

The Research Group

Web & Information Systems Engineering Lab

has the honor to invite you to the public defense of the PhD thesis of

Jan Maushagen

to obtain the degree of Doctor of Sciences

Title of the PhD thesis:

Mobile Playful Learning Environments: Conceptual Foundations for Informal Learning Environments in the Digital Age

Promoters:

Prof. Dr. Olga De Troyer

Prof. Dr. Beat Signer

The defense will take place on

Friday, August 20, 2021, at 3 pm for a limited

audience. The defense can also be followed

through a live stream. Contact

Jan.Maushagen@vub.be for more information.

Members of the Jury

Prof. Dr. Bernard Manderick (VUB, Chair)

Prof. Dr. Bart Jansen (VUB, Secretary)

Prof. Dr. Olga De Troyer (VUB, promoter)

Prof. Dr. Beat Signer (VUB, promoter)

Prof. Dr. Suzanne Kieffer (UCLouvain)

Prof. Dr. Teemu Laine (Ajou University, Republic of Korea)

Curriculum vitae

Jan Maushagen holds a master's in Computer Science (VUB) and a BSc from the Universität Trier (DE). His main interest lies in data visualization. For his master's thesis, he investigated how links between tags in social media can be represented graphically. After obtaining his master's degree, he participated in the TICKLE project where he investigated how youngsters experiencing school burnout can be stimulated and motivated through ICT to start learning again. This work formed the basis of this PhD and was funded by ERDF and the Brussels-Capital Region through the ICITY-RDI.BRU PROGRAM.

Abstract of the PhD Research

Usually, learnings still takes place in a classroom, including face to face instruction and training. Classroom learning has several advantages, but also disadvantages. For example, in a large class it can be difficult to maintain everyone's attention and motivation. On the other hand, through information technologies (ICT), there is an ever-increasing amount of information available with unrestricted access. With a tap on a smartphone or computer, one can search for information on any topic. Search results can generate insights that in turn result in new searches. The current generation of youngsters, also called Digital Natives, seems to navigate these complex information environments with ease. They use ICT, not only to have fun, but also to gain knowledge and insight into politics, culture, This type of learning, called informal learning, is more driven by personal goals and interests and is an important part of so-called "lifelong learning", being the continuous and autonomous pursuit of knowledge for personal or professional reasons.

While independent and informal learning is an admirable ambition, many will need guidance. Just as school learning uses learning management systems, informal learning could benefit from a digital learning environment that provides guidance to explore interests and use them effectively for personal, professional, or educational purposes. In this thesis, a conceptual reference framework for such learning environments was developed: the *Mobile Playful Learning Environment (MPLE) model*. For this, the main requirements of such learning environments were examined, research questions were formulated and answered by an extensive literature review. Based on this, the main components of the MPLE model were defined. This conceptual framework was indirectly tested through a proof-of-concept application, TICKLE, being a mobile playful learning environment for youngster at risk of dropping out of school. Evaluations with youngsters in different contexts and with different purposes show promising results.