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USAGE OF VIRTUAL REALITY (VR) IN THE MALAYSIAN
CONSTRUCTION INDUSTRY: CONTRACTOR'S PERSPECTIVE

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ABSTRACT

Virtual Reality is a virtual environment in which a person is surrounded by a three-dimensional computer-generated representation and can move around the virtual environment and see it, reach it, reshape it from various angles to help contractors interpret drawings produced by civil engineers and architects. Unfortunately, only a few percentages of the contractor that use Virtual Reality in construction projects show that VR is not fully implemented in Malaysia. It is essential to know the uses and benefits of Virtual Reality in the industry of construction to improve the implementation of Virtual Reality in Malaysia's construction industry. This research aims to identify the advantages, explore the problems, and recommend solutions to overcome difficulties by implementing Virtual Reality (VR) in Malaysia. In achieving the aim of the study, the objectives of this research are identifying the advantages, exploring the problem and recommending the method to improve the implementation of Virtual Reality (VR) in Malaysia. The research methodology adopted in this study was quantitative method in the form of questionnaire survey. The respondents of this study are Grade 7 Contractors in Kuala Lumpur. The data collected through a questionnaire survey were analyzed using Statistical Package for the Social Sciences (SPSS) version 25.0. There were 273 sets of questionnaires distributed, and 72 of the questionnaires were collected from them. From the data analyzed, this research found that Virtual Reality has many advantages. Despite many benefits, some problems can hinder the implementation of Virtual Reality in Malaysia. Further study suggests the study on Virtual Reality in the construction industry which focuses on other construction parties.

Keywords: Virtual Reality, Construction Industry and Contractor

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CHAPTER 1: INTRODUCTION

1.1 BACKGROUND OF RESEARCH

Nowadays, Malaysia is experiencing tremendous growth in the construction industry due to the introduction of construction technology. Construction technology will increase and influence Malaysia's economic growth, especially in the construction industry, due to National Transformation 2050 (TN50), which is inspired by our ex-prime minister, Dato Seri Najib Bin Tun Abdul Razak. In terms of harnessing new technologies and revolutionary methods, the construction industry lags other sectors. Thus, the government can compromise improvements in health, cost efficiency, quality of life, competitiveness, and productivity by implementing new technology in the construction sector.

The construction industry in Malaysia is facing many challenges to increase its quality and generative. Rheingold (1991) described virtual reality as an environment in which a person is surrounded by a three-dimensional computer-generated representation and can travel around the virtual world and see it from various angles, reach it, catch reshape it. VR is a computer technology used to create a virtual environment. Unlike traditional user interfaces, VR places the world within the user. Users are immersed and able to interact with 3D worlds instead of having a screen in front of them.

According to Whyte & Bouchlaghem (1998), in the construction industry, Virtual Reality (VR) has been used for design applications, interactive simulation and as a tool to