Workshop Proposal for ISC2022 VR/AR Simulations in Education

Title:

XR4Ped meets Ireland

Promoting Digital Higher Education by introducing Immersive Learning into Educational Studies

Abstract:

Comprehensive progress has been made in the provision of digital learning solutions in recent years. Especially Virtual Reality (VR), Augmented Reality (AR) and the combination and further extension of both to Extended Reality (XR) have begun to enter the education markets. These technologies allow the simulation of almost any environment and process carried out in the physical world, whilst purchase costs have decreased enormously, the same way as the number of the so-called immersive learning apps has increased for all educational fields. But why do we see so few or nothing of them – and other e-learning solutions - in education?

Description:

European Strategy 2020 (2010), New Skills Agenda for Europe (2015), Education Policies in Europe and Beyond (2017), the European Framework for the Digital Competence of Educators (2017), Digital Education Action Plan (09/2020) have all focuses on the needs for IT literacy of learners, which indeed is constantly increasing - but the same cannot be said of the educational institutions that are responsible for this – much more, they and teachers often lag behind this trend.

To rapidly change this, XR4Ped (Erasmus+ project) fosters digitisation in HE in general and the promotion of XR-based immersive learning in particular. Main objectives, outcomes and impact are as follows:

- Implementation of a qualitative guided interview survey within 20 best practice EU projects dealing with immersive learning in recent years to collect their experiences, the lessons learnt and the pedagogic approaches that boost XR learning.
- Implementation of a quantitative online questionnaire survey within 200 European educators at all levels to obtain a clear picture about their awareness, experiences, demands and needs with regard to digital and immersive learning as well as their experiences and lessons learnt during the Covid-19 lockdowns.
- Publication of a Green Paper with a detailed analyse of the two survey results, including clear derivations for the set-up and content of the XR4Ped Study Course as well as recommendations to EU policy makers on how to foster digital and immersive learning over the short and long terms. Thus, the experiences, needs and demands of the main target groups have direct impact on the customer orientation of the study course as well as on future policies concerning digital learning.

- Development of the XR4Ped Study Course for lecturers/students of pedagogy containing 8 modules of immersive learning and 2 modules about how to create and implement webinars (overall 4 ECTS). Due to the importance of the topic and the transversal set-up of the course, it can easily be transferred to other HE fields and also be offered to educators in schools, VET, general adult or other education levels. The course has a hybrid set-up with a high number of online self-learning units. If needed, the course can quickly be turned into 100% online training. This ensures that the course can be offered to distance learners all over Europe.
- Development of the XR4Ped Lecture Theatre, an immersive learning environment through which the whole course can be implemented.
- The project will train 140 lecturers/students by means of an XR4Ped study course pilot; after that, we estimate 500 annual course participants, with another 2,000 educators at all levels will train themselves using the open source self-learning units. Familiarising a few 1,000 educators with digital and immersive learning over the next years will demonstrate direct impact upon Europe's development towards being digital knowledge society.

This workshop is the fifth multiplier event organised and implemented by UCD. **The event's main aim will be** to directly inform as many experts, stakeholders and target groups in Ireland and internationally as possible about:

- The general project aims and objectives
- The findings from the two studies implemented in IO1 and the recommendations made in the Green Paper, with specific relevance to the settings and requirements in IE
- The XR4Ped Syllabus/Study Course and the Lecture Theatre and how they can be applied and utilised in IE, with specific focus on their sustainable integration within national HEIs
- Discussions on how to utilise the outcomes, results and findings of the XR4Ped project for boosting digital and immersive learning at HE levels in IE
- Promotion of immersive learning in all areas of education (school, VET, HE, social, learners with special needs, culture, heritage, arts etc.)
- Promotion of existing networks and stakeholder groups in IE that have already started working in this field and which can be made more powerful if more organisational are linked to them

The main target groups of the multiplier event are:
- Higher Education managers, as they will make the overarching strategic and financial decisions on how to increase digital learning in their institutions, they need to be informed about the usefulness, possible applications, benefits and costs of immersive learning in general and in particular at their universities.
- Lecturers of pedagogy, since they are to use immersive learning operationally in their lessons, they must be convinced of the advantages related to these techniques and be trained to use them professionally, efficiently and for the benefit of the students;
- Students of pedagogy: they are the actual main target group of this project; they must come into contact with the project's aims and objectives and the XR4Ped course and learning features as soon as possible, so that they can develop into immersive learning

experts quickly and pass on their knowledge, skills and competences to all different learner groups that they will work with after graduation.

- Lectures and students of other studies of relevance as well as teachers and educators from other areas (primary, secondary, vocational and general adult education levels etc.), because boosting digital learning should be a major issue at all educational fields and levels; therefore, the project needs to be open to all kinds of educational experts, so that they can benefit from the project work and further integrate digital and immersive learning into their teaching.
- Finally, the multiplier event specifically addresses educational policy decision-makers and stakeholders, because they are the ones who will need to push ahead with digitisation at the macro level, creating the necessary legal and infrastructural framework and providing funding.

The whole event will last at least half a day and will be attended by **at least 20 participants and approx. 20 virtual participants.** Prof. Eleni Mangina from School of Computer Science in UCD will lead in organising and implementing this dissemination event, both in the real and virtual environments. It will develop a detailed agenda containing contributions from external experts and stakeholders and will take care of all technical and organisational aspects.
Although details of the agenda will be determined by real project developments as well as the needs and demands of the audience, the draft agenda could look as follows:

Timetable:

09.00 Registration (real and online)
09.30 Official welcome by Prof. Eleni Mangina and introduction to the set-up, structure and specific requirements for a hybrid event; short introduction of the project
10.00 Presentation of Intellectual Outputs 1 and 2 and their relevance to different stakeholders and target groups in Ireland
10.30 Break
11.00 Hybrid panel discussion with representatives from associated partners, stakeholders, policy makers and with experts in the field of immersive learning
12.00 Virtual session in the XR4Ped Lecture Theatre for networking, knowhow-exchange and presentation of best practice apps in immersive learning
14.00 End of event

UCD (Prof. Eleni Mangina) will organise and moderate the whole event; She will be responsible for coordinating the audience, guests and speakers and for its smooth implementation as a hybrid event, including an uncomplicated change between real and virtual environments. It will develop professional promotional, dissemination and presentation materials and is responsible for the proper reporting and documentation of the event (for administrative reasons); it also will take care of regional press coverage.

Participants will be registered through ISC2022 for the workshop