



Information System Design of Sales Promotion and Production Inventory Management using Fifo Method

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Article Info

Keywords:

Information System
Design of System
Inventory Management
Fifo Method

ABSTRACT

Toko Kerupuk Sanjai Bintang Baru This company produces and sells its products to consumers, but starting from production, production and sales inventory management still fully uses a manual system, starting from calculating production profits, production sales policies based on expiration dates, as well as the sales system. still conventional. The methods used in this research are interviews, observation, literature study, analysis, system design, testing, and implementation. From this research it is hoped that the information system created can provide convenience in the implementation of the Sanjai Bintang Baru Store will improve its production methods and sales promotion, so that collaboration with information system technology can help and provide benefits to the Sanjai Bintang Baru Store itself.

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1. INTRODUCTION (10 PT)

In an era that is full of technology like today, various state, private and individual companies are competing to improve their company's performance, starting from the use of technology as a means of production, as a support for the effectiveness and efficiency of production costs and so on. With an information system embedded in a trading company, it will provide various benefits including the accuracy of processing production data, inventory management, to sales promotion. The long-term impact is even more promising for an effective and efficient flow of trading performance [1]

The trading company this time was the Sanjai Bintang Baru Cracker Shop which is located in the City of Bukittinggi. This company produces as well as sells its products to consumers, but starting from production, production and sales inventory management still fully uses a manual system, starting from the calculation of production profits, production sales policies based on expiration dates, as well as its sales system which is still conventional. [2] Using the Information System this time the author hopes that the Sanjai Bintang Baru

Store will improve its production and sales promotion methods, so that by collaborating with information system technology it can help and provide benefits to the Sanjai Bintang Baru Shop itself [3]

Based on the description of the background of the problem above, as well as the goals that the writer hopes for, the writer will give the title of this research, namely, "sales promotion information system design and production inventory management using the fifo method at keupuk sanjai bintang baru bukittinggi [4].

Literature Review

The system is a collection of elements that are interrelated with one another that cannot be separated, to achieve a certain goal. In simple terms, a system can be interpreted as a collection or set of elements, components, or variables that are organized, integrated, interdependent, and integrated.[5] A system consists of parts or components that are integrated for one purpose. A system is made to handle something that occurs repeatedly or regularly. The systems approach is a philosophy or perception of structure that coordinates activities and operations within an organization in an efficient and better way.[6]

Information System is a system within an organization that meets the needs of daily transaction processing, support, operations, managerial and strategic activities of an organization and certain external party investigations with the necessary reports.[7]

At the general system design stage, information system components are designed with the aim of being communicated to users. The designed information system components are model, output, input, database, technology and control.[8]

UML

UML is a visual language for modeling and communicating about a system using diagrams and supporting texts. UML only serves to do modeling. So the use of UML is not limited to a particular methodology, despite the fact that UML is most widely used in object-oriented methodologies.

The types of diagrams used in making UML diagrams include:[9]

Use Case Diagram

Use Case Diagrams or use case diagrams are modeling to describe the behavior of the system to be made. Use Case Diagram describes an interaction between one or more actors with the system to be created. Roughly speaking, use case diagrams are used to find out what functions are in a system and who has the right to use these functions.[10]

Class Diagram

Class Diagram describes the structure of the system in terms of defining the classes that will be made to build the system. Classes have what are called attributes and methods or operations.[11]

Sequence Diagram

Sequence Diagram describes the behavior of objects in use cases by describing the life time of objects and messages sent and received between objects. Therefore, to describe a sequence diagram, it is necessary to know the objects involved in a use case along with the methods of the class instantiated into that object. The number of sequence diagrams that must be drawn is at least as much as defining use cases that have their own processes or what is important is that all use cases that will be defined, the interaction of the way the message is included in the sequence diagram. [12]

Activity diagrams

Activity diagrams describe the workflow or activity of a system or business process or menu in the software. What needs to be considered here is that the activity diagram describes what system activities are carried out by actors, so the activities carried out by the system [13].

Database System

A database system is basically a computerized record keeping system that is a computerized system whose overall purpose is to store information and allow users to retrieve and update that information upon request. [6]

DBMS (Database Management System)

or in Indonesian often referred to as Database Management System is an application system that is used to store, manage, and display data. An application system is called a DBMS if it meets the following minimum requirements:

1. Provide facilities to manage data access.
2. Able to handle data integrity.
3. Able to handle data access that is done online.
4. Able to handle data backup. [14]

2. RESEARCH METHOD (10 PT)

To achieve accuracy and thoroughness of data and information in this study, data collection was carried out in various ways:

1. First In First Out
Produce a software Sales Promotion Information System and Inventory Management FIFO Method that is able to help manage and improve company performance in production management, inventory management and sales promotion
2. Field Research
In this case, research is carried out directly in the field to collect data directly by presenting questions and collecting the necessary data.
3. Library Research
Data collection was also carried out by reading books related to this research, as well as articles from the internet.
4. Interview method
Collecting data by holding interviews in the form of question and answer directly with employees in the company to obtain data and information related to making the system.[12]

Proposed new system

In designing or developing an ideal and relatively cost-free system. The use of computers is not only seen in terms of profit and loss, but also the work efficiency that we will get by using a computer. Proposals in improving the Sales Promotion System and Production Inventory Management that exist within the company are:

1. Improve existing systems that still use manual methods for Sales Promotion and Production Inventory Management.
2. Create a production management feature for the application of the FIFO method within the company
3. Preparation of production reports, order reports, stock reports, and company profit and loss estimates.
4. Conducting sales promotions in product sales using a web-based information system. [15]

3. RESULTS AND DISCUSSION (10 PT)

At this time there is still no program for sales promotion implemented by the Sanjai Bintang Baru Crackers Shop and the ordering system still uses mobile communication or instant messaging, as well as recording production reports, order reports, production reports, sales reports and management processes still using the old method. In the use of the current system there are many errors in recording production reports, order reports, sales reports and management systems for managing production results until they reach the hands of consumers [13].

Use case diagrams are series/descriptions that are interrelated and form a regular system that is carried out or supervised by an actor. Use case diagrams are used to shape the behavior of objects in a model and are realized by a collaboration. The use case itself describes the system process or system requirements from the user's point of view. The use case diagram of the Sales Promotion

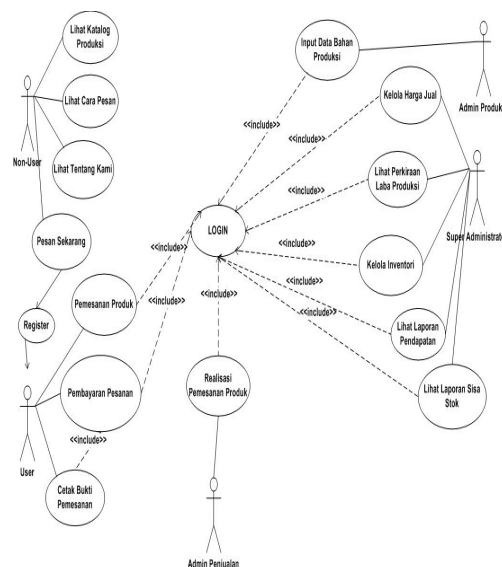


Figure 1 Use Case Diagram Sanjai Bintang Baru

Class Diagram

Class diagrams describe the structure and description of classes, packages and objects, along with their relationships with each other such as containment, inheritance, association, and so on. The class diagram of the sales promotion data processing information system and production inventory management of the Sanjai Bintang Baru Crackers Shop can be described as shown in Figure 2.

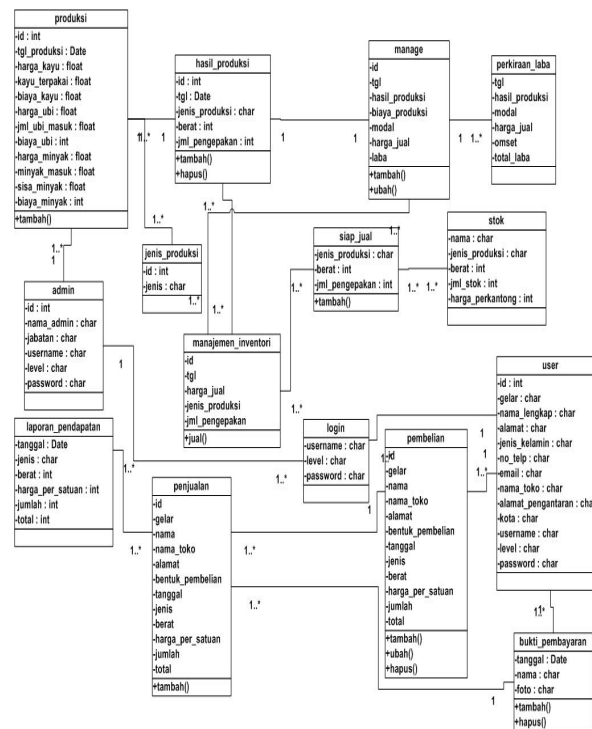


Figure 2 Class Diagram of Sales Promotion Information System and Production Inventory Management at the Sanjai Bintang Baru Cracker Shop

User Sequence Diagrams

User Sequence diagrams in the Sales Promotion Information System and Production Inventory Management at Toko Sanjai Bintang Baru can be described as shown in Figure 3.

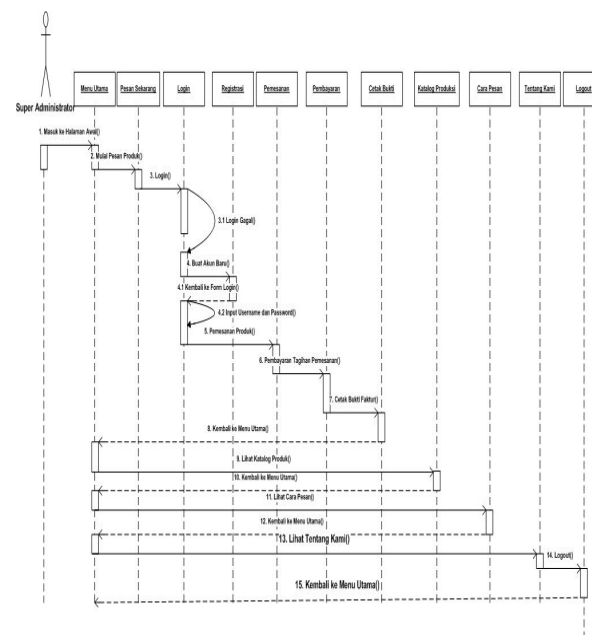


Figure 3 User Sequence Diagram

System testing

System testing aims to see whether the designed system is in accordance with what is desired or not, after testing, the quality of a system will be seen. The appearance of the program is a sub-chapter that explains the process from starting until the program is finished executing, the points in this sub-chapter will explain how a form is executed and what functions are contained in the form.

1. Admin Login Page

The Login Page works so that the admin can access the page and do the work. The display of the Login Page can be seen in Figure 4.

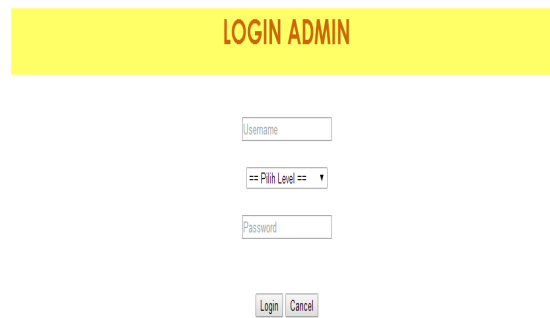
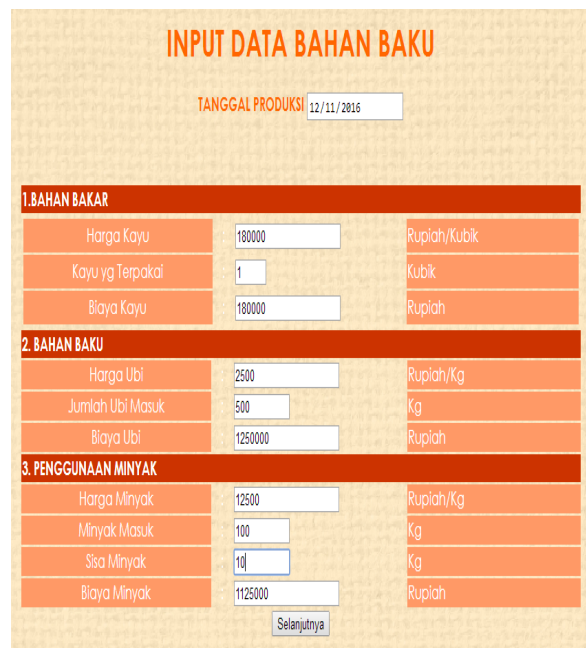


Figure 4 Login Page

2. Production Data Input Page

The Production Data Input page functions to input data by the production admin relating to production raw materials in one production period, as shown in figure 5.



1. BAHAN BAKAR		
Harga Kayu	180000	Rupiah/Kubik
Kayu yg Terpakai	1	Kubik
Biaya Kayu	180000	Rupiah

2. BAHAN BAKU		
Harga Ubi	2500	Rupiah/Kg
Jumlah Ubi Masuk	500	Kg
Biaya Ubi	1250000	Rupiah

3. PENGGUNAAN MINYAK		
Harga Minyak	12500	Rupiah/Kg
Minyak Masuk	100	Kg
Sisa Minyak	10	Kg
Biaya Minyak	1125000	Rupiah

Selanjutnya

Figure 5 Use Case Diagram Sanjai Bintang Baru

Product Order Page

On this page the user can order products according to what is listed and enter the number of orders as desired, as shown in Figure 6.

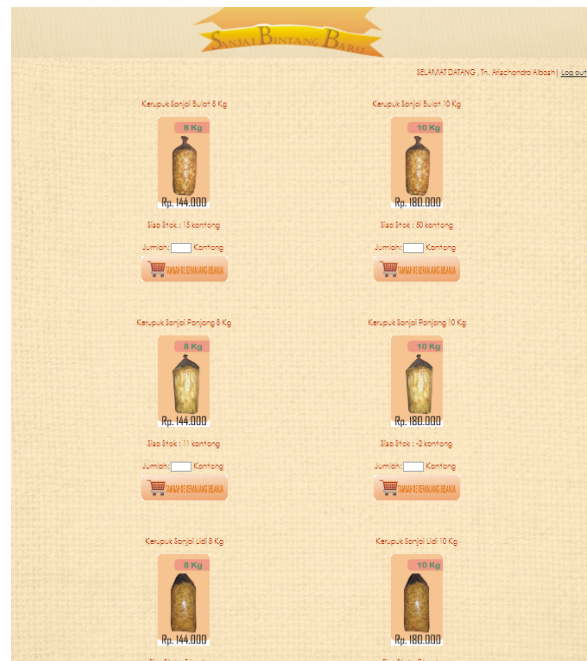


Figure 6 Product Order Page

Order Payment Page

On this page you can see orders that have been made by the user, but cannot print proof of purchase if the user has not uploaded a photo of valid proof of payment for the order, as shown in figure 7.

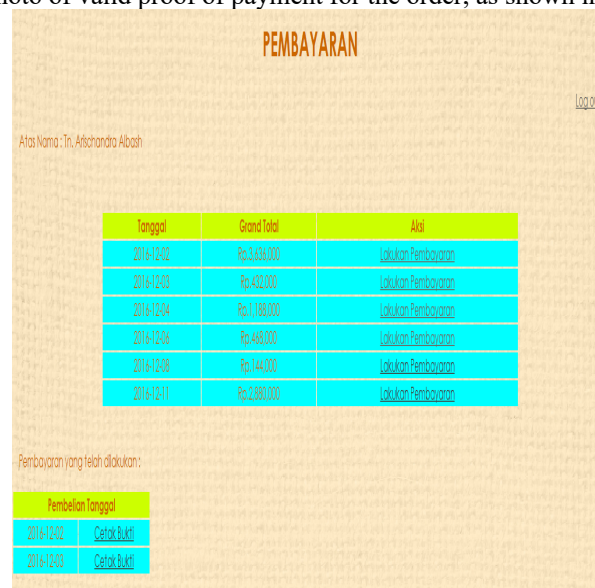


Figure 7 Order Report Page and Print Order Proof

4. CONCLUSION (10 PT)

By using the Sales Promotion Information System and Information Management Method (FIFO), the activities of the Kerupuk Sanjai Bintang Baru Bukittinggi company, from production to product realization to consumers, are computerized. The First In First Out method is applied to the system, causing products to have an orderly marketing flow. Sales promotions conducted online increase consumer reach in the effectiveness of product orders. With an Information System that is built, all inputted data is recorded in the database so that the security and regularity of the data is guaranteed.

REFERENCES

- [1] A. Ristanti and S. S. Iriani, "Pengaruh Kualitas Produk dan Citra Merek terhadap Keputusan

- Pembelian Konsumen Nature Republic di Surabaya,” *J. Ilmu Manaj.*, vol. 8, no. 3, p. 1026, 2020, doi: 10.26740/jim.v8n3.p1026-1037.
- [2] S. Y. Tamara and T. A. E. Putra, “Pengaruh Kepercayaan Merek, Ekuitas Merek, Dan Harga Terhadap Loyalitas Konsumen Pada Pasta Gigi Merek Pepsodent Di Kota Padang,” *J. Manaj. Univ. Bung Hatta*, vol. 16, no. 1, pp. 68–74, 2021, doi: 10.37301/jmubh.v16i1.18326.
- [3] S. Hariyanto, “Slamet Hariyanto, Sistem Informasi Manajemen,” *Sist. Inf. Manaj.*, vol. 9, no. 1, pp. 80–85, 2018.
- [4] A. M. Pramestyarani, “Sistem Informasi Manajemen Pengantar Sistem Informasi,” no. July, pp. 0–17, 2020.
- [5] N. G. Woen and S. Santoso, “Pengaruh Kualitas Layanan, Kualitas Produk, Promosi, dan Harga Normal terhadap Kepuasan dan Loyalitas Konsumen,” *J. Maksipreneur Manajemen, Koperasi, dan Entrep.*, vol. 10, no. 2, p. 146, 2021, doi: 10.30588/jmp.v10i2.712.
- [6] F. Masykur, “Implementasi Sistem Informasi Geografis Menggunakan Google Maps Api Dalam Pemetaan Asal Mahasiswa,” *J. SIMETRIS*, vol. 5, no. 2, pp. 181–186, 2019.
- [7] L. R. Seimas, “Pengenalan Jaringan Komputer,” *Liet. Resp. bankų įstatymas*, no. IX, p. 55, 2018.
- [8] F. Roma Doni, “Jaringan Komputer dengan Router Mikrotik,” *Tek. Komput. AMIK BSI*, p. 88, 2017.
- [9] M. J. N. Yudianto, “Jaringan Komputer dan Pengertiannya,” *Ilmukomputer.Com*, vol. Vol.1, pp. 1–10, 2019.
- [10] M. A. Anas, Y. Soepriyanto, and Susilaningsih, “PENGEMBANGAN MULTIMEDIA TUTORIAL TOPOLOGI JARINGAN UNTUK SMK KELAS X TEKNIK KOMPUTER DAN JARINGAN Muchammad Azwar Anas, Yerry Soepriyanto, Susilaningsih,” *Multimed. Tutor.*, vol. 1, no. 4, pp. 307–314, 2018.
- [11] Z. Munawar, M. Kom, and N. I. Putri, “Keamanan Jaringan Komputer Pada Era Big [1] Z. Munawar, M. Kom, and N. I. Putri, ‘Keamanan Jaringan Komputer Pada Era Big Data,’ *J. Sist. Informasi-J-SIKA*, vol. 02, pp. 1–7, 2020.Data,” *J. Sist. Informasi-J-SIKA*, vol. 02, pp. 1–7, 2020.
- [12] Vivian Siahaan and Rismon Hasiholan Sianipar, “Pemrograman Web dengan PHP dan MySQL - Google Books,” *Penerbit SPARTA*, no. January 2005, pp. 1–122, 2018.
- [13] H. Rian and A. Fuadytama, “Perancangan Sistem Informasi Pelayanan Jasa Laundry Pada Mamah Laundry And Cleaners Serang,” *J. Teknol. Inform. dan Komput.*, vol. 5, no. 2, pp. 64–69, 2019, doi: 10.37012/jtik.v5i2.168.
- [14] D. Marisa, “S T M I K D i a n C i p t a C e n d i k i a K o t a b u m i,” no. 2, 2021.
- [15] S. Sukaridhoto, “Jaringan Komputer I,” 2019.