

An Overview of Evaluations Using Augmented Reality for Assembly Training Tasks

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Abstract : Augmented Reality (AR) is a strong growing research topic in different training domains such as medicine, sports, military, education and industrial use cases like assembly and maintenance tasks. AR claims to improve the efficiency and skill-transfer of training tasks. This paper gives a comprehensive overview of evaluations using AR for assembly and maintenance training tasks published between 1992 and 2017. We search in a structured way in four different online databases and get 862 results. We select 17 relevant articles focusing on evaluating AR-based training applications for assembly and maintenance tasks. This paper also indicates design guidelines which are necessary for creating a successful application for an AR-based training. We also present five scientific limitations in the field of AR-based training for assembly tasks. Finally, we show our approach to solve current research problems using Design Science Research (DSR).

Keywords : assembly, augmented reality, survey, training

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