

INTISARI

Penelitian ini berjudul "Perancangan Visualisasi 3D Dekorasi Pernikahan Berbasis Augmented Reality (Markerless Based) Menggunakan Blender dan Assemblr Studio (Studi Kasus: Petruk Dekorasi)". Penelitian bertujuan merancang model dekorasi pelaminan 3D *low-poly* menggunakan Blender, mengimplementasikan *Markerless Based Tracking* melalui fitur *World Tracking* pada Assemblr Studio agar objek terproyeksi stabil dan presisi di lokasi acara, serta menguji kelayakannya melalui *User Acceptance Testing* (UAT). Variabel dibatasi pada pemodelan objek 3D untuk empat tema (Tradisional, Modern Minimalis, Glamour, Lamaran) tanpa gate, serta penerapan AR markerless tanpa penanda fisik. Metode yang digunakan adalah *mixed methods* deskriptif mengacu kerangka *Multimedia Development Life Cycle* (MDLC), dengan analisis deskriptif kuantitatif atas kuesioner UAT berskala Likert dan analisis SWOT. Hasil penelitian menunjukkan pemodelan 3D *low-poly* berhasil menghasilkan aset dekorasi untuk keempat tema dengan ukuran ringan agar optimal di *smartphone*. Implementasi *Markerless Augmented Reality* pada Assemblr Studio berhasil menampilkan objek 3D di atas permukaan lantai tanpa marker, dengan deteksi dan kestabilan yang baik meski dipengaruhi pencahayaan dan tekstur lantai. UAT terhadap 15 responden memperoleh persentase kelayakan 89,20% berkategori Sangat Layak, dengan aspek Kepuasan dan Pengaruh Keputusan tertinggi (94,67%) dan Akurasi Skala/Ukuran terendah (84,00%). Media ini kemudian didistribusikan melalui situs web berisi katalog dekorasi dan tautan objek 3D AR. Disimpulkan bahwa visualisasi 3D dekorasi pernikahan berbasis Markerless Augmented Reality menggunakan Blender dan Assemblr Studio layak digunakan sebagai media konsultasi pranikah pada Petruk Dekorasi, karena mampu menampilkan gambaran dekorasi secara nyata di lokasi acara, meminimalkan kesenjangan persepsi antara katalog dan hasil akhir, serta membantu calon pelanggan menentukan pilihan dekorasi dengan lebih percaya diri.

Kata kunci: *Augmented Reality*, *Markerless*, Visualisasi 3D, Dekorasi Pernikahan, *Blender*, *Assemblr Studio*, *MDLC*, *User Acceptance Testing*.

ABSTRACT

This research, titled “Design of 3D Wedding Decoration Visualization Based on Augmented Reality (Markerless Based) Using Blender and Assemblr Studio (Case Study: Petruk Dekorasi),” aims to design low-poly 3D wedding stage decoration models using Blender, to implement Markerless Based Tracking through the World Tracking feature in Assemblr Studio so that objects are projected stably and precisely at the event venue, and to evaluate its feasibility through User Acceptance Testing (UAT). The variables are limited to 3D object modeling for four themes (Traditional, Modern Minimalist, Glamour, and Engagement) excluding gates, and to the application of markerless AR without physical markers. The method used is descriptive mixed methods based on the Multimedia Development Life Cycle (MDLC) framework, with descriptive quantitative analysis of a Likert-scale UAT questionnaire and SWOT analysis. The results show that low-poly 3D modeling successfully produced decoration assets for all four themes with lightweight file sizes optimized for smartphones. The implementation of Markerless Augmented Reality in Assemblr Studio successfully displayed 3D objects on the floor surface without markers, with good detection and stability, although influenced by lighting and floor texture. UAT with 15 respondents yielded a feasibility percentage of 89.20%, categorized as Highly Feasible, with the Satisfaction and Decision Influence aspects scoring highest (94.67%) and the Scale/Size Accuracy aspect scoring lowest (84.00%). The medium was then distributed through a website containing a decoration catalog and 3D AR object links. It is concluded that 3D wedding decoration visualization based on Markerless Augmented Reality using Blender and Assemblr Studio is feasible to be used as a premarital consultation medium at Petruk Dekorasi, because it can display a realistic picture of the decoration at the event venue, minimize the perception gap between the catalog and the final result, and help prospective customers make decoration choices with greater confidence.

Keyword: Augmented Reality, Markerless, 3D Visualization, Wedding Decoration, Blender, Assemblr Studio, MDLC, User Acceptance Testing.