

Bibliografi

- [1] I. Akil. Optimasi modularitas dengan *Hierarchy Model View Controller* (HMVC) pada *Framework Code Igniter*. *Jurnal Teknik Komputer*, 4(2):78–83, 2018. doi: 10.37012/JTIK.V4I2.267. URL <https://doi.org/10.37012/JTIK.V4I2.267>.
- [2] B. W. Boehm. A spiral model of software development and enhancement. *Computer*, 21(5):61–72, 1988. doi: 10.1109/2.59. URL <https://doi.org/10.1109/2.59>.
- [3] N. Cahyono and Kamarudin. Perbandingan GTmetrix, lighthouse, pingdom dan PageSpeed Insight dalam evaluasi performa website. *Jurnal Ilmiah Media Sisfo*, 18(2):201–210, 2024. doi: 10.33998/mediasisfo.2024.18.2.1901. URL <https://doi.org/10.33998/mediasisfo.2024.18.2.1901>.
- [4] M. A. Faizin, M. Nevin, and U. L. Yuhana. Indonesia e-government website performance and accessibility evaluation using automated tool lighthouse. In *2024 2nd International Conference on Software Engineering and Information Technology (ICoSEIT)*, pages 210–215, 2024. doi: 10.1109/ICoSEIT60086.2024.10497521. URL <https://doi.org/10.1109/ICoSEIT60086.2024.10497521>.
- [5] S. Gangishetti and V. Jain. Comparative analysis of client-side vs. server-side rendering for large-scale content platforms. *International Journal of AI, BigData, Computational and Management Studies (IJAIBDCMS)*, 7(1):74–80, 2026. doi: 10.63282/3050-9416.IJAIBDCMS-V7I1P112. URL <https://doi.org/10.63282/3050-9416.IJAIBDCMS-V7I1P112>.
- [6] Google. Web vitals. [Online]. Available: <https://web.dev/vitals/>, 2023. [Accessed: May 5, 2026].
- [7] Google Developers. Lighthouse performance scoring. [Online]. Available: <https://developer.chrome.com/docs/lighthouse/performance/performance-scoring>, 2023. [Accessed: May 5, 2026].
- [8] Google Developers. Pagespeed insights documentation. [Online]. Available: <https://developers.google.com/speed/pagespeed/insights>, 2024. [Accessed: June 1, 2026].

- [9] I. Grigorik. *High Performance Browser Networking*. O'Reilly Media, Sebastopol, CA, USA, 2013. ISBN 9781449344764.
- [10] T. Heričko, B. Šumak, and S. Brdник. Towards representative web performance measurements with Google Lighthouse. In *Proceedings of the 7th Student Computer Science Research Conference*, pages 1–8, 2021. doi: 10.18690/978-961-286-516-0. URL <https://doi.org/10.18690/978-961-286-516-0>.
- [11] A. R. Hevner, S. T. March, J. Park, and S. Ram. Design science in information systems research. *MIS Quarterly*, 28(1):75–105, 2004. doi: 10.2307/25148625. URL <https://doi.org/10.2307/25148625>.
- [12] F. A. Husaini and Nurkhamid. Optimalisasi website SD muhammadiyah karangkajen yogyakarta dengan framework gatsby: Analisis perbandingan kualitas dengan indikator lighthouse. *Journal of Information Engineering and Technology*, 2(2):75–82, 2024. doi: 10.21831/jiety.v2i2.266. URL <https://doi.org/10.21831/jiety.v2i2.266>.
- [13] ISO. *ISO/IEC 25010:2023 — Systems and Software Engineering: Systems and Software Quality Requirements and Evaluation (SQuaRE) — Product Quality Model*. International Organization for Standardization, 2023.
- [14] Kementerian Pendayagunaan Aparatur Negara dan Reformasi Birokrasi Republik Indonesia. Peraturan menteri panrb nomor 59 tahun 2020 tentang peman-tauan dan evaluasi sistem pemerintahan berbasis elektronik. [Online]. Availa-ble: <https://peraturan.bpk.go.id/Details/170513/permen-pan-rb-no-59-tahun-2020>, 2020. [Accessed: June 22, 2026].
- [15] Kementerian Pendidikan dan Kebudayaan Republik Indonesia. Pera-turan menteri pendidikan dan kebudayaan republik indonesia nomor 14 tahun 2014 tentang kerja sama perguruan tinggi. [Online]. Availa-ble: <https://peraturan.bpk.go.id/Details/163698/permendikbud-no-14-tahun-2014>, 2014. [Accessed: June 4, 2026].
- [16] Kementerian Pendidikan Tinggi, Sains, dan Teknologi. Website laporkerma ke-mendikti. [Online]. Available: <https://laporankerma.kemdiktisaintek.go.id/>, 2026. [Accessed: May 5, 2026].
- [17] Laravel. Release notes — laravel 12.x. [Online]. Available: <https://laravel.com/docs/12.x/releases>, 2025. [Accessed: June 22, 2026].
- [18] R. Marx et al. Web performance characteristics of HTTP/2 and comparison to HTTP/1.1. *Web Information Systems and Technologies (WEBIST 2017)*. doi:

10.1007/978-3-319-93527-0_5. URL https://doi.org/10.1007/978-3-319-93527-0_5.

- [19] M. Matitah et al. Electronic government system measurement model: A systematic testing of e-government implementation. *Indonesian Journal of Electrical Engineering and Computer Science*, 32(2):845–856, 2023. doi: 10.11591/ijeecs.v32.i2.pp845-856. URL <https://doi.org/10.11591/ijeecs.v32.i2.pp845-856>.
- [20] Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia. Peraturan menteri pendidikan, kebudayaan, riset, dan teknologi nomor 28 tahun 2021 tentang organisasi dan tata kerja kementerian pendidikan, kebudayaan, riset, dan teknologi. [Online]. Available: <https://peraturan.bpk.go.id/Details/175878/permendikbud-no-28-tahun-2021>, 2022. [Accessed: June 22, 2026].
- [21] Muhammad et al. Analisis perbandingan performa website berbasis laravel dengan codeigniter menggunakan web server nginx. *eProceeding of TIK*, 2024. [Accessed: June 22, 2026].
- [22] W. Muthia Kansha. Analisis perbandingan struktur dan performa framework codeigniter dan laravel dalam pengembangan web application. *Jurnal Teknik Informatika STMIK Antar Bangsa*, 09(01):25–30, 2023.
- [23] A. Niarman, Iswandi, and A. K. Candri. Comparative analysis of PHP frameworks for development of academic information system using load and stress testing. *International Journal Software Engineering and Computer Science (IJSECS)*, 3(3): 424–436, 2023. doi: 10.35870/ijsecs.v3i3.1850. URL <https://doi.org/10.35870/ijsecs.v3i3.1850>.
- [24] S. Pargaonkar et al. A comprehensive research analysis of software development life cycle (SDLC) agile & waterfall model advantages, disadvantages, and application suitability in software quality engineering. *International Journal of Scientific and Research Publications*, 2023. doi: 10.29322/IJSRP.13.08.2023.p14015. URL <https://doi.org/10.29322/IJSRP.13.08.2023.p14015>.
- [25] Presiden Republik Indonesia. Undang-undang republik indonesia nomor 14 tahun 2008 tentang keterbukaan informasi publik. [Online]. Available: <https://peraturan.bpk.go.id/Details/39036/uu-no-14-tahun-2008>, 2008. [Accessed: June 22, 2026].
- [26] Presiden Republik Indonesia. Undang-undang republik indonesia nomor 19 tahun 2016 tentang perubahan atas undang-undang nomor 11 tahun 2008 tentang informasi dan transaksi elektronik. [Online]. Available:

- <https://peraturan.bpk.go.id/Details/37582/uu-no-19-tahun-2016>, 2016. [Accessed: June 22, 2026].
- [27] Presiden Republik Indonesia. Peraturan presiden republik indonesia nomor 95 tahun 2018 tentang sistem pemerintahan berbasis elektronik. [Online]. Available: <https://peraturan.bpk.go.id/Details/102782/perpres-no-95-tahun-2018>, 2018. [Accessed: June 22, 2026].
 - [28] Presiden Republik Indonesia. Peraturan presiden republik indonesia nomor 132 tahun 2022 tentang arsitektur sistem pemerintahan berbasis elektronik nasional. [Online]. Available: <https://peraturan.bpk.go.id/Details/246198/perpres-no-132-tahun-2022>, 2022. [Accessed: June 22, 2026].
 - [29] R. S. Pressman and B. R. Maxim. *Software Engineering: A Practitioner's Approach*. McGraw-Hill Education, 8 edition, 2015. URL https://drive.google.com/file/d/0B4FvADGfA7T8S3lCNE1lZlpQc1E/view?pli=1&resourcekey=0-09gbq1v6Nhr4ZisAbOJ_hg. [Accessed: June 22, 2026].
 - [30] M. V. Privalov and M. V. Stupina. Improving web-oriented information systems efficiency using Redis caching mechanisms. *Indonesian Journal of Electrical Engineering and Computer Science*, 33(3):1667–1675, 2024. doi: 10.11591/ijeecs.v33.i3.pp1667-1675. URL <https://doi.org/10.11591/ijeecs.v33.i3.pp1667-1675>.
 - [31] Putra et al. Perbandingan performa framework laravel, codeigniter, dan symfony. *Brilliance: Research of Informatics, Networking, Intelligence, and Technology*, 2024. doi: 10.47709/brilliance.v5i1.5989. URL <https://doi.org/10.47709/brilliance.v5i1.5989>.
 - [32] F. P. E. Putra, S. A. Sugi, Holipah, and K. Mufidah. Comparative literature study of CodeIgniter and Laravel framework performance in website creation. *Jurnal Informasi dan Teknologi*, 2025. doi: 10.60083/jidt.vi0.617. URL <https://doi.org/10.60083/jidt.vi0.617>.
 - [33] B. D. K. Putri et al. Transformasi pemerintahan digital: Tantangan dalam perkembangan sistem pemerintahan berbasis elektronik (SPBE) di indonesia. *JIIIP — Jurnal Ilmiah Ilmu Pendidikan*, 7(2):1498–1506, 2024. doi: 10.54371/jiip.v7i2.3519. URL <https://doi.org/10.54371/jiip.v7i2.3519>.
 - [34] A. Rohman et al. Penerapan metode waterfall dalam pengembangan sistem pengarsipan surat berbasis website. *Jurnal Informatika*, 2022. doi: 10.29407/gj.v6i2.17871. URL <https://doi.org/10.29407/gj.v6i2.17871>.

- [35] A. Roziqin et al. The development of Indonesian e-government: A bibliometric analysis. *Collnet Journal of Scientometrics and Information Management*, 16(1): 49–74, 2022. doi: 10.1080/09737766.2021.2007036. URL <https://doi.org/10.1080/09737766.2021.2007036>.
- [36] G. L. Scoccia and M. Autili. Overview of web application performance optimization techniques. [Online]. Available: arXiv preprint arXiv:2412.07892, 2024. [Accessed: June 1, 2026].
- [37] A. Setiawan and Y. Yamasari. Evaluasi performa website sistem informasi kesejahteraan sosial (SIKS-NG) di kelurahan lembeyan kulon kabupaten magetan dengan google lighthouse. *JINACS: Journal of Informatics and Computer Science*, 7(1):218–227, 2025. ISSN 2686-2220. doi: 10.26740/jinacs.v7n01.p218-227. URL <https://doi.org/10.26740/jinacs.v7n01.p218-227>.
- [38] A. Siddiqi. Experimental analysis of server-side caching for web performance. [Online]. Available: arXiv preprint arXiv:2602.06074, 2025. [Accessed: June 1, 2026].
- [39] S. Sisilianingsih et al. Analisis faktor transformasi digital pelayanan publik pemerintah di era pandemi. *Jurnal Teknologi Informasi dan Ilmu Komputer*, 10(4):883–892, 2023. doi: 10.25126/jtiik.20241047059. URL <https://doi.org/10.25126/jtiik.20241047059>.
- [40] R. M. Stair and G. W. Reynolds. *Principles of Information Systems*. Cengage Learning, Boston, MA, USA, 14th edition, 2020.
- [41] M. Syuaib et al. Evaluasi implementasi e-government pada situs web pemerintah kota parepare menggunakan metode Webqual 4.0. *Journal of Software Engineering and Multimedia (JASMED)*, 1(2):67–75, 2023. doi: 10.20895/jasmed.v1i2.1343. URL <https://doi.org/10.20895/jasmed.v1i2.1343>.
- [42] S. Tajalizadehkhoob, M. Korczyński, A. Noroozian, C. H. Gañán, and M. van Eeten. Apples, oranges and hosting providers: Heterogeneity and security in the hosting market. In *2016 IEEE/IFIP Network Operations and Management Symposium (NOMS)*, pages 313–320, 2016. doi: 10.1109/NOMS.2016.7502824. URL <https://doi.org/10.1109/NOMS.2016.7502824>.
- [43] M. F. Triola. *Elementary Statistics*. Pearson Education, 13th edition, 2018. ISBN 978-0-13-446301-3.
- [44] A. J. Vickers. The use of percentage change from baseline as an outcome in a controlled trial is statistically inefficient: A simulation study. *BMC Medical*

Research Methodology. doi: 10.1186/1471-2288-1-6. URL <https://doi.org/10.1186/1471-2288-1-6>.

- [45] Vite Contributors. Vite: Next generation frontend tooling. [Online]. Available: <https://vite.dev/>, 2024. [Accessed: June 1, 2026].