

ABSTRAK

Perkembangan industri *game* dan *esports* mendorong kebutuhan media interaktif yang mampu menyajikan informasi karakter secara lebih menarik daripada media dua dimensi. Penelitian ini bertujuan merancang dan membangun aplikasi *Augmented Reality* berbasis Android sebagai media visualisasi interaktif karakter *game* bergenre *Multiplayer Online Battle Arena* bagi E-Sport Arena Community. Pengembangan aplikasi menggunakan metode *Multimedia Development Life Cycle* yang meliputi tahap *concept*, *design*, *material collecting*, *assembly*, *testing*, dan *distribution*. Unity Engine digunakan sebagai perangkat pengembangan utama, sedangkan Vuforia Engine digunakan untuk menerapkan *marker-based tracking*. Enam *AR Card* digunakan untuk menampilkan karakter Akai, Angela, Granger, Layla, Tigreal, dan Zhuxin dalam bentuk model tiga dimensi, animasi, serta panel informasi yang memuat nama karakter, role, statistik, spesialisasi, dan deskripsi. Hasil pengujian menunjukkan bahwa seluruh fungsi utama aplikasi berjalan sesuai hasil yang diharapkan. Keenam *AR Card* berhasil menampilkan model dan informasi yang sesuai. Pada pengujian *AR Card* Akai, *marker* terdeteksi pada jarak 10–50 cm dan sudut 0°, 30°, 45°, serta 60°. *Marker* juga terdeteksi pada pencahayaan terang dan normal, sedangkan pada kondisi gelap memerlukan sedikit cahaya agar dapat dikenali. Berdasarkan hasil tersebut, aplikasi MOBA AR dapat digunakan sebagai media interaktif untuk visualisasi karakter bergaya MOBA.

Kata Kunci: *Augmented Reality*, *AR Card*, *Marker-based Tracking*, MOBA, Unity Engine.

ABSTRACT

The growth of the gaming and esports industries has increased the need for interactive media that can present character information more engagingly than static two-dimensional media. This study aims to design and develop an Android-based Augmented Reality application as an interactive visualization medium for Multiplayer Online Battle Arena game characters for the E-Sport Arena Community. The application was developed using the Multimedia Development Life Cycle method, consisting of concept, design, material collecting, assembly, testing, and distribution. Unity Engine was used as the main development environment, while Vuforia Engine was used to implement marker-based tracking. Six AR Cards were used to display Akai, Angela, Granger, Layla, Tigreal, and Zhuxin as three-dimensional character models with animations and information panels containing the character name, role, statistics, specialization, and description. The testing results showed that all main application functions operated as expected. All six AR Cards displayed the correct models and information. In tests using the Akai AR Card, the marker was detected at distances of 10–50 cm and viewing angles of 0°, 30°, 45°, and 60°. The marker was also detected under bright and normal lighting conditions, while dark conditions required a small amount of light for recognition. These results indicate that the MOBA AR application can be used as an interactive medium for visualizing MOBA-style characters.

Keywords: Augmented Reality, AR Card, Marker-based Tracking, MOBA, Unity Engine