

TEACHERS' EVALUATION OF AN AUGMENTED REALITY-BASED MOTION GRAPHING APPLICATION

Resty C. Collado

*Department of Natural and Engineering Sciences
Miriam College High School
Philippines*

Nicko R. Caluya

*Interactive Media Design Laboratory
Nara Institute of Science and Technology
Japan*

Marc Ericson C. Santos

*Weathernews, Inc.
Japan*

Abstract. An augmented reality (AR) based motion graphing application for physics classes was developed, and the results of the initial evaluation from in-service teachers were presented. The subject of the evaluation was an improved version of our application [1] which addressed previous recommendations. Among these recommendations were: the use of arrows to identify targets, the use of Cartesian coordinate system, and previews of the displacement vs. time, velocity vs. time and acceleration vs. time graphs. A 10-item questionnaire was used for evaluation by in-service teachers (N = 29). The teacher-evaluators come from diverse educational backgrounds (rural and urban schools, 0 to 24 years in teaching, no e-learning model in school vs 1:1 student-to-tablet PC ratio, science vs non-science majors) which makes the initial evaluation a good baseline data. This ongoing research will present the lessons learned from the evaluation, including insights in developing AR applications for physics classes, and recommendations for teaching motion graphs utilizing AR.

Keywords: augmented reality, handheld devices, motion graphs, technology in the classroom

Reference:

[1] Collado, R., Santos, M.E.C. (2015). Design of a Handheld-based Motion Graphing Application for Physics Classes. In *Workshop Proceedings of the 23rd International Conference on Computers in Education*. Ogata et al. (eds.) China: Asia-Pacific Society for Computers in Education. pp. 1-10.