

REFERENSI

- [1] B. Baillargeon, N. Rebelo, D. D. Fox, R. L. Taylor, and E. Kuhl, "The living heart project: A robust and integrative simulator for human heart function," *Eur. J. Mech. A/Solids*, vol. 48, no. 1, pp. 38–47, 2014, doi: 10.1016/j.euromechsol.2014.04.001.
- [2] World Health Organization (WHO), "Cardiovascular diseases (CVDs): Key Facts," *WHO*, 2021. [Online]. [https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-\(cvds\)](https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)) (accessed Nov. 06, 2021).
- [3] World Health Organization (WHO), "Indonesia Noncommunicable Diseases (NCD) Country Profiles," *WHO*, 2018. [Online]. https://www.who.int/nmh/countries/idn_en.pdf (accessed Nov. 06, 2021).
- [4] M. A. Agung and Basari, "3-lead acquisition using single channel ECG device developed on AD8232 analog front end for wireless ECG application," *AIP Conf. Proc.*, vol. 1817, 2017, doi: 10.1063/1.4976800.
- [5] H. Ali, B. E. Villanueva, and R. Yaqub, "Design and implementation of a low cost wireless ambulatory ECG monitoring system for deployment in rural communities," *Int. J. online Biomed. Eng.*, vol. 15, no. 15, pp. 57–79, 2019, doi: 10.3991/ijoe.v15i15.11860.
- [6] S. P. V. Lakshmi, C. G. P. Kudva, and R. K., "Single- Lead Wearable Patch for Wireless Continuous Monitoring of ECG," *Int. J. New Technol. Res.*, vol. 2, no. 4, p. 263546, 2016.
- [7] M. Marouf, G. Vukomanovic, L. Saranovac, and M. Bozic, "Multi-purpose ECG telemetry system," *Biomed. Eng. Online*, vol. 16, no. 1, 2017, doi: 10.1186/s12938-017-0371-6.
- [8] M. Niswar, M. Nur, A. A. Ilham, and I. Mappangara, "A low cost wearable medical device for vital signs monitoring in low-resource settings," *Int. J. Electr. Comput. Eng.*, vol. 9, no. 4, pp. 2321–2327, 2019, doi: 10.11591/ijece.v9i4.pp2321-2327.
- [9] A. Rizal, V. Suryani, Jondri, and S. Hadiyoso, "Development of wireless patient's vital sign monitor using wireless LAN (IEEE.802.11.b/g) protocol," *Int. J. Electr. Comput. Eng.*, vol. 4, no. 6, pp. 893–901, 2014, doi: 10.11591/ijece.v4i6.6429.
- [10] P. Srivastava and R. Khan, "A Review Paper on Cloud Computing," *Int. J. Adv. Res. Comput. Sci. Softw. Eng.*, vol. 8, no. 6, p. 17, 2018, doi: 10.23956/ijarsse.v8i6.711.



- [11] Merriam-Webster, “Telemeter,” *Merriam-Webster.com Dictionary*. [Online]. Available: <https://www.merriam-webster.com/dictionary/telemeter> (accessed Nov. 15, 2021).
- [12] Merriam-Webster, “Telemetry,” *Merriam-Webster.com Dictionary*. [Online]. Available: <https://www.merriam-webster.com/dictionary/telemetry> (accessed Nov. 15, 2021).
- [13] D. Lu and T. Liu, “The application of IOT in medical system,” *ITME 2011 - Proc. 2011 IEEE Int. Symp. IT Med. Educ.*, vol. 1, pp. 272–275, 2011, doi: 10.1109/ITIME.2011.6130831.
- [14] Matthew Gast, *802.11® Wireless Networks: The Definitive Guide*. O’Reilly, 2002.
- [15] K. S. Nikita, *Handbook of biomedical telemetry*. John Wiley & Sons, 2014.
- [16] CARSTEN GREGERSEN, “MQTT vs. REST in IoT [Which Should You Choose?],” *nabto.com*, 2021. [Online]. <https://www.nabto.com/mqtt-vs-rest-iot/> (accessed Nov. 09, 2021).
- [17] and R. G. Andrew Banks, Ed Briggs, Ken Borgendale, “MQTT Version 5.0,” *OASIS Standard*, 2019. [Online]. <https://docs.oasis-open.org/mqtt/mqtt/v5.0/mqtt-v5.0.html> (accessed Nov. 09, 2021).
- [18] T. B.-L. R. Fielding, J. Gettys, J. Mogul, H. Frystyk, L. Masinter, P. Leach, “Hypertext Transfer Protocol -- HTTP/1.1,” 1999. [Online]. <https://www.hjp.at/doc/rfc/rfc2616.html> (accessed Nov. 09, 2021).
- [19] B. A. Forouzan, *TCP/IP protocol suite*. McGraw-Hill Higher Education, 2002.
- [20] R. T. Fielding, “Architectural Styles and the Design of Network-based Software Architectures,” University of California, Irvine, 2000.
- [21] S. Saxena, “Software Engineering | Incremental process model,” *GeeksforGeeks*, 2022. <https://www.geeksforgeeks.org/software-engineering-incremental-process-model/> (accessed Apr. 09, 2022).
- [22] Nodejs.org, “About Node.js,” Nodejs.org, 2022. <https://nodejs.org/en/about/> (accessed Apr. 09, 2022).
- [23] Expressjs.com, “Express,” expressjs.com. <https://expressjs.com/> (accessed Apr. 09, 2022).
- [24] mongodb.com, “What is NoSQL?,” mongodb.com. <https://www.mongodb.com/nosql-explained> (accessed Apr. 09, 2022).



- [25] Google, "Firestore," [cloud.google.com](https://cloud.google.com/firestore). [Online].
<https://cloud.google.com/firestore> (accessed Nov. 13, 2021).
- [26] freertos.org, "What is An RTOS?," [freertos.org](https://www.freertos.org/about-RTOS.html).
<https://www.freertos.org/about-RTOS.html> (accessed Apr. 09, 2022)
- [27] espressif.com, "Get Started," [docs.espressif.com](https://docs.espressif.com/projects/esp-idf/en/latest/esp32/get-started/index.html).
<https://docs.espressif.com/projects/esp-idf/en/latest/esp32/get-started/index.html> (accessed Apr. 09, 2022).
- [28] reactjs.org, "React," reactjs.org. <https://reactjs.org/> (accessed Apr. 09, 2022).
- [29] [softwaretestinghelp.com](https://www.softwaretestinghelp.com/), "White Box Testing: A Complete Guide With Techniques, Examples, & Tools," [softwaretestinghelp.com](https://www.softwaretestinghelp.com/).
<https://www.softwaretestinghelp.com/white-box-testing-techniques-with-example/> (accessed Apr. 09, 2022).
- [30] [softwaretestinghelp.com](https://www.softwaretestinghelp.com/), "Key To Successful Unit Testing – How Developers Test Their Own Code?," [softwaretestinghelp.com](https://www.softwaretestinghelp.com/).
<https://www.softwaretestinghelp.com/unit-testing/> (accessed Apr. 09, 2022).
- [31] [softwaretestinghelp.com](https://www.softwaretestinghelp.com/), "Black Box Testing: An In-Depth Tutorial With Examples And Techniques," [softwaretestinghelp.com](https://www.softwaretestinghelp.com/).
<https://www.softwaretestinghelp.com/black-box-testing/> (accessed Apr. 09, 2022).
- [32] International Organization for Standardization, "Software and System Engineering - Software Testing - Part 4: Test Techniques, ISO/IEC/IEEE 29119-4," 2015.
- [33] [postman.com](https://www.postman.com/), "What is Postman?," [postman.com](https://www.postman.com/).
<https://www.postman.com/product/what-is-postman/> (accessed Apr. 09, 2022).
- [34] W. Stallings, "Data and computer communications," *Prentice Hall*, 2005.
- [35] Z. Purahoo and S. Cheerkoot-Jalim, "SenseAPP: An IoT-Based Mobile Crowdsensing Application for Smart Cities," *2020 3rd Int. Conf. Emerg. Trends Electr. Electron. Commun. Eng. ELECOM 2020 - Proc.*, pp. 47–52, 2020, doi: 10.1109/ELECOM49001.2020.9297018.
- [36] M. Sikandar *et al.*, "MQTT based Home Automation System Using," vol. 365565, no. Gcct, pp. 807–813, 2015.
- [37] R. A. Atmoko, R. Riantini, and M. K. Hasin, "IoT real time data acquisition using MQTT protocol," *J. Phys. Conf. Ser.*, vol. 853, no. 1, 2017, doi: 10.1088/1742-6596/853/1/012003.

- [38] N. Nikolov, "Research of MQTT, CoAP, HTTP and XMPP IoT Communication protocols for Embedded Systems," *2020 29th Int. Sci. Conf. Electron. 2020 - Proc.*, pp. 18–21, 2020, doi: 10.1109/ET50336.2020.9238208.
- [39] X. Wu and N. Li, "Improvements of MQTT Retain Message Storage Mechanism," *Proc. 2018 2nd IEEE Adv. Inf. Manag. Commun. Electron. Autom. Control Conf. IMCEC 2018*, no. Imcec, pp. 957–961, 2018, doi: 10.1109/IMCEC.2018.8469192.
- [40] T. Yokotani and Y. Sasaki, "Comparison with HTTP and MQTT on required networkresources for IoT," *ICCEREC 2016 - Int. Conf. Control. Electron. Renew. Energy, Commun. 2016, Conf. Proc.*, pp. 1–6, 2017, doi: 10.1109/ICCEREC.2016.7814989.
- [41] M. Collina, G. E. Corazza, and A. Vanelli-Coralli, "Introducing the QEST broker: Scalingthe IoT by bridging MQTT and REST," *IEEE Int. Symp. Pers. Indoor Mob. Radio Commun. PIMRC*, pp. 36–41, 2012, doi: 10.1109/PIMRC.2012.6362813.
- [42] M. A. A. da Cruz, J. J. P. C. Rodrigues, P. Lorenz, P. Solic, J. Al-Muhtadi, and V. H. C. Albuquerque, "A proposal for bridging application layer protocols to HTTP on IoT solutions," *Futur. Gener. Comput. Syst.*, vol. 97, no. 2019, pp. 145–152, 2019, doi: 10.1016/j.future.2019.02.009.
- [43] International Organization for Standardization, "System and software quality models:Describes the model, consisting of characteristics and subcharacteristics, for softwareproduct quality, and software quality in use, ISO/IEC 25010," 2011.
- [44] Cloud.google.com, "Firestore pricing," cloud.google.com.
<https://cloud.google.com/firestore/pricing> (accessed Apr. 09, 2022).
- [45] R. Barry, *Mastering the FreeRTOS Real Time Kernel A Hands-On Tutorial Guide*. FreeRTOS.org, 2016.
- [46] Draghici, Adina & Taylor, J. Andrew. "The physiological basis and measurement of heart rate variability in humans," 2016. *Journal of physiological anthropology*. 35. 22. 10.1186/s40101-016-0113-7.
- [47] Jurko, Stefan & Rozinaj, Gregor. "High Resolution of the ECG Signal by Polynomial Approximation," 2006. *Radioengineering*. 15.