

BAB V

KESIMPULAN & SARAN

5.1 Kesimpulan

1. Sistem yang dibuat merupakan sistem pemantauan kualitas air berupa suhu, keasaman, kekeruhan.
2. Sistem ini mampu mengontrol kualitas air ikan secara otomatis menggunakan aplikasi Blynk
3. Presentase pembacaan sensor suhu didapatkan terbesar 30% dan terendah 2,87%, serta rata-rata tingkat error yaitu 10,3%.
4. Pembacaan sensor pH dari pengujian mampu mengukur tingkat keasaman air pada akuarium.
5. Sensor kekeruhan berfungsi untuk membaca air yang keruh menggunakan aplikasi Blynk
6. Pada tahap pengujian aplikasi blynk untuk membaca nilai sensor Ph, Sensor turbidity, sensor suhu, dan ketinggian air aquarium.

5.2 Saran

1. Agar sistem pengontrolan pH dan suhu air dapat dilakukan secara maksimal, ada baiknya untuk pengembangan berikutnya dapat ditambahkan pompa pH up dan pH down serta ditambahkan heater untuk pengontrolan suhu air di dlm aquarium.

DAFTAR PUSTAKA

- [1] K. . Robertson, M.J., Scruton, D.A., Gregory, R.S., Clarke, “Effect of Suspended Sediment on Freshwater Fish and Fish Habitat,” Can. Tech. Rep. Fish. Aquat. Sci, p. 37, 2006.
- [2] F. . Dauwalter, D.C., Fisher, W.L., Rahel, “Warmwater Streams,” IFMNA, 2010.
- [3] Anonim, “Turbidity: Description, Impact on Water Quality Gao, Z., Li, J., Chen, H., Yang, F., & He, Y. (2019). An Intelligent Monitoring System for Water Quality of Aquarium Based on IoT. 2019 14th International Conference on Computer Science & Education (ICCSE), 327-332.
- [4] D.Sasmoko, “Rancang Bangun Sistem Monitoring Kekerusuhan Air Berbasis IoT pada Tandon Air Warga”, Penerbit Jurnal Informatika Upgris (JTU), Semarang, 2019.
- [5] Tadesse, Y. S., & Mamo, A. H. (2020). An Intelligent Monitoring and Controlling System for Fish Aquarium. 2020 International Conference on Advances in Electrical Engineering and Information Technologies (AEITech), 1-6.
- [6] Al-Saati, A. H., Abdjabar, M. N., Al-Saati, Z. H., & Al-Tameemi, M. M. (2020). Design and Implementation of an Automatic Water Quality Control System for Aquarium. 2020 7th International Conference on Electrical Engineering, Computer Science and Informatics (EECSI), 1-6.
- [7] Cao, H., Zhang, J., Yang, H., & Wang, D. (2020). Design of Intelligent Monitoring and Control System for Aquarium Water Quality. 2020 IEEE 4th Information Technology, Networking, Electronic and Automation Control Conference (ITNEC), 1664-1668.
- [8] Kamarudin, M. Z., Latiff, N. H. A., Abdullah, N. E., Nizam, M. F. M., & Majid, M. H. A. (2020). IoT Based Monitoring and Controlling System for Aquaculture Environment. 2020 8th International Conference on Information and Communication Technology (ICoICT), 1-6.
- [9] Velvizhi, A., Jayamani, A., & Suruthi, S. (2020). Internet of Things Based Water Quality Monitoring System for Aquaculture. 2020 International

Conference on Smart Electronics and Communication (ICOSEC), 1-5.

- [10] Baruah, B. K., & Baruah, M. (2019). Water Quality Monitoring System for Aquarium. 2019 9th International Conference on Cloud Computing, Data Science & Engineering (Confluence), 595-599.
- [11] Bhowmik, N., Ahmed, A. U., & Jha, M. K. (2018). Design and development of an IoT-based water quality monitoring system for aquaculture. 2018 IEEE Calcutta Conference (CALCON), 1-5.
- [12] Senthil, R., Kumaravel, S., & Venkatesh, D. (2020). IoT based water quality monitoring and control system for aquaculture using machine learning. 2020 5th International Conference on Intelligent Computing and Control Systems (ICICCS), 1385-1390.
- [13] Pal, D., & Sengupta, S. (2018). Desain sistem monitoring dan kontrol kualitas air untuk sistem akuakultur sirkulasi. *International Journal of Environmental Science and Technology*, 15(9), 1995-2008.
- [14] Busch, J., Hart, S., Steinbach, C., & Schmidt, U. (2020). Sistem monitoring kualitas air berbiaya rendah untuk sistem akuaponik. *Sensors*, 20(3), 766.
- [15] Dojchinovski, D., & Donevski, V. (2019). Sistem kontrol kualitas air untuk akuarium. 2019 IEEE International Symposium on Innovations in Intelligent Systems and Applications (INISTA), 1-5.
- [16] Pal, D., & Sengupta, S. (2018). Desain sistem monitoring dan kontrol kualitas air untuk sistem akuakultur sirkulasi. *International Journal of Environmental Science and Technology*, 15(9), 1995-2008.
- [17] Deng, C., Wu, S., & He, M. (2017). *Liquid Crystal Displays: Addressing Schemes and Electro-Optical Effects*. John Wiley & Sons.
- [18] Kim, S., & Chigrinov, V. G. (2017). *Fundamentals of Liquid Crystal Devices* (2nd ed.). CRC Press.
- [19] Cimbala, J. M., & Cengel, Y. A. (2017). *Fluid Mechanics: Fundamentals and Applications*. McGraw-Hill Education.
- [20] Bachus, M. (2016). *Centrifugal Pump Design and Performance*. John Wiley & Sons.

- [21] Atzori, L., Iera, A., & Morabito, G. (2017). Understanding the Internet of Things: Definition, Potentials, and Societal Role of a Fast-Evolving Paradigm. Elsevier.
- [22] Ray, P. P. (2018). Internet of Things: A Hands-On Approach. Springer.
- [23] Aparna, M., & Raju, K. (2019). IoT Based Smart Home Automation Using Blynk. In International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques (ICEECCOT) (pp. 853-858). IEEE.
- [24] Fish, K. A. (2018). IoT Projects with ESP32: Build Exciting and Powerful IoT Projects Using the ESP32 Microcontroller. Packt Publishing.

Lampiran



