

# **WEB-BASED WATER SUPPLY COMPLAINT MANAGEMENT SYSTEM**

Muhammad Syareel Aiman Md Sukeri and Alif Faisal Ibrahim  
*College of Computing, Informatics and Mathematics,*  
*Universiti Teknologi MARA Perlis Branch, Malaysia*  
*syareelaiman@gmail.com and aliffaisal@uitm.edu.my*

**Abstract** - The proposed Web-Based Public Water Supply Complaint Management System developed using the latest Laravel framework intends to use modern digital technologies to improve the reporting and resolution of public water-related issues. It is designed to replace the traditional, manual process of submitting complaint through visiting water departments and fill in paper form. The System Development Life Cycle's Waterfall approach is used in the development phase. This project's main goal is to create and build a public complaint web application to improve overall water service delivery, enhance public involvement, and optimise complaint processing by utilising present web technology while increasing effectiveness and easiness for reporting and resolving water-related issues. The functionality and usability of the application will be thoroughly tested to ensure it meets the needs of the users.

**Keywords:** Laravel, water, public, complaint, web application.

## **1. Introduction**

The Web-Based Water Supply Public Complaint Management System is a thorough platform created to simplify and enhance the process of responding to public complaints about water supply services. The app has been tested for functionality and usability and is intended for use by every citizen who encountered problems with water supply. By using Laravel, a platform that manages public complaints about water supply services in an effective and reliable approach is delivered to users. Overall, the web application will provide a thorough solution to effectively manage and address public complaints regarding water supply services.

## **2. Methodology**

The Web-Based Water Supply Complaint Management system was designed using Laravel employing the Waterfall process, which is a sequential linear approach to the System Development Life Cycle (SDLC). Planning, analysis, design, implementation, testing, and documentation are the specific steps that the procedure follows. In the planning phase, project background, problem statements, objectives, project scope, and significance were identified. The next phase is analysis, where writings related to project were reviewed and determining research methodology. The design phase involves designing user interface, sitemap, and ERD. User interface and database administration were carefully designed and implemented using the Laravel framework in implementation phase. Functionality and usability testing were done to get feedback from 30 users. Lastly, the final phase is documentation of all information gathered during the development process.

## **3. Result and Discussion**

It was critical to test the system to make sure it adhered to the specifications and was simple for end users to use. To get user input on the entire user experience, usability testing was done. Most users said the application was simple to use and user-friendly. Functionality testing was also done to make sure that all the web application's form, buttons, and pages functioned as planned. Nonetheless, some recommendations for improvement were also discovered during testing. Overall, the web application was capable of carrying out all its specified tasks.

## **4. Novelty of Research/Product**

By combining web-based technology, the Laravel framework, and user complaint management concepts, the creation of the Water Supply Public Complaint Management System introduces a revolutionary approach to managing water supply concerns. It incorporates best practices from software development life cycle models (Akinsola et al., 2020) and makes use of SQL databases to improve data handling. The system incorporates safe techniques for authorization and authentication and employs the Waterfall SDLC methodology for efficient design and development. Additionally, it addresses the importance of water quality and sanitation concerns (Faulkner et al., 2021). Overall, this research contributes to the topic by providing a thorough and specific solution for handling water supply complaints using an innovative combination of technologies and methodologies.

## **5. Conclusion**

In conclusion, the Water Supply Public Complaint Management System provides a creative and effective method for handling public complaints about water supply services. It was created using the Laravel framework and incorporates a variety of technological developments. The system offers an organised platform for users to efficiently report and address water supply issues by using web-based technologies, secure authentication procedures, SQL databases, and following to best practises in software development. By addressing the requirements of users, incorporating latest technologies, and boosting the overall management of water supply complaints, this project contributes to fix water issues and raises the quality and dependability of water supply services for the benefit of the public.

## **REFERENCES**

- Akinsola, J. E., Ogunbanwo, A. S., Okesola, O. J., Odun-Ayo, I. J., Ayegbusi, F. D., & Adebisi, A. A. (2020, July). Comparative analysis of software development life cycle models (SDLC). In *Computer Science On-line Conference* (pp. 310-322). Springer, Cham.
- Faulkner, C. M., Lambert, J. E., Wilson, B. M., & Faulkner, M. S. (2021). The human right to water and sanitation: Using natural language processing to uncover patterns in academic publishing. *Water* (Switzerland), 13(24). <https://doi.org/10.3390/w13243501>