

Identification and visualization of learners' engagement: emotions, behaviors and cognition

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The SICAL team develops novel approaches, models and tools to improve humans' ability to interact and learn with technology. Our research tackles the following themes: social and serious games learning, computer-human interaction design and appropriation, adaptable and adaptive systems.

<http://liris.cnrs.fr/sical>

Expertise / Keywords

Situated interaction, Collaboration, Adaptation, Human Learning, Serious Games, Appropriation, Handicap and accessibility, Interaction Traces, Design and evaluation methods, Mobile and pervasive interaction, Regulation, Behavior and usage analysis, Visual indicators, Information visualization.

Research aims

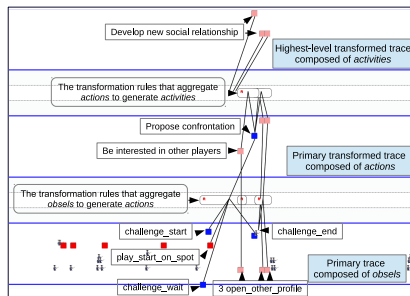
Identifying and visualizing learners' engaged-behaviors to reveal valuable information for teachers and designers, allowing them to monitor the learning activity, and then to adapt and personalize it.

Focus:

- **3 types** of learners' engagement: cognitive, behavioral and emotional
- **Ecological situations** (distance learning, social gaming, etc.)

QUEJANT project

A qualitative approach to identifying users' behavioral engagement and **qualifying their engaged-behaviors** from their interaction traces with a social game.

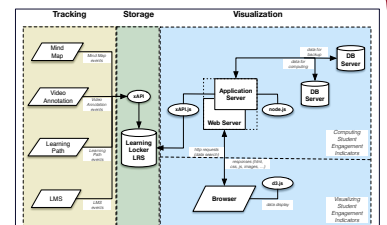


Partners: Corexpert, Intellysurf, Kiniro
Years: 2012-2013

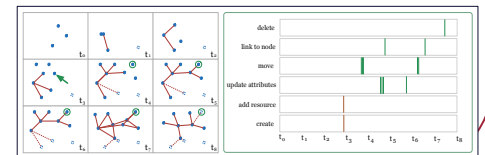
Founding: Région Rhône-Alpes and Grand Lyon

MétaEducation project

Visualizations of learners' engagement based on their interaction traces when **constructing complex knowledge representations** (e.g. mind maps).



The approach proposes visual representations of cognitive indicators to add explanatory elements to behavioral indicators.

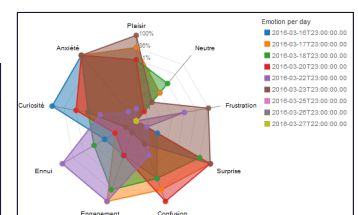
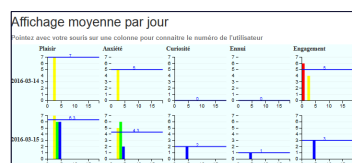


Partners: ITOP Education, IRI, Erdenet, Riplay
Years: 2014-2017
Founding: Investissements d'Avenir e-Education 2

EmoViz project

Supplying learners in distance learning **with reflexive visualizations of their own emotions and awareness of their peers' emotions** from the analysis of audio and video data, self-reported information and interaction traces.

Partners: McGill University, University of Geneva
Years: 2015-2017
Founding: Région Auvergne-Rhône-Alpes



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