
Paste "Saved angle" to "Location angle" of the segment	Alt + V
Record audio segment	Shift + F2
Short test	Shift + F3
Long test	Shift + F4
Cut audio	Shift + F5
Split audio	Shift + F6
Split segment on cursor point	Ctrl + Insert
Join segment with next	Ctrl + Delete
Delete segment	Ctrl + D
Insert segment before	Ctrl + U
Insert segment after	Ctrl + Shift + U
Check TCs	Ctrl + Q
Forced preview	F11
Free preview	F12

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