



IMPLEMENTATION OF A WEB-BASED PAYROLL INFORMATION SYSTEM DESIGN AT PT PADI SUMBER TANI IN TASIKMALAYA REGENCY

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Abstract. The purpose of this study is to find out what happened to the employee pay roll system at PT Padi Sumber Tani, Tasikmalaya Regency. This research uses a descriptive method. The information system development used is Agile Development, with stages including system analysis, design, development, testing, deployment, evaluation, and maintenance. The results of the study show that the implementation of the design of a web-based payroll information system at PT Padi Sumber Tani Tasikmalaya Regency with the Microsoft Visual Studio Code program carried out by the researcher can contribute to the science of employee payroll information systems in the company.

Keywords: implementation; design; information systems; payroll; web; microsoft visual studio code.

1 Introduction

1.1 Background

A system is a series of interrelated components designed to achieve a specific goal (Kadir, 2020). An organizational system that processes daily transactions, supports operations, and provides reports to others is known as an information system (Pratasik & Rianto, 2020). More specifically, an accounting information system (AIS) is a tool integrated with company technology to record and process accounting data, including payroll (Lim, 2021).

Payroll itself refers to a system of providing wages and salaries to employees for the services rendered (Sujarweni, 2020). In practice, many companies still manage payroll manually, which makes the process prone to errors, delays, and inefficiency. This situation also occurs at PT Padi Sumber Tani in Tasikmalaya Regency, which still uses manual recording in its payroll process. Such conditions necessitate the implementation of a web-based payroll information system to ensure faster, more accurate, and transparent salary calculations, while also improving employees' trust in the company.

A previous study by Andre Riyansyah (2021) entitled "*Design of a Web-Based Payroll Information System Using PHP and MySQL at Lion Parcel Cisokan, Bandung City*" showed that a web-based system can effectively manage attendance data, job positions, allowances, and payslips. However, this study differs in that the author emphasizes implementation at PT Padi Sumber Tani, focusing on system development using the Agile Development method to achieve greater flexibility and alignment with the company's needs.

Based on the aforementioned explanation, the author selected the title "*Implementation of a Web-Based Payroll Information System Design at PT Padi Sumber Tani in Tasikmalaya Regency.*"

1.2 Information System Development Method

According to Suhari et al. (2022), Agile Development is an approach derived from the System Development Life Cycle (SDLC) aimed at accelerating system development within a shorter timeframe and achieving higher accuracy compared to manual development methods.

The stages in Agile Development according to Suhari et al. (2022) are as follows:

1. **System Analysis**
System analysis is the stage in which user needs are evaluated to determine comprehensive software requirements.
2. **Design**
This stage includes designing business processes and database structures as integral parts of the overall design process.
3. **Development**
The development process involves implementing the software design components, such as programming and database creation, which together constitute system development.
4. **Testing**
After system identification based on the analysis and design stages, the testing phase is conducted to ensure proper functionality.
5. **Deployment**
The deployment stage involves uploading the software to a public server so that users can access it via the internet.
6. **Revision and Evaluation**
This stage is used to evaluate the outcomes and provide improvement suggestions to system administrators. Feedback from users is gathered to enhance the system's performance and usability.
7. **System Maintenance**
The purpose of system maintenance is to reduce undetected errors from previous stages, improve system performance, and enhance service quality.

2 Research Method

According to Dini Silvi Purnia et al. (2020), descriptive research aims to understand the meaning of each variable, whether single or multiple, without correlating it with other variables. Descriptive research also seeks to provide a clear and effective explanation of the phenomena studied.

1. Data Collection Techniques

According to Siti Hanyfah et al. (2022), data collection in this study was carried out through two methods:

2. **Field Study**
 - a. **Observation**
Observation involves observing an object to obtain accurate information and recording all matters related to the research.
 - b. **Interview**
Interviews involve direct communication to obtain information from respondents. The data obtained during observation is reinforced through interviews.

3. Literature Study

The author conducted literature research by reading books in the library and seeking references from various online sources.

3 Problem Analysis

3.1 Document Analysis

Document analysis refers to the process of examining documents used within the system at PT Padi Sumber Tani, Tasikmalaya Regency. The following are the documents used at PT Padi Sumber Tani, Tasikmalaya Regency:

a. Paddy Purchase Receipt

Source: Warehouse Staff

Function: Serves as proof of paddy purchases from farmers or suppliers

Medium: Paper

Purpose: For financial records and raw material purchase reports

Frequency: Every time a purchase transaction occurs

b. Daily Production Report

Source: Head of Production

Function: Serves as proof and record of the amount of paddy milled and rice produced

Medium: Paper

Purpose: For management reporting and submission to the leadership

Frequency: Daily

c. Employee Payslip

Source: Finance Department

Function: Serves as proof of monthly salary payment to employees

Medium: Paper

Purpose: For employee reference and financial department records

Frequency: Monthly

d. Rice Delivery Report

Source: Warehouse Staff

Function: Serves as proof of goods released for distribution

Medium: Paper

Purpose: For the distribution department and warehouse archives

Frequency: According to the delivery schedule

3.2 Technology Analysis

The technology used at PT Padi Sumber Tani, Tasikmalaya Regency, to manage transaction data for income and expenditure is still manual, utilizing books, pens, and calculators.

The specifications of devices that support the operation of the income and expenditure transaction system are as follows:

1. Hardware:

a. Laptop

b. Processor: Intel Core™

c. Memory: 6 GB

d. Keyboard

e. Mouse

f. Internet Network (Wi-Fi)

2. Software:
 - a. Windows 10 Home
 - b. Bootstrap
 - c. XAMPP
 - d. Visual Studio Code
3. **Brainware:**
Administrator

4 Results and Discussion

Use Case Diagram:

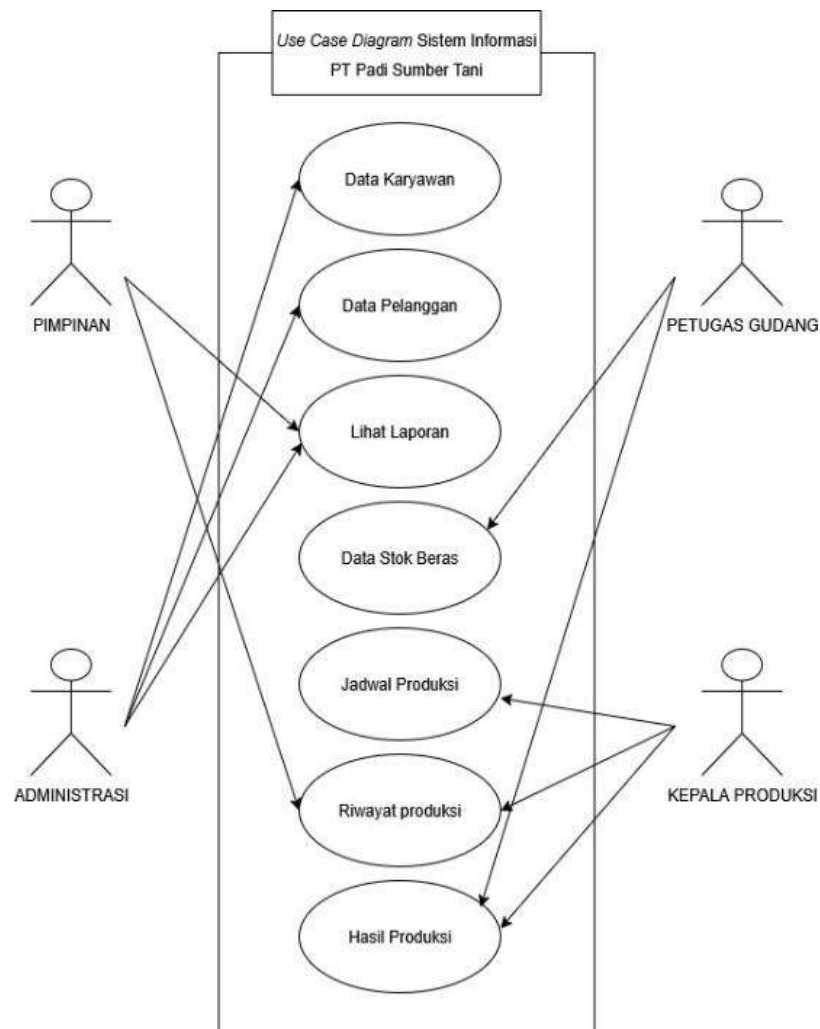


Figure 1. Current Use Case Diagram

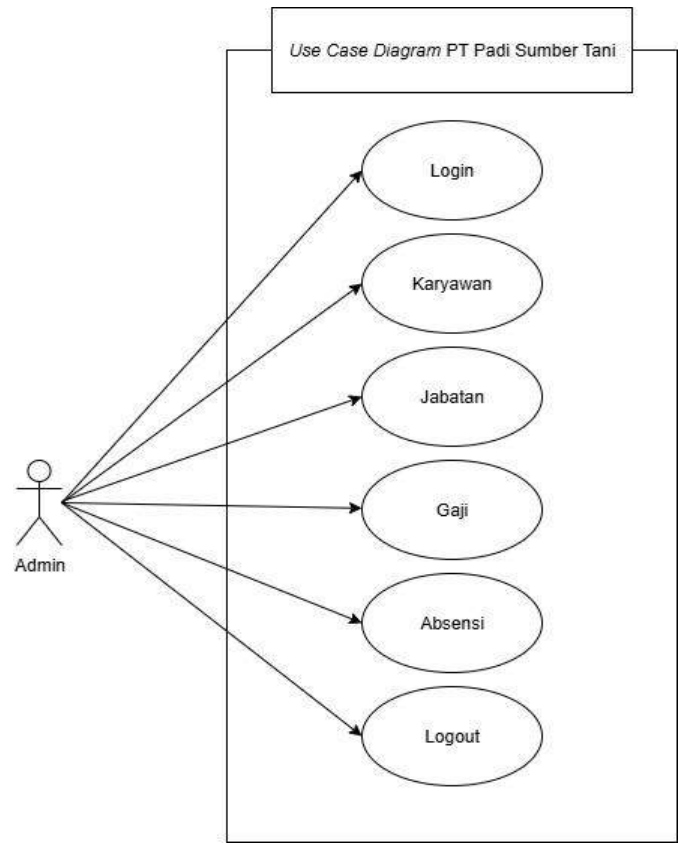


Figure 2. Proposed Use Case Diagram

Context DiagramActivity Diagram:

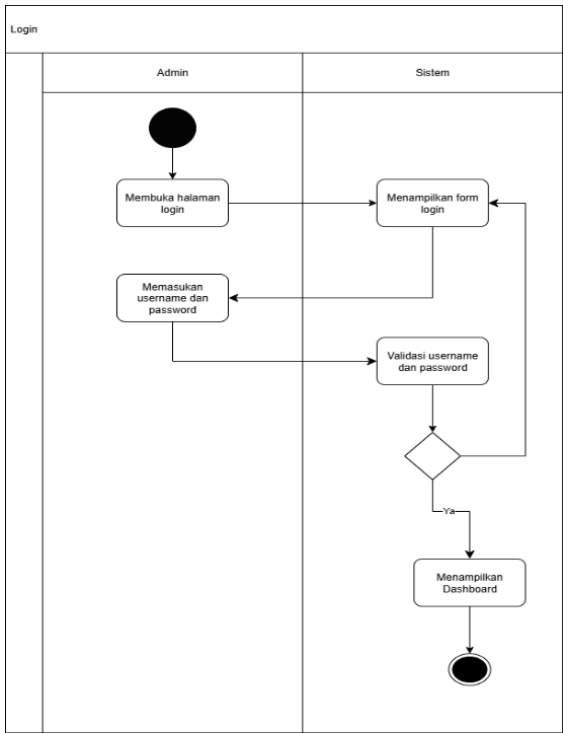


Figure 3. Login Activity Diagram

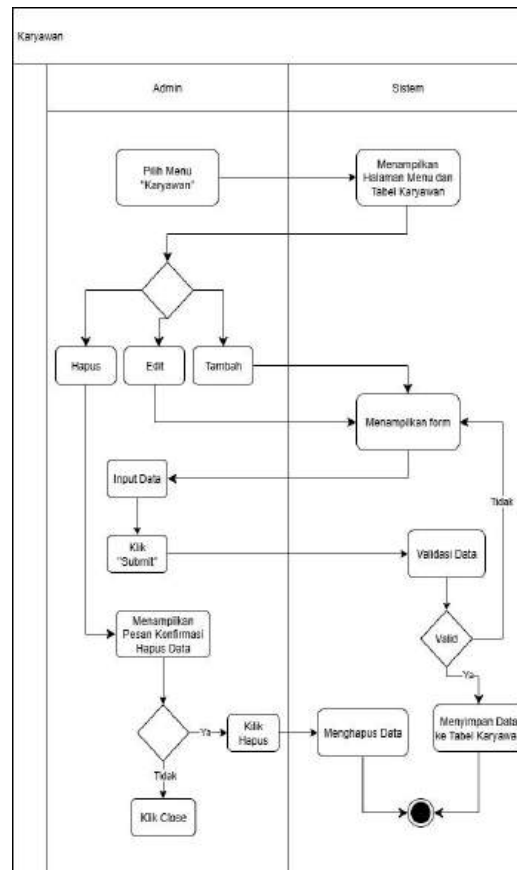


Figure 4. Employee Activity Diagram

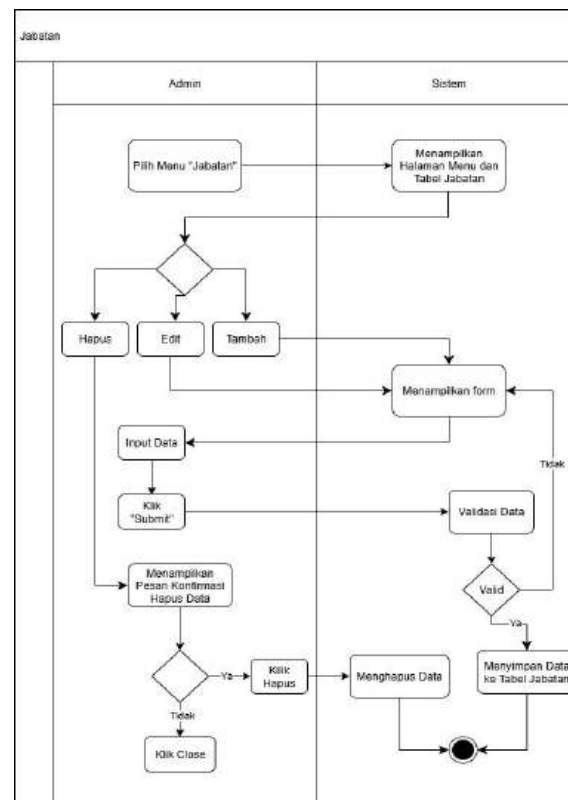


Figure 5. Position Activity Diagram

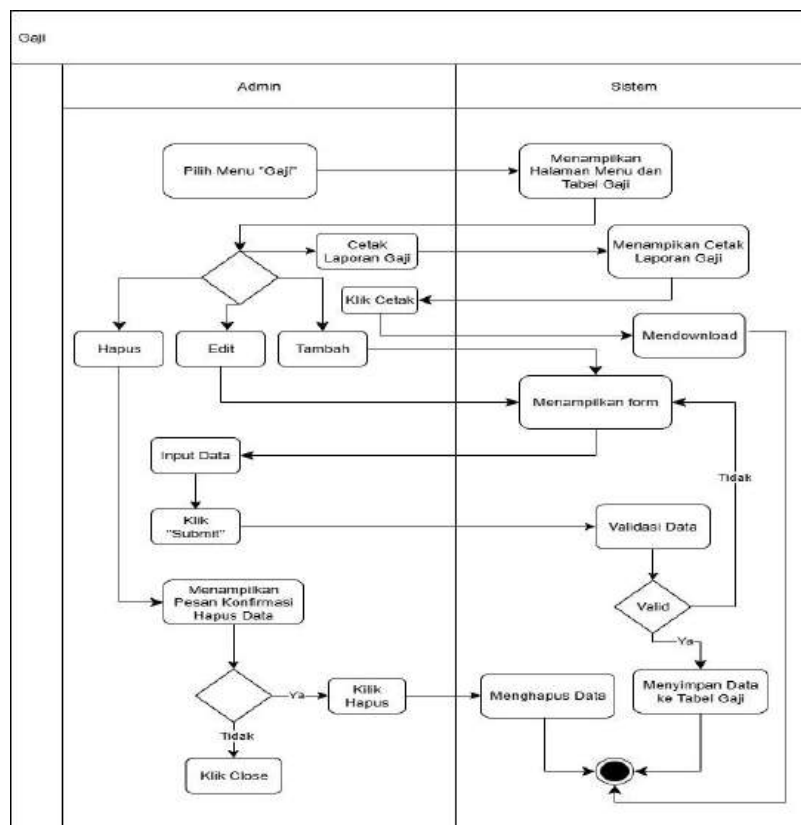


Figure 6. Payroll Activity Diagram

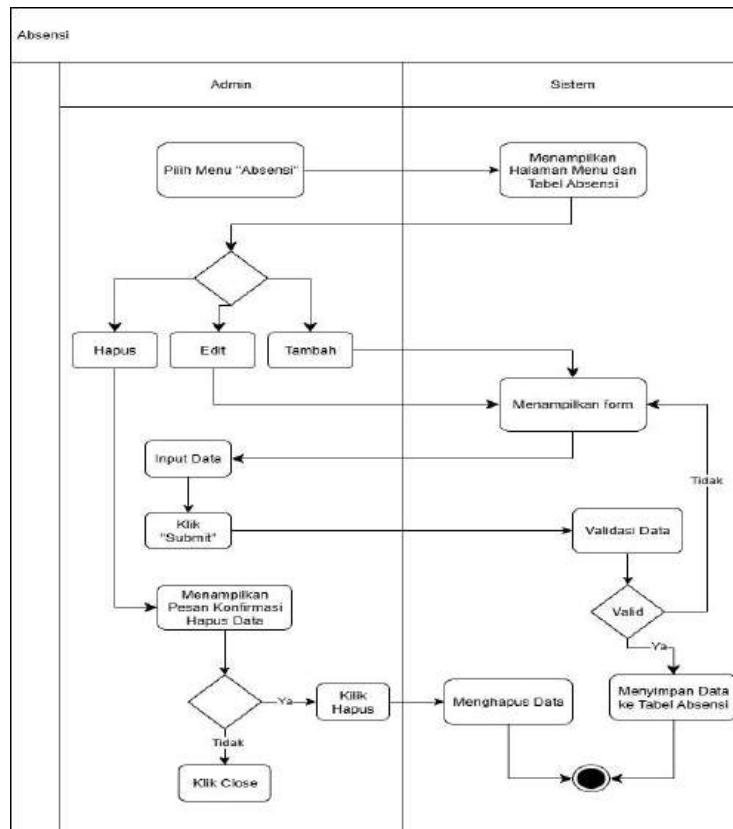


Figure 7. Attendance Activity Diagram

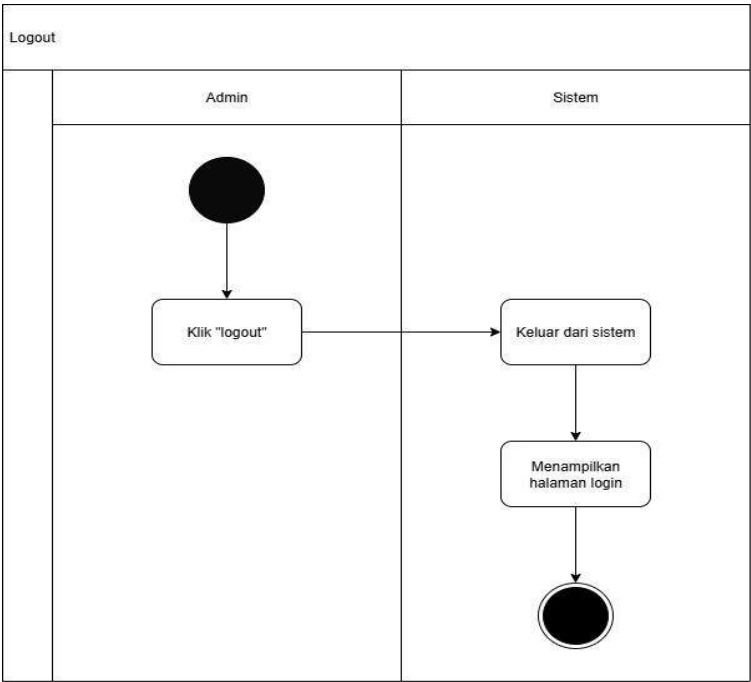


Figure 8. Logout Activity Diagram

Sequence Diagram

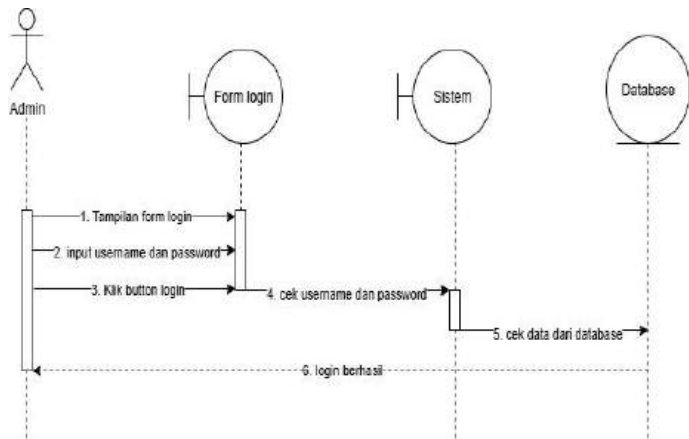


Figure 9. Login Sequence Diagram

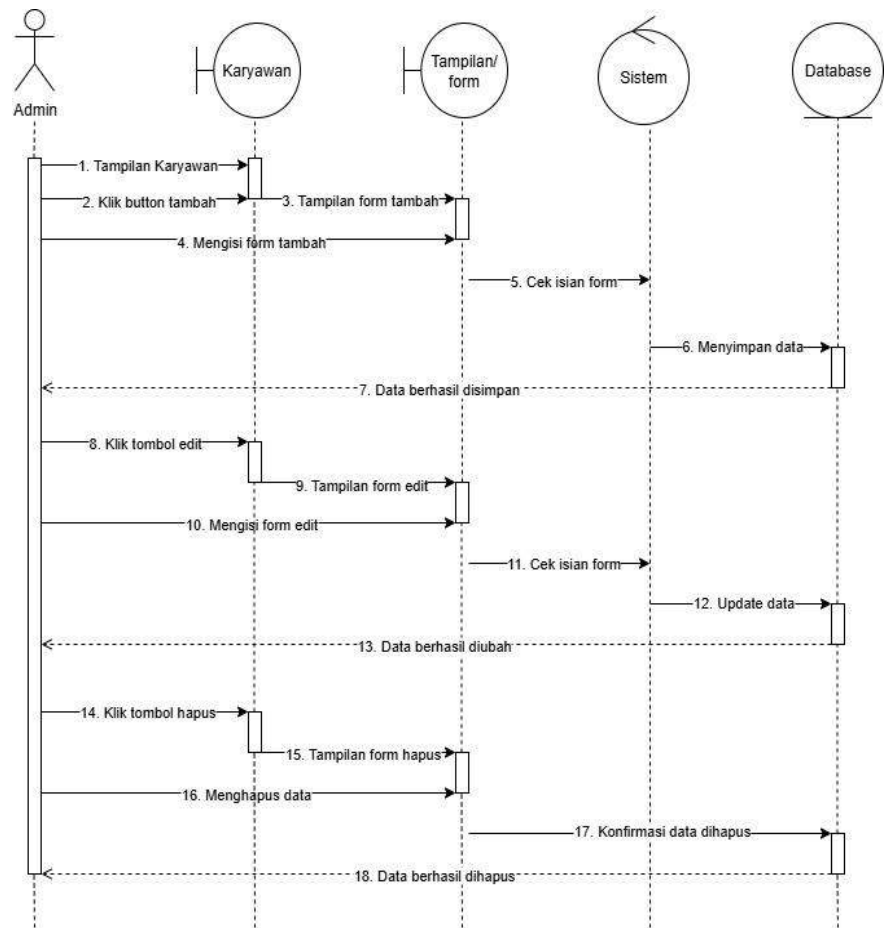


Figure 10. Employee Sequence Diagram

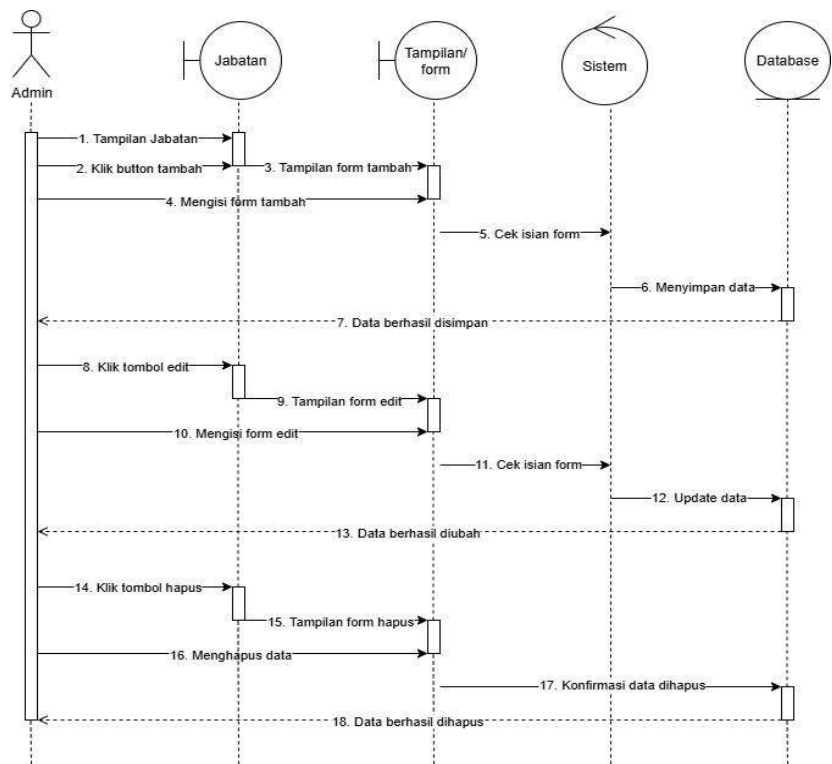


Figure 11. Position Sequence Diagram

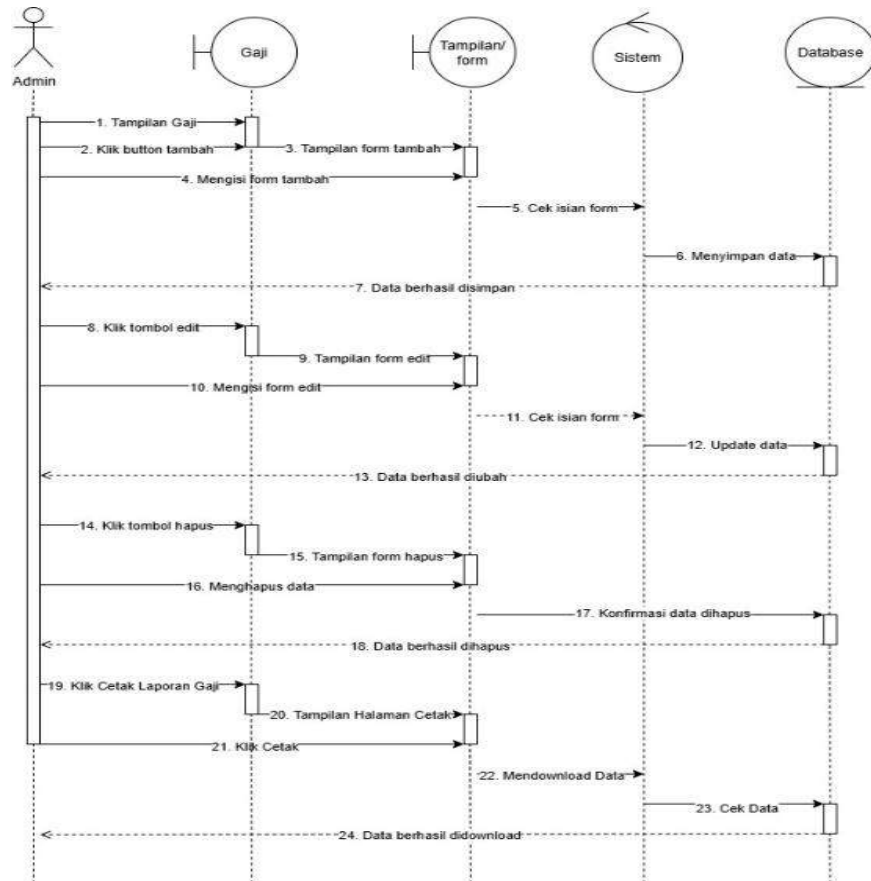


Figure 12. Payroll Sequence Diagram

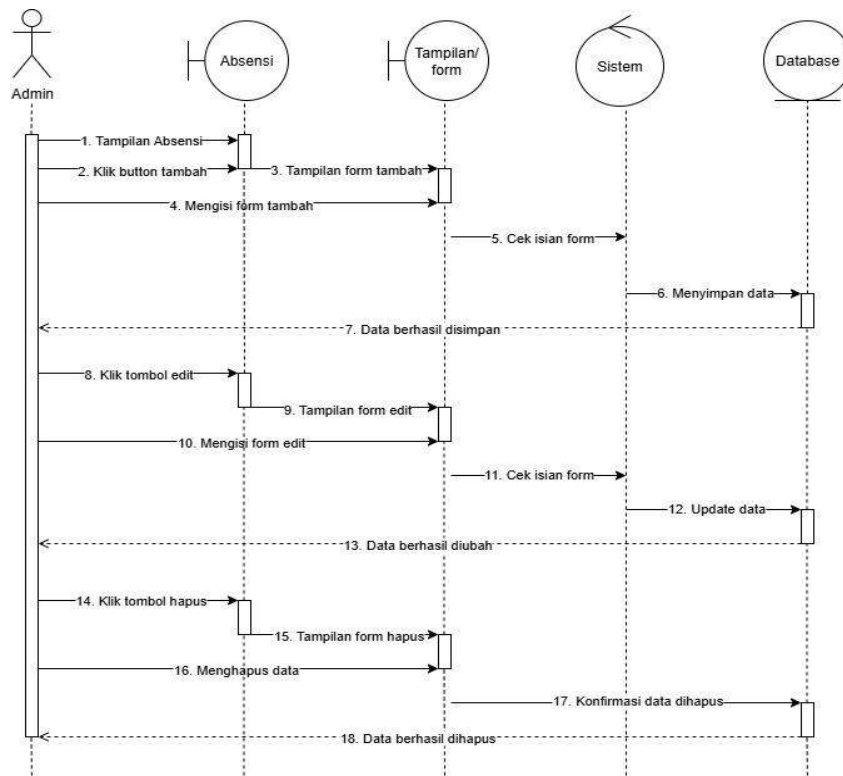


Figure 13. Attendance Sequence Diagram

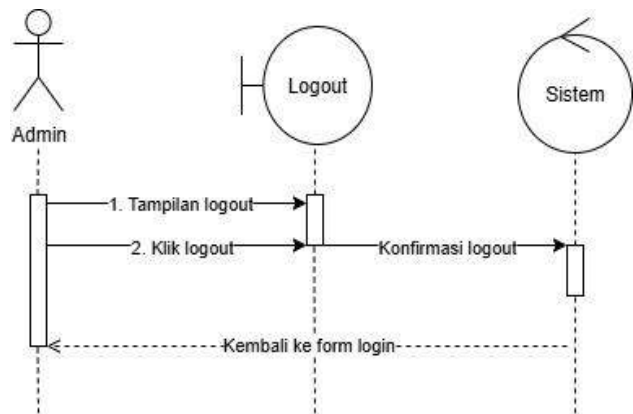


Figure 14. Logout Sequence Diagram

Class Diagram

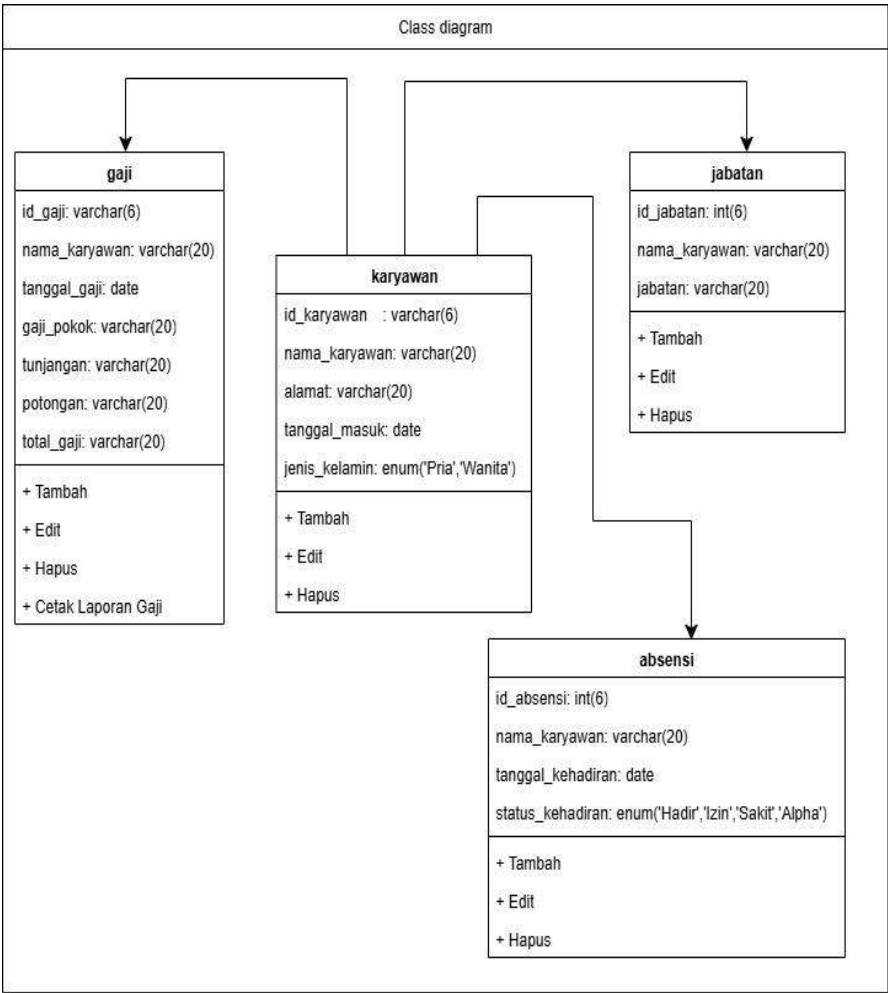


Figure 15. Class Diagram of PT Padi Sumber Tani

Interface Design

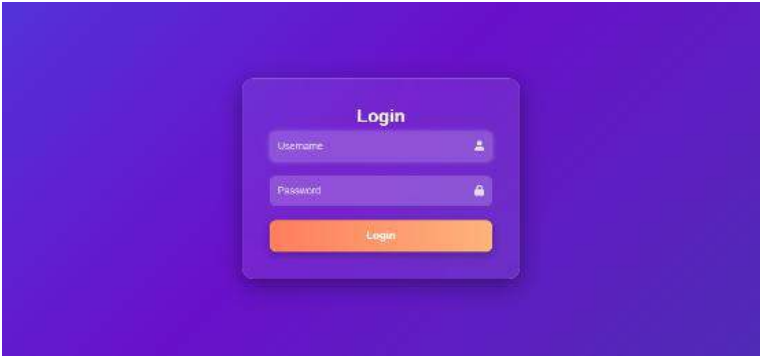


Figure 16. Login Page Design

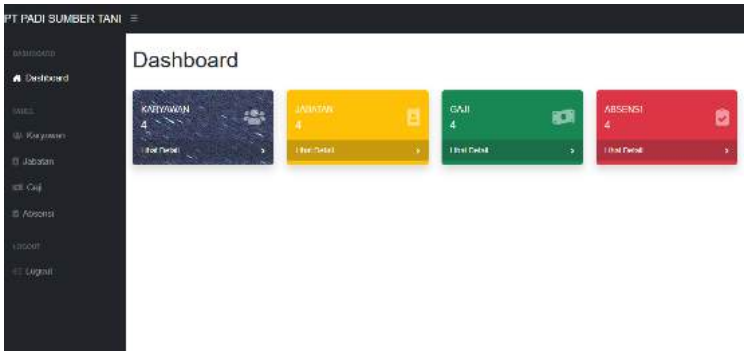


Figure 17. Dashboard Page Design

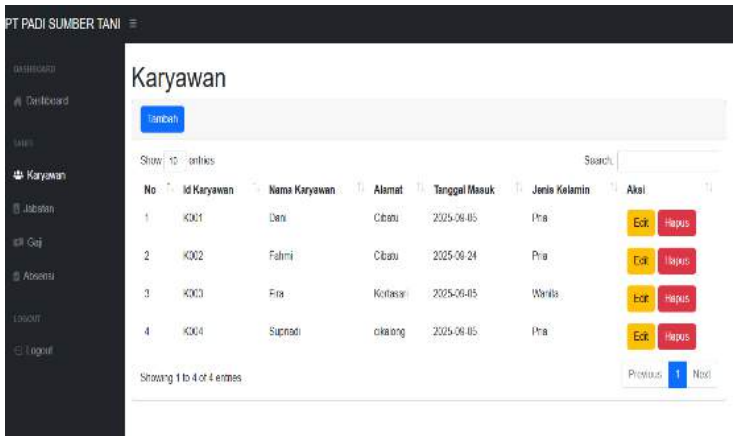


Figure 18. Employee Page Design

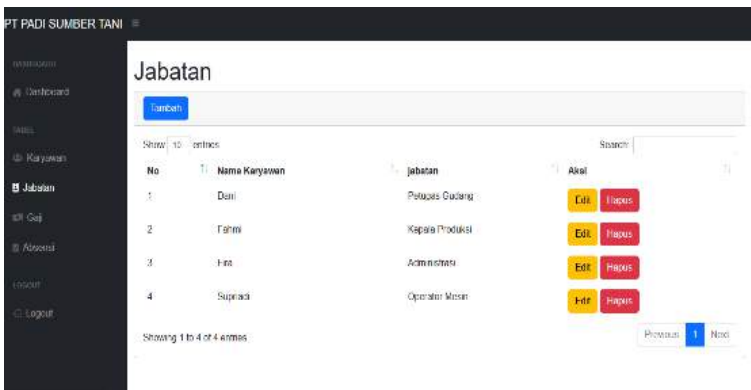


Figure 19. Position Page Design

Implementation of a Web-Based Payroll Information System Design at PT Padi Sumber Tani in Tasikmalaya Regency

PT PADI SUMBER TANI

Dashboard

TABEL

- Karyawan
- Jabatan
- Gaji
- Absensi

Logout

Gaji

Tambah Cetak Laporan Gaji

Show 10 entries Search:

No	ID Gaji	Nama Karyawan	Tanggal Gaji	Gaji Pokok	Tunjangan	Potongan	Total Gaji	Aksi
1	G001	Dani	2025-09-06	Rp 2.000.000	Rp 100.000	Rp 40.000	Rp 2.060.000	Edit Hapus
2	G002	Fahmi	2025-09-06	Rp 2.000.000	Rp 100.000	Rp 50.000	Rp 2.050.000	Edit Hapus
3	G003	Fira	2025-09-06	Rp 2.000.000	Rp 100.000	Rp 30.000	Rp 2.070.000	Edit Hapus
4	G004	Supriadi	2025-09-06	Rp 2.000.000	Rp 100.000	Rp 20.000	Rp 2.080.000	Edit Hapus

Showing 1 to 4 of 4 entries

Previous 1 Next

Figure 20. Payroll Page Design

PT PADI SUMBER TANI

Dashboard

TABEL

- Karyawan
- Jabatan
- Gaji
- Absensi

Logout

Absensi

Tambah

Show 10 entries Search:

No	Nama Karyawan	Tanggal Kehadiran	Status Kehadiran	Aksi
1	Dani	2025-09-06	Hadir	Edit Hapus
2	Fahmi	2025-09-06	Izin	Edit Hapus
3	Fira	2025-09-06	Hadir	Edit Hapus
4	Supriadi	2025-09-06	Absen	Edit Hapus

Showing 1 to 4 of 4 entries

Previous 1 Next

Figure 21. Attendance Page Design

PT PADI SUMBER TANI

Kp. Kertasari RT 01 / RW 06, Condong, Jamanis, Tasikmalaya
Telp. (0265) 123456

LAPORAN DATA GAJI KARYAWAN

Periode: September 2025

No	ID Gaji	Nama Karyawan	Tanggal Gaji	Gaji Pokok	Tunjangan	Potongan	Total Gaji
1	G001	Dani	2025-09-10	Rp 2.000.000	Rp 100.000	Rp 30.000	Rp 2.080.000
2	G002	Nurul	2025-09-10	Rp 2.000.000	Rp 100.000	Rp 30.000	Rp 2.080.000
3	G003	Umar	2025-09-10	Rp 2.000.000	Rp 100.000	Rp 30.000	Rp 2.080.000
4	G004	Dudung	2025-09-10	Rp 2.000.000	Rp 100.000	Rp 30.000	Rp 2.080.000
5	G005	Fira	2025-09-10	Rp 2.000.000	Rp 100.000	Rp 30.000	Rp 2.070.000
TOTAL KESELURUHAN							Rp 10.350.000

Tasikmalaya, 12 September 2025

Pimpinan

Nama Pimpinan

Figure 22. Employee Payroll Data Report Page Design

Reported System Testing Results

System testing was conducted using Black-Box Testing and User Acceptance Testing (UAT). The test involved 20 core payroll scenarios including login authentication, attendance input, position management, salary calculation, payslip generation, and report access.

Testing Results Summary:

1. Total test cases executed : 20
2. Successful test cases : 19
3. Failed test cases : 1 (related to simultaneous attendance input conflict – resolved in this revision)
4. System success rate : 95%

Performance Test:

1. Testing under 30 concurrent data inputs
2. Average salary processing response time : 2.1 seconds
3. Payslip generation time : 1.9 seconds per file

User Acceptance Test (UAT):

1. Respondents : 10 payroll staff and employees
2. Assessment instrument : 5-point Likert scale
3. Average usability score : 4.4 / 5 (categorized as “Very Good”)

These results indicate that the system is functional, efficient, and has met the company’s operational needs, proving its contribution as a reliable payroll solution.

Table 1. Evaluation Summary of System Testing Methods

Testing Type	Total Cases	Pass	Fail	Success Rate
Black-Box	20	19	1	95%
UAT	Survey Score	4.4/5	–	Very Good
Performance	Response Time	2.1 sec	–	Fast

5 Conclusion and Suggestion

5.1 Conclusion

Based on the background, problem formulation, analysis, and discussion regarding the implementation of a web-based payroll information system at PT Padi Sumber Tani, Tasikmalaya Regency, the author concludes the following:

1. The current implementation of the Web-Based Payroll Information System Design at PT Padi Sumber Tani, Tasikmalaya Regency, remains ineffective and inefficient in data processing, as it still relies on manual operations that require more time.
2. The proposed implementation of the Web-Based Payroll Information System Design at PT Padi Sumber Tani, Tasikmalaya Regency, can reduce the likelihood of errors and make the payroll process more effective and efficient.

5.2 Suggestions

The following suggestions are provided to further improve the implementation of the web-based payroll information system, with the hope that the system will function more effectively and provide a better user experience:

1. The information system should be continuously developed and refined to ensure user comfort and ease of use.
2. Regular evaluations should be conducted to ensure the system operates optimally and meets user needs effectively.

5.3 Study Limitations

This study has several limitations. First, system testing was conducted only within the environment of PT Padi Sumber Tani in Tasikmalaya Regency, involving payroll staff and employees as direct users, which may limit broader generalization. Second, performance testing was constrained to 30 concurrent data inputs due to local infrastructure capacity. Third, the evaluation period covered only 2 months, so long-term system reliability beyond this timeframe remains to be investigated. Future studies may extend the testing duration and scale to strengthen scalability claims.

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