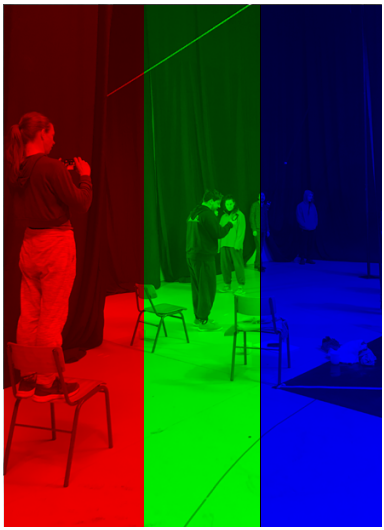
VIDEO ANNOTATION FOR CIRCUS EDUCATION

→ *MemoRekall and the COSMIC projet*



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White Paper

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Co-funded by the European Union

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The French Federation of Circus Schools (FFEC), which includes 151 member institutions, 12 regional federations and over 26,000 practitioners, has set itself the task of structuring the teaching of circus arts for both amateur practice and professional training, and of training stakeholders, driving the territorial network forward and representing its members at national and European level. According to its motto – "Circus is an art, it is taught with respect for the individual" – the FFEC is committed to representing its network with regard to its public partners – Ministries of Culture, National Education and Youth – and the circus sector, as well as those at international level – European networks of amateur and professional circus schools.

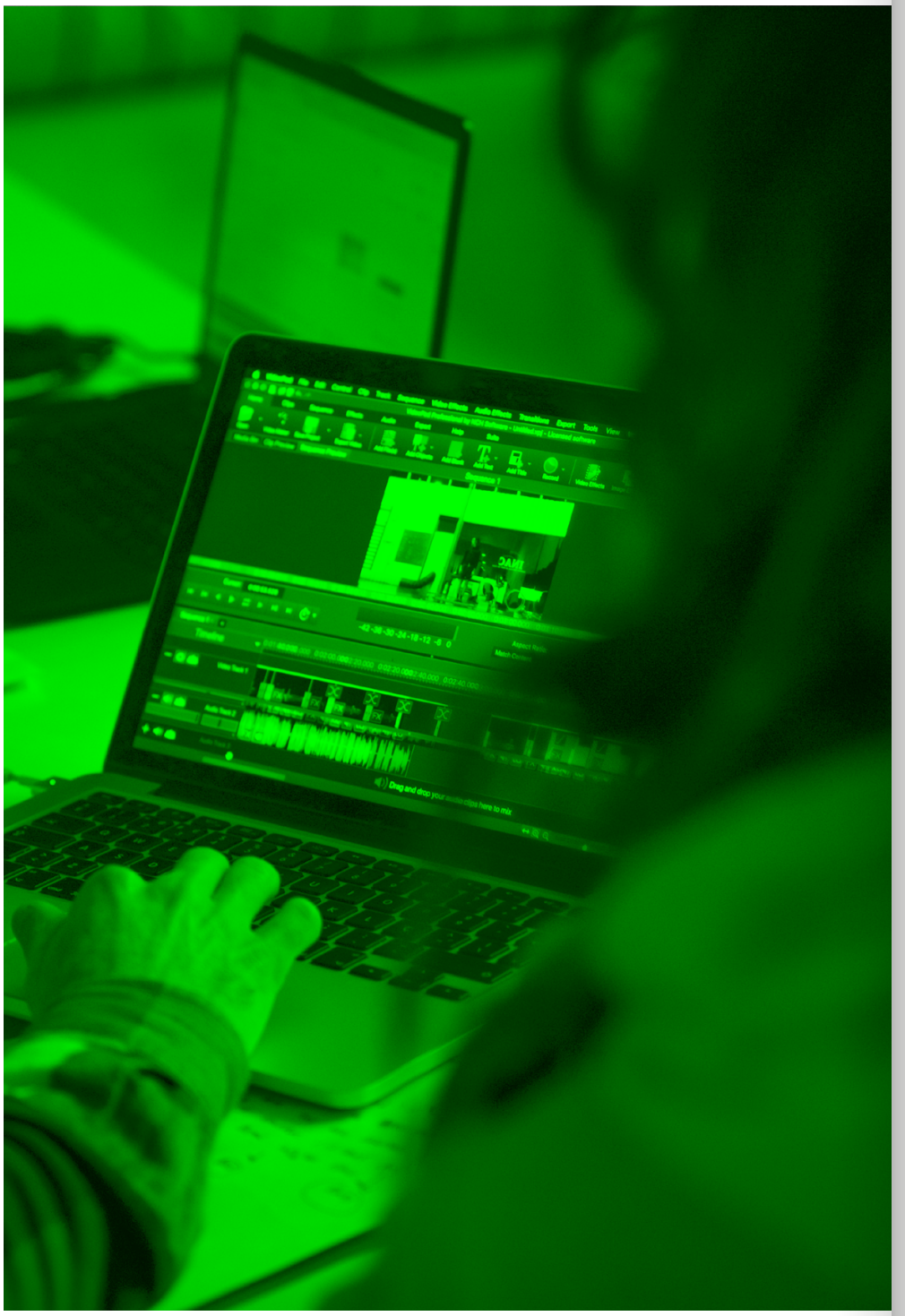
As such, the FFEC supports educational and innovative projects for circus schools. The COSMIC project – led by the FFEC and implemented by FEDEC (European Federation of Professional Circus Schools) – includes all the expectations of the types of initiatives which can help circus schools in their structuring:

- → Through its innovative dimension, COSMIC encourages circus schools to look to the future and re-examine their teaching practices
- → Through the chosen medium – video, COSMIC forces circus schools to move from the oral tradition of circus arts to the production of durable, transmissible and modern written documents and media
- → Through the diversity of the participating institutions – schools for amateur practice or professional training centers, COSMIC encourages exchanges that generate progress and creativity.

With support from European funds – and those for education in particular (Erasmus +) – COSMIC is an example of a project which gives full meaning to the organizations we represent and to exchange and cooperation among institutions. We are sure that this project can generate new initiatives!

Finally, the FFEC would like to thank FEDEC and its team – in particular Sarah Weber and Isabel Joly – for their engagement and commitment, the team from Rennes 2 University and in particular Clarisse Bardiot for her expertise, and everyone who participated in the COSMIC project.

Florent Fodella
FFEC President



Introduction

In Europe, teaching in professional circus schools is characterized by a wide variety of practices and learning objectives, depending on whether technique takes precedence over artistry or vice-versa, whether it is a preparatory school for national competitive examinations or a national school, or depending on its specific history, in particular the context of its creation and its seniority in the landscape[1]. Funded through the ERASMUS+ program, COSMIC (CO-creating and Sharing digital Methodologies In Circus Education) is a project led by the French Federation of Circus Schools (FFEC) and the European Federation of Professional Circus Schools (FEDEC). Its aim is to introduce European professional circus schools to the use of digital technology in order to offer innovative teaching methods in addition to traditional educational methods, which can also vary greatly from one school to the next, as we have just suggested. Implicitly, COSMIC revolves around encouraging exchanges on best practices and cooperation between schools, training trainers in digital technology and better preparing students for entering the workplace.

The starting point for COSMIC was to initiate a discussion to develop a new design of the “Student Artistic Booklet” using an open-source video annotation web application: MemoRekall. In return, the dialogue with the application design team needed to make it possible to develop new features that meet the needs of circus education. Indeed, although MemoRekall was

1. Bezille, Hélène, Tony Froissart and Florence Legendre. 2019. *Qu’apprendre de la formation des artistes de cirque ?* Paris : L’Harmattan ; Perez-Roux, Thérèse, Richard Etienne, and Josiane Vitali. 2016. *Professionnalisation des métiers du cirque : des processus de formation et d’insertion aux épreuves identitaires.* Paris : L’Harmattan ; Sizorn, Magali. 2014. « Le cirque à l’épreuve de sa scolarisation. Artification, légitimation… normalisation ? » Staps 103 (1) : 23-38. https://doi.org/10.3917/sta.103.0023 ; Froissart, Tony, and Cyril Thomas. 2018. *Les formations en arts du cirque et en activités physiques artistiques*. Reims : Épure, éditions et presses universitaires de Reims, Centre national des arts du cirque.

designed for the performing arts, a co-design approach implemented throughout the COSMIC project has enabled it to evolve to take into account the specific characteristics of the circus, which is as much a performing art as it is a top-level sport. The purpose of this white paper is to review the different stages and challenges of the collaboration between the circus school teaching teams and students with MemoRekall's research and development team. In particular, it presents the contents of the labs, the methodologies used, the technological choices made and the implementation of different teaching scenarios[2].

In all, eleven partners were involved in COSMIC, including nine circus schools from seven different countries:

- → Fédération Européenne des Écoles de Cirque professionnelles - FEDEC (Belgium)
- → Fédération Française des Écoles de Cirque - FFEC (France)
- → Centre Régional des Arts du Cirque de Lomme - CRAC (France)
- → École Nationale des Arts du Cirque de Rosny-sous-Bois - ENACR (France)
- → Società Ginnastica di Torino – FLIC Scuola Circo (Italy)
- → Codarts Circus Arts Rotterdam (The Netherlands)
- → Instituto Nacional de Artes do Circo - INAC (Portugal)
- → Escuela de Circo Carampa (Spain)
- → Centre for Contemporary Circus and Physical Theatre — Circomedia (Great Britain)

2. The finalised teaching scenarios are presented in detail in the *Teaching and Learning Toolkit, Using MemoRekall Video Annotation App for Circus Schools.*

- → National Centre for Circus Arts - NCCA (Great Britain)

As well as associated partners:

- → Rennes 2 University (France) with Clarisse Bardiot, Professor of theatre studies and digital humanities who designed the MemoRekall application. As the project's lead researcher, she supervised the training, the running of the labs, the development of new features in association with the development company Tetras Libre, and the drafting of the white paper and the teaching and learning toolkit. Alexandre Michaan, a PhD student in arts and humanities, assisted her with the training and labs.
- → Université Polytechnique Hauts-de-France – UPHF (France), with Mei Menassel, associate researcher in Information and Communication Sciences, for the evaluation and the drafting of the white paper.
- → Four federations (UK, ES, IT, CH) and two European networks (Circostrada, LLLP) for dissemination/communication/advisory actions.
- → CircusTalk, an independent platform for the international circus community, as a tool for passing on information (articles, news, etc.).

COSMIC took place from September 2020 to December 2022 and was structured around different labs, shared places and times for collaborations / discussions / practices. The project was caught up in the upheaval caused by COVID-19 and successive lockdowns.

These circumstances certainly caused difficulties and in particular a reorganization of planned trips, as travel in Europe was de facto much more complicated or even impossible depending on the timetable or the country.

This was also an opportunity: although MemoRekall had not been designed a priori for distance learning, the application proved to be a valuable resource for maintaining exchanges between teachers and students, and also between colleagues. Due to the health context, this issue was addressed in different ways during the project and we will have the opportunity to come back to it.

The results of the reflections presented in this white paper are due in no small part to the project participants, be they teachers, educational and administrative managers, institution directors or students. We would like to give them our warmest thanks.

A PROJECT STRUCTURED AROUND FOUR LABS

The labs were the backbone of the project. Throughout the two years, they brought together trainers, students, the MemoRekall team and the COSMIC coordinators. They were directed by Clarisse Bardiot, in conjunction with the FFEC and FEDEC teams, in particular Sarah Weber, as well as the school hosting them, with a general methodological framework of action research[3].

The working language was English. Clarisse Bardiot was assisted by Alexandre Michaan. Mei Menassel was in charge of the observation and evaluation of the labs by the participants. Each lab had a specific objective, from learning about MemoRekall to creating teaching scenarios on a specific theme. Because apart from the question of using a new digital application, MemoRekall is above all a writing tool. The labs were therefore a time and a place for learning how to write with MemoRekall, and for questioning the proposed system and one's own practice of circus teaching. It was in this context that educational and digital innovations unfolded.

This white paper and the teaching and learning toolkit reflect a continuing concern: sharing the results with other teams, whether it is the features of MemoRekall or the teaching scenarios.

3. Cf. Liu, Michel. 2010. *Fondements et pratiques de la recherche-action*. Paris : L'Harmattan; Narcy-Combes, Jean-Paul. 1998. « La problématique action research/recherche-action et le travail coopératif ». ASp. la revue du GERAS, no 19-22 (December) : 229-38. https://doi.org/10.4000/asp.2835.

Here we detail the content of each lab in chronological order. The presentation materials used during the labs are available under licence CC BY NC SA on the MemoRekall website[4]. Between each lab, the work continued at everyone's own pace and according to the time allocated by each school to the project. Creating capsules requires an investment of time that is not always possible, especially in the context of COVID 19, which reshaped teaching timetables. The final point that needs to be made is that labs 1, 3 and 4 took place in schools. Students joined in with the labs and contributed to creating the capsules. It gave them the opportunity to learn about the COSMIC project but above all to encounter other teachers.

4. www.memorekall.com

DEPLOYMENT OF THE COSMIC PROJECT

LABO #1

Centre Régional des Arts du Cirque (CRAC), Lomme, France
12 – 14 January 2021

9 face-to-face participants
19 remote participants

→ Discovering MemoRekall
→ Putting the software into practice

LABO #2

Remote
15 – 18 March 2021

40 remote participants

→ Development of teaching scenarios
→ Development of new MemoRekall features

LABO #3

FLIC Circus School
Turin, Italy
13 – 17 September 2021

7 face-to-face participants
8 remote participants

→ Development of teaching scenarios related to circus technique

LABO #4

Vila Nova de Famalicão, Portugal
14 – 18 February 2022

8 face-to-face participants
7 remote participants

→ Writing teaching scenarios related to creation processes in circus schools

LABO #1
Introduction

The first lab took place at the Centre Régional des Arts du Cirque (CRAC) in Lomme, in the north of France. It brought together nine face-to-face participants and nineteen remote participants from the 12th to the 14th of January 2021. The aim was twofold: to learn about MemoRekall by moving as quickly as possible to scenarios with the CRAC students and to create a bond among the participants, most of whom did not know each other. These two aspects would promote a collective intelligence that would make it possible on the one hand to develop the content of the following labs based on the participants' experience and needs, and on the other hand to get the participants to create teaching scenarios that they could then begin to try out in their own schools.
To help the exchanges flow smoothly and reduce fatigue related to the hybrid mode, the face-to-face group and the remote group underwent the training separately. Common time brought the two groups together every day to share experiences and points of view. Each group presented the work it had done to the other groups. While this was a first for MemoRekall distance learning, both groups achieved the same level of mastery and production.

During the lab, three main themes were addressed: Introduction to MemoRekall, Writing with MemoRekall and Creating a teaching scenario with MemoRekall. Not only did the participants get used to using the interface, which is very simple, but also and above all they discovered its educational potential through hands on workshops proposed by the trainers.
In the hands on workshops, the participants worked in groups of two or three with associated CRAC students for the face-to-face group.

Remote participants could contact Alexandre Michaan at any time via ZOOM.

LAB TIMETABLE :

The day before: arrival of participants, welcome and performance by CRAC students

	Day 1	Day 2	Day 3
9:30 am – 11 am	FEEC/FEDEC welcome speech Presentation of speakers Round table Presentation: Introduction to MemoRekall (history, objectives, demo, applications, uses)	Presentation: Writing with MemoRekall (On, about what? For whom? How? Examples and resource materials)	Workshop: Designing a teaching scenario (continued)
11:30 am – 1 pm	Getting started with the application (guided exercise)	Presentation: Designing a teaching scenario with MemoRekall (Method, examples)	Workshop: Designing a teaching scenario (continued)
2 pm – 4 pm	Workshop: Creating a capsule to help a student improve an exercise.	Workshop: Designing a teaching scenario	Feedback and discussions, Assessment, Next steps
4:30 pm – 5:30 pm	Feedback and discussions	Feedback and discussions	Farewell drinks

During this first lab, it quickly became clear that the challenge was not technological (the participants very quickly understood how to use the interface) but pedagogical, in other words: how can I incorporate MemoRekall into my circus teaching and for which learning objectives? This lab provided an opportunity to sketch out different answers discussed during the exchange times, which referred more broadly to the diversity of approaches to circus teaching. The new features of MemoRekall were able to be designed and then subsequently developed on the basis of this question and the answers provided. Some avenues had already emerged through specific comments.
They were recorded by Clarisse Bardiot and Alexandre Michaan and would be addressed more specifically during the second lab. In a broader reflection, the organization of the labs was interdependent: the questions emerging from one lab fed and structured the reflections of the following labs.

LABO #2
Implementation of teaching scenarios in schools

The second lab took place entirely remotely from the 15th to the 18th of March 2021. It made it possible to include new participants, structure the work undertaken during the first lab on the development of teaching scenarios and define the key development principles for the new MemoRekall features.

An initial half-day session enabled newcomers to be brought up to speed. The program for the three remaining days was then defined with all of the participants. The arrangements were as follows: in the morning, each participant refined a teaching scenario and tried it out within their school, often the one developed and already broadly tested during the first lab; Clarisse Bardiot and Alexandre Michaan were available online for any technical or methodological questions.

The scenarios could be considered in very different ways, from a two-hour workshop to an activity that continued over one or two semesters. In the afternoon, the participants met on Zoom, showed their work and talked to each other. These discussions brought out common issues for several participants who were invited to team up and work together: auditions of candidates during school entrance exams, circus technique, creative process, amateurs, homework given to students, artistic and technical interactions, and dissemination/communication/promotion. Two main trends emerged: using MemoRekall to build a knowledge base in the form of a catalogue of capsules made available to students and enriched by teachers, and training students in MemoRekall so that they can create their own capsules.

These were the initial avenues that would then lead to the teaching and learning toolkit. Technical/Artistic discussions fundamentally innervate pedagogy in the circus arts. They led to the next two labs focusing on each of these two themes, although it is understood that it is not always possible to strictly separate them.

The week ended with a general discussion about the new features to be developed in MemoRekall. This discussion was built from the collection of all the comments on the needs expressed during the first two labs, the questionnaires and the observation of the participants in the field. The various points were grouped into categories: organization of capsules and documents, design of the interface and video player, and tutorials for beginners. The group decided collectively on the importance of each of the proposals. For some points, user interface mockups were proposed to specify and clarify the features. This co-design stage was essential to start establishing a development plan with the IT specialists.

LABO #3
Writing teaching scenarios related to teaching circus techniques

The third lab was conducted mainly face-to-face in Turin, from the 13th to the 17th of September 2021. It was hosted by the FLIC circus school, six students of which contributed to the lab in addition to the seven participants. Eight others joined in with the discussion times remotely at the end of the day. The face-to-face groups gave feedback on their work and shared their thoughts with all of the participants. Almost all of them had already participated in at least one lab and had experimented within their school outside lab time, including creating capsules with students, analyzing in the classroom capsules already created, creating a series of capsules on injuries and prevention and creating videos on different themes in preparation for capsules to be created. The aim of this third lab was to create teaching scenarios related to the teaching of circus techniques. In addition to producing capsules, it was then a matter of defining scenarios that could be adopted by other schools. Indeed, the main problem with MemoRekall is not technical. It mainly lies in the design of a teaching scenario.

During this lab, face-to-face participants were divided into three groups of one to three people per discipline (aerial, juggling, Cyr wheel). Between one and three second-year FLIC students joined each group.

- The aerial group (Eva Schubach and Stevie Boyd) worked on a “reverse engineering” process which consisted of observing a move carried out by an expert (ideally filmed and available on a video recording), then analyzing it step by step. The students had to gradually master the various stages and create the capsule themselves to fully understand the different technical aspects. They filmed various attempts as well as their progress. The montage was presented in a capsule that commented on and documented the good and bad postures that make it possible to progress and achieve the move. The whole process was supported by the teachers who guided them.

- The juggling group (Domingos Lecomte + Giulio Lanzafame) tested several scenarios during the week on how the technique can nurture creativity. Various exercises that trainers usually perform as part of their courses were offered to the students. The students implemented them, and they were then filmed and annotated in MemoRekall.

- Finally, Fabio Pinna directed a Cyr wheel student in exercises that helped her progress (controlling a fall to the ground with the wheel). These exercises were filmed and then annotated in a capsule to give further guidance on the movement or to propose alternatives. Still images in notes made it possible to focus on details of the movement and to precisely illustrate the different postures.

As far as MemoRekall features were concerned, feedback was given on development opportunities. More precise usage scenarios were presented in the form of models and amended by the participants in order to jointly develop the application's new features (see below).

LABO #4
Writing teaching scenarios related to monitoring creative processes in circus schools

The final lab focused on artistic issues and in particular the creative process. It took place from the 14th to the 18th of February 2022 at Vila Nova de Famalicão (Portugal) and was hosted by INAC. The morning was dedicated to creating capsules in groups for the 8 face-to-face participants, and the afternoon to themed meetings (new features, teaching and learning toolkit, presentation of the work done) joined by seven remote participants.

The starting point of this workshop was the presentation of a stage of work in solo performances by students at the end of their studies at INAC, who had to present their work in June 2022. In February, they were already very engaged in their creative process.

These students were very different from each other, at various stages of progress, INAC providing them with personalized support.

Following this presentation, four groups of trainers were formed, including five students. Depending on the projects, the needs, the current stage of the process, and also the pedagogical concerns and the experience of the trainers, several scenarios with MemoRekall were defined:

- → Remote work with an outside eye and presentation of intentions (Adeline Avenel, Jorge Lix Santos)

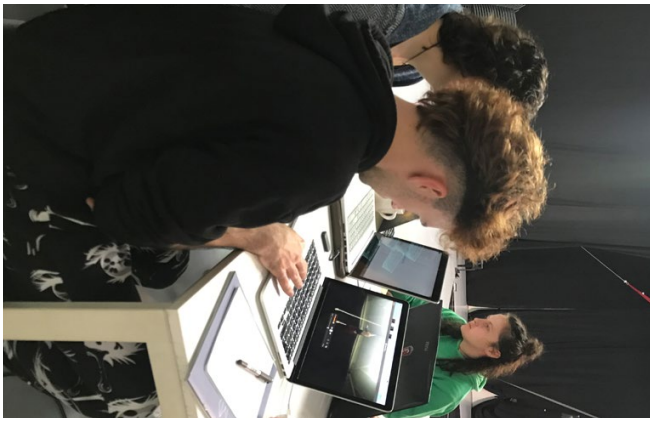
- → Directed improvisations with different constraints and documentation of the artistic choices made (Fabio Pinna, Rachel Baird)

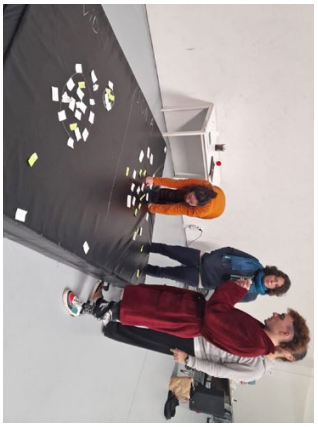
- → Documentation of the creative process from a completed sequence with an explanation of the dramaturgical choices, presentation of the references used, notes and sketches (Moira Hunt, Jono Ayres)

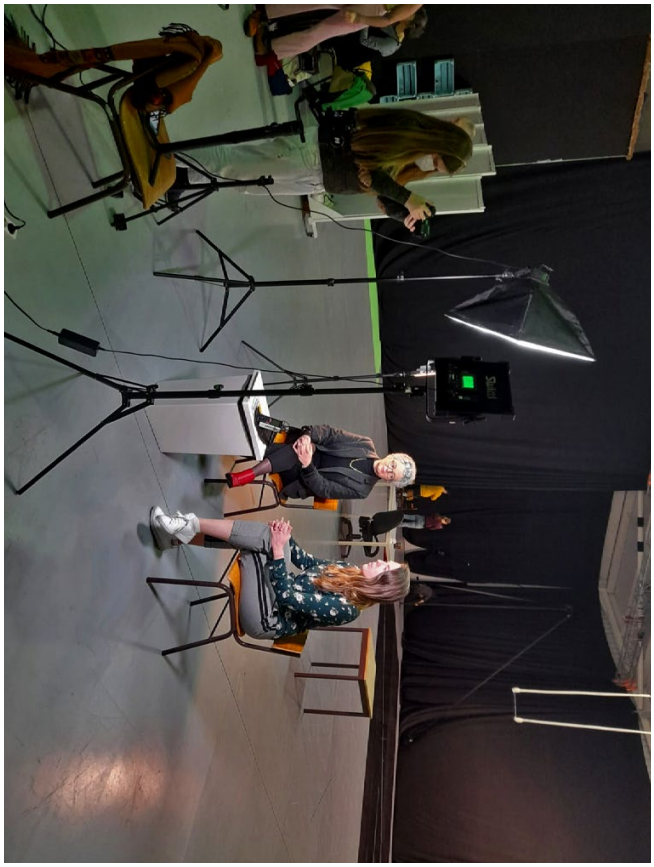
- → Interpretation and analysis of a filmed stage of work, then work on variations in order to raise awareness of the details and the dichotomy of t he intentions expressed / what is seen on stage (Eva Schubach, Domingos Lecomte).

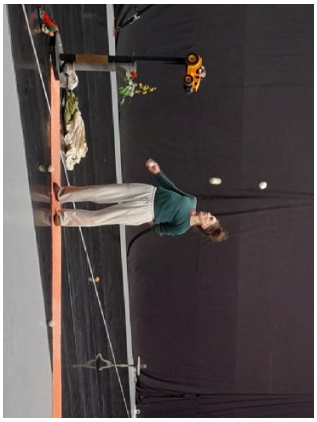
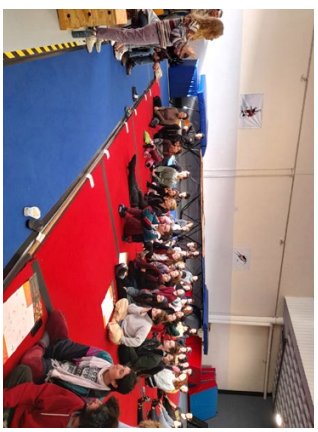
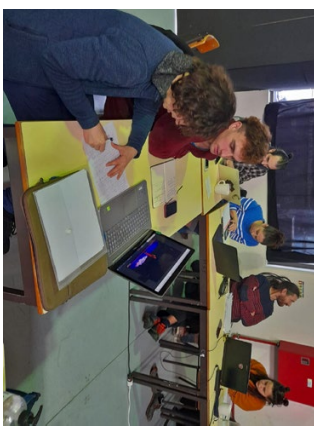
The new MemoRekall features implemented in pre-production were demonstrated. Details were corrected and enabled feedback to be given to the IT specialists.

This lab was also an opportunity for presenting an in-depth study of educational toolkits and brainstorming to define the content and form that the COSMIC project teaching and learning toolkit will take.







COSMIC circle

CIRCLE, FEDEC's flagship project, consists of a series of short performances designed by students from circus arts schools that are members of the network, during creative workshops and artistic and pedagogical research. Presented during Circa, the Gers Festival of Contemporary Circus, the CIRCLE performances provide the young artists with their first opportunity to meet the public, festivalgoers and families, as well as professionals from all over Europe.

To close COSMIC by providing it with additional visibility, the project steering committee decided to link it to the CIRCLE project, in order to meet the following objectives:

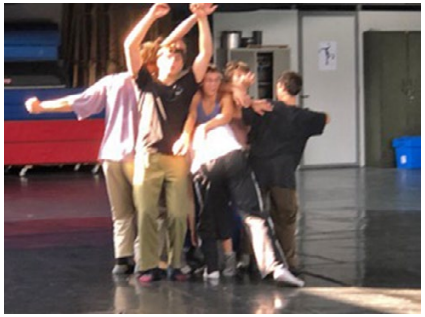
- → Develop the use of digital technology in the creation of student circus shows
- → Set up collaborations between partner schools of the project
- → Experiment with using MemoRekall in a professional context

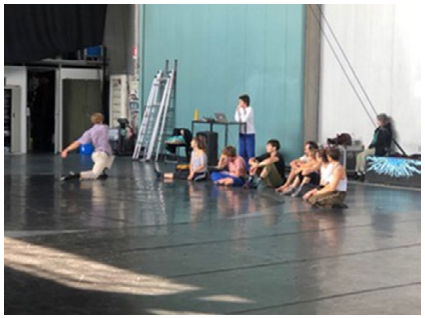
The partners were given the challenge and they seized the opportunity of creating a performance with others, each of them being able to join up with one or two other schools. The ERASMUS+ mobility grants enabled creation residency weeks to be arranged in September 2022, between partner schools. To continue this work, and develop their concepts, the teams used MemoRekall up until the presentation on stage at Circa.

These collaborations - using the digital tool - were a first for the circus arts sector and opened up the field of possibilities. They were reflected in four 30-minute performances, which were presented in front of some 1,600 spectators on the 24th and 26th of October 2022. The video capsules of this work will be available from December 2022 on the MemoRekall website.

COSMIC CIRCLE collaborations:

- → Carampa (ESP) / INAC (PRT)
- → Circomedia (GBR) / NCCA (GBR)
- → CRAC Lomme (FRA) / Codarts (NLD)
- → ENACR (FRA) / FLIC (ITA)





A NEW VERSION OF MEMOREKALL TO MEET THE NEEDS OF CIRCUS EDUCATION

One of the project's aims is the development of new MemoRekall features (http://www.memorekall.fr). MemoRekall is a free open-source digital application dedicated to documenting the performing arts with a view to preserving them. It was designed by Clarisse Bardiot in collaboration with Guillaume Marais, Guillaume Jacquemin and Thierry Coduys and then from 2020 with Tetras Libre[5].

Video is the backbone of MemoRekall. Indeed, video recording is one of the key traces, and almost systematic in the process of documenting the performing arts. However, this record calls for both commentary and additional information via supporting documents because many aspects of video remain implicit. The application therefore makes it possible to enrich and explain a video recording by combining it with textual annotations and connections to other documentary resources using hypertext. As the reader progresses, they discover annotations and other documents, which they can open and read as they please, and then return to the video recording.

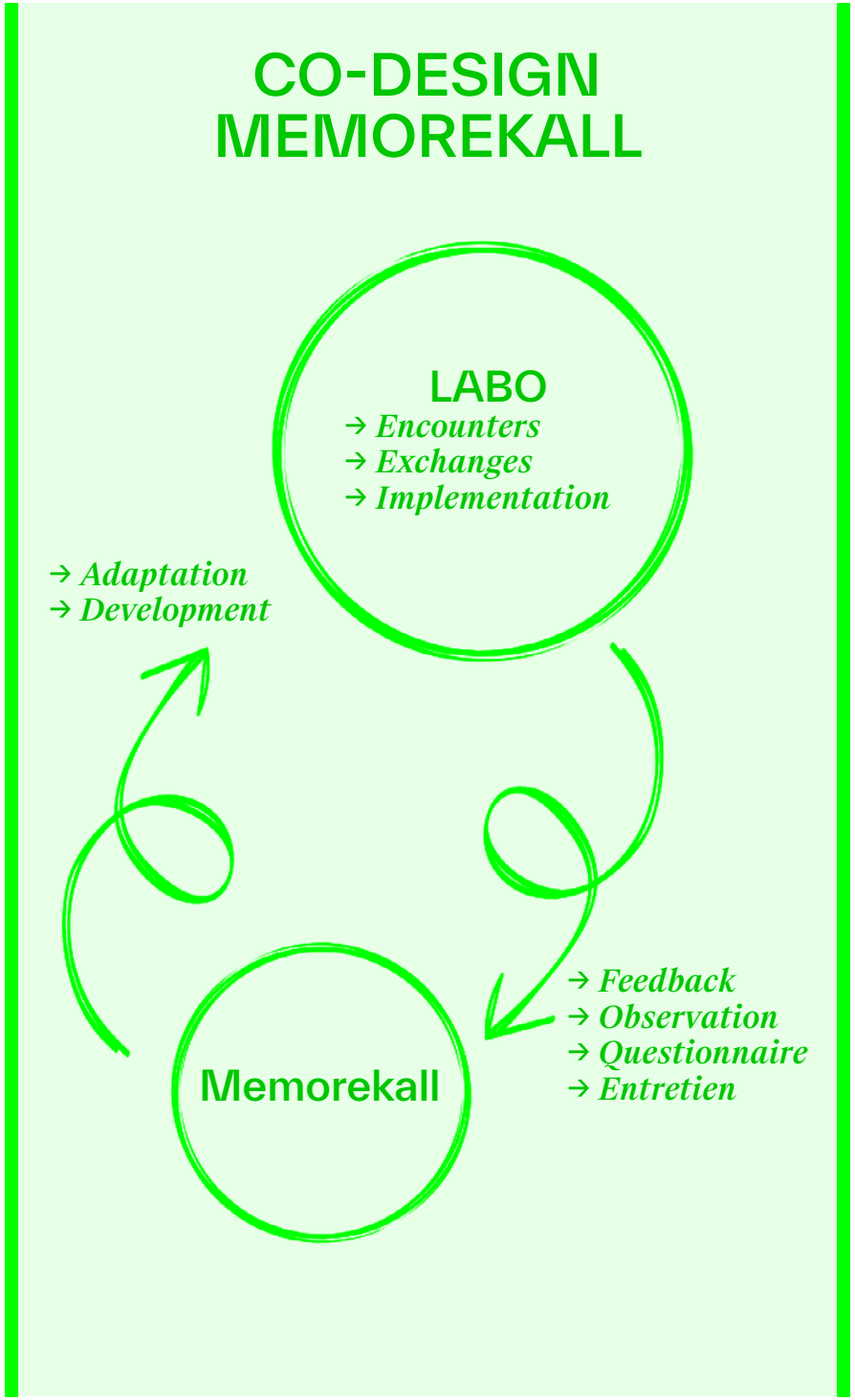
5. On the origins of MemoRekall and its uses, cf. Bardiot, Clarisse. 2017. "Organiser et conserver la mémoire de l'éphémère : les capsules de MemoRekall". *Culture et Musées*, N°30 (December): 159-174; https://hal.archives-ouvertes.fr/hal-01843912; Bardiot, Clarisse. 2020. "Theatre analytics: developing software for theatre research". *Digital Humanities Quarterly* 14 (3); http://www.digitalhumanities.org/dhq/vol/14/3/000476/000476.html; Bardiot, Clarisse. 2021. *Performing arts and digital humanities: from traces to data*. Hoboken: Iste/Wiley.

The arrangement of documentary resources and annotations creates a new document, a «capsule» that can be integrated into any web page using an embed code. The capsule includes the video recording as well as the set of annotations and linked documents (or web links in the case of online resources).

From the same video, different documentary strategies can be developed, depending on the specific issues of each capsule author: artists who need to document their works in order to be able to disseminate, adapt or go back to them easily; cultural institutions wishing to share with their audiences the creative processes as well as elements of analysis on their website; teachers who need to introduce their students to different multimedia resources to accompany their courses on the history of the performing arts or as part of educational activities related to performances seen in class.

We have seen how the labs have made it possible to enrich these documentary strategies and create new uses. The existing features of MemoRekall meant some of these uses could not be accomplished, hence the reflections initiated to enrich them and thereby meet the specific needs of circus education as closely as possible. In this section, we return to the co-construction

methodology implemented as part of COSMIC, a methodology at the heart of MemoRekall's development from the outset, as well as the features developed for the needs of circus education. Beyond the COSMIC project itself, the new features implemented are now available to all MemoRekall users, enriching its uses in other contexts.



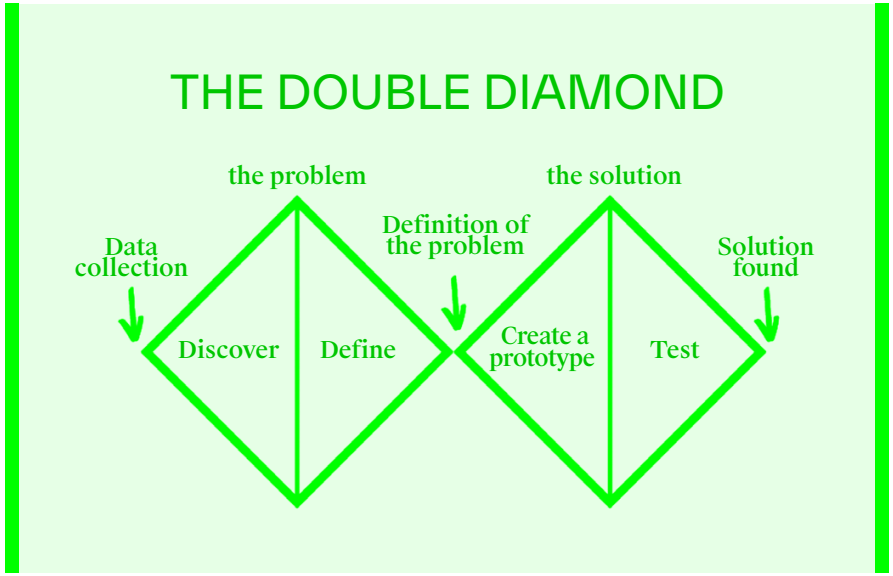
Implementation of a user-oriented co-construction methodology

As part of Lab #3, several needs, related to the MemoRekall interface, emerged from the participants. In order to clarify, formalize, prioritize and transform these needs into features, we organized several ideation sessions during the different labs. These sessions drew heavily on design thinking.

As circus arts trainers are the end users of MemoRekall, it seemed essential to us to involve them in the co-creation process.

A new version of MemoRekall to meet the needs of circus education

Based on the Double Diamond diagram below, we have developed the following two phases:



Source: inspired by the Design Council's Double Diamond model
https://www.lanouvelleecoledecreativite.com/blog/design-thinking-lapproche-double-diamant

→ Exploration phase: Participants (all trainers) were asked to describe the stages of creating a MemoRekall capsule. The objective was to verbalize their expectations and observe and analyze the possibilities and limitations of the existing interface. For each stage, participants had to answer the following questions: Who? What? How? Why?[6]. This method makes it possible to comprehensively diagnose a situation or a problem. After much discussion and note-taking on post-it notes, the trainers' answers converged towards a more specific need, that of video annotation. Is the annotation of the video a key element for the transmission of circus arts? What form can it take?

6. Based on the 5 Ws and 2 Hs (Who, What, Where, When, Why, How, How Much)

→ Development phase: It was crucial for the trainers to be able to annotate, zoom in and out and break down the image directly on the video. The notions of slowing down or speeding up the video also seemed important, but these various elements come up against technical constraints such as the graphic annotation of the moving image, costly in terms of time and capacity for development, beyond the budgetary arrangements established in connection with this project. The choices made were also guided by the desire to keep it extremely simple to use because the application is aimed at the general public as well as schoolchildren from 12 years of age.

Participant observation, interviews and questionnaires

As part of the four labs, we made use of three methodological tools used in the field of humanities: observation, interviews and questionnaires. The objective was twofold: firstly to gather information about the participants' experience in the labs and secondly to examine the practice and evolution of circus education more closely. To gather information about the participants' experience, we offered them online questionnaires at the end of each lab. As regards circus education, we conducted semi-structured interviews with several circus trainers. Participant observation enabled us to describe and understand the context. This description was crucial for conducting the interviews and creating the questionnaires. In this section, we present the results of our survey.

The first questionnaire was offered to the participants, all circus arts trainers, at the end of the first Lab in January 2021. It received 20 responses. The questions mainly referred to:

→ Getting used to using the software: 80% of the participants rated it as easy. In fact, the use of MemoRekall has been studied in order to enable junior high school students to understand how to use it.

→ The relevance of the software in the practice of circus education: 60% of the participants considered it relevant. In this section, the participants provided an additional level of granularity to their answers by specifying certain uses: "[MemoRekall is] a useful tool for preparing a teaching sequence, for presenting a final creation (and explaining how it was created, the references, the different techniques used, etc.), as a collaborative tool, as an archiving tool. Easy to use."

→ The software's "missing" options, which can be classified as follows:

1) Organizing possibilities:
   a. Making folders/subgroups from the different capsules
   b. Color-coding documents/files in the timeline
   c. Making all files visible all the time and highlighting the ones needed now and/or having a "mosaic" of all files to get an overview
   d. Possibility of hiding some files (of one color)
   e. Downloading capsules

2) Editing suite:
   a. Changing the placement of text and/or drawing on the video
   b. Exchanging the main video with a new version
   c. Voice over
   d. Slow motion
   e. Being able to draw annotations over the video
3) For beginners:
   a. Tutorial for new editing users
   b. Tutorial for only viewing users

Questionnaires 2, 3 and 4 were administered at the end of the respective labs. They basically used the same set of questions and received 17, 16 and 15 responses consecutively. Suggestions for improvement and new features were mostly in line with the Lab #1 responses. As more than half of the Lab #2 participants attended Lab #1, we were able to delve deeper into certain points regarding the use of MemoRekall in the trainers' teaching practices. Here is a sample of the responses:

> ***MemoRekall could "help create a bank of moves in my specialty (ability to convey/explain a move = understand it properly) and I could use it for my future learning with the participation of other people and ways of doing things."***

> ***"Maybe use MemoRekall in the creative process with adult and teen courses (for the end of the year for example). Maybe use MemoRekall in creating tutorials for our remote students!"***

For the group that completed Lab #1, we were able to collect the first examples of putting the tool into practice in an educational setting:

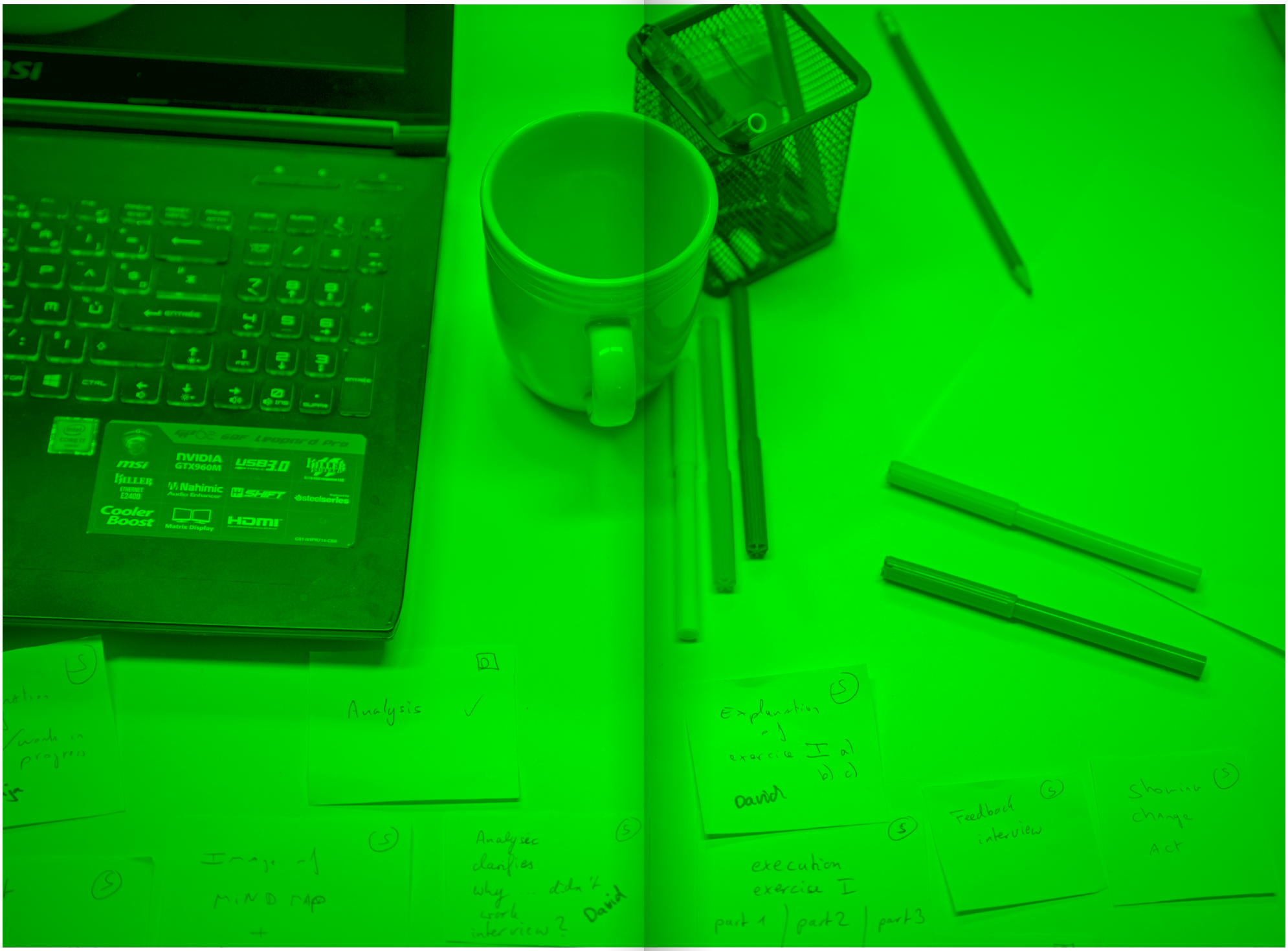
> ***"I started on a project with three students during this lab"; "We are building a video library for the prevention and management of sports injury, aimed at our students."***

We were also able to compare the different contributions between the first two labs:

> ***"Lab #2 helped us to move forward internally on the use of MemoRekall and the opportunities to be implemented"; "having more knowledge around the theme meant that it was more useful to delve deeper into the project"; "the use of MemoRekall has been made concrete. During Labs #1 and #2 I was still in an apprenticeship. I still am, but far less so"; "Confrontation with other participants has been by far the most valuable part."***

By taking full advantage of the various pieces of feedback following the questionnaires, we wanted to look more closely at the practice and evolution of circus education through the organization of semi-structured interviews[7]. To do so, we selected six practitioners/trainers with more than ten years of experience in the circus world and who had participated in at least two COSMIC labs. These interviews helped define three main uses of MemoRekall:

7. According to Pellemans, it is a "questionnaire containing all the themes to be addressed in a certain order. Adherence to this order is what differentiates it from the thematic interview. The difference to the traditional questionnaire is that the majority of the questions are open-ended". Pellemans, Paul. 1999. *Recherche qualitative en marketing: perspective psychoscopique*. Perspectives marketing. Bruxelles: De Boeck université.


Analysis
Explanation of exercise I a) b) c)
David
Feedback interview
Showing change Act
execution exercise I
part 1 | part 2 | part 3
Analysis clarifies why ... didn't work interview?
David
Image of MIND MAP

- A use for transmission: Trainers see in MemoRekall an opportunity to transmit circus practices: “it is a tool that will be used by educators and teachers, and then be used in terms of transmission for young ones”; “[it’s a solution dedicated] to circus school teachers and teachers in a school context, as well as to all those who want to set up artistic workshops and who do not know how to do it or who need an example.” “MemoRekall gives students tools that make them independent.” In the practices mentioned, MemoRekall can prove to be very useful for integrating notions of biomechanics or the breakdown of a movement. The tool’s practicality for distance learning courses was also mentioned many times.

- A use for archiving: The issue of archiving is central to the concerns of trainers: “teachers could keep track of their interventions, their actions and their protocols.” The practice of circus is a practice of the body that takes place in the moment: “I realize that I have no written documents or examples (...). MemoRekall can be a way to fill this gap.”

- A use for sharing and promotion: MemoRekall can be seen as a promotional tool for a school or a company thanks to “the possibility of presenting its work to others” and sharing the capsules produced among the different schools or among the trainers within the same institution: “I have a project for putting online a circus library based on artistic workshops that I have been doing for a very long time. MemoRekall could be a fairly effective tool for implementing it”; “if we want the software to be successful, we must share it as much as possible and post capsules publicly”.

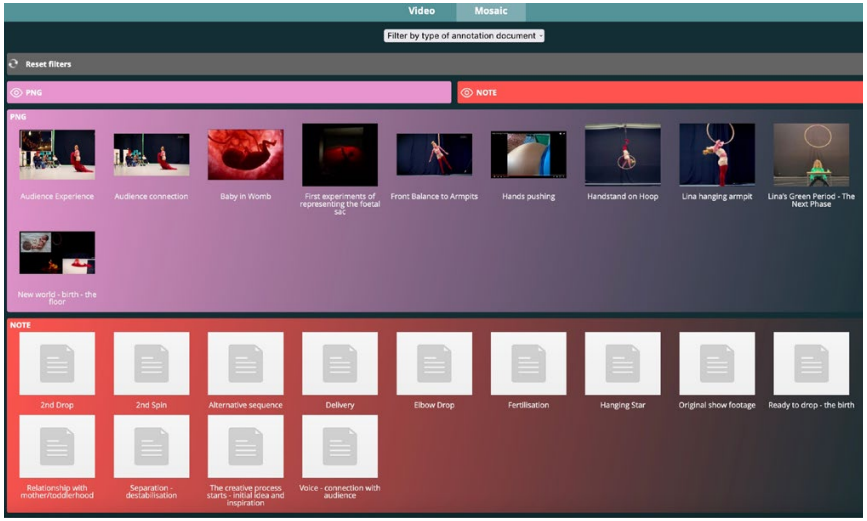
New features in MemoRekall

Participant observation, the interviews and the questionnaires and labs have led us to develop new features for MemoRekall, presented below.

BACKEND AND SECURITY

Prior to the development of new features, groundwork was necessary to update the application. MemoRekall was migrated to the Docker platform which is now the standard in terms of application development. Some components were on the verge of obsolescence and had to be updated: PHP language (version 5 to 7); Synfony framework (version 2 to 5), which required a reimplementation of MemoRekall’s ‘Member’ section that enables the management of the capsules and each user’s profile. Security was also taken into consideration (a request that emerged from the initial discussions, firstly because schools may work with students who are minors and secondly some content such as CVs involve personal data) by strengthening the right of access to the content of the capsules.

NEW INTERFACE ORGANIZATION



During the labs, several needs arose regarding the MemoRekall interface:

→ Group the capsules together by theme. Previously, the capsules appeared in the user area one after the other, in the chronological order in which they were created. When managing many capsules, especially in the context of student work, finding a particular capsule can be tedious.

→ Access related documents directly without going through the timeline or scrolling documents in the side margin. In other words: switching from a temporal reading to a spatial organization of related documents and annotations.

The new organization of the interface therefore makes it possible to:

→ In the user area, tag the capsules with as many keywords as you want in order to group them together (“edit capsule groups” function). This tag system is more flexible than a conventional file classification system because it allows you to classify the same capsule in different themes (by author, theme, year, cohort, type of capsule, etc.) and then filter your capsule library by tag.

→ In the capsule, view all the annotations related to the video. In the top margin, two new tabs appear: “Video” which allows you to play the video in the central area and “Mosaic” which offers an overview of all related annotations regardless of their timecode. In this view, the user can filter and group annotations based on different criteria, including tags. Indeed, it is now possible to add to each annotation (“tags” function in the pop-up) a free tag that then allows you to filter or group them in the “Mosaic” view. This makes it easy to identify annotations pertaining to, for example, an author, the stage design, the lighting, a performer, a technique, etc.

CHANGING A VIDEO

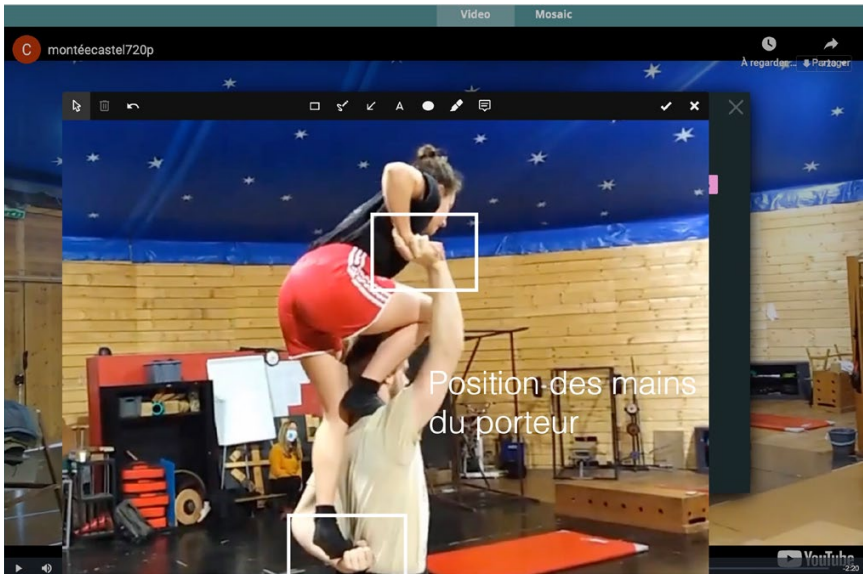
Although in MemoRekall, the video should exist before its annotation, it appears that in practice this is very often not the case, especially when it comes to documenting a creative process. On the one hand, some users start gathering documents or notes without pre-existing videos but need to present them in a chronological order that makes sense; on the other hand, an initial video that laid

the foundations of the capsule is often replaced by a more accomplished video, with the annotations and video enriching each other during the creation of the capsule. The first situation can be easily solved by offering a black background video. It still needs to be replaced with a new video. A new button in the Member Area, “Edit video url”, makes it easy to change the video in MemoRekall. All annotations are retained. Time code adjustments may be required.

VISUAL ANNOTATION OF AN IMAGE

Drawing annotation over video recordings was undoubtedly the most insistent and important request of COSMIC participants. It is indeed important from an educational point of view in order to provide a better explanation of a specific point, especially a technical one, to be able to surround an area in an image to direct the eyes there, to indicate the direction of a movement or a force, to add a specific term, etc. While the new features were not yet implemented, participants would use other software to edit the video and visually annotate it and then export and import it into MemoRekall which requires navigating between multiple software solution. Some of them can be complicated to use, involving higher prerequisites or a higher learning curve in terms of digital tools and a longer working time on the capsules. Not to mention that this system is quite rigid: once the new assembly is imported into MemoRekall, it becomes almost impossible to go back and edit its annotation.

To overcome these various difficulties, the choice was made to add a feature that allows you to annotate still images directly in MemoRekall. Annotating a moving image leads to many difficulties that we could not solve in this project.



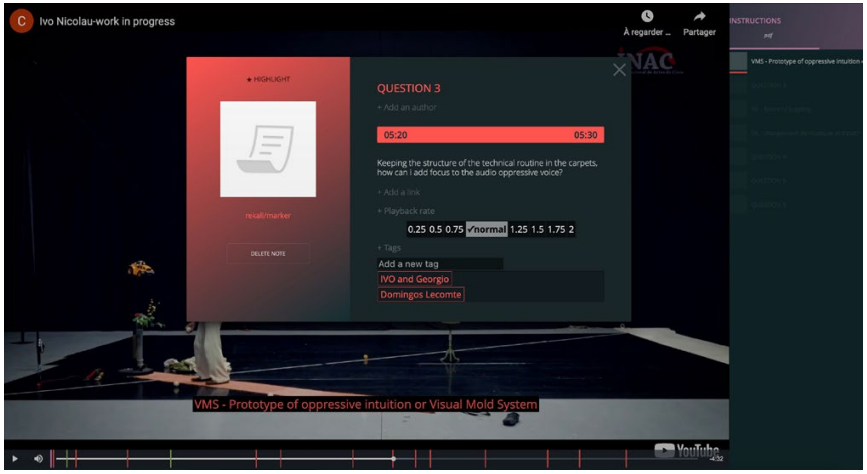
The usage scenario is as follows:

- → The author of the capsule identifies the moment in the video that they want to annotate visually. They pause the video.
- → They take a screenshot of the paused video with their usual tool (e.g. the “print screen” button) or with the “clipboard” button.
- → With the new “clip board” button, they paste a screenshot of the video.
- → They can then edit this image (“edit” button also available for all images imported into MemoRekall).
- → An image editor opens that lets them add geometric shapes, freehand lines, text, arrows and comments, and choose their colors.
- → They save their work.
- → This then appears in the right-hand margin. Other metadata (title, time code, etc.) can be edited.

→ In reading and editing mode, the image can be accessed with or without annotation.

→ In editing mode, the visual annotations can be edited again.

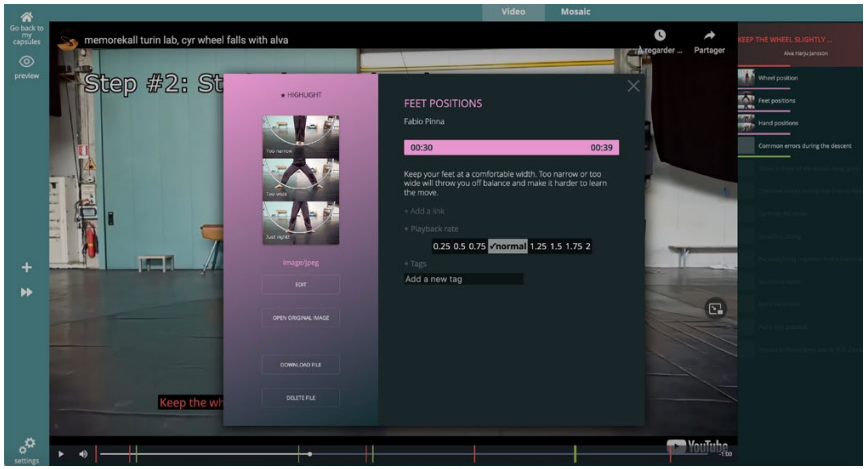
VIDEO PLAYBACK SPEED



The circus, like dance or high-level sport, must be able to detail the movement. It is important to be able to vary the video playback speeds, and in particular to slow it down. There are now two ways of doing so:

→ For the entire video: “Change playback rate” button in the main menu.

→ For a specific moment in the video, in connection with an annotation: new playback field available in each annotation pop-up.



OTHER IMPROVEMENTS

- → The MemoRekall Member Area is now responsive which means it can be used more easily on tablets and mobile phones
- → Editing mode: addition of a “Go back to my capsules” button that makes it easier to navigate between capsule editing and the Member Area.
- → Feedback screens provide a better user experience.

A TEACHING AND LEARNING TOOLKIT TO SUPPORT TEACHERS

As we have already pointed out, MemoRekall is a very simple and versatile tool. It makes it possible to imagine a multitude of uses, especially in a teaching context. As part of the COSMIC project, the labs made it possible to imagine and then implement teaching scenarios.

Based on sometimes very personal proposals, related to a specific aesthetic approach or piece of apparatus, we modelled scenarios. These can be applied to other contexts or adapted to specific objectives or needs. They are all contained in a teaching and learning toolkit dedicated to the use of MemoRekall in circus education. To do this, we have been guided by an in-depth study and brainstorming sessions before proposing our own booklet of teaching scenarios.

State of the art

Educational toolkits are mediation tools[8] frequently used in the museum field, especially for young audiences, to discover an artist, a practice or a period in the history of art. Very often, they offer a practical experience by proposing activities to their readers (who may be a teacher, a parent or a child). Educational toolkits can be in digital form (e.g. an application) or in paper format, or even in more elaborate and composite forms grouped into educational packages or toolkits.

For a better understanding of the objectives, issues and formats that the COSMIC project's teaching and learning toolkit could cross-reference and take on, we entrusted an intern, Nadine Lobo, a student on the MA digital design course at the UPHF, with carrying out an in-depth study of the educational toolkits in circus arts, mainly in France, by contacting various cultural institutions. As there are few such resources for the circus, we have taken into consideration examples of similar disciplines in our study, in particular dance and puppetry.

The first observation is the diversity of the media: websites, downloadable applications, card games, posters, booklets that are printed or that can be downloaded in PDF format, etc. Depending on the circumstances, they are aimed at students, mediators and/or teachers. At the moment, there is no "standard format" of media for performing arts mediation even though it is noted that multiple media, particularly digital and paper media, are frequently combined. The choice of this hybrid format makes it possible to establish and distribute a fixed record, in a paper and/or printable format, whilst maintaining the ability to enrich the content, especially following collaborations

8. Aboudrar, Bruno Nassim, and François Mairesse. 2022. *La Médiation culturelle*. Que sais-je ? Paris : Presses universitaires de France, Humensis.

between institutions and artists. In France, two institutions are particularly invested: the network of National Choreographic Development Centers (CDCN) and Numéridanse, which offer very diverse formats and experiences, based mainly on content archived online, video recordings in particular[9]. Many publications are also produced by the PREAC, Resource Centers for Artistic and Cultural Education. They offer a large number of teaching materials for teachers, artists and/or mediators to create classroom workshops[10]. Because very often, educational toolkits are aimed at school groups, from nursery school to high school, and at professionals much more rarely. This is also the reason why these booklets offer customizable tools, which each mediator or teacher can adapt according to their context, the performance seen or studied, the level of the class, etc.

9. As part of the CDNC network, see the summary presented in Danses en kit https://a-cdcn.fr/storage/app/media/uploaded-files/DANSES%20EN%20KIT.pdf and especially the Data Danse project https://data-danse.numeridanse.tv/ carried out in collaboration with Numéridanse. Numéridanse has also developed a youth portal which can be considered as a digital booklet dedicated to educating people about dance: https://www.numeridanse.tv/tadaam. See also Circus arts, the encyclopedia: https://cirque-cnac.bnf.fr/en

10. An example can be found here: https://contact-atelier08.canoprof.fr/eleve/PR%C3%89AC%202017-2018-2019/

Defining the teaching and learning toolkit project together

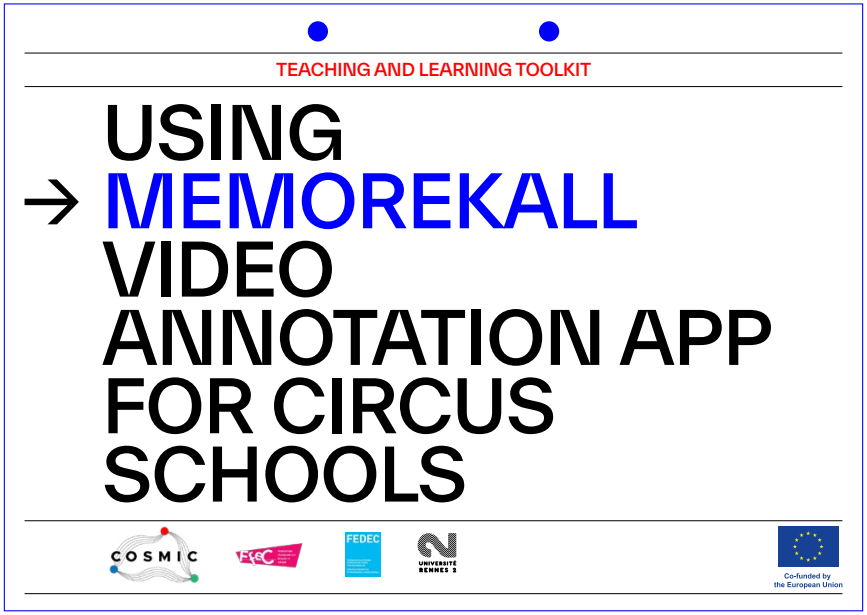
The various projects resulting from the in-depth study were presented during Lab #4. They were discussed and served as a working basis for a brainstorming session on the COSMIC teaching and learning toolkit. This brainstorming helped us define the objectives and the format of the teaching and learning toolkit resulting from the COSMIC project. An initial proposal for a website on the *Data Danse* model was rejected. The brainstorming helped us define a project which focused on the usage scenarios, grouped into three main categories: artistic, technical and communication. An initial example was co-written in order to define the main headings for describing each usage scenario. A webinar organized in the wake of Lab #4 allowed us to return in more detail to the content of the booklet, in particular the description of the teaching scenarios, and to validate the general plan. A collaborative document then enabled the various teachers responsible for specific teaching scenarios to describe them precisely. They were linked with capsules created during the various labs which serve as a model. These were finalized to be published in conjunction with the teaching and learning toolkit.

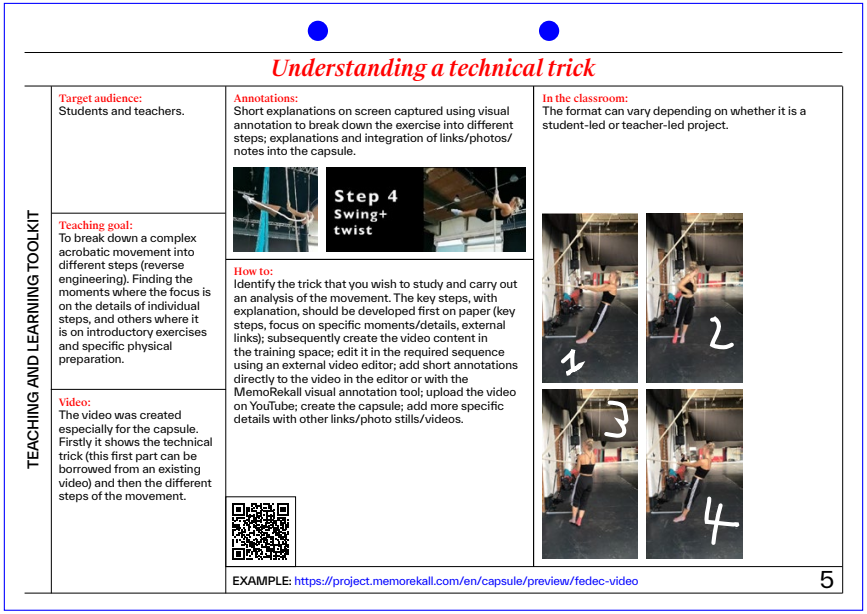
Objectives of the teaching and learning toolkit

All of this preparatory work allowed us to define the objectives of the COSMIC teaching and learning toolkit:

- → A toolkit for teachers who want to incorporate MemoRekall into their teaching practices.
- → A toolkit that contains a series of templates, illustrated by one or more examples of capsules, which take into consideration all the scenarios proposed by the lab participants.
  These templates must be customizable and meet specific learning objectives. They systematically include the following headings: Title, Target Audience, Teaching goal, Video, Annotations, How to, In the classroom.
- → A toolkit that provides users with support with tutorials.
- → A toolkit produced by the participants in the COSMIC project: the templates are written by the trainers complying with the headings defined together during Lab #4.

In terms of format, we have chosen to publish this toolkit both in the form of a web page that makes it easier to access the example capsules, and in the form of a downloadable and printable PDF document, which again can help teachers, or even students or heads of department, to assimilate its contents more effectively. The teaching and learning toolkit is available on the MemoRekall and Fedec websites.





Conclusion

Not only has the COSMIC project allowed participants to discuss their own practices and questions related to pedagogical innovation, but it has also helped to develop a new version of MemoRekall that can meet the specific requirements of circus arts education. Today, this new version is available to all MemoRekall users. In addition, COSMIC has focused on the creation of teaching scenarios through the production of a specific toolkit. Indeed, it is not enough simply to create new features; it is also necessary to support teachers in their implementation within the various teaching practices, and to provide models and examples.

Then everyone is free to make them their own, in order to develop their own projects within circus schools in Europe and beyond.

The following people participated in the labs:

David Almeida – INAC (PRT)
Adeline Avenel – CRAC de Lomme (FRA)
Jono Ayres – Circomedia (GBR)
Rachel Baird – Circomedia (GBR)
Clarisse Baudoin – ENACR (FRA)
Rosa Benvenuto – FLIC (ITA)
Giorgia Bolognesi – ASD Giocolieri e Dintorni / CircoSfera (ITA)
André Borges – INAC (PRT)
Stevie Boyd – FLIC (ITA)
Irene Camuzzini – FLIC (ITA)
Annabel Carberrry – The Oak Circus Centre (GBR)
Marth De Kinder – Cirkus in Beweging (BEL)
Callum Donald – INAC (PRT)
Antigone Exton-White – NCCA (GBR)
Coralie Fanget - La Chaîne des Cirques (FRA)
Soren Flor – AFUK-AMoC (DNK)
Théo Géraud – CADC Balthazar (FRA)
Nienke Goodijk – FLIC (ITA)
Yohan Guerin – A.F.C.A (FRA)
Moira Hunt – Circomedia (GBR)
Alice Jackson – NCCA (GBR)
Alva Janssen – FLIC (ITA)
Javier Jimenez – Carampa (ESP)
Martin Jouan – CADC Balthazar (FRA)
Giulio Lanzafame – FLIC (ITA)
Helena Lario – Carampa (ESP)
Sylvain Laurent – ENACR (FRA)
Domingos Lecomte – CRAC de Lomme (FRA)
Rafael Lopez – EEEC (ESP)
Ines Lorca – Move to Circus (ISR)
Tanja Manderfeld – BAG Zirkuspädagogik / ZAK, Zirkus- und Artistikzentrum Köln (DEU)
Clara Marino – Circo de las artes (ARG)
Federico Medrano – FEECSE (ESP)
Chiara Morini – FLIC (ITA)
Marie-Pierre Mouisson – ENACR (FRA)
Ivo Nicolau – INAC (PRT)
Emma Omer – Association Par Haz'Art (FRA)
Antoine Pardonnet - Graine de Cirque (FRA)

Fabio Pinna – INAC (PRT)
Lionel Pioline – ENACR (FRA)
Sofya Polyakova – INAC (PRT)
Adrian Porter – NCCA (GBR)
Jonathan Priest – Circomedia (GBR)
Sylvain Rainville – ENC Montréal (CAN)
Laurent Richard – CADC Balthazar (FRA)
Carlotta Risiatto – Cirkus Gymnasiet (SWE)
Andrea Rocchi – FLIC (ITA)
Mélanie Rodier – CADC Balthazar (FRA)
Aurélien Rodrigues – CRAC de Lomme (FRA)
Maëlys Rousseau – Ecole de cirque San Priote (FRA)
Fede Scarano – Circo de las artes (ARG)
Eva Schubach – Codarts (NLD)
Ludwig Schukin – NICA (AUS)
Filippo Seziani – FLIC (ITA)
Earl Shatford – NICA (AUS)
Jens Sigsgaard – AFUK-AMoC (DNK)
Alessandra Simone – Cirko Vertigo (ITA)
Lina Siragaki – INAC (PRT)
Luisella Tamietto – Cirko Vertigo (ITA)
Magali Verdier – FFEC (FRA)
Rowan Virgo – Circomedia (GBR)
Paddy Watters – NCCA (GBR)
Michael Watts – ENC Montréal (CAN)
Wybren Wouda – Codart (NLD)

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Isabel Joly – FEDEC
Leïla Medejel then **Raphaël Vigier** – FFEC
Lionel Pioline then **Cyril Thomas** – ENACR
Stéphane Simonin – FEDEC
Sarah Weber – FEDEC
Nicolas Young – Circomedia