Simulating and Supporting Pre-Service Teachers' Activities in Professional Training

Presentation of the ARC Sim'Pro project

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Context

Although fundamental, the trainer's activity during the post-simulation debriefing and the measurement of its mastery have been the subject of little research. However, the impact of the quality of the trainer's behaviour, both in terms of commitment and attitude, is considered to be of paramount importance (Policard, 2015). The ARC Sim'Pro project aims to develop the analysis, modeling and support of the trainer activities in simulation-based scenarios.

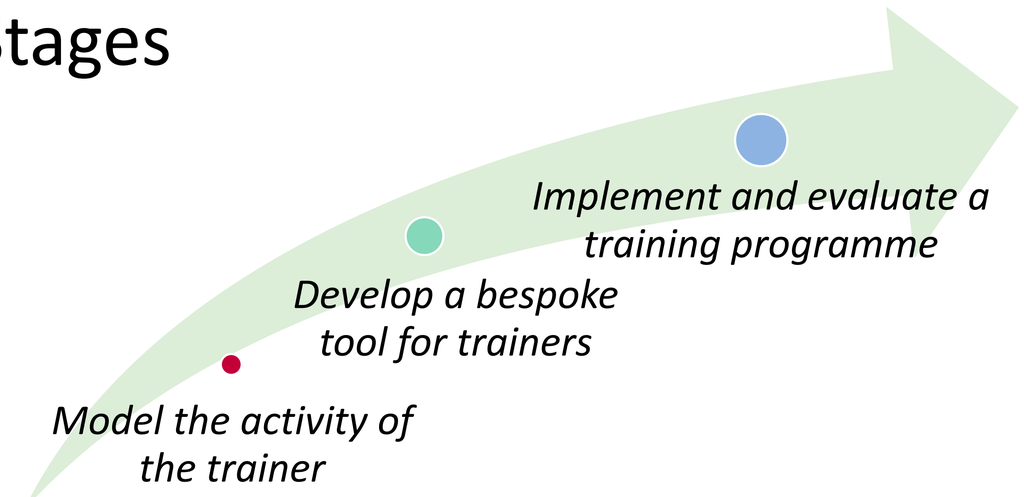
Areas of Application

- Initial training for future secondary school teachers;
- Risk management training in the civil protection sector;
- Initial training for dispensing pharmacists.

The support tool is technically designed and tailor-made.

The effectiveness indicator of the trainer's activity is linked to the reflexivity mobilised by the learners.

Stages



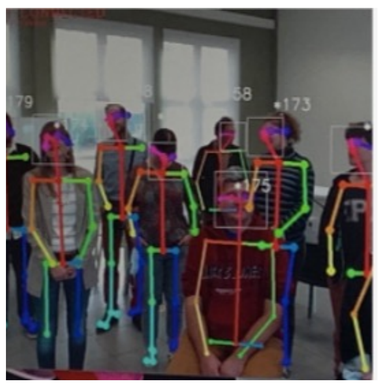
The Activity is Measured with 2 Types of Tools

Stereoscopic cameras

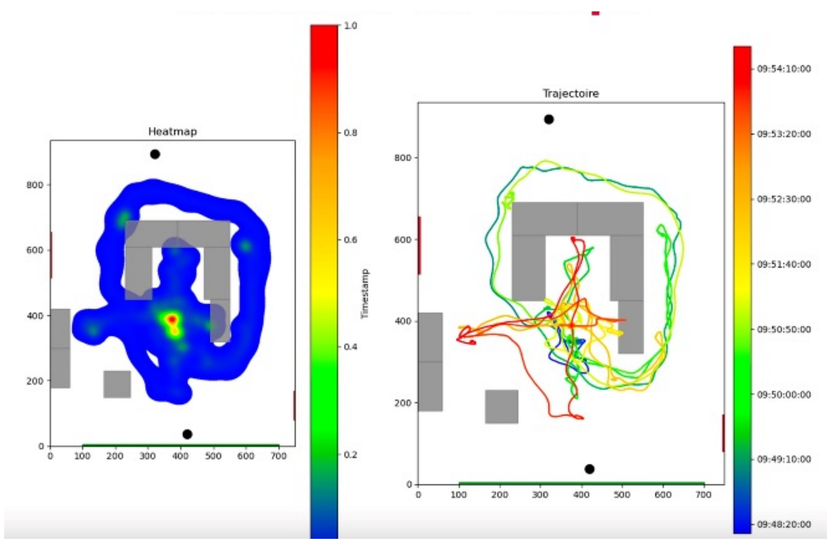
Analyse trainees' non-verbal language, including movements, raising hands, sing arms, looking, sit/stand, etc.

Eye tracking glasses

- Measure the pre-service teacher' selective attention by the elements they look at.
- Use the video filmed by the eyetracking glasses in the debriefing (in addition to the "classic" video).



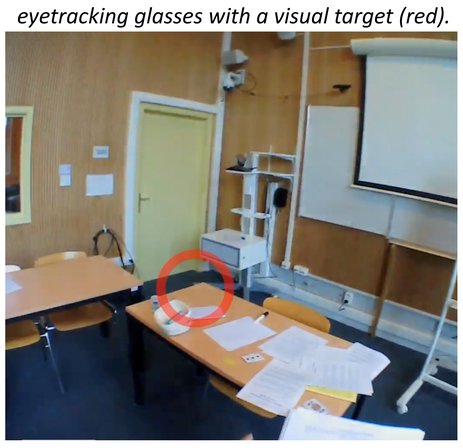
User (skeleton) and face tracking for reindentification



Plan of the classroom showing the movements of a pre-service teacher over a given period of time using heat maps and trajectories.

Equipment (eye tracking and microphone) worn by the pre-service teacher during the simulation

Image taken from video captured by eyetracking glasses with a visual target (red).



QR code to delineate zones for automatic analysis of elements captured by eyetracking glasses

Conclusions & Future Works

The framework uses eye-tracking glasses and 3D cameras to improve data analysis in simulation-based training, enhancing trainee performance and reducing trainers' mental workload.
Future work includes a) developing and validating the tool with field data, b) implementing it in training courses, and c) studying its effects on trainees and trainers using the “Pyra Debrief model” and his grid (Duvivier et al. 2023)

Visit the website (1) and watch a video about the research (2)

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