From MemoRekall to MemoRekall-IIIF: developing a video annotation web application in the context of citizen science co-creation practices

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Video recordings, be they digitized or born-digital, are becoming one of the most significant traces and sources for researchers working in the contemporary era. They call for both commentary and additional information via supporting documents because many aspects of the video remain implicit. MemoRekall [1], hosted by Huma-Num, is a free and open-source web app to annotate a video enhanced by adding notes, documents, or web links. 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. 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. MemoRekall provides a new editorialization tool, that articulates video recordings, documents, and annotations. Originally conceived for the preservation and documentation of performing arts (Bardiot, 2021), two European citizen science projects lead to broaden its uses and develop new functionalities. The two projects are COSMIC and COESO.

Funded through the ERASMUS+ program, COSMIC (CO-creating and Sharing digital Methodologies In Circus Education) [2] 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 via MemoRekall in order to offer innovative teaching methods in addition to traditional educational methods.

The COESO (Collaborative Engagement on Societal Issues) H2020 project [3] facilitates participatory research in SSH. It supports ten Citizen Science pilots presenting a variety of disciplines, societal challenges, and types of engagement with citizens in different European countries. “Pilot 2”, Dancing Philosophy, involves the collaboration of a philosopher and a choreographer, and its documentation with Laban kinetography and video annotation (MemoRekall).

COSMIC and COESO can be considered as citizen science co-creation practices (Grønvad et al., 2017) as they involve the collaboration of researchers, developers, artists, teachers, and students (Cavalier and Kennedy, 2016). This paper will present this collaborative process, at the heart of MemoRekall's development from the outset.

Both projects are based on labs [4] (from 3-days to one-week duration) involving all or part of the participants working on specific tasks and goals e.g. “Improvisation of a solo starting from a word” or “Writing teaching scenarios related to teaching circus techniques”. No one is dedicated to “designing new functionalities for MemoRekall”. Instead, we use observation, interviews, and questionnaires. The existing features of MemoRekall meant some of the video analysis and annotation could not be accomplished, hence the reflections initiated to enrich them. In order to clarify, formalize, prioritize and transform these needs into features, we organized several ideation sessions during the different labs.

MemoRekall is above all a writing tool. The COSMIC labs were therefore a time and a place for learning how to write with MemoRekall in the context of circus teaching. They have enabled MemoRekall 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. It led to a new interface organization, the possibility of varying the playback speed, and drawing annotations. It was indeed important from an educational point of view 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. (Bardiot and Menassel, 2022)

Documenting the collaboration between a dancer and a philosopher during COESO with MemoRekall and Laban kinetography led to new questions. We gathered a multimodal corpus during the project or after the fact and based our study on (Boullier and Pidoux, 2021) cooperation analytics. The video could no longer be the central document of the annotation work. Instead, a network of multimodal documents that can annotate each other should be considered, as well as going beyond a descriptive analysis to support a semantic line of questioning. The new features required a complete reimplementation of the tool based on the W3C Web Annotation Recommendations and the International Image Interoperability Framework (IIIF) initiative. MemoRekall-IIIF [5] is a prototype for multimodal annotation based on the widely-used IIIF viewer Mirador. It creates document networks that can be explored and viewed from different perspectives.

Both COSMIC and COESO projects share the same methodological approach, based on action research and design thinking (Cross, 2011) of which we take up its "situated, interpretive, and user-oriented" characteristics (Burdick and Willis 2011). Designing MemoRekall means designing the conditions of interpretation of digital traces. In this design process (Caviglia et al., 2012), MemoRekall becomes a place for making and thinking, for hermeneutics and epistemology.

Notes

1. https://memorekall.com
2. http://www.fedec.eu/fr/articles/5223-cosmic
3. https://cordis.europa.eu/project/id/101006325
4. "Labs" is here a generic keyword that gathers different nuances as residencies and workshops. For example, four labs were the backbone of the COSMIC project. Throughout the two years project, they brought together circus trainers, students, the MemoRekall team, and the COSMIC coordinators. 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.
5. https://memorekall.com/en/memorekall-iiif-prototype/ The prototype is presented as a poster during the conference.

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