

DAFTAR PUSTAKA

- [1] H. Nashir, *Muhammadiyah a Reform Movement*. Surakarta: Muhammadiyah University Press, 2015.
- [2] Nurlaila Al Aydrus, Nirmala, Adhriansyah A.Lasawali, and Abdul Rahman, “Peran Muhammadiyah dalam Upaya Pengembangan Pendidikan Islam di Indonesia,” *iqra: Jurnal ilmu kependidikan dan keislaman*, vol. 17, no. 1, pp. 17–25, Jan. 2022, doi: 10.56338/iqra.v17i1.2174.
- [3] Majelis Dikdasmen PP Muhammadiyah, “Dapodikmu Jumlah Sekolah.” Accessed: Jul. 06, 2024. [Online]. Available: <https://dikdasmenppmuhammadiyah.org/dapodikmu-jumlah-sekolah/>
- [4] F. D. B. S. Putra, R. Umar, and S. Sunardi, “Visualisasi Museum Muhammadiyah Menggunakan Teknologi Augmented Reality,” *JUST IT : Jurnal Sistem Informasi, Teknologi Informasi dan Komputer*, vol. 11, no. 1, p. 81, Oct. 2020, doi: 10.24853/justit.11.1.81-89.
- [5] R. Mirza *et al.*, “Clustering potential metaverse users with the use of a value-based framework: Exploiting perceptions and attitudes on the use and adoption of metaverse for bold propositions,” *Telematics and Informatics*, vol. 87, p. 102074, Mar. 2024, doi: 10.1016/j.tele.2023.102074.
- [6] M. Shehade and T. Stylianou-Lambert, “Virtual Reality in Museums: Exploring the Experiences of Museum Professionals,” *Applied Sciences*, vol. 10, no. 11, p. 4031, Jun. 2020, doi: 10.3390/app10114031.

- [7] A. Marougkas, C. Troussas, A. Krouska, and C. Sgouropoulou, "Virtual Reality in Education: A Review of Learning Theories, Approaches and Methodologies for the Last Decade," *Electronics (Basel)*, vol. 12, no. 13, p. 2832, Jun. 2023, doi: 10.3390/electronics12132832.
- [8] H. Lee, T. H. Jung, M. C. tom Dieck, and N. Chung, "Experiencing immersive virtual reality in museums," *Information & Management*, vol. 57, no. 5, p. 103229, Jul. 2020, doi: 10.1016/j.im.2019.103229.
- [9] B. R. S. Permana, S. Auliana, and A. J. Rosid, "PEMBANGUNAN VIRTUAL MUSEUM BERBASIS VIRTUAL REALITY PADA UPTD TAMAN BUDAYA MUSEUM NEGERI BANTEN," *National Conference on Applied Business, Education, & Technology (NCABET)*, vol. 3, no. 1, pp. 467–475, Mar. 2024, doi: 10.46306/ncabet.v3i1.141.
- [10] M. B. Setiawan and M. Suryawinata, "Implementasi Virtual Reality pada Museum De Javasche Berbasis Android," *EXPLORER: Journal of Computer Science and Information Technology*, vol. 1, no. 1, pp. 21–27, Jan. 2021.
- [11] Z. A. Ahmed, F. Qaed, and N. Almurbati, "Enhancing Museums' Sustainability Through Digitalization," in *2020 Second International Sustainability and Resilience Conference: Technology and Innovation in Building Designs(51154)*, IEEE, Nov. 2020, pp. 1–4. doi: 10.1109/IEEECONF51154.2020.9319977.
- [12] A. Solechan and Toni Wijanarko Adi Putra, "Literatur Review : Peluang dan Tantangan Metaverse," *Informatika: Jurnal Teknik Informatika dan Multimedia*, vol. 2, no. 1, pp. 62–70, May 2022, doi: 10.51903/informatika.v2i1.149.

- [13] D. A. Loaiza Carvajal, M. M. Morita, and G. M. Bilmes, “Virtual museums. Captured reality and 3D modeling,” *J Cult Herit*, vol. 45, pp. 234–239, Sep. 2020, doi: 10.1016/j.culher.2020.04.013.
- [14] Z. Chen, W. Gan, J. Wu, H. Lin, and C.-M. Chen, “Metaverse for smart cities: A survey,” *Internet of Things and Cyber-Physical Systems*, vol. 4, pp. 203–216, 2024, doi: 10.1016/j.iotcps.2023.12.002.
- [15] H. Wang *et al.*, “A Survey on the Metaverse: The State-of-the-Art, Technologies, Applications, and Challenges,” *IEEE Internet Things J*, vol. 10, no. 16, pp. 14671–14688, Aug. 2023, doi: 10.1109/JIOT.2023.3278329.
- [16] G.-J. Hwang and S.-Y. Chien, “Definition, roles, and potential research issues of the metaverse in education: An artificial intelligence perspective,” *Computers and Education: Artificial Intelligence*, vol. 3, p. 100082, 2022, doi: 10.1016/j.caeari.2022.100082.
- [17] D. Y. Kim, H. K. Lee, and K. Chung, “Avatar-mediated experience in the metaverse: The impact of avatar realism on user-avatar relationship,” *Journal of Retailing and Consumer Services*, vol. 73, p. 103382, Jul. 2023, doi: 10.1016/j.jretconser.2023.103382.
- [18] E. Choi and Y. Lee, “A Study on the Planning of Minhwa Museum Utilizing the Metaverse Platform: Focusing on Zepeto Case,” *Journal of Korea Game Society*, vol. 21, no. 6, pp. 63–74, Dec. 2021, doi: 10.7583/JKGS.2021.21.6.63.
- [19] H.-K. Lee, S. Park, and Y. Lee, “A proposal of virtual museum metaverse content for the MZ generation,” *Digital Creativity*, vol. 33, no. 2, pp. 79–95, Apr. 2022, doi: 10.1080/14626268.2022.2063903.

- [20] "Spatial.io: An Overview," Blaze Group. Accessed: Dec. 18, 2024. [Online]. Available: <https://www.blazegroup.io/post/spatial-io-an-overview>
- [21] A. R. Dikananda, O. Nurdianwan, and H. Subandi, "Augmented Reality Dalam Mendeteksi Produk Rotan Menggunakan Metode Multimedia Development Life Cycle (MDLC)," *MEANS (Media Informasi Analisa dan Sistem)*, pp. 135–141, Jan. 2022, doi: 10.54367/means.v6i2.1512.
- [22] R. Arpiansah, Y. Fernando, and J. Fakhrurozi, "Game Edukasi VR Pengenalan dan Pencegahan Virus Covid-19 Menggunakan Metode MDLC Untuk Anak Usia Dini," vol. 2, no. 2, pp. 88–93, 2021.
- [23] B. Effendi, "Metode Multimedia Development Life Cycle (MDLC) dalam Membangun Aplikasi Edukasi Covid-19 Berbasis Android," *Teknematika*, vol. 10, no. 2, pp. 193–200, 2020.
- [24] M. Fauzan Febriansyah and Y. Sumaryana, "Pengembangan Aplikasi Media Pembelajaran Sekolah Dasar Menggunakan Metode Multimedia Development Life Cycle (MDLC)," *Informatics and Digital Expert (INDEX)*, vol. 3, no. 2, pp. 61–68, Nov. 2021, doi: 10.36423/index.v3i2.838.
- [25] B. Arifitama, "Pengembangan Metaverse Dengan Metode Polcar Untuk Promosi Prodi Teknik Informatika Universitas Trilogi," *Journal of SAINTEKS*, vol. 1, no. 11, pp. 684–691, Nov. 2023, Accessed: Dec. 01, 2024. [Online]. Available: <https://seminars.id/prosiding/prosainteks/article/view/52>
- [26] M. Minarni, E. T. Kirana, and J. P. Risma, "Pengembangan Website Interaktif untuk Meningkatkan Pengalaman Virtual di Metaverse Betang Tumbang Gagu," *Jurnal*

Teknologi Informatika dan Komputer, vol. 9, no. 2, pp. 936–950, Sep. 2023, doi:

10.37012/jtik.v9i2.1781.

- [27] R. H. Alinata and M. Marsudi, “Pemanfaatan Roblox sebagai Media Promosi Sekolah Metaverse SMP Negeri 3 Sumenep,” *MALCOM: Indonesian Journal of Machine Learning and Computer Science*, vol. 4, no. 1, pp. 57–70, Dec. 2023, doi: 10.57152/malcom.v4i1.1011.
- [28] A. Salsabila, K. Agustina, and A. E. Febriani, “Pengembangan Perpustakaan Digital untuk Membangun Diskusi yang Aktif dalam Metaverse,” *LibTech: Library and Information Science Journal*, vol. 4, no. 1, pp. 45–53, Jun. 2023, doi: 10.18860/libtech.v4i1.21902.
- [29] A. Maulana, V. Rosalina, and E. Safaah, “IMPLEMENTASI TEKNOLOGI VIRTUAL TOUR PERPUSTAKAAN MENGGUNAKAN METODE PENGEMBANGAN MULTIMEDIA DEVELOPMENT LIFE CYCLE (MDLC),” *JSil (Jurnal Sistem Informasi)*, vol. 7, no. 1, p. 1, Mar. 2020, doi: 10.30656/jsii.v7i1.1875.
- [30] S. Mulyani, B. Rama, and S. Syamsuddin, “Persyarikatan Muhammadiyah: Sejarah, Tokoh dan Gerakan Pembaharuan di Bidang Keagamaan, Kemasyarakatan dan Pendidikan,” *Al Urwatal Wutsqa: Kajian Pendidikan Islam*, vol. 4, no. 1, pp. 9–31, Jun. 2024.
- [31] Muhammadiyah, “Sejarah Singkat Muhammadiyah,” Muhammadiyah. Accessed: Jul. 14, 2024. [Online]. Available: <https://muhammadiyah.or.id/sejarah-singkat-muhammadiyah/>
- [32] “Museum Muhammadiyah di UAD Resmi Dibuka,” News UAD. Accessed: Jul. 14, 2024. [Online]. Available: <https://news.uad.ac.id/museum-muhammadiyah-di-uad-resmi-dibuka/>

- [33] A. Afandi, "Museum Muhammadiyah Bukan Sekadar Tempat Wisata Melainkan Sebagai Tempat Menjaga Memori Kesejarahan," Muhammadiyah. Accessed: Jul. 14, 2024. [Online]. Available: <https://muhammadiyah.or.id/2022/11/museum-muhammadiyah-bukan-sekadar-tempat-wisata-melainkan-sebagai-tempat-menjaga-memori-kesejarahan/>
- [34] F. Besoain, J. González-Ortega, and I. Gallardo, "An Evaluation of the Effects of a Virtual Museum on Users' Attitudes towards Cultural Heritage," *Applied Sciences*, vol. 12, no. 3, p. 1341, Jan. 2022, doi: 10.3390/app12031341.
- [35] J. E. M. Díaz, C. A. D. Saldaña, and C. A. R. Ávila, "Virtual World as a Resource for Hybrid Education," *International Journal of Emerging Technologies in Learning (iJET)*, vol. 15, no. 15, pp. 94–109, Aug. 2020, doi: 10.3991/ijet.v15i15.13025.
- [36] D. Ambarwati, "URGENSI PEMBAHARUAN HUKUM DI ERA 'METAVERSE' DALAM PERSPEKTIF HUKUM PROGRESIF," *DIALEKTIKA: Jurnal Ekonomi dan Ilmu Sosial*, vol. 7, no. 2, pp. 151–167, Sep. 2022, doi: 10.36636/dialektika.v7i2.1306.
- [37] A. Kurniawan, "Menilik Potensi Metaverse di Indonesia, Masa Depan Ekonomi Digital," SINDONEWS. Accessed: Jul. 14, 2024. [Online]. Available: <https://ekbis.sindonews.com/read/694801/34/menilik-potensi-metaverse-di-indonesia-masa-depan-ekonomi-digital-1645621350>
- [38] D. T. K. Ng, "What is the metaverse? Definitions, technologies and the community of inquiry," *Australasian Journal of Educational Technology*, vol. 38, no. 4, pp. 190–205, Nov. 2022, doi: 10.14742/ajet.7945.
- [39] J. López Díez, "Metaverso: Año Uno. La presentación en vídeo sobre Meta de Mark Zuckerberg (octubre 2021) en el contexto de los estudios previos y prospectivos sobre

- metaversos," *Pensar la Publicidad. Revista Internacional de Investigaciones Publicitarias*, vol. 15, no. 2, pp. 299–303, Dec. 2021, doi: 10.5209/pepu.79224.
- [40] J. Slick, "What is 3D Modeling?," Lifewire. Accessed: Jul. 14, 2024. [Online]. Available: <https://www.lifewire.com/what-is-3d-modeling-2164>
- [41] I. Tytarenko, I. Pavlenko, and I. Dreval, "3D Modeling of a Virtual Built Environment Using Digital Tools: Kilburun Fortress Case Study," *Applied Sciences*, vol. 13, no. 3, p. 1577, Jan. 2023, doi: 10.3390/app13031577.
- [42] Y. M. Tang and H. L. Ho, "3D Modeling and Computer Graphics in Virtual Reality," in *Mixed Reality and three-Dimensional Computer Graphics*, B. Sobota and D. Cvetkovic, Eds., IntechOpen, 2020, ch. 5.
- [43] S. Purwanti, R. Astuti, J. Jaja, and R. Rakhmayudhi, "Application of the Multimedia Development Life Cycle (MDLC) Methodology to Build a Multimedia-Based Learning System," vol. 5, no. 1, pp. 2498–2506, 2022, Accessed: Dec. 31, 2024. [Online]. Available: <https://bircu-journal.com/index.php/birci/article/view/3856>
- [44] R. Roedavan, B. Pudjoatmodjo, and A. P. Sujana, "MULTIMEDIA DEVELOPMENT LIFE CYCLE (MDLC)," 2022, doi: 10.13140/RG.2.2.16273.92006.
- [45] M. Ikhsan, B. Ramadhani Fajri, D. Faiza, and V. Irma Delianti, "Rancang Bangun 3D Virtual Classroom Pada Mata Kuliah Komponen Elektronika di Departemen Teknik Elektronika," *Jurnal Pendidikan Tambusai*, vol. 7, no. 3, pp. 23919–23928, Oct. 2023, doi: 10.31004/jptam.v7i3.10405.
- [46] M. Fajar *et al.*, "The Metaverse to Enhance Safety Campaign toward Shipping Industry (Case Study: The Development and Implementation of Metaverse in Government-

- Owned Corporation)," *International Journal of Emerging Technology and Advanced Engineering*, vol. 12, no. 8, pp. 1–11, Aug. 2022, doi: 10.46338/ijetae0822_01.
- [47] S. Singh and A. Kaur, "Game Development using Unity Game Engine," in *2022 3rd International Conference on Computing, Analytics and Networks (ICAN)*, IEEE, Nov. 2022, pp. 1–6. doi: 10.1109/ICAN56228.2022.10007155.
- [48] N. M. D. Febriyanti, A. A. K. Oka Sudana, and I. N. Piarsa, "Implementasi Black Box Testing pada Sistem Informasi Manajemen Dosen," *JITTER : Jurnal Ilmiah Teknologi dan Komputer*, vol. 2, no. 3, p. 535, Nov. 2021, doi: 10.24843/JTRTI.2021.v02.i03.p12.
- [49] G. W. Intyanto, N. A. Ranggianto, and V. Octaviani, "Pengukuran Usability pada Website Kampus Akademi Komunitas Negeri Pacitan Menggunakan System Usability Scale (SUS)," *Walisongo Journal of Information Technology*, vol. 3, no. 2, pp. 59–68, Dec. 2021, doi: 10.21580/wjit.2021.3.2.9549.
- [50] V. Y. P. Ardhana, "Pengujian Usability Aplikasi Halodoc Menggunakan Metode System Usability Scale (SUS)," *JKQH (Jurnal Kesehatan Qamarul Huda)*, vol. 9, no. 2, pp. 132–136, Dec. 2021, Accessed: Dec. 31, 2024. [Online]. Available: <https://www.jkqh.uniqhba.ac.id/index.php/kesehatan/article/view/311>
- [51] M. Oktavia, A. Teja Prasasty, and I. Isroyati, "Uji Normalitas Gain untuk Pemantapan dan Modul dengan One Group Pre and Post Test," *Simpodium Nasional dan Call for Paper Unindra*, vol. 1, no. 1, pp. 596–601, 2019, doi: 10.30998/simponi.v0i0.439.