

Cashier Application for Business Washing Service at V2 Laundry and Dry Clean

Rafael Yusia Adi Kusuma¹, Albertus Dwiyoga Widiantoro², Erdhi Widyarto Nugroho³

^{1,2,3}Information System Department, Faculty of Computer Science
Soegijapranata Catholic University, Semarang, Indonesia

¹rafaelyosia88@gmail.com, ²yoga@unika.ac.id, ³erdhi@unika.ac.id

Abstract

The laundry business is one of the businesses that continues to grow over time. This business provides laundry services and clothing and other textile care for customers, with the aim of providing convenience, comfort, and quality in maintaining the cleanliness and appearance of their clothes. However, in the era of increasingly rapid digitalization, technological transformation has changed the way various industries operate, including service businesses such as the laundry industry. However, the laundry business still faces challenges in manual operational management, which can hinder efficiency and service quality.

This study aims to design and build a web-based cashier application to improve efficiency using the Waterfall method. This application automates order recording, service scheduling, payments, and reporting. Black box testing shows that the application functions according to specifications, while user evaluations show satisfaction with the features and ease of use. With this system, the laundry business can be more efficient, competitive, and integrated with digital innovation.

Keywords: Cashier application, laundry business, dashboard, operational efficiency, fintech.

I. INTRODUCTION

The laundry business is a growing business, offering laundry and clothing care services to provide convenience, comfort, and quality for customers [1]. In the era of increasingly developing digitalization, technology is changing how various industries work [2]. Thus, technology-based solutions are needed to simplify operations

and improve company services. This technology-based solution is also needed including in the laundry service business.

Many laundry businesses still face obstacles in managing their operations optimally. Laundry businesses that still use manual recording processes face a number of problems [3]. This includes managing orders, scheduling services, and inefficient financial reporting.

This is also experienced by V2 Laundry Dry and Clean, a Micro, Small and Medium Enterprise that has not yet implemented digital modernization so that it often experiences obstacles that often occur if it has not implemented technology. So a web-based cashier application was created that makes it easy to manage all aspects of operations in a laundry service business so that it can increase efficiency, increase customer satisfaction, and the ability to compete more effectively in the fast-paced digital era [4].

The web-based cashier application is a solution designed to facilitate the laundry business process, from recording orders, managing payment transactions, to financial reporting. With this application, business owners can more easily manage their business operations systematically and structured. In addition, this application can also increase customer satisfaction by providing faster and more accurate services [5]. The problem in this study is how to design and develop a web-based cashier application that can meet the operational needs of V2 Laundry and Dry Clean, as well as optimize business processes that previously still used manual recording. Therefore, this study aims to analyze and design the right system to improve

operational efficiency, understand the software development process that suits the needs of the laundry business, and evaluate the level of user satisfaction with this application to ensure that its implementation can provide benefits for the laundry business.

II. LITERATURE REVIEW

2.1. Application

Applications are a type of computer software that directly uses the capabilities of a computer to complete a task that the user wants. This type of application includes productivity programs such as word processors and entertainment applications such as games and media players [6]. Applications are computer programs that help humans complete tasks more quickly and accurately [7].

2.2. Website

A website is a collection of pages that can be accessed through a domain or subdomain on the Internet [8]. These pages contain information in various forms, such as text, images, sound, and others, which are stored on a web server and can be accessed by Internet users [9] [10].

2.3. Database

A collection of interconnected and logically arranged data to meet the information needs of an organization. Data can be stored flexibly, easily changed, and developed without disrupting applications because it is separate from the programs that use it [11].

2.4. Laundry

Laundry is a business of washing, drying and ironing clothes which helps lighten the workload in the midst of busyness and time constraints [12].

2.5. Dashboard

Dashboard is an information system application that brings together organizational activities and key indicators on one screen [13].

2.6. Fintech

Fintech is the integration of technology and finance that transforms conventional businesses into modern ones. Previously, payments were made directly with cash, but now transactions can be instant via online platforms [14].

III. METHOD

3.1. Source of Data

Primary Data, namely by conducting direct interviews with users of the cashier dashboard application, namely laundry business owners and laundry cashiers.

3.2. Data Collecting

Data collection used in this study using interview techniques with direct users of the cashier dashboard application, namely business owners and employees to assess the performance of the application.

3.3. Testing

1. Application

The application testing method in this study uses black box testing, which is testing to assess the success of the system in terms of functionality, especially in the suitability of data input with expectations. This testing is carried out by users without needing to know the code or how the system works in the back-end [15].



Figure 1. Black Box Method

2. Interview

Using the interview method with users, so that users can assess the performance and quality of the application that has been created and can draw conclusions.

3.4. Method

Figure 2 shows the Waterfall method, where each stage is completed sequentially before proceeding to the next step.

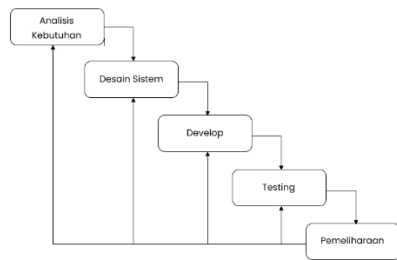


Figure 2. Waterfall Method

IV. RESULT AND DISCUSSION

4.1. Design

A. Flowchart

Figure 3 shows the cashier dashboard authentication with username and password. The system validates the user role and redirects to the dashboard or back to login if an error occurs.

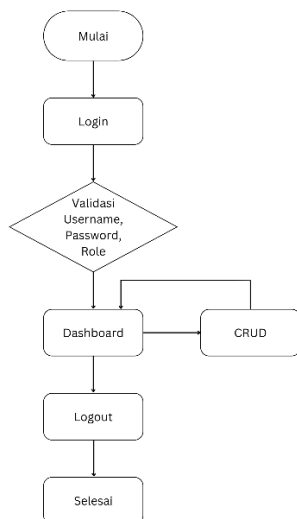


Figure 3. Flowchart

B. Use Case Diagram

Figure 4 shows the distribution of features on the V2 Laundry and Dry Clean cashier dashboard based on user roles. Cashiers can access login, dashboard, customers, transactions, services, and logout, while owners have additional access to admin management.

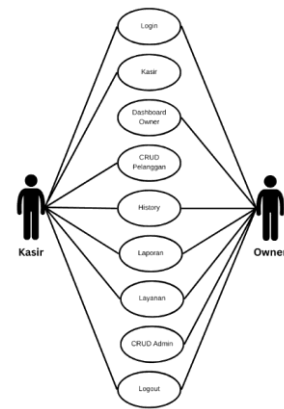


Figure 4. Use Case Diagram

4.2. Implementation

A. Login Page

Figure 10 shows an input form for users to enter their username and password to access the dashboard according to their role.

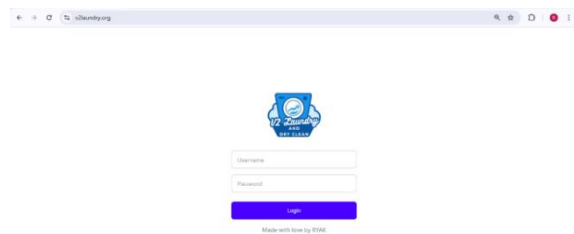


Figure 5. Login Page

B. Cashier Dashboard

Figure 11 shows the Cashier Dashboard which displays the main features for managing transactions.

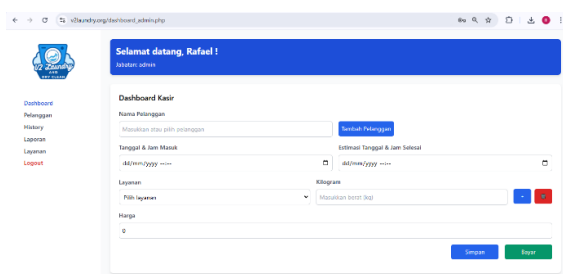


Figure 6. Cashier Dashboard Page

There is a save button to pay at the end and pay with cash and non-cash options as in figure 12.

Figure 7. Payment Method

C. Owner Dashboard

Figure 13 shows the Owner Dashboard with total turnover, number of services, customer data, and turnover graph for financial analysis and business planning.

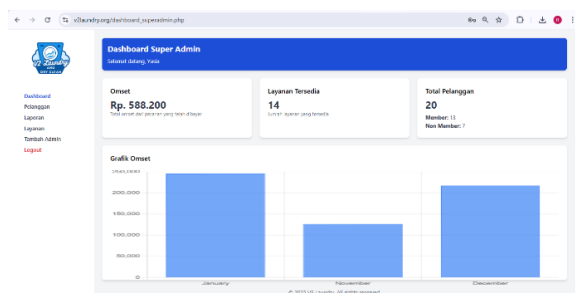


Figure 8. Owner Dashboard Page

D. CRUD Data

1. Create Data

Create data allows users to add data to the database via input fields, to be displayed and managed further, as in figure 14.

Figure 9. Create Data Modal

2. Read Data

Read data allows users to view data in

the database. As in Figure 15, customer data is displayed with filters and action buttons to manage.

Figure 10. Customer Page

3. Update Data

Update data is a process where users can edit data that has been created. Users can change the contents of the data they want to change as in Figure 16.

Figure 11. Edit Modal

4. Delete Data

The delete process displays a validation dialog to prevent accidental deletion, as shown in Figure 17.

Figure 12. Validation Modal for Delete Data

E. Report

The report feature makes it easier for users to see transactions that have been paid and have not been paid at the cashier. In addition, there is a filter feature to display data based on a certain date, as in figure 18.



Figure 19 shows the export feature for downloading transaction reports in Excel format.



Figure 20 shows the history page containing order history, transaction details, status, filters, and invoice print options.



the three established problem formulations.

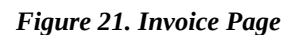


Figure 22 shows the Add Admin page which makes it easy for super admins to add, delete, and manage accounts with a list of registered admins.



This study involved two respondents, namely the admin and owner of V2 Laundry Dry and Clean. This study provides answers based on the results of interview analysis of the three established problem formulations.

Question	Answer
How is the design process for a web-based cashier application for V2 Laundry and Dry Clean?	According to the admin and owner, the design of this application focuses on daily operational needs. The dashboard displays the total monthly turnover and income with a simple display, making it easier for admins to make fast transactions. The automatic price calculation feature helps reduce recording errors.
How to develop software that suits the needs of V2 Laundry and Dry Clean?	Owners can monitor transactions in real-time without manual recording. Admins feel that transactions are neater and easier to monitor. Features such as sales reports and admin

Question	Answer
What is the level of user satisfaction with this web-based cashier application?	management are tailored to daily needs, emphasizing ease and efficiency of work. Admins and owners are satisfied with the application. The system is intuitive, information is easily accessible, and the use of the application increases work efficiency. Recording errors are reduced, financial monitoring is easier, and non-cash payments run smoothly without any problems.

V. CONCLUSION

The web-based cashier application on V2 Laundry and Dry Clean successfully meets operational needs with features that support automatic transaction recording, real-time monitoring, and neater report management. Users are satisfied with the ease of access and efficiency of the system, and provide input for the development of additional features to improve the experience and effectiveness of using the application.

VI. REFERENCE

- [1] R. R. M. Salim, "Rancang Bangun Sistem Informasi Manajemen Laundry Dalam Pengelolaan Transaksi," *Semin. Nas. Teknol. Komput. Sains*, pp. 480–483, 2019.
- [2] W. mahendra ardiansyah, "Peran Teknologi dalam Transformasi Ekonomi dan Bisnis di Era Digital," *JMEB J. Manaj. Ekon. Bisnis*, vol. 1, no. 01, pp. 11–22, Jul. 2023, doi: 10.59561/jmeh.v1i01.89.
- [3] N. Hendrawan, A. Asniati, L. A. La Atina, and M. O. Murati, "Aplikasi Sistem Manajemen Laundry Berbasis Web," *J. Inform.*, vol. 9, no. 2, p. 85, Dec. 2020, doi: 10.55340/jiu.v9i2.448.
- [4] I. Istiharoh, "Prosiding Seminar Nasional Batch 2 Strategi Pengembangan Bisnis Laundry Berbasis Online Prosiding Seminar Nasional Batch 2," 2023.
- [5] R. Nopianti, R. E. Putri, P. A. Alfitriah, and S. B. Syahputro, "Penerapan Customer Relationship Management Terhadap Kepuasan Pelanggan Pada Laundry Sabana Tanjungpinang," *J. Sutasoma*, vol. 2, no. 1, pp. 10–18, Dec. 2023, doi: 10.58878/sutasoma.v2i1.251.
- [6] K. Khairil, "Penilaian Kepuasan Pelanggan Dengan Aplikasi Survei Pada Pdam Kota Bengkulu," *Teknosia*, vol. 15, no. 1, pp. 16–21, Jun. 2021, doi: 10.33369/teknosia.v1i1.15542.
- [7] A. R. Lubis, "Perangkat Lunak Komputer," *Program*, vol. 2, no. 2, pp. 1–9, 2020, doi: doi.org/10.31219/.
- [8] D. I. K. Padang, "Layanan Informasi Publik Bagi Masyarakat," vol. 1, no. 1, pp. 8–17, 2023.
- [9] F. H. Fauzia, S. Wijaya, and D. Eldjuana, "Optimalisasi Website Rumah Sakit Primasatya Husada Citra (Phc) Surabaya Sebagai Media Informasi Dan Promosi," *J. Manaj. Ris. dan Teknol. Univ. Karimun (JURNAL MARITIM)*, vol. 5, no. 1, pp. 40–55, 2023, doi: org/10.51742/ojsm.v5i1.923.
- [10] M. D. Irawan, "Design Of Monitoring Information System Stock Items At Partner Stores In Web-Based Semarang," *J. Bus. Technol.*, vol. 2, no. 2, pp. 57–63, 2022, doi: 10.24167/jbt.v2i2.4394.
- [11] N. Eyni Alfia and B. Waseso, "Perancangan Aplikasi Retensi Data Pada Database MySQL (Studi Kasus: PT. Telkomsigma)," *Maret*, vol. 2, no. 3, pp. 2655–7541, 2020, doi: <https://doi.org/10.54650/jusibi.v2i3.181>.
- [12] Desak Ayu Sriary Bhegawati, Desak

- Made Sukarnasih, and Dewa Ayu Kadek Pramita, “Peningkatan Kemampuan Dalam Pelayanan Jasa Pada Usaha Prayatna Laundry ‘Administrasi Keuangan,’” *J-ABDI J. Pengabdi. Kpd. Masy.*, vol. 2, no. 1, pp. 3539–3544, May 2022, doi: 10.53625/jabdi.v2i1.2246.
- [13] H. Mantik, “Model Pengembangan Dashboard Untuk Monitoring dan Sebagai Alat Bantu Pengambilan Keputusan (Studi Kasus PT MTI dan PT JPN),” *JSI (Jurnal Sist. Inf.) Univ. Suryadarma*, vol. 8, no. 1, pp. 235–240, 2021.
- [14] H. Estu, “Financial Technology Dampak Kebijakan Financial Technology Di Indonesia,” *AKUNTABILITAS J. Ilm. Ilmu-Ilmu Ekon.*, vol. 15, no. 1, pp. 76–87, Jul. 2023, doi: 10.35457/akuntabilitas.v15i1.2848.
- [15] A. H. Aziira, H. Kamil, and A. D. Kartika, “Pembangunan Sistem Informasi Pengelolaan Rencana Pembelajaran Semester (RPS),” *J. Nas. Teknol. dan Sist. Inf.*, vol. 9, no. 2, pp. 103–112, 2023, doi: 10.25077/teknosi.v9i2.2023.103-112.