ABSTRAK

KLASIFIKASI KELAYAKAN APLIKASI AUGMENTED REALITY INDUKSI KESELAMATAN DAN KESEHATAN KERJA

(Rachmat Aziz 2026 : 89 Halaman)

Penelitian ini dilatarbelakangi oleh kebutuhan media induksi Keselamatan dan Kesehatan Kerja (K3) yang lebih interaktif bagi personel Badan Penanggulangan Bencana Daerah (BPBD) Kota Prabumulih, karena media yang digunakan masih bersifat konvensional dan memiliki keterbatasan dalam memberikan visualisasi terhadap Alat Pelindung Diri (APD), Alat Pemadam Api Ringan (APAR), dan *Fire Blanket*. Penelitian ini bertujuan untuk merancang dan mengembangkan aplikasi Augmented Reality (AR) berbasis Android sebagai media induksi K3 serta mengetahui tingkat kelayakannya. Aplikasi dikembangkan menggunakan metode Multimedia Development Life Cycle (MDLC) dan menampilkan sembilan objek tiga dimensi yang direpresentasikan melalui tiga marker, yaitu APD, APAR, dan Fire Blanket. Pengujian aplikasi dilakukan menggunakan metode Black Box, validasi ahli, dan kuesioner terhadap 113 responden BPBD Kota Prabumulih. Hasil pengujian Black Box menunjukkan tingkat keberhasilan deteksi marker sebesar 100% pada parameter jarak dan 97,78% pada parameter sudut pandang. Hasil validasi ahli menunjukkan persentase kelayakan materi sebesar 91,66% dan kelayakan media sebesar 95%, yang keduanya termasuk dalam kategori sangat layak. Berdasarkan hasil kuesioner, sebanyak 102 dari 113 responden (90,27%) termasuk dalam kategori layak, sedangkan 11 responden (9,73%) termasuk dalam kategori tidak layak. Berdasarkan hasil pengujian kelayakan, aplikasi dinyatakan layak digunakan sebagai media pengenalan Keselamatan dan Kesehatan Kerja (K3) di bidang pemadam kebakaran.

Kata kunci : *Augmented Reality, Vuforia Engine*, Keselamatan dan Kesehatan Kerja, *Machine Learning*.

ABSTRACT

CLASSIFICATION OF THE FEASIBILITY OF AUGMENTED REALITY APPLICATIONS FOR OCCUPATIONAL SAFETY AND HEALTH

(Rachmat Aziz 2026 : 89 *Pages*)

This research was motivated by the need for a more interactive Occupational Safety and Health (OSH) induction medium for personnel of the Regional Disaster Management Agency (BPBD) of Prabumulih City, as the existing media are still conventional and have limitations in providing visualizations of Personal Protective Equipment (PPE), Light Fire Extinguisher (APAR), and Fire Blanket. This research aims to design and develop an Android-based Augmented Reality (AR) application as an OSH induction medium and to determine its feasibility. The application was developed using the Multimedia Development Life Cycle (MDLC) method and presents nine three-dimensional objects represented through three markers, namely PPE, APAR, and Fire Blanket. Application testing was conducted using the Black Box method, expert validation, and questionnaires involving 113 BPBD personnel in Prabumulih City. The Black Box testing results showed a marker detection success rate of 100% for the distance parameter and 97.78% for the viewing angle parameter. Expert validation results showed a material feasibility percentage of 91.66% and media feasibility of 95%, both of which were categorized as highly feasible. Based on the questionnaire results, 102 out of 113 respondents (90.27%) classified the application as feasible, while 11 respondents (9.73%) classified it as not feasible. Based on the feasibility testing results, the application is considered feasible for use as an Occupational Safety and Health (OSH) induction medium in the firefighting field.

Kata kunci : *Augmented Reality, Vuforia Engine, Occupational Health and Safety Induction, Machine Learning*,