**Design and Assessment of an Augmented Reality Application for Lab Orientation**

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**ABSTRACT:** Lab orientation is a vital part of learning for students entering the university, as it provides the students with valuable information about the lab. The current orientation is manual, tedious, suffers from logistical constraints, lacks engagement, and provides no way to assess that outcome have been achieved. This is also supported by results of student survey which revealed students’ dis-satisfaction with current process of orientation. In this study, a user-friendly augmented reality mobile application for lab orientation is presented that helps students in a quick and easy adaptation to the lab environment by familiarizing them with the lab equipment, staff, and safety rules in a fun and interactive manner. This application makes use of marker-less augmented reality technology and a blend of multimedia information such as text, images, sound, and videos which are superimposed on real-world contents. An experiment with 56 students showed that the students found the AR application to be more engaging than the traditional manual method of orientation. Students also found the application to be more supportive and helped them in better understanding of the lab equipment.

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