



A mixed reality learning environment of miniature exhibits

SCIENCE CENTER TO GO (SCeTGo)

is a project co-financed by the European Commission within the framework of the Lifelong Learning Programme. The project started in January 2010 and will continue for 24 months. Total project budget is 666 660€.

SCeTGo project aims to bridge the gap between formal and informal education, to promote science learning at all levels, and to assist in ensuring that science not only holds a high place in teaching curricula but also promotes creative problem solving and learning-by-doing.

The overall objective, through the exploitation of Augmented Reality (AR) is to integrate experiential learning and supporting materials provided by scientists and educators into a comprehensive knowledge base for learning open to the public.

VISUALISING THE INVISIBLE

Implementation of Augmented Reality (AR) technology in science education. While this technology up to now mainly was used by very special users such as the military and high-tech companies it gradually converts into wider educational use. Specific research programmes such as CONNECT and EXPLOAR applied this technology with a specific focus on selected learning scenarios by a close co-operation of formal education and informal learning. Empirical effects related to intrinsic motivation and cognitive learning of students (n: 308) were encouraging.

The implementation of augmented reality in the context of the “Hot Air Balloon” exhibit at Heureka science centre in Finland unveiled encouraging results. While the high achievers again did best in the post-knowledge test, low achievers again were clearly catching up with the others. The difference to between the treatment and the control group was clear.





Science Center To Go



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MAIN OBJECTIVE

of the SCeTGo is the development through the use of Augmented Reality (AR) technology of an innovative learning system that can be used in various learning environments (schools, universities and Science Centers) for improving science education.

The SCeTGo project aims to highlight key trends in the adoption of digital technologies for better understanding how science works. Such approach is expected to raise the wider public's interest and awareness on science. SCeTGo aims at promoting young people's interest in science through the introduction of its informal character in formal educational environments.

MINIATURE EXHIBITS

The SCeTGo will merge miniature exhibits and existing advanced AR technology in order to demonstrate to learner's new ways of interacting with scientific concepts and phenomena. Moreover, the implementation of a set of learning activities (missions) in accordance with the current trends in science education, based on inquiry and problem based approaches, will allow the actively participating learners to enhance their scientific literacy and their critical thinking skills.

The SCeTGo through the development of an AR system applied on miniature exhibits and the adaptation of learning practices aims to test, implement, disseminate and evaluate these tools and materials through the introduction of innovative pedagogical concepts and educational strategies, with a view to enhance learning experience, encourage students to consider science and science-dependent vocations as careers and provide learners creative problem-solving and critical thinking skills.

CONSORTIUM

- Heureka (Finland), www.heureka.fi
- ICCS-Institute of Communications and Computer Systems (Greece), www.mfol.ece.ntua.gr
- Fraunhofer Institute (Germany), www.fit.fraunhofer.de/index.html
- University of Barcelona (Spain), www.ub.edu
- University of Bayreuth (Germany), www.uni-bayreuth.de
- University of Helsinki (Finland), www.helsinki.fi
- Linnaeus University (Sweden), www.lnu.se
- Centre for European Research (UK)
- Cluj County Teacher Training Centre (Romania), www.ccdcluj.ro
- Ellinogermaniki Agogi (Greece), www.ea.gr

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