

Development of Virtual Reality-Based Learning Media for Machinery Maintenance and Repairs

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ABSTRACT

Virtual Reality (VR) is a computer simulation that visualizes images in a three-dimensional environment. The advantages of VR, among others, users can engage and enter the virtual world and become a real experience. Virtual Reality is proven effective in helping learning such as learning of organs in medicine, learning architectural spatial planning, therapy aids and so on. The aim of developing Virtual Reality in the field of machine maintenance and repair is to develop Virtual Reality applications for learning that are interesting and easy to understand and know the level of effectiveness as a learning medium.

The method applied to develop this application is the ADDIE method which generally has 5 stages including: Analysis, Design, Development, Implementation, and Evaluation

The results showed that virtual reality in the field of machine repair and maintenance was applied to 2 learning media tools, namely the compressor and the drilling machine. The compressor machine has 54 components and the drilling machine consists of 39 components, all of which are designed and drawn with the Inventor software. Assistive equipment used for image visualization and motion sensors for installation and dismantling processes using the Oculus Rift S. The results of the evaluation of virtual reality products by substance experts have an average score of 3.9, while media experts have an average score of 3.9, both with the very feasible category. Student response trials, get an overall average score of 3.1 with a feasible category. Based on the results of the assessment, it was stated that virtual reality products were in the feasible category for machine maintenance and repair learning.

Kata Kunci: *Virtual Reality, Learning Media, Machinery*