

ABSTRAK
IMPLEMENTASI *AUGMENTED REALITY* MARKERLESS
BERBASIS ANDROID UNTUK MATERI KERJA SAMA DUNIA
(STUDI KASUS SMP NEGERI 8 PRABUMULIH)

(Alika Haryani 2025: 101 halaman)

Penelitian ini bertujuan untuk mengimplementasikan media pembelajaran *Augmented Reality* (AR) *markerless* berbasis Android untuk materi Kerja Sama Dunia di kelas IX SMP Negeri 8 Prabumulih. Aplikasi yang dikembangkan bernama *Konektar*, menggunakan metode *Multimedia Development Life Cycle* (MDLC) dan diuji melalui *Black Box Testing*, validasi ahli materi, pengujian performa *Augmented Reality* dengan metode *User Defined Target* (UDT), pengukuran efektivitas pembelajaran menggunakan *N-Gain Score*, serta tingkat *usability* dengan metode *System Usability Scale* (SUS). Hasil menunjukkan seluruh fitur berfungsi dengan baik, validasi ahli menyatakan aplikasi sangat layak digunakan, dan performa optimal terjadi pada permukaan bermotif dengan jarak minimal 50 cm serta pencahayaan minimal 100 lux. Peningkatan skor *pre-test* ke *post-test* menghasilkan nilai *N-Gain* sebesar 0,69 (kategori sedang), dan skor SUS sebesar 78,33 menunjukkan bahwa aplikasi tergolong baik. Dengan demikian, *Konektar* terbukti efektif dan layak digunakan sebagai media pembelajaran berbasis *Augmented Reality*.

Kata kunci: *Augmented Reality markerless*, Media Pembelajaran, IPS, *Black Box*, *User Defined Target*, *N-Gain Score*, *System Usability Scale*

ABSTRACT
IMPLEMENTATION OF MARKERLESS AUGMENTED REALITY
ON ANDROID FOR GLOBAL COOPERATION MATERIAL
(CASE STUDY AT SMP NEGERI 8 PRABUMULIH)

(Alika Haryani 2025: 101 pages)

This study aims to implement a markerless Augmented Reality (AR)-based learning media for the topic of Global Cooperation in Grade IX at SMP Negeri 8 Prabumulih. The developed application, named Konektar, was built using the Multimedia Development Life Cycle (MDLC) method and evaluated through Black Box Testing, expert validation, AR performance testing using the User Defined Target (UDT) method, effectiveness measurement using the N-Gain Score, and usability assessment through the System Usability Scale (SUS) method. The results showed that all features functioned properly, expert validation concluded the application is highly feasible for use, and optimal AR performance was achieved on textured surfaces at a minimum distance of 50 cm and a minimum lighting intensity of 100 lux. The improvement in students' understanding is reflected by an N-Gain score of 0.69 (moderate category), while the SUS score of 78.33 indicates that the application has good usability. Therefore, Konektar is proven to be effective and suitable as an AR-based educational media.

Keywords: *Markerless Augmented Reality, learning media, social studies, Black Box, User Defined Target, N-Gain Score, System Usability Scale*