RESEARCH GROUP

www.list.lu/en/informatics/responsible-data-science-analytics-systems/group/?tx_listreference_pi1%5BresearchGroup%5D=150&cHash=b0343d8462fb611d4ab87a7ca4a87c3f

Embedded Assessment



Decision making in complex situations requires a series of competencies known as "21st century skills" (collaborative complex problem solving, information literacy, creativity, critical thinking, etc.), as well as language learning, communication and craft-related skills. Embedded assessment supports decision-making by either assessing these competencies and providing feedback to enhance them or by measuring task performance in decision-making coupled with dedicated feedback mechanisms to support improvement.
The availability of linked data, innovative HCI technologies, wearables, and ubiquitous sensors provides new means to assess skills, interact with humans and embed e-assessment into daily activities.

OUR RESEARCH CHALLENGES

Research conducted at the Luxembourg Institute of Science and Technology (LIST) aims at creating and validating technology-based instruments to measure competencies embedded in learning, living, and working situations, that gather evidence from different data sources and map them to corresponding assessment frameworks developed in collaboration with psychologists and statisticians, for both humans and intelligent artificial agents acting as decision enablers.
Our research investigates:

- how to automate the assessment lifecycle to support personalized assessment everywhere, anytime for every human in any living/working/learning context using knowledge bases extracted from any kind of resource, independent of topic, and context
- how to develop innovative technical means to assess collaborative 21st century skills and to support complex decision-making processes using the most advanced knowledge-based technologies supported by intelligent and connected devices and sensors

OUR COMPETENCIES

- Using the latest interaction technologies for task performance and competence measurement
- Generating educational domain models and using linked data for education and assessment
- Developing automated assessment technologies (e.g. automatic item generation, test generation from competency profiles, automated item quality checks)
- Applying our expertise in work psychology, psychometrics and cognitive science to technology-driven assessment in authentic situations.

OUR EQUIPMENT

- TAO® platform for e-assessment
- Tools for automatic item generation from domain models and text
- Tools for item feature analysis
- Tangible table-based measurement instruments
- KODA semantic annotation tool
- Cross Skill™ for test generation from competency profiles

Partners

Large assessment providers, HR departments of companies of all sectors, Learning content and digital media publishers, Public employment services and ministries

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