Development of Design Principles to Author AR in Education Based on Teacher's Perspectives

Manoela M. O. da Silva[1], Veronica Teichrieb[1], Patrícia Smith Cavalcante[2]

[1]Voxar Labs – Centro de Informática – Universidade Federal de Pernambuco (UFPE)
Recife – PE – Brazil

[2]Edumatec – Centro de Educação – Universidade Federal de Pernambuco (UFPE)
Recife – PE – Brazil

{mmos,vt}@cin.ufpe.br, patricia3smith@gmail.com.br

Abstract

The lack of AR authoring tools thought from the educational perspective is one of the reasons that hinder Augmented Reality's widespread use in education. This work investigates important characteristics for AR authoring in education in the form of design principles. We aimed to identify how teachers would like to create AR experiences based on their pedagogic needs through Design Based Research (DBR) with the participation of an interdisciplinary team. We followed the 4 steps of DBR in 2 cycles. We worked with teachers to understand their educational needs when authoring AR experiences. Then, we defined and prototyped a case study focused on language for children and teenagers, which we evaluated in two test rounds. As a result, we proposed 11 design principles divided into three aspects: infrastructure, augmented reality, and pedagogy, which were evaluated positively by teachers.

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