

**PENGEMBANGAN WEB-BASED ONLINE EXHIBITION DENGAN
MENERAPKAN VIRTUAL & AUGMENTED REALITY STUDI KASUS
CV. BELLO DESAIN**

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ABSTRAK

Web-based online exhibition pada industri arsitektur hadir sebagai solusi dan peran pelengkap dalam memamerkan produk yang efektif dan efisien perihal waktu, tempat dan biaya untuk dapat memberikan informasi, pemahaman dan pengalaman pengunjung yang lebih imersif terhadap 3D pemodelan arsitektur yang dipamerkan dengan menyediakan sumber daya tambahan berupa pemanfaatan teknologi *Virtual & Augmented Reality*. Penelitian dan pengembangan ini bertujuan untuk mengetahui perancangan dan implementasi serta respon pengguna dalam pengembangan *web-based online exhibition* dengan menerapkan *Virtual & Augmented Reality*.

Metode penelitian yang digunakan adalah *Research & Development* dengan model MDLC (*Multimedia Development Life Cycle*) yang terdiri dari tahap *concept, desain, material collecting, assembly, testing* dan *distribution*. Pengembangan *online exhibition* ini menggunakan *platform Mozilla Hubs* pada *Virtual Reality* dan *Library AR.js Jeromeetienne* pada pengembangan *Augmented Reality* serta *Framework Laravel* dan *Express.js* digunakan dalam proses pengembangan *website*.

Proses pengumpulan data diawali dengan tahapan *preliminary research open-close questionnaire* mengenai pengetahuan dan pengalaman masyarakat terhadap *Virtual & Augmented Reality*. Pada tahapan testing dilakukan *Blackbox testing* serta beberapa pengujian lainnya dan mendapatkan nilai Uji Ahli Isi: 84.21%, Uji Ahli Media: 98.42%, Uji Lapangan dengan menggunakan instrumen UEQ (*User Experience Questionnaire*) diberikan kepada responden *purposive sampling* yang telah sesuai dengan kriteria subjek penelitian mendapatkan hasil “*excellent*” pada 6 Kategori diantaranya yakni daya tarik: 2.35, kejelasan: 2.075, efisiensi: 2.188, ketepatan: 2.044, stimulasi: 2.431, dan kebaruan: 2.244. Secara keseluruhan pengembangan *web-based online exhibition* ini layak digunakan sebagai pameran online dan dapat disebarakan ke khalayak masyarakat sasaran.

Kata kunci: *Online Exhibition, Virtual Reality, Augmented Reality, Mozilla Hubs, Library AR.js, MDLC, UEQ*

**DEVELOPMENT OF WEB-BASED ONLINE EXHIBITION BY APPLYING
VIRTUAL & AUGMENTED REALITY CASE STUDY CV. BELLO DESAIN**

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ABSTRACT

Web-based online exhibitions for the architecture industry exist as a solution and a complementary role in exhibiting products that are effective and efficient in terms of time, place, and cost to be able to provide information, understanding, and a more immersive visitor experience of the 3D architectural modeling on display by providing additional resources in the form of using Virtual & Augmented Reality technology.

This research and development aim to determine the design, implementation, and user response in developing web-based online exhibitions by implementing Virtual & Augmented Reality. The research method used is Research & Development with the MDLC (Multimedia Development Life Cycle) model which consists of the concept, design, material collecting, assembly, testing, and distribution stages. The development of this online exhibition uses the Mozilla Hubs platform for Virtual Reality and the Jeromeetienne AR.js Library for Augmented Reality development and the Laravel and Express.js Frameworks are used in the website development process. The data collection process begins with a preliminary research open-close questionnaire regarding the knowledge and experience of the community towards Virtual & Augmented Reality.

At the testing stage, Black box testing was carried out as well as several other tests and obtained a Content Expert Test score: of 84.21%, a Media Expert Test: of 98.42%, a Field Test using the UEQ (User Experience Questionnaire) instrument was given to purposive sampling respondents who were in accordance with the criteria of research subjects get "excellent" results in 6 categories including attractiveness: 2.35, perspicuity: 2.075, efficiency: 2.188, dependability: 2.044, stimulation: 2.431, and novelty: 2.244. Overall, the development of a web-based online exhibition is appropriate for use as an online exhibition and can be disseminated to the target audience.

Keyword: *Online Exhibition, Virtual Reality, Augmented Reality, Mozilla Hubs, Library AR.js, MDLC, UEQ*