Graduate School of Science and Technology Master's Thesis Abstract

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Abstract

Disaster prevention guidelines provide instructions to the citizens to allow them to increase their safety before, while, and after a disaster takes place. Regardless of their simple design targeting an audience of diverse ages, previous work highlights that the general public does not read them. When they do, they do not consider them easy to follow. Research in educational contexts has found Augmented Reality (AR) technologies to capture students' attention effectively. While in industrial maintenance contexts, AR technologies have been able to reduce mistakes significantly. In this master thesis, a novel AR-assisted disaster prevention guideline interface is designed and implemented. Supported by a machine learning object detection model to identify the targets of the guideline, a checklist interface with gamification elements was implemented, and its effectiveness of guidance and engagement was compared against a traditional printed disaster prevention guideline. Our findings show that our novel media ease knowledge transfer between experts and a sample of the general public. Our work contributes new insight into AR guidance applications targeting both young and elderly audiences, their effectiveness, and their drawbacks while attending a public survey overlooked by current research.