

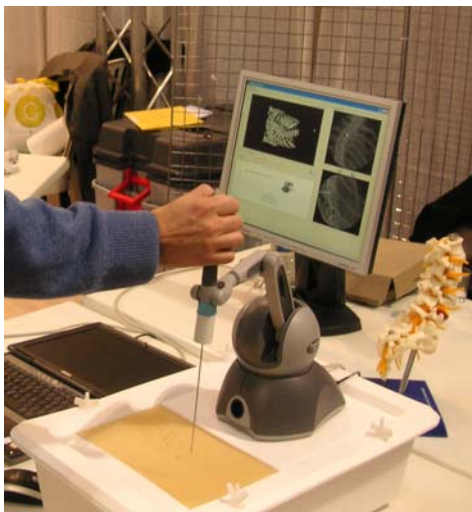
Decisional model for educational feedback based on action and perception traces

Tutors: Vanda Luengo, Catherine Garbay, and Francis Jambon

LIG laboratory, Grenoble

Contact : vanda.luengo@imag.fr

Thanks to advances in virtual reality systems, high performance simulators and behavioral sensors, it is now possible to consider new forms of learning (Burkhardt et al. 2003, Anastassova et al. 2009). Achieving this objective, in the MacCoy Critical ANR project, will lead to a step change in using this kind of environment for experience-based learning (Luengo et al. 2009). The project targets the learning of non-technical knowledge in critical situations.



In this context, one of the main objectives of the MacCoy project is to propose new methods and algorithms to monitor users' traces of perception (Jambon et al. 2012) and action, for a deeper understanding of users' activity, and propose an adapted and efficient feedback (Luengo et al. 2013).

In this framework, the objective of the master project focuses on decisional model for feedback based on users' traces. Based on the learning context, kind and form of traces, and learning objectives, the question that the project will have to answer is: what kind of decisional model is the most appropriate?

To achieve this objective it will be necessary to work on:

- 1) Study the state-of-the-art of decisional models based on traces
- 2) Understand the domain context (learning domain, kind of traces, ...)
- 3) Propose an appropriate model
- 4) Test the model with a case study

REFERENCES

Anastassova, M., & Burkhardt, J.-M. (2009). Automotive technicians' training as a community-of-practice: implications for the design of an augmented reality teaching aid. *Applied Ergonomics*, 40, 713-721.

Burkhardt, J.-M., Bardy, B. & Lourdeaux, D. (2003). Immersion, réalisme et présence dans la conception et l'évaluation des environnements virtuels. *Psychologie Française*. 48, 35-42.

Jambon, F. and Luengo, V. (2012). Analyse oculométrique « on-line » avec zones d'intérêt dynamiques : application aux environnements d'apprentissage sur simulateur. In Ergo'IHM 2012, 1-8.

Luengo V., Aboulafia A., Blavier A., Shorten G., Vadcard L., Zottmann J. Novel Technology for learning in Medicine. 105-120, Springer, 2009.

Luengo, M. Alchawafa, (2013). Target the controls during the problem solving activity, a process to produce adapted epistemic feedbacks in ill-defined domains. The case of a TEL system for orthopaedic surgery. Workshop on Formative Feedback in Interactive Learning Environments, in International Conference on Artificial Intelligence in Education. AIED 2013.