

# XR4ED: An Extended Reality Platform for Education

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Recent developments in extended reality (XR) are already demonstrating the benefits of this technology in the educational sector. Unfortunately, educators may not be familiar with XR technology and may find it difficult to adopt this technology in their classrooms. This article presents the overall architecture and objectives of an EU-funded project dedicated to XR for education, called Extended Reality for Education (XR4ED). The goal of the project is to provide a platform, where educators will be able to build XR teaching experiences without the need to have programming or 3-D modeling expertise. The platform will

provide the users with a marketplace to obtain, for example, 3-D models, avatars, and scenarios; graphical user interfaces to author new teaching environments; and communication channels to allow for collaborative virtual reality (VR). This article describes the platform and focuses on a key aspect of collaborative and social XR, which is the use of avatars. We show initial results on a) a marketplace which is used for populating educational content into XR environments, b) an intelligent augmented reality assistant that communicates between nonplayer characters and learners, and c) self-avatars providing nonverbal communication in collaborative VR.