

PENGEMBANGAN MEDIA PEMBELAJARAN PERAKITAN KOMPUTER BERBASIS AUGMENTED REALITY DI SMK NEGERI 7 YOGYAKARTA

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ABSTRAK

Tujuan penelitian adalah: (1) membangun media pembelajaran perakitan komputer berbasis augmented reality pada platform android, (2) mengetahui kelayakan produk media pembelajaran yang dikembangkan berdasar aspek *functional suitability*, *performance efficiency*, *usability*, dan *compatibility* pada ISO 25010.

Metode penelitian yang digunakan adalah model *waterfall*. Tahap-tahap dalam penelitian ini meliputi: (1) komunikasi, (2) perencanaan, (3) pemodelan, (4) konstruksi, (5) distribusi. Dalam penelitian ini teknik pengumpulan data berupa observasi, wawancara, dan kuesioner yang divalidasi oleh dua ahli instrumen, dua ahli materi, dan dua ahli media pembelajaran. Subjek penelitian ini adalah 30 siswa kelas X Multimedia SMK Negeri 7 Yogyakarta.

Hasil penelitian ini diketahui bahwa: (1) media pembelajaran perakitan komputer dengan teknologi *Augmented Reality* dan Unity 3D sebagai *tool* pengembangannya, proses pengembangan menggunakan metode *waterfall* dengan 5 tahapan yaitu komunikasi, perencanaan, pemodelan, konstruksi, dan distribusi, (2) hasil uji materi memperoleh nilai 97,06% dan dinyatakan dalam kategori sangat layak, hasil pengujian aspek *functional suitability* memperoleh nilai 93,33% dan dinyatakan ke dalam kategori sangat layak, hasil pengujian aspek *performance efficiency* dengan TestDroid menunjukkan bahwa performa aplikasi dinyatakan baik. Hasil pengujian *compatibility* menunjukkan tidak ada kegagalan dalam perangkat yang dipakai dan dinyatakan dalam kategori sangat baik, hasil pengujian aspek *usability* memperoleh nilai 78.89% dan dinyatakan dalam kategori baik.

Kata kunci: media pembelajaran, perakitan komputer, augmented reality, ISO 25010.

DEVELOPING OF COMPUTER ASSEMBLY LEARNING MEDIA BASED ON AUGMENTED REALITY AT YOGYAKARTA 7 VOCATIONAL HIGH SCHOOL

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ABSTRACT

The research aims to: (1) build computer assembly learning media based on augmented reality on the android platform, (2) find out the feasibility of learning media products developed based on functional aspects of suitability, performance efficiency, usability, and compatibility at ISO 25010.

The research method used is the waterfall model. The stages in this study include: (1) communication, (2) planning, (3) modeling, (4) construction, (5) distribution. In this study data collection techniques in the form of observations, interviews, and questionnaires were validated by two instrument experts, two material experts, and two learning media experts. The subjects of this study were 30 students of X grade Multimedia at Yogyakarta 7 Vocational High School.

The results of this study are that: (1) computer assembly learning media with Augmented Reality and Unity 3D technology as a development tool, the development process uses the waterfall method with 5 stages, namely communication, planning, modeling, construction, and distribution, (2) material test results obtained a value of 97.06% and was stated in the category of very feasible, the results of testing the functional aspects of suitability obtained a value of 93.33% and stated in a very feasible category, the results of testing aspects of performance efficiency with TestDroid showed that the application performance was declared good. The compatibility test results show that there are no failures in the device used and and stated in a very good category, the results of testing usability aspects score 78.89% and are expressed in the good category.

Keywords: learning media, computer assembly, augmented reality, ISO 25010.