

## EXPLANATORY SHEETS: THE YSER INUNDATION

**Reminder:** These roadmaps will allow a better understanding of the workflow of digital interactive contents production through practical recommendations and testimonies of professionals.

In that way, we intend to support learners and teachers in their learnings but also after the training, in their practical working life.

### 1.About the technology

The technology used	360° video
Final objective and result	To introduce the West Front Museum in Nieuwpoort and some history elements about the Battle of Yser in an immersive video. The aim is a 3D and immersive video showing different parts of the museum and their relation to the historical events.
Description of the tool	360° interactive video of the King Albert Monument in Nieuwpoort, Belgium with the surrounding landscape where the flooding happened. The central room of the museum with a semi-circular screen where scenes digitized from the Alfred Bastien's panorama are projected. One of the museum room with pictures and artefacts of propaganda.
Medium used (computer, tablet, phone)	iPhone XS; Insta360 One camera; desktop computer; Insta 360 Invisible selfie stick; Insta 360 Bullet Point Handle; Yeti Blue Microphone.
Where will it be accessible (app, platform, website...)	On the DIMPA YouTube channel, on the Course Networking (each language of the course with subtitles), on the DIMPA Website, on the MBCF website. The video can be freely embedded by any viewer with the integration iFrame code.
How long did it take to develop this tool?	2 hours to take the 3D pictures and videos. 15 minutes to adjust the settings in 360 Insta Studio 2020. 15 minutes to record the voice comment and export it as a MP4A file. 3 hours to adjust the settings of the 3D video. 20 minutes for video rendering with Adobe Media Encoder. 45 minutes for uploading and treatment of 3D video file on YouTube.



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## 2. Used software

Name of the software	1 Insta 360; 2 Insta 360 Studio 2020; 3 Adobe Premiere Pro; 4 Camtasia 5 Adobe Media Encoder
Name of the company	1 Arashi Vision; 2 Arashi Vision; 3 Adobe; 4 TechSmith 5 Adobe
Copyright status (cc, proprietary system, etc)	1 Proprietary system; 2 Proprietary system; 3 Proprietary system; 4 Proprietary system; 5 Proprietary system;

In case you have used additional resources for the content of your tool, please describe them below:

## 1. Cost

Cost of the creation of this tool	The creation in itself didn't cost anything, but the time invested. But the material to create the media is quite costly. The Insta 360° one camera and the accessories cost about 400 €. You also need an iPhone or an Android phone with an adapter and of course, a PC to edit the files with Insta 360 Studio 2019 (the app comes free with the camera). A Yeti Blue microphone costs about 150 €.
General pricing plan	

In case you have used additional resources for the content of your tool, please detail their cost below:

The education version of Camtasia costs 182,65 €. It can be replaced with Audacity which is free and open source, but much more complex to master a sound of quality. Adobe Premiere Pro and Media Encoder are sold as a subscription of 19,99 € per month, with a trial period of 7 days. An Education version of the application is available, the price may vary according to the number of applications and users.



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### 3 Steps of production

Please describe each step of the production of the tool

#### Design phase

Why did you create this tool?	To show the possible use of immersive 360° video. Immersive videos not being interactive, their pedagogical potential is somewhat limited. They are interesting to show a location or the content of a space where the viewer has no way of access to (the interior of a machine, of a fridge, for instance) or want to go to and wants a preview. It was interesting for us to show the different possible usages of the 3D camera: 360° interactive virtual tour based on a 3D photo and 360° immersive video tour.
What functionalities does it have?	It is an immersive video, that means the objects shown on the video can be view from different angles while the video plays on YouTube or any other media player (like VLC, for instance).
What will be its purpose? (pedagogical, communication, games, etc.)	It is a communication about a place and a virtual immersive tour. Due to the lack of interactivity, contrary to the VR apps or the H5P 360 virtual tour, it is less interesting from a pedagogical point of view.

### 4 Creation phase

Please name and describe below the different steps of the creation of the tool (min 5)

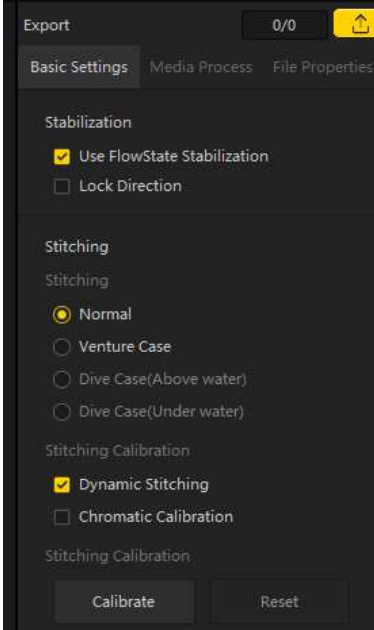
Conception	The topic: what are we going to talk about? For what kind of audience? What kind of media might be the best to attract the attention of students who are not necessarily found of this kind of subject?
Research & Reading	Research on the Web, in museums, in books of information about the event; spotting in the museum and its surrounding environment.
Shot	You have to go to the place you want to shoot. And generally, you have to take several shots to make sure that at least one of them is good enough to go to production. For outdoor shooting, the light and sound condition can impact the final product.
Edition	Edition of the selected video with Insta 360 Studio 2020 (right menu).



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	 <p>1 Activation of the <b>FlowState Stabilization</b> to avoid object distortion when the viewer navigates the photo with the mouse pointer.</p> <p>2 Selection of <b>Normal Stitching</b> (which means while using the camera without any special asset like a waterproof venture case, etc.).</p> <p>3 Selection of <b>Dynamic Stitching</b> if the model of camera allows it (to avoid breaks in pictures or to correct some image distortion at the edges of the spheric picture).</p>
Voice Recording	Voice recording of the <b>Audio comments</b> with Camtasia. Right click on the recorded track and click on the <b>Separate Audio &amp; Video</b> command. Don't forget to save your Camtasia project. Then, click on the <b>Export</b> command on the upper right corner of your screen. Select the <b>Local file</b> option, and then the <b>MP4A audio</b> file type.
Import	Import the files to Adobe Premiere Pro (insv videos; WAV sound files; MP4A audio comments). To do so, open the application, click on the <b>Import</b> command in the <b>File</b> menu.
Mixing	Scaling video clips (3 insv files): with the mouse pointer, adjust the length of each video file on the track; synchronizing with the audio file In Adobe Premiere Pro: place the audio file at the right position on the sound track to make sure it fits with the video.
Settings Adjustment	Adjustment of the settings in Adobe Premiere Pro for the media export. First, in the <b>Sequence</b> menu, select <b>Sequence Settings</b> . Use <b>Equirectangular image</b> and <b>Monoscopic image</b> . Then, with the icon in shape of a wrench, check the <b>angle settings</b> : 360° horizontally and 180° vertically (you create a virtual sphere). Then, choose <b>Export, Media</b> and set the settings for the final file: frame per second and size of your video (for embedding, 640 * 360 is the norm).
Media Encoding	Then, launch the encoding in <b>Media Encoder</b> . According to the dimension of the video and the power of your computer (memory, graphic card), that



	operation can take some time (up to several hours for a long video and a slow computer). Make sure that there is enough space on your output device: 3D videos are quite greedy in volume...
Uploading to Youtube	When your device is ready, upload it on YouTube. With the new version of YouTube Studio, you can add up to 15 files in a row, but it is not recommended with 3D videos. The treatment of your video will take several times longer than a 2D video. But the final result is a true 3D immersive video which you can truly navigate in.
Embedding on course page	With the iFrame code from YouTube, embed the final video on your webpage or your online course. Since the settings were 640*360, select the same breadth and height in your iFrame code. It is better to use the iFrame code than the usual sharing link if you want to control the dimensions of your embedded video.



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### 5 Test phase

Has the tool been tested by somebody else than you?

- If yes, please fill in the following questions
- If no, go to question 7

Number of users	
Category of users (teachers, youngsters, professionals, etc.)	
Cumulated time of test by the users	

Please describe the test of the tools

What did you learn from it?

Did you change anything in the content after the test?



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If yes, please explain the different steps:

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Release

Where did you publish the tool?	
Why?	
Have you encountered any difficulties in this step?	
If yes, please explain	

### 6 Inclusive approach

What action did you implement to make this tool inclusive to as many users as possible?

We made caption in each language for that video.



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### 7 Good / bad practices

Would you recommend this software to the users?	Yes.
Please explain	Adobe Premiere Pro is one of the very few post-production pieces of software that allows the edition of an immersive video with the full rendering of the 3D features. It allows to mix up files of different formats (video, audio, image, etc.) and provide full control on colours, image correction, etc. But it is a complex and professional tool that demands a real effort to achieve some mastery level.

What recommendation would you give to people creating such tool or creating content on this technology?

Define your goal: what do you want to achieve with this tool?  
 For outdoor shooting, get ready to work in hard conditions, sometimes.  
 Adobe Premiere Pro is a very good tool but also very demanding. It takes some time to master even the most basic functionalities. Don't hesitate to tinker with some trial videos before you start working on real production. Make sure somebody in your environment or in a community can give you some advice or provide some help. This is not the kind of tool you can ask beginners to work with without any training or preparation.  
 Try the end product on several devices to see how it behaves and if it really works on every operating system or mobile devices as well (some text can be easily readable on a PC screen but almost invisible on a smartphone).



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