



Design and Construction of Drug Sales and Inventory Applications at Sumber Sehat Pharmacy in Torjun District

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Abstract

This article presents the design and implementation of an application tailored to streamline the sales and supply processes of medicines at the Sumber Sehat Pharmacy located in the Torjun District. With the growing demand for efficient pharmaceutical services, the development of this application addresses the need for modernized systems to manage inventory, facilitate sales transactions, and enhance customer service. The application integrates user-friendly interfaces for both pharmacy staff and customers, ensuring ease of use and accessibility. Through the utilization of technology, the Sumber Sehat Pharmacy aims to optimize its operations, improve inventory management, and ultimately elevate the quality of healthcare services provided to the community. This study highlights the significance of technological innovation in the pharmaceutical sector and offers insights into the practical implementation of digital solutions within pharmacy settings.

Keywords: Application, Sales, Supplies, Pharmacy, Health

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1. Introduction

In the current digital era, information technology has a very important role in various aspects of life, including in the health sector. One aspect that has been significantly impacted is the management of drug sales and inventory in pharmacies. Sumber Sehat Pharmacy, located in Torjun District, faces challenges in managing drug stock and sales effectively and efficiently. The manual management that is still used today often causes various problems such as stock discrepancies, recording errors, and slow sales processes, which in the end can affect service to customers. Therefore, an application system is needed that is able to integrate the sales process and drug inventory management in real-time and automatically.

Previous studies have shown that the implementation of sales and inventory information systems in various sectors, including pharmacies, can improve the efficiency and accuracy of stock management and customer service. For example, Putra and Sari (2019) found that web-based information systems in bookstores can reduce recording errors and speed up the sales process. Likewise, Wijaya (2020) shows that the Waterfall method in developing drug inventory applications in pharmacies is able to produce a system that is robust and easy to use. In addition, Yuniarti and Ramadhan (2018) stated that pharmacy information systems can increase customer satisfaction through faster and more accurate services. The development of this application will use the latest technology to ensure data reliability and security. Puspita and Rahman (2017) developed an Android-based application that makes access and use easier for pharmacists and customers. Santoso (2019) also emphasizes the importance of good system analysis and design to produce applications that suit pharmacy needs. Research by Ananda and Suryadi (2021) highlights the importance of optimizing inventory management to avoid shortages or excess stock which can be detrimental to pharmacies.

In addition, Lestari (2018) shows that the drug inventory management information system in pharmacies is able to provide more accurate and faster reports to management. Rahmawati and Nugroho (2020) found that implementing a web-based system makes it easier to access information and manage drug stocks in real-time. Firmansyah (2019) developed a desktop-based inventory application that helps pharmacies record and monitor drug stocks more efficiently. Finally, Susanto (2021) shows that the Agile method in developing information systems for drug sales and inventory can produce applications that are flexible and easy to adapt according to pharmacy needs. Through literature review and needs analysis, this research will design and build an application that is expected to be able to meet the operational needs of the Sumber Sehat Pharmacy in Torjun District effectively and efficiently.

From the introduction above, the problem formulation can be described as follows:

- Stock differences due to manual management.
- Errors in recording stock and sales data.
- Inefficient sales process.

And from the problem formulation above, a solution can be found as follows:

- Automated Inventory Management System
- Integrated Sales and Inventory System
- Efficient Sales Process

2. Research Methods

2.1. Problem Analysis

Problem analysis shows that the Sumber Sehat Pharmacy in Torjun District faces difficulties in managing stock and sales of medicines manually, causing stock discrepancies, recording errors, and slow sales processes.

2.2. Proposed Analysis

- DFD Level 0

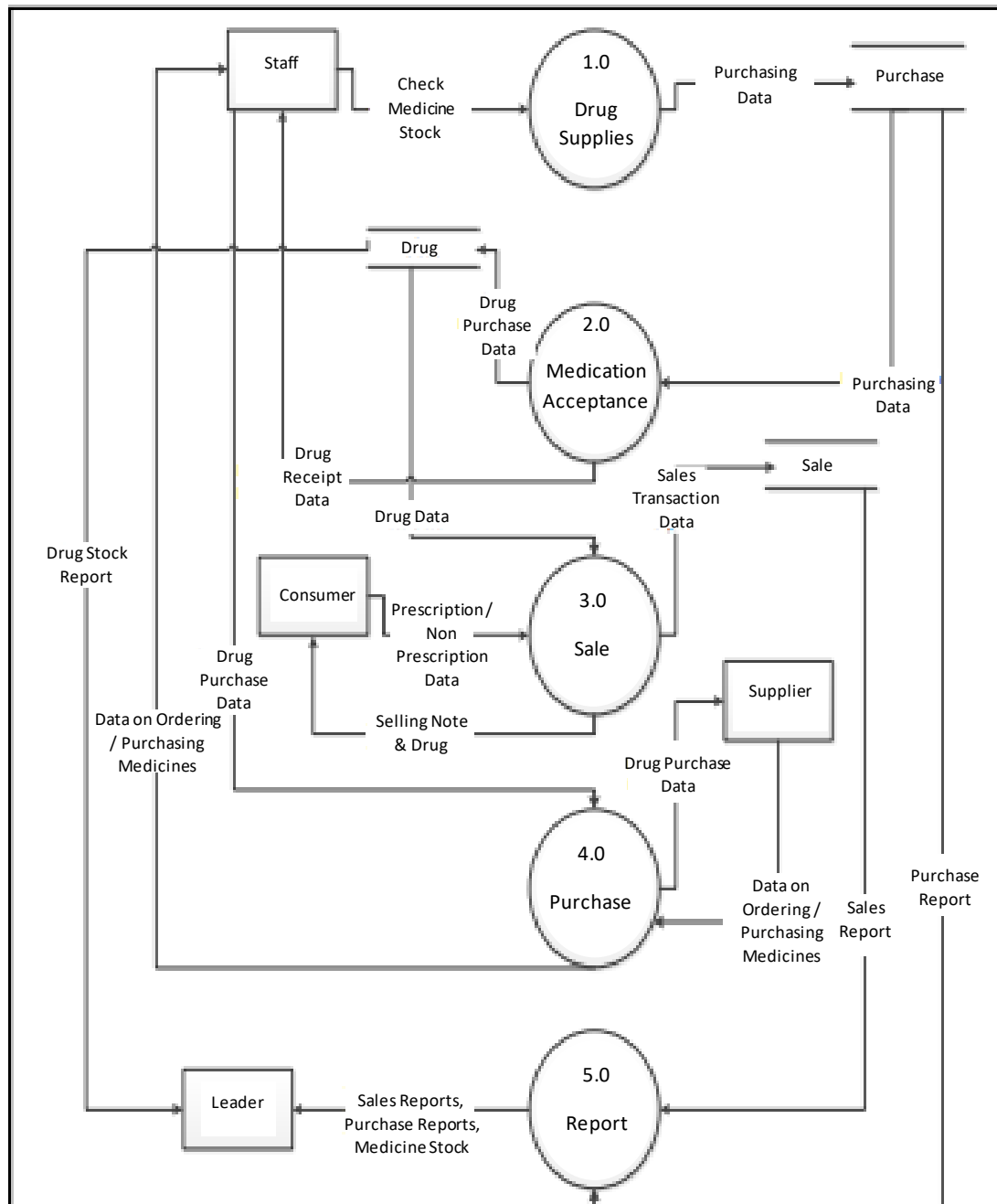


Figure 1. DFD Level 0

b. DFD Level 1 Process 1

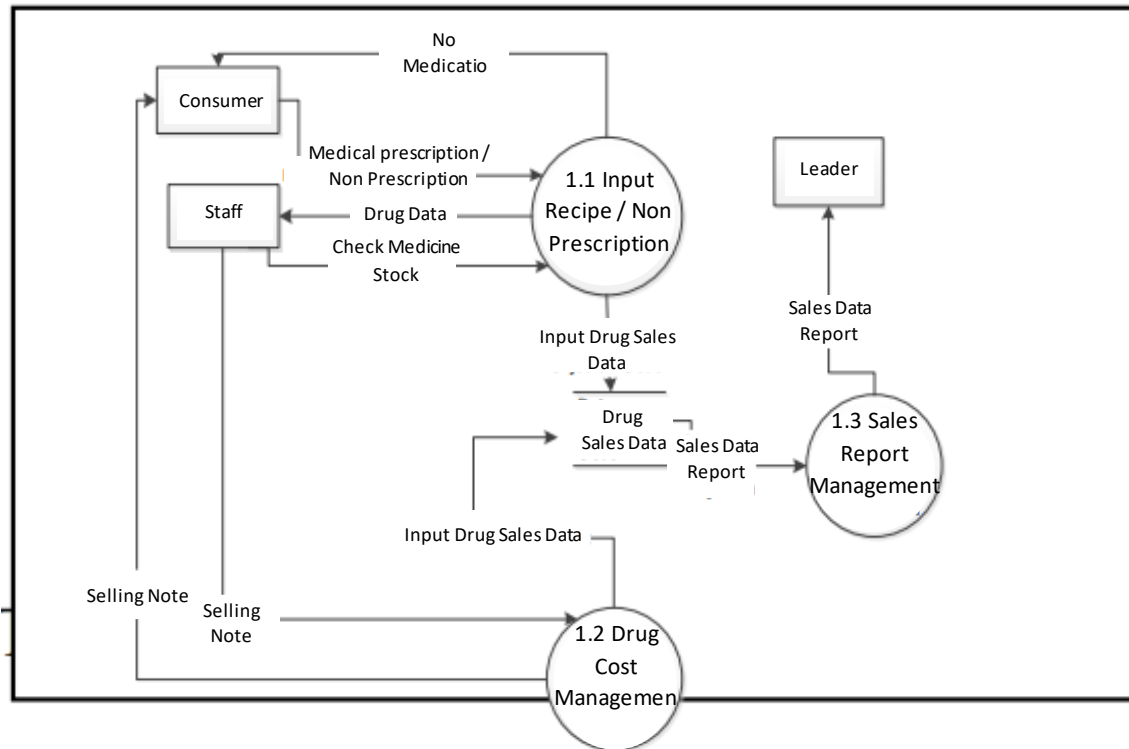


Figure 2. DFD Level 1 Process 1

c. DFD Level 1 Process 2

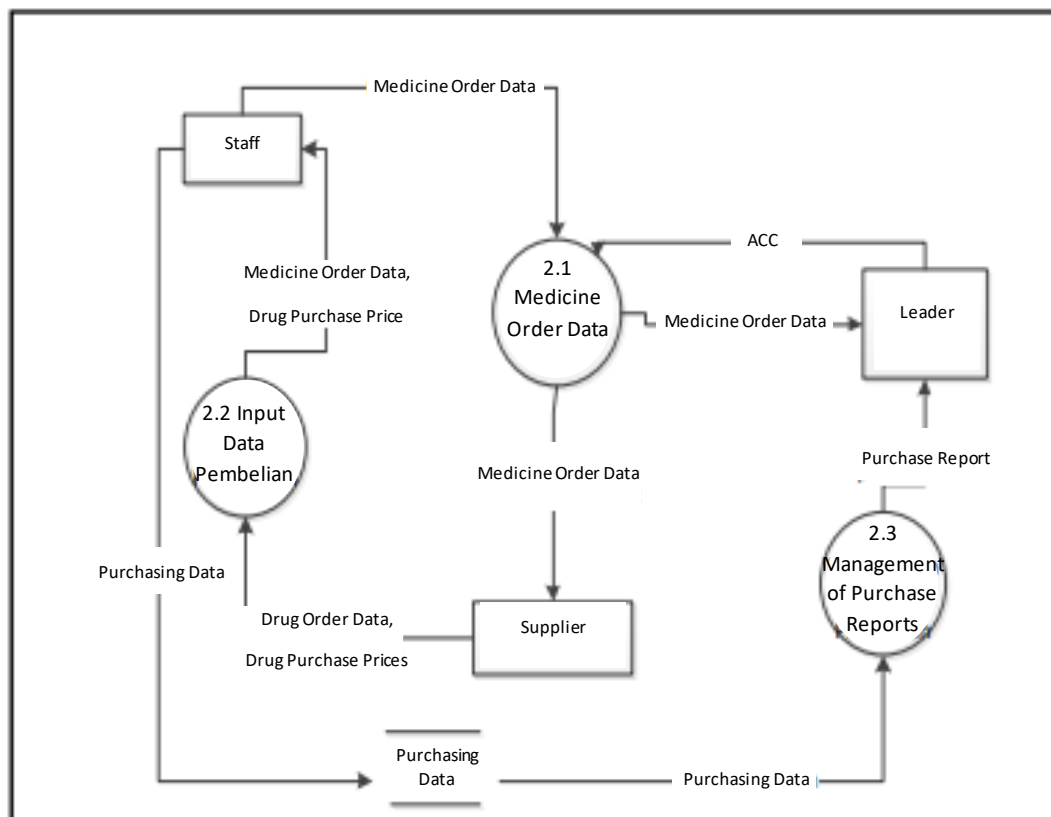


Figure 3. DFD Level 1 Process 2

d. Table Relations

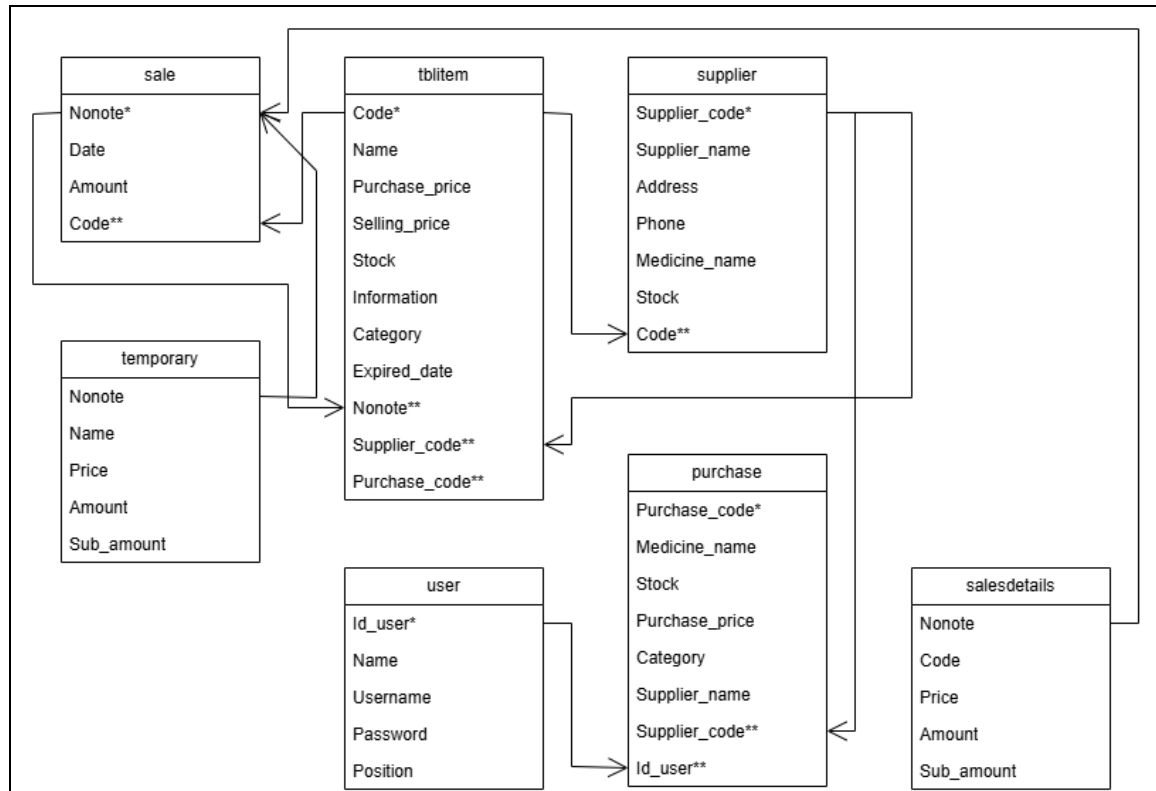


Figure 4. Table Relations

e. Entity Relationship Diagrams

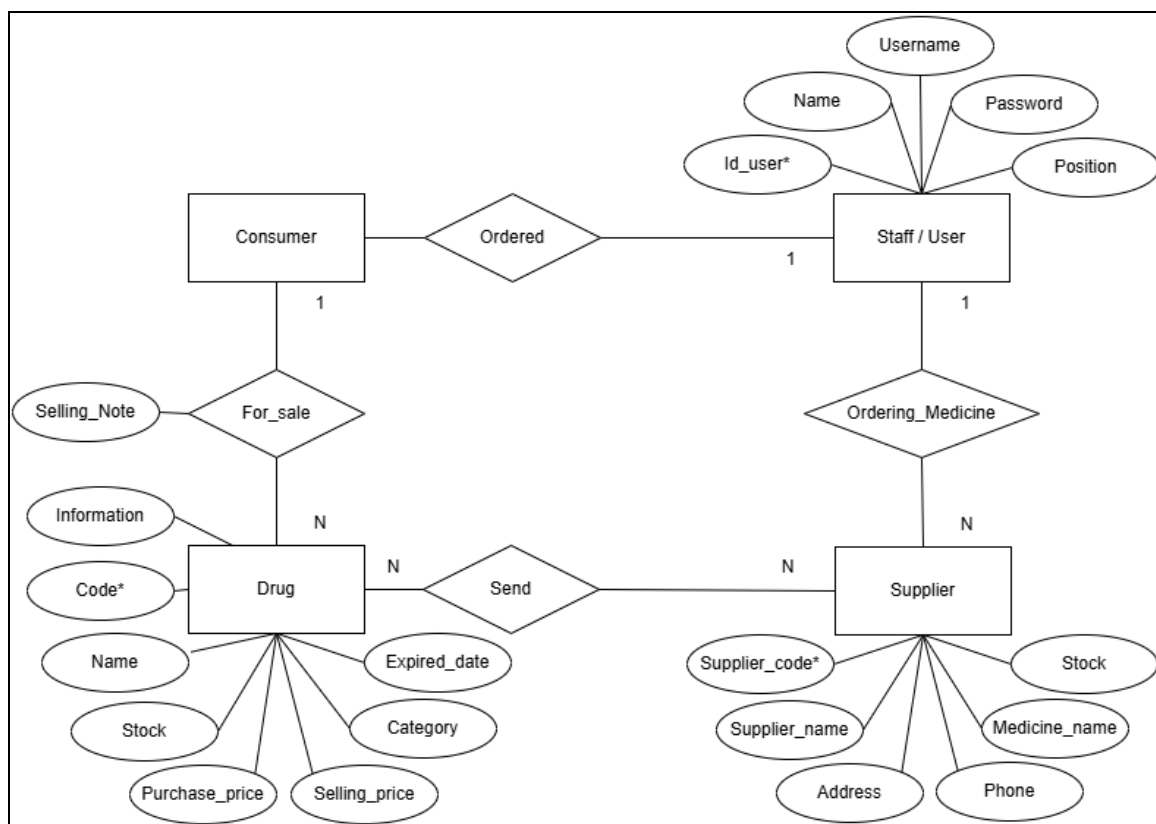


Figure 5. Entity Relationship Diagrams

3. Results and Discussion

In this research, several theories are discussed, which are taken from several journals. The following are several theories discussed in this research:

3.1. Understanding Design

Indrawan and Setiawan. (2019). Design in a technical context means the process of designing or planning something systematically before implementation or manufacture. It includes identifying needs, formulating goals, and developing solutions to achieve desired results.

3.2. Understanding Wake Up

Arifin and Nugroho. (2018). Build in the context of software development refers to a series of processes that include designing, implementing, and testing an application or system. This process aims to create a software solution that fits the specific needs that have been identified.

3.3. Understanding Wake Up Design

According to Arifin and Nugroho (2018). "Design-building is the process of creating an application starting from requirements analysis, system design, development, to testing and implementation."

3.4 Understanding Application

Use According to Hengky (2010). "Application is a single software unit created to serve the need for some activities such as systems commerce, gaming, community service, advertising or all related processes almost done by humans."

3.5 Understanding Drug

According to Anief (2010:13). "Medicine is a substance intended to be used to diagnose, prevent, reduce, eliminate, cure disease or symptoms of disease, injury or physical and spiritual disorders in humans or animals, beautify the body or parts of the human body".

3.6 Understanding Pharmacy

Siregar and Hutasoit (2020). "A pharmacy is a health service facility where pharmaceutical practice is carried out by pharmacists which aims to improve the quality of life of patients through the rational and safe use of medicines."

3.7 Understanding Sale

Rosly and Baker (2016). Sales are activities that involve exchanging goods or services in exchange for money or other value. It includes a variety of activities aimed at influencing consumer purchasing decisions.

3.8 Understanding Supply

According to Heizer and Render (2014). "Inventory includes goods stored for sale in the future or raw materials that will be used to produce goods to be sold".

3.9 Understanding Health

Larson (1999). Health is a state of well-being that includes physical, mental and social well-being, not just the absence of disease or infirmity. This concept reflects a holistic understanding of health that covers various aspects of human life.

3. Conclusion

From the discussion above, it can be concluded that the main aim of designing this application is to increase efficiency and accuracy in managing drug stock and speed up the sales transaction process.

Through a systematic approach in needs analysis, design, and implementation, this application is designed to provide features such as sales recording, real-time drug inventory monitoring, and automatic reports that help pharmacy owners make better decisions related to inventory management. The results of implementing this application show increased operational efficiency, reduced human error in stock recording, and faster service to customers. Thus, the design of this application not only provides an effective technical solution for pharmacy management but also supports improving the quality of health services in Torjun District.

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