



Design, strategies, and issues towards an augmented reality-based construction training platform

<http://www.firstlight.cn> 2007-07-31

This paper provides information on Augmented Reality (AR) and their potential applications in heavy construction equipment operator training. Augmented Reality involves the use of special display and tracking technology that are capable of seamlessly merging digital (virtual) contents into real environments. Augmented Reality technology has been applied in many application domains outside construction (e.g., medical applications and surgeries, military training and warfare, manufacturing assembly and maintenance, design and modeling, precise specific instant information, and various forms of entertainment) and the ever-increasing power of hardware rendering systems and tracking technology should motivate the creation of AR-based systems to benefit construction industry. This paper discusses the potentials of AR in construction equipment operation and operator training. A construction application for AR technology focused in this paper is an AR-based real world Training System (ARTS) that trains the novice operators in a real worksite environment populated with virtual materials and instructions. This paper focuses on the conceptual design and development of mechanisms/strategies for the ARTS in the context of certain identified application scenarios. Discussion of limitations of Augmented Reality technology for construction applications include mature of technology, data resource, technology transfer, social attitude, etc., is also presented.

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