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Development of a Website-Based Cashier Application at the NBO Prabumulih Store Using the RAD Method

Lovita Reira Rambayu[1]*, Fajriyah[2], Khana Wijaya[3]

[1,2,3]*Universitas Prabumulih*
lovitarambayu@gmail.com[1] *, rhieyah.mti12@gmail.com[2]

Abstract

NBO Prabumulih Store is a store that sells various kinds of men's and women's clothing, NBO Prabumulih Store is located in North Prabumulih District, precisely in Anak Petai Village. Currently, NBO Prabumulih Store does not have a cashier application for managing payment transactions, so the purpose of this study is to build a cashier application to facilitate payment transactions at NBO Prabumulih Store. This research method uses a qualitative descriptive method with data collection techniques in the form of observation, interviews and literature studies, data sources consist of primary data and secondary data, while for the system development method using the RAD (Rapid Application Development) method, the system design tool used is UML (Unified Modeling Language). The design of this application uses the PHP (Processor Hypertext) programming language, MySQL Database and Coding using Visual Studio Code

Keywords: *Application, Website, RAD, UML, PHP & MySQL*

1. Introduction

The NBO Prabumulih Store is a clothing sales and purchasing business that uses a manual sales recording system. It is located in Prabumulih City, precisely on Jl. Beringin, Anak Petai Village, North Prabumulih. The NBO Prabumulih Store was established in 2017. The manual transaction process often leads to recording errors, both in terms of the number of items sold and in calculating the sales price. Based on the analysis above, it is necessary to design an information system for clothing sales and purchases at the NBO Prabumulih Store that presents detailed information that can be accessed, making it easier and easier for customers to find information about the NBO Prabumulih Store. Based on this background, the title of this Scientific Paper is "Development of a Website-Based Cashier Application at the NBO Prabumulih Store Using the RAD Method"

2. Theoritical Review

2.1. Understanding Applications

An application is a ready-to-use program that can be used to execute a number of problem-solving commands using data processing techniques on a computer or smartphone, with the goal of achieving better results. From the above definition, the author concludes that an application is software that can store data and tasks and can be modified according to our wishes (Habibi and Karnovi, 2020). An application is the application of summarizing data from problems or tasks into a tool or medium that can be used to implement new forms [1].

2.2. Understanding Websites

A website is a medium consisting of multiple interconnected pages (hyperlinks), where the function of a website is to provide information in the form of text, images, video, sound, and animation, or a combination of these [2]. A website is a method for displaying information on the internet, in the form of images, video, text, and sound, as well as interactively, connecting (linking) one document to another (hypertext) that can be accessed through a browser [3].

2.3. Understanding the Concept of RAD (Rapid Application Development)

Rapid Application Development (RAD) is a linear, sequential software development process model that emphasizes very short development cycles. RAD can be used as a reference for developing superior information systems in terms of speed, accuracy, and lower costs. The rationale for using the Rapid Application Development (RAD) approach is its advantages, including shorter development

cycles, greater flexibility, increased user engagement, and reduced error rates. [4]. Rapid Application Development (RAD) in this system development is based on its advantages in terms of flexibility and speed. RAD allows for rapid prototype development and iterative testing, allowing for changes and user input throughout the development process [5].

2.4. Understanding PHP (Hypertext Preprocessor)

Hypertext Preprocessor (PHP) stands for Personal Home Page Hypertext Processor. PHP is a scripting language that is hosted on a server and processed there, with the results sent to the client, where the user uses a browser [6]. PHP is a server-side scripting language designed for website development. Furthermore, PHP can also be used as a general-purpose programming language [7].

2.5. Understanding MySQL

MySQL is a database management system (DBMS) that is freely available under the General Public License (GPL), so anyone can use it freely, but is not permitted to develop closed-source (commercial) derivatives [8].

2.6. Understanding Xampp

XAMPP is a tool that provides software packages in a single package. By installing XAMPP, you no longer need to manually install and configure the Apache, PHP, and MySQL web servers. XAMPP will install and configure them automatically. XAMPP is an instant installation package for Apache, PHP, and MySQL that can be used to facilitate the process. [9]. XAMPP is a web server software used to develop and design websites on a local server [10].

3. Research Methods

This study employed a qualitative research method, which utilizes qualitative data and is described descriptively. This study employed a qualitative approach with a literature study design as the primary method to explore and analyze concepts related to population and sample determination within the context of quantitative and qualitative research [11].

3.1. Data Collection Techniques

Data collection was conducted to obtain the information needed to achieve the research objectives. The data collected by the author in this study used the following methods:

1. Observation
   Conducting direct observations at the Prabumulih NBO Store and analyzing existing problems.
2. Interviews
   Data collection was conducted through direct question and answer sessions with Ms. Nirta Birhap, the head of the Prabumulih NBO Store, who provided the information needed by the author.
3. Library Research
   In this literature study, the researcher collected data and information from various sources, including books, journals, articles, and previous research as references in this study.

4. Research Methods

4.1. Use Case Diagram

The proposed use case analysis describes the procedures for processing sales reports and payment transactions at the NBO Prabumulih Store. The proposed analysis at the NBO Prabumulih Store is as follows:

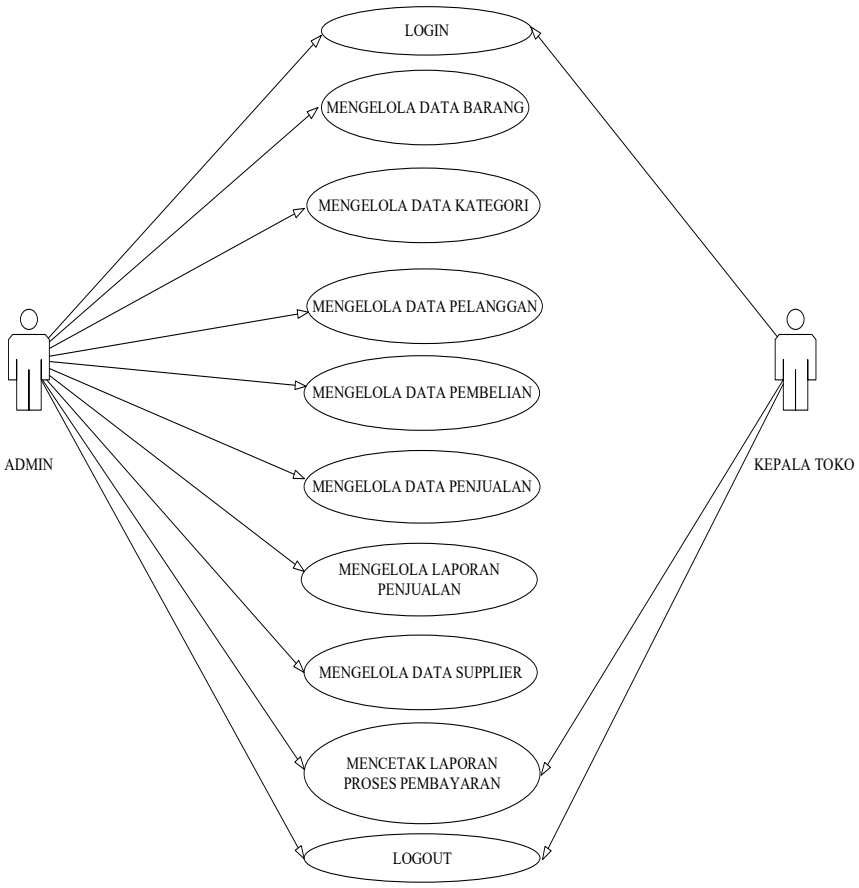

Fig. 1 : Proposed Use Case

5. Implementation and Testing

5.1. Interface Implementation

In the interface implementation section, the researcher created a website display, as follows:

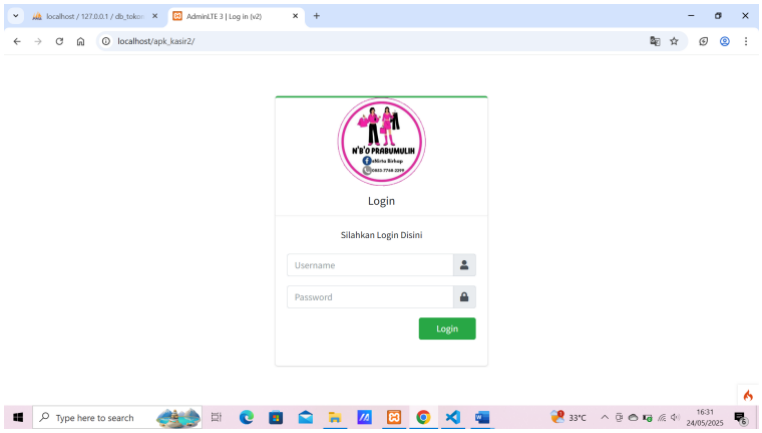

Fig. 2 : Login Page Display

The image above shows the login page display which will later function for admins and shop managers who want to enter and use the system. Admins and shop managers must log in first by filling in their username and password.

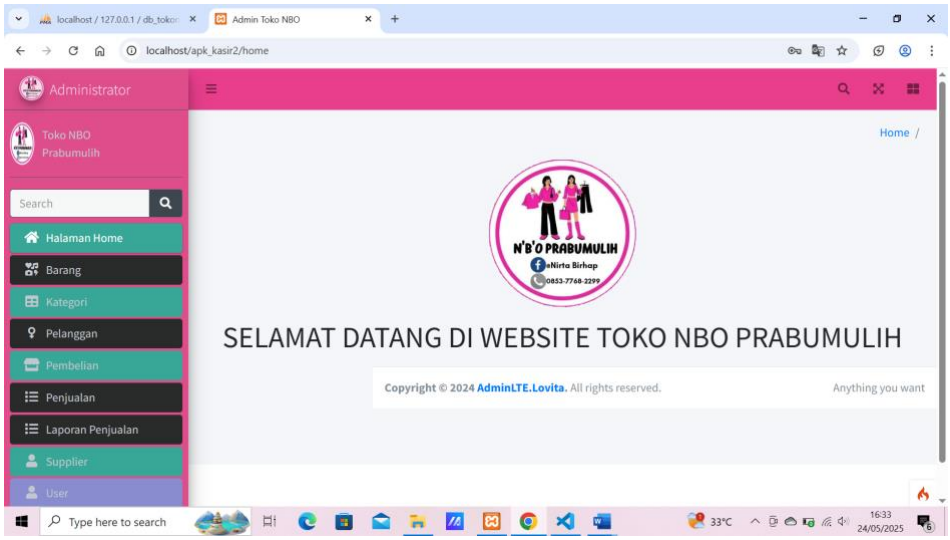

Fig. 3 : Home Page Display

The image above is the home page, displaying the logo and website description.

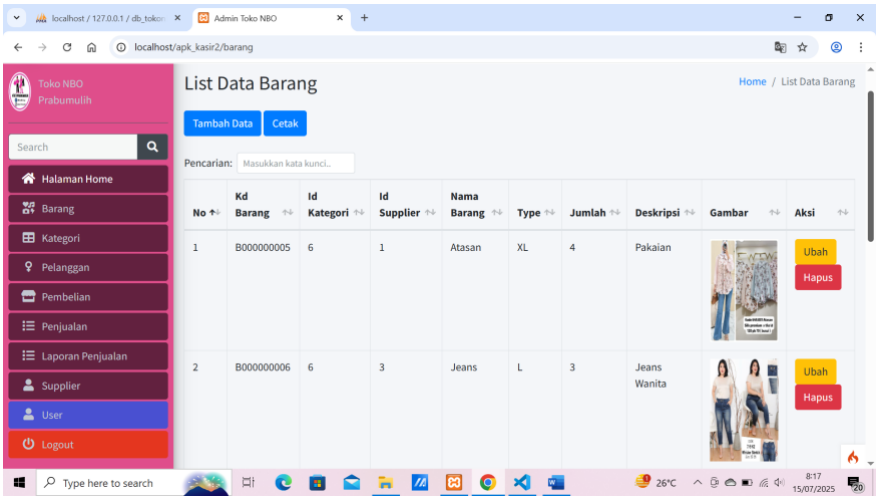

Fig. 4 : Item Page View

The image above shows the finished goods page where the admin can add, edit, and delete data. Once data has been added, changes and deletions can be made. If no changes or deletions are made, the data can be printed directly to a file.

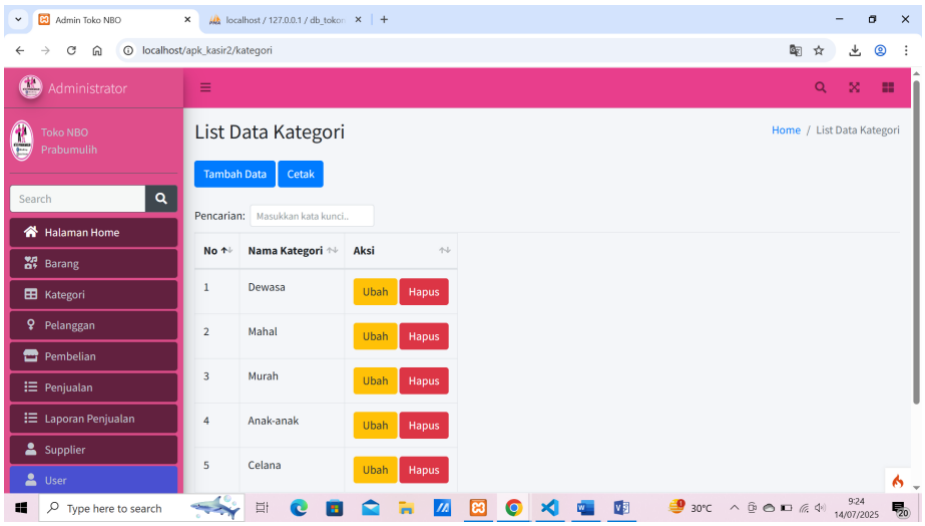

Fig. 5 : Category Page View

The image above shows the category page, allowing admins to add, edit, and delete data. Once data has been added, changes and deletions can be made. If no changes or deletions are made, the data can be printed directly to a file.

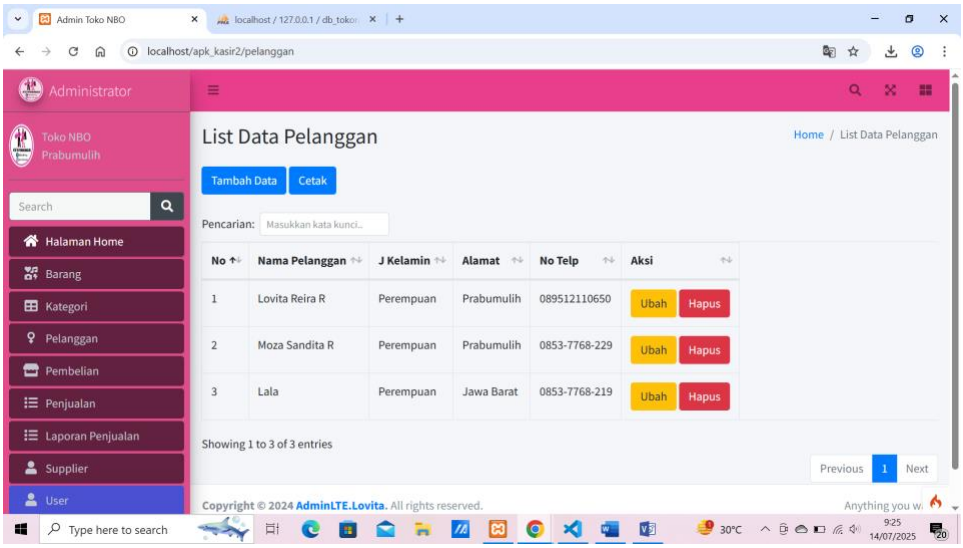

Fig. 6 : Customer Page View

The image above shows the customer page, allowing admins to add, edit, and delete data. Once data has been added, changes and deletions can be made. If no changes or deletions are made, the data can be printed directly to a file.

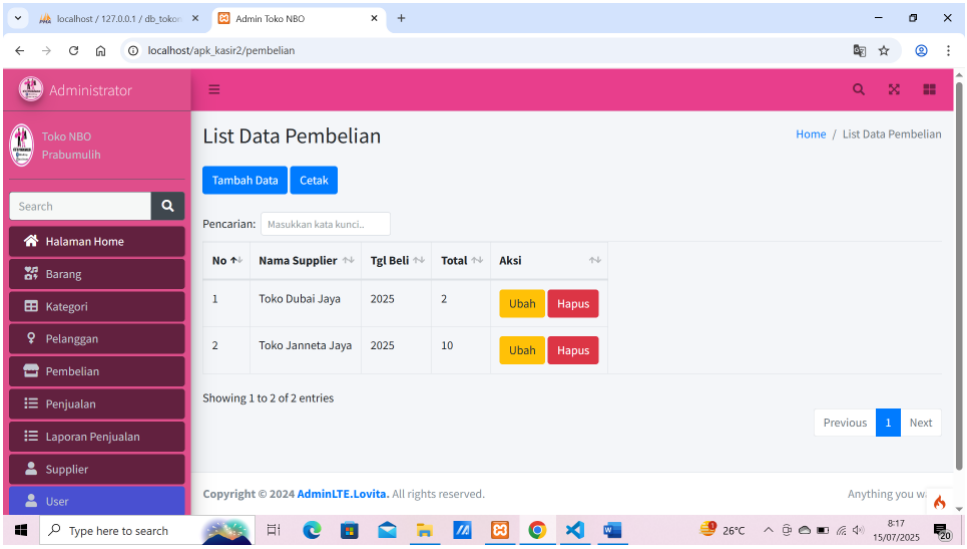

Fig. 7 : Purchase Page View

The image above shows the purchase page, allowing admins to add, edit, and delete data. Once data has been added, changes and deletions can be made. If no changes or deletions are made, the data can be printed directly to a file.

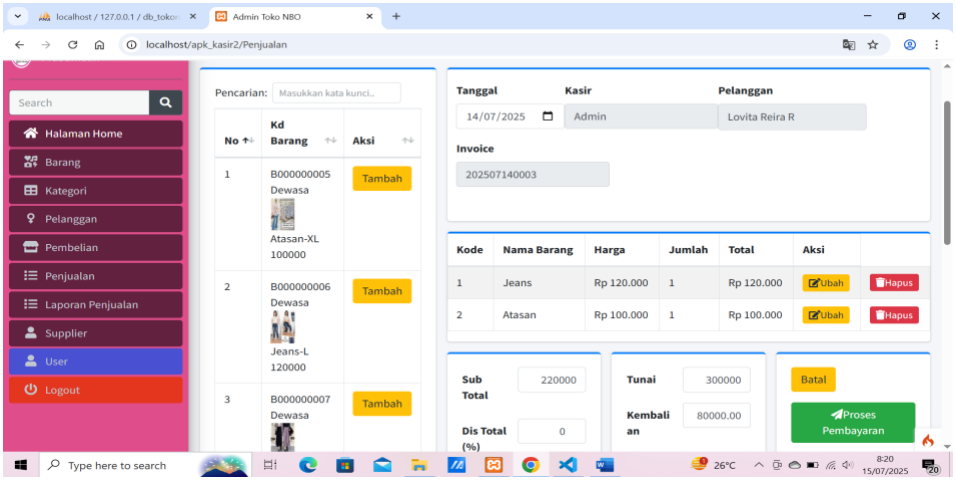

Fig. 8 : Sales Page View

The image above shows the sales page, allowing admins to add, edit, and delete items. Once the item data has been added, changes and deletions can be made. If there are no changes to the subtotal, payment can be processed immediately.

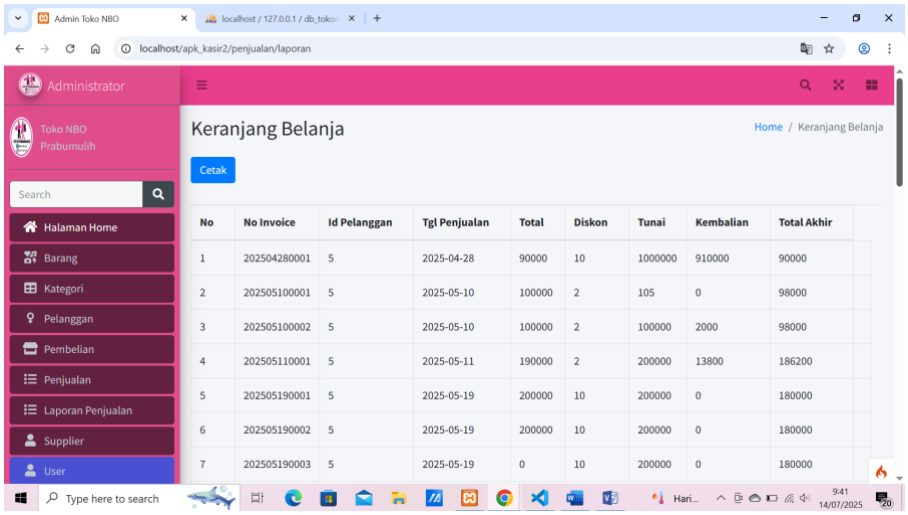

Fig. 9 : Sales Page View

The image above shows the sales report page display, so the admin can carry out the sales report recapitulation process for each transaction in PDF print format.

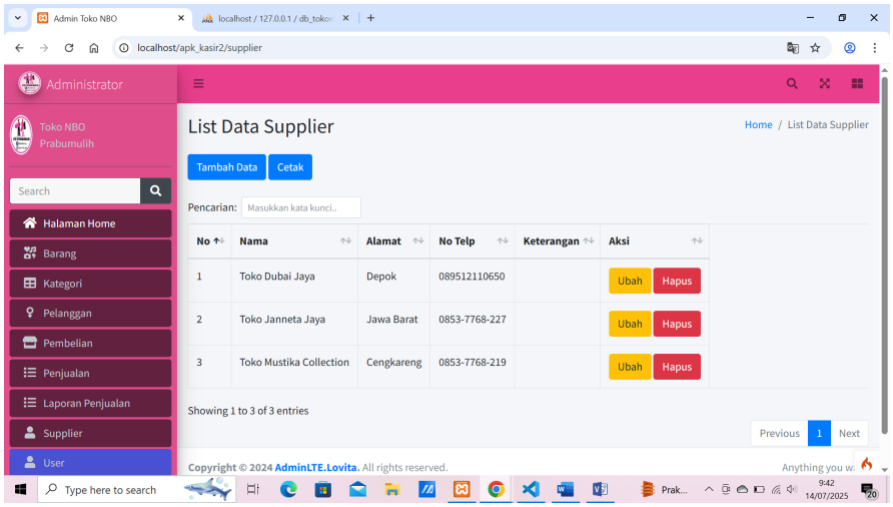

Fig. 10 : Supplier Page View

The image above shows the supplier page, allowing admins to add, edit, and delete data. Once data has been added, changes and deletions can be made. If no changes or deletions are made, you can print the data directly to PDF.

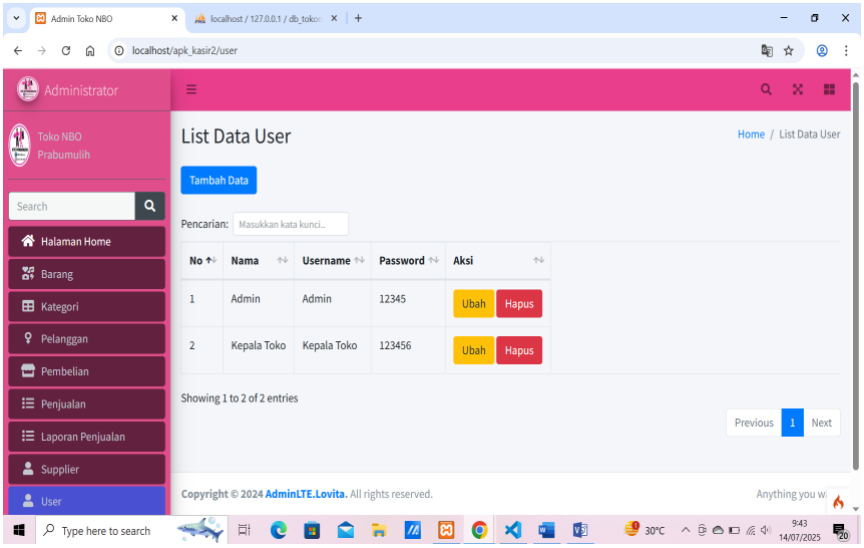

Fig. 11 : User Page View

The image above shows the user page, allowing admins and store managers to add, edit, and delete data. Once data has been added, changes and deletions can be made.

5.2. System Test Results

Based on the results of a test that has been carried out by previous researchers, it can be concluded that the Cashier Application at the NBO Prabumulih Shop based on the website that has been designed and created can run and function well.

6. Conclusion

Based on the description and explanation above, the results of the research system development at the NBO Prabumulih Store using the Rapid Application Development (RAD) method are as follows:

1. This application was designed using the PHP (Hypertext Processor) programming language, a MySQL database, and Visual Studio Code coding.
2. By applying the Rapid Application Development (RAD) method and the Unified Modeling Language (UML) tool, the data processing system development at the NBO Prabumulih Store was carried out effectively and efficiently.
3. Based on the research conducted to create the cashier application at the NBO Prabumulih Store, the system has met the requirements of the NBO Prabumulih Store. This system has been approved by the relevant parties and the supervisor. Therefore, this cashier system will be used to manage the final total for each payment transaction and summarize each transaction at the NBO Prabumulih Store.

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