

DESIGNING THE WEB SALES PLATFORM FOR JURAGANS PEMPEK USING THE BOOTSTRAP FRAMEWORK

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Abstract: *Pempek is an iconic dish from Palembang that can now be ordered online through e-commerce platforms. This research aims to develop a web application for selling pempek, facilitating the transaction process for both sellers and buyers. The research method used is the System Development Life Cycle (SDLC) Waterfall model, which includes the stages of planning, analysis, design, development, testing, and implementation. In the planning stage, system requirements are collected and analyzed to understand the problems faced in the manual distribution of pempek. The design is carried out using UML diagrams, website architecture, and interface design. Development involves writing code using PHP, MySQL, and the Bootstrap Framework. Testing is conducted to ensure the functionality of the system and to identify any shortcomings. Implementation is carried out after the system has been tested and is ready for use. The research results show that this web application facilitates buyers in ordering pempek, speeds up the transaction process, and helps sellers manage stock and inventory. In conclusion, this application can be an innovative solution to improve the efficiency of online pempek sales, expand market reach, and provide a more practical and modern shopping experience for customers. The Juragans Pempek Ordering Website can be accessed through the following URL: <http://juraganspempek.optikl.in>.*

Keywords: Website, MySQL, PHP, Ecommerce, Pempek

INTRODUCTION

Pempek, an iconic dish from Palembang with its savory taste and chewy texture, is now easily found not only in stores, food stalls, and street vendors but also in the digital world. The emergence of e-commerce has opened new opportunities for pempek sellers to reach a broader customer base. No longer do buyers need to visit physical stores; they can now conveniently order their favorite pempek through applications or websites and enjoy it anywhere. This website also offers various payment methods to facilitate transactions.

The presence of online platforms benefits not only buyers but also sellers. Online sales have proven to significantly increase their income. The rapid advancement of technology continuously introduces new innovations, which greatly assist people in their daily activities. The presence and role of information technology in all life sectors impact the economic, social, and cultural aspects of humanity. This rapid technological advancement, supported by increasingly sophisticated computer technologies, has transformed all tasks into digital processes (Febriansyah, Ilham Fauzi Alam, Muhamad Hidayat, 2023).

This application is expected to be an innovative solution to address existing challenges and elevate this legendary Palembang dish to a more modern and practical level. The conventional product distribution system still faces various recurring issues, one of which is its manual nature. Therefore, the application aims to make it easier for customers to purchase the products they need and for

companies to transact with their customers quickly and efficiently. The application development began with an analysis of the existing system within the company.

Under the title "Designing the Web Sales Platform for Juragans Pempek Using the Bootstrap Framework," UML was utilized as a system modeling tool to create interface designs and program development. The application was developed using PHP as the programming language, MySQL as the database, the Bootstrap Framework, and Visual Studio Code as the text editor. This application has two main functionalities: enabling buyers to view product catalogs and make purchases, and allowing admins to manage users, products, and transactions (Nasri et

al., 2022).

RESEARCH METHOD

The research method used in this study employs the **System Development Life Cycle (SDLC) Waterfall approach**. This method was chosen because it is a classic, straightforward model with a linear system flow, where the output of one step becomes the input for the next. The stages included in the SDLC method are as follows:

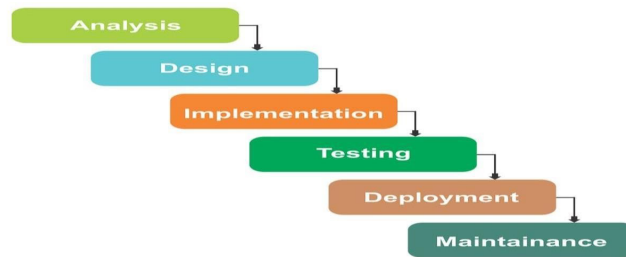


Figure 1. Waterfall Method

PROJECT PROCESS

1. Navigation Structure

The navigation structure used in this study is a hierarchical navigation structure. This structure organizes branching pathways in an orderly hierarchy, making it easier for users to navigate through various levels of information logically and systematically.

1.1 Navigation Structure Admin

It is a non-linear navigation structure, meaning users are not required to follow a rigid or sequential order to access the available features. Instead, the diagram illustrates that users can quickly move from one feature to another without having to go through a linear page sequence, creating a more flexible and efficient navigation flow.

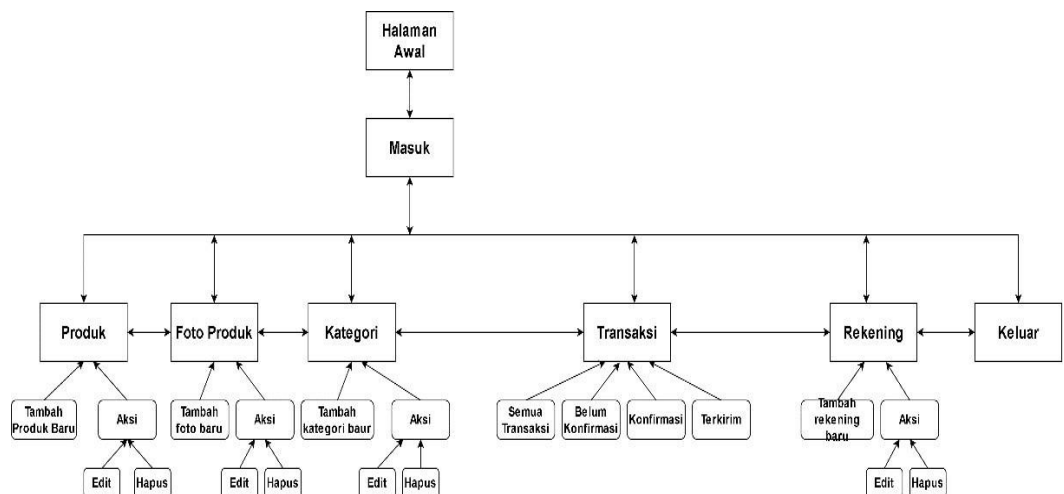


Figure 2. Navigation Structure Admin

1.2 Navigation Structure User

It is a non-linear navigation structure, meaning users are not required to follow a strict or sequential order to access the available features. Instead, users have the flexibility to move between pages as needed without adhering to a fixed hierarchical structure. This allows for more dynamic and efficient navigation, tailored to the user's preferences.

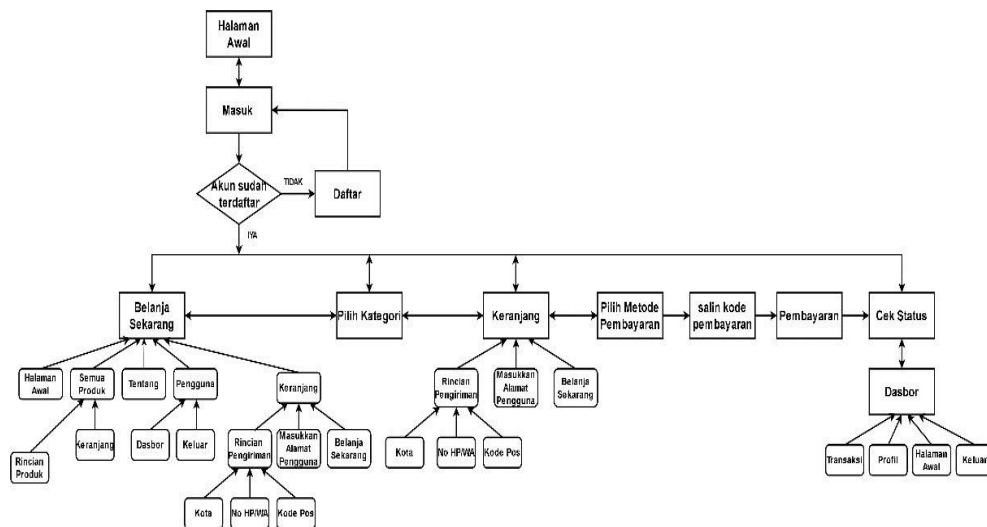


Figure 3. Navigation Structure User

2. Use Case Diagram

In the UML design stage, the author used Draw.IO to illustrate the process flow within the Juragans Pempek website. The UML diagrams created include a use case diagram, activity diagram, and class diagram. The following outlines the UML design for the Juragans Pempek website.

2.1 Use Case Diagram Admin

The activity flow for a user with the role of "Admin" in the system is as follows: the Admin begins by logging in through the "Login Admin" step. Upon successful login, the Admin gains access to several functions. These functions include managing product data in the system, managing the product gallery, and organizing product categories.

Managing product data allows the Admin to add, modify, or delete product information. In managing the product gallery, the Admin can add, modify, or delete photos associated with products. Additionally, the Admin can organize product categories by adding, modifying, or deleting existing categories within the system.

Each of these functions is accessed through a flow that starts from the "Login Admin" point, enabling the Admin to select and execute the required administrative tasks. Once all necessary activities are completed, the Admin can log out of the system using

the "Sign Out" function.

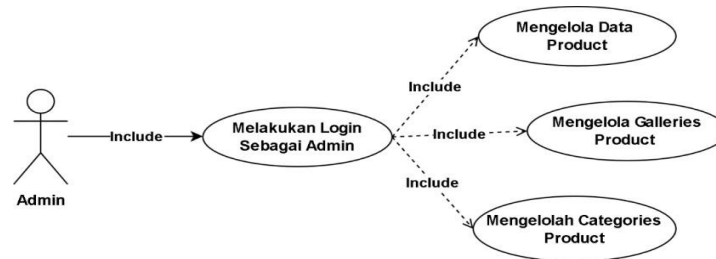


Figure 4. Use Case Diagram Admin

2.2 Use Case Diagram User

First, the user will begin by registering (Sign Up User), which serves as the registration process. After successfully registering, the user must log in (Sign In) to their account to proceed. Once logged in, the user can choose from several subsequent actions. They can opt to start shopping (Shop Now), which leads them to the product category selection process (Select Category), add items to the shopping cart (Add To Cart), fill in shipping details (Enter Shipping Details), and then proceed to the checkout process (CheckOut Now).

Additionally, after logging in, users also have access to their personal dashboard (My Dashboard), which provides several additional options. In the dashboard, users can view their transactions (Transactions), access and edit their profile (Profile), return to the main page (Back To Home), or choose to log out of their account (Sign Out). Each of these steps is represented by arrows indicating the sequence of actions users can take after logging in.

Thus, this flow reflects the user's journey from registration and login to the various options available after logging in, whether for shopping or managing their account.



Figure 5. Use Case Diagram User

3. Activity Diagram

An Activity Diagram is a diagram that models the processes occurring within a system. The sequence of processes in a system is depicted vertically. An Activity Diagram is an extension of a Use Case that includes the flow of activities.

3.1 Activity Diagram Admin

The admin activity diagram design on this website functions to describe the workflow or admin activities of a system when interacting on the website. The admin activity diagram explains that admins can carry out a series of actions starting from logging in to managing various aspects of products and categories.

First, the admin opens the login page and enters their credentials. The website then verifies the credentials and directs the admin to the admin dashboard page after successful login. On the dashboard page, the admin has several options for managing the website.

Admins can choose to manage product data, where the website will display a product data management page that allows admins to add, edit or delete products. Next, admins can choose to manage product galleries. The website will display a product gallery management page that allows admins to add, edit, or delete product images. In addition, admins can choose to organize product categories. The website will display a product category settings page that allows admins to add, edit, or delete product categories.

Admin can also choose to view and change transaction status details. The website will display a detailed transaction status page, allowing the admin to view and edit the status of transactions occurring in the system. The admin also has the option to view and manage admin account address details. The website will display the admin account address details page, allowing the admin to view and edit these details. Finally, admins can choose to log out of the system. The website will log out admins and redirect them back to the home page.

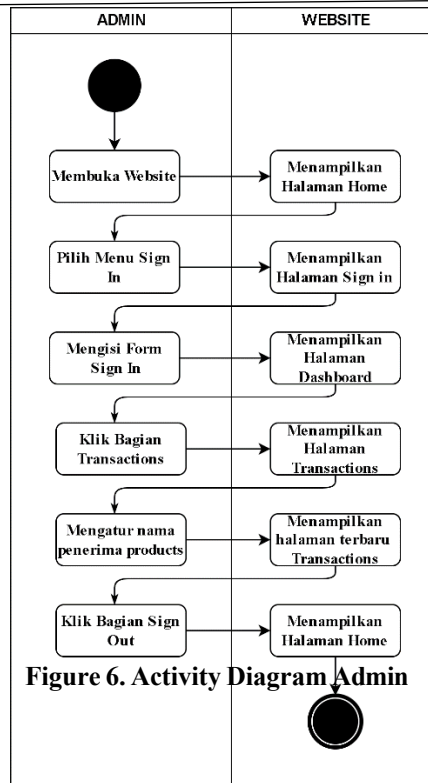


Figure 6. Activity Diagram Admin

3.2 Activity Diagram User

Designing a user activity diagram on this website functions to describe the workflow or user activity of a system when interacting on the website. The user activity diagram explains that users can carry out a series of actions starting from registering to purchasing products. First, the user opens the registration page and fills in the details required for registration. The website processes registration and creates accounts for users. After that, users go to the login page and enter their credentials, which are then verified by the website. If successful, the user will be directed to the main page.

Next, the user selects the "Shop Now" option and is directed to the product category page. Users select the desired product category, then the website displays a list of available products. After that, the user selects the product and adds it to the shopping cart. The website stores product details selected by the user. After filling in the shipping details, the user continues to the checkout process. The website authenticates users and directs them to the login page if necessary. Once checkout is complete, users can access their personal dashboard, where the website displays several available options. Users can also view their transaction history on the dashboard page. To return to the main page, users select the option "Back to Home," and the website redirects them to the main page. Finally, the user can choose to log out of the account by selecting the option "Sign Out," and the website will log the user out and redirect them to the home page.

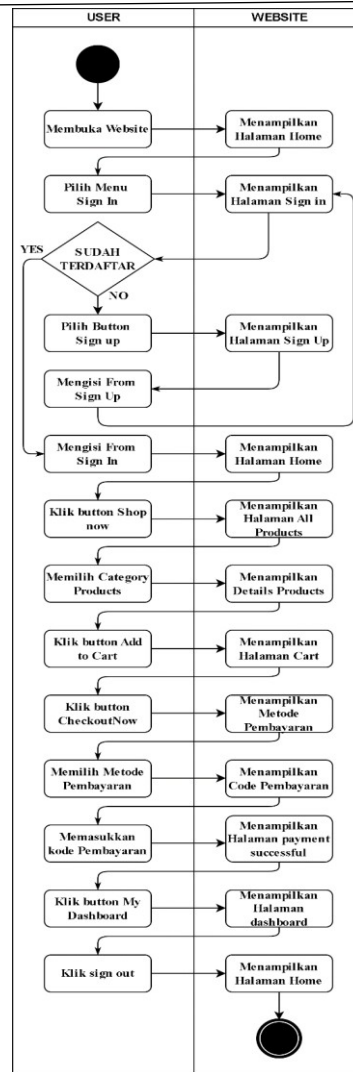
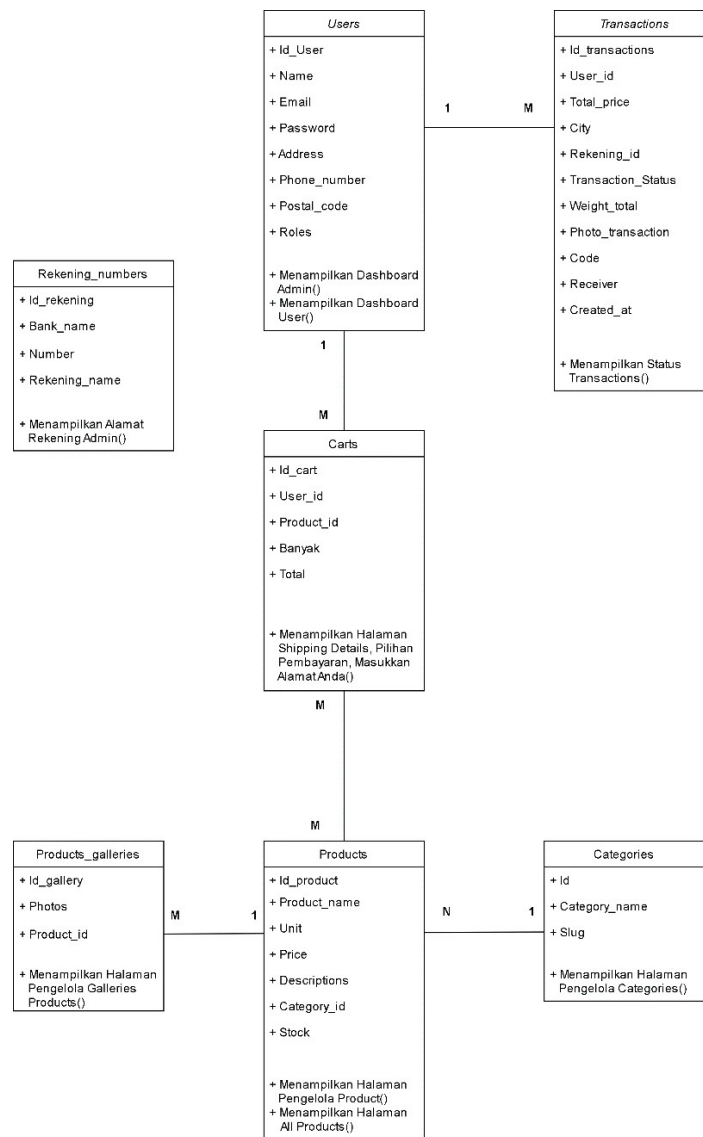


Figure 7. Activity Diagram User

4. Relationships between classes in the system

The relationship between the following tables is, the account cannot be connected by the user because there is no connecting ID. One user can have many carts (Users - Carts: 1), and one user can also make many transactions (Users - Transactions: 1). One transaction can cover multiple carts (Transactions - Carts: 1). Multiple carts can contain multiple products, and a single product can be in multiple carts (Cart - Products: M). One product can have many product galleries (Products_galleries - Products: 1). Many products can be in one category, and one category can include many products (Product - Category: N:1). The following is an overview of the Class Diagram which can be seen in figure 3.7.



5. Database Design

On the Juragans Pempek website below, there is a database consisting of User, Carts, Categories, Galleries, Account Numbers and Transactions tables.

User Table

The Login table contains fields, namely IDuser, email and password.

Field	Type	Keterangan
Id_user	Int(3)	Id as Primary Key
name	Varchar(20)	User Username
email	Varchar(30)	User Email
password	Varchar(10)	User Password
address	text	User Address
Phone_number	Varchar(15)	User Telephone Number
Postal_code	Varchar(10)	User zip code
roles	Varchar(10)	Determine logging in as admin or user

Galleries Table

The following Galleries table consists of Id_gallery, Photos, Product_id.

Field	Type	Keterangan
Id_gallery	Int(3)	As Primary Key
photos	Varchar(10)	As an actual image file stored in a database or in a file system.
Product_id	Int(11)	As a foreign key to connect to the products table

Rekening Numbers Table

In the Account Numbers table, it consists of account_id, bank_name, number, and account_name.

Field	Type	Keterangan
Id_rekening	int(3)	As Primary Key
Bank_name	Varchar(15)	As the Bank Name used by Admin

number	Varchar(20)	As the account number used by the admin
Rekening_name	Varchar(25)	As Account Owner

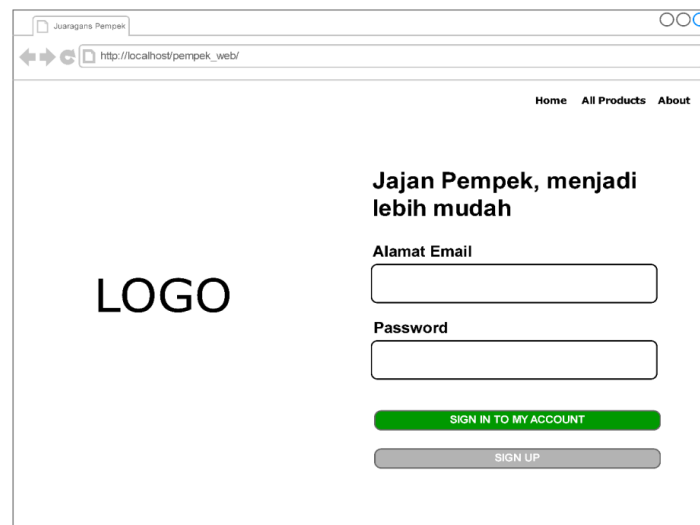
Transactions Table

The following Transactions Table consists of, Id_transactions, User_id, Total_price, City, Account_id, Transaction_status, Weight_total, Created_at.

Field	Tipe	Keterangan
id_transaction	int(11)	As Primary Key
user_id	int(11)	As Foreign Key
total_price	int(11)	As the total amount of money involved in the transaction.
city	varchar(10)	As the city where transactions take place or where goods or services are sent.
rekening_id	int(11)	As Foreign Key
transaction_status	varchar(10)	Shows the current status of the transaction.
weight total	int(10)	amount of weight
created_at	timestamp	As Real Time

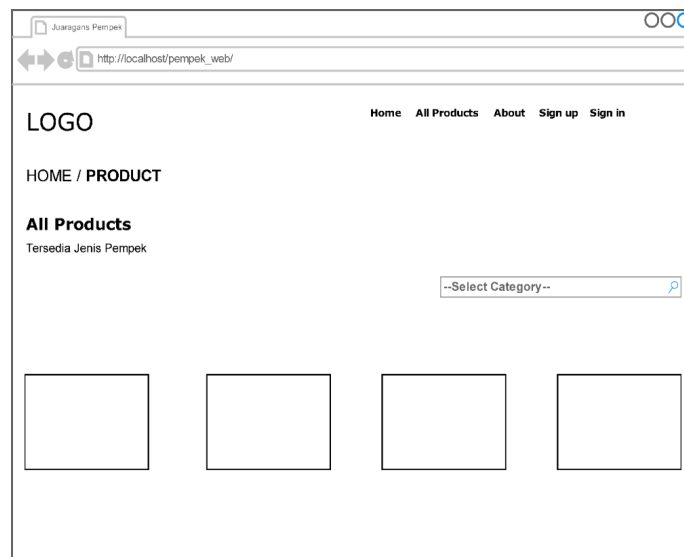
1. Website Interface Design

This design is a page that will later be presented to the user and is the main page that will later be used to manage data..



A wireframe of a login page for a website called 'Juragans Pempek'. The browser address bar shows 'http://localhost/pempek_web/'. The navigation menu includes 'Home', 'All Products', and 'About'. The main heading is 'Jajan Pempek, menjadi lebih mudah'. On the left is a large 'LOGO' placeholder. On the right, there are input fields for 'Alamat Email' and 'Password', followed by a green 'SIGN IN TO MY ACCOUNT' button and a grey 'SIGN UP' button.

Figure 9. Login Page Design



A wireframe of a product catalog page for 'Juragans Pempek'. The browser address bar shows 'http://localhost/pempek_web/'. The navigation menu includes 'Home', 'All Products', 'About', 'Sign up', and 'Sign in'. The main heading is 'LOGO'. Below it is a breadcrumb 'HOME / PRODUCT'. The section title is 'All Products' with the subtitle 'Tersedia Jenis Pempek'. There is a search bar with the placeholder '--Select Category--'. At the bottom, there are four empty rectangular boxes representing product images.

Figure 10. Website Page Katalog

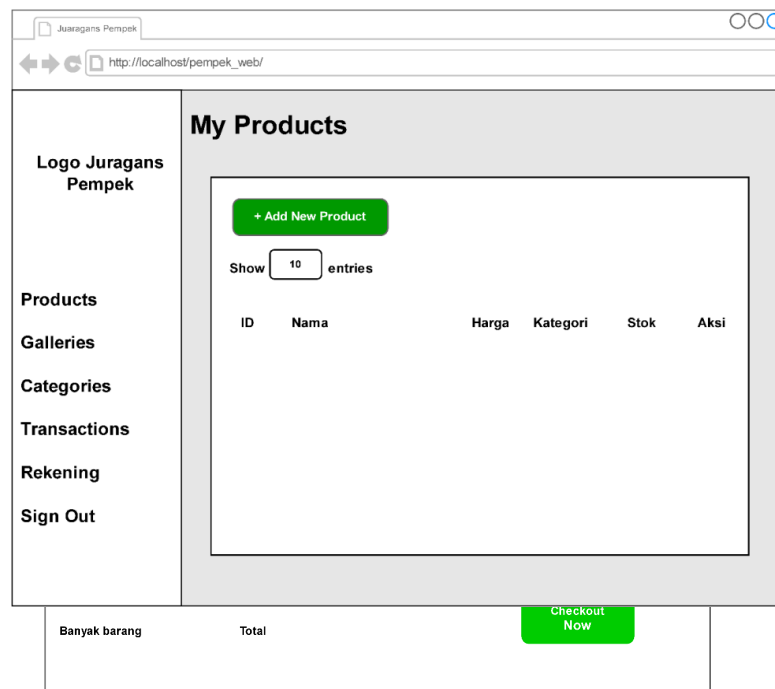


Figure 11. Website Page Cart

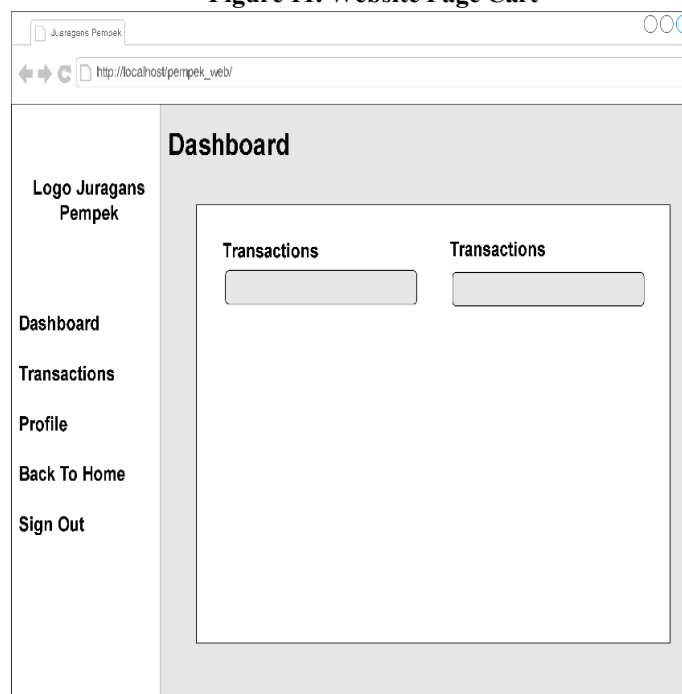


Figure 12. Website Page Dashboard User

Figure 13. Website Page Dashboard Admin

Final Website Display Results

Login Page

The Login page is the first page that will be displayed and accessed by users before accessing . On the login page, users are required to enter the email and password that has been registered in the database

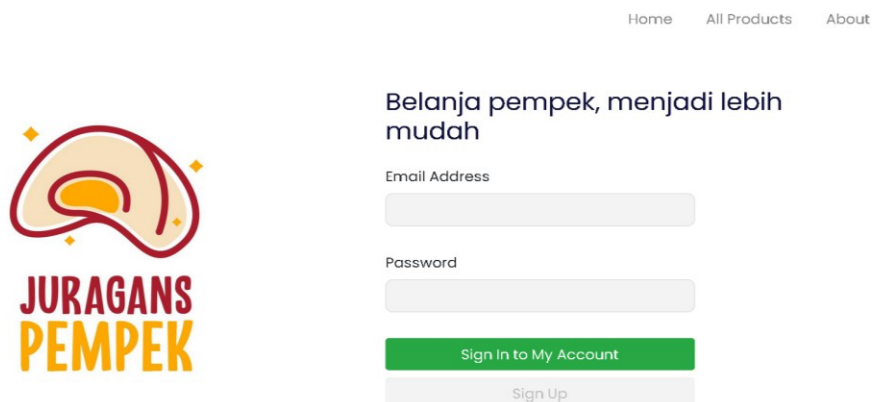


Figure 14. Login page

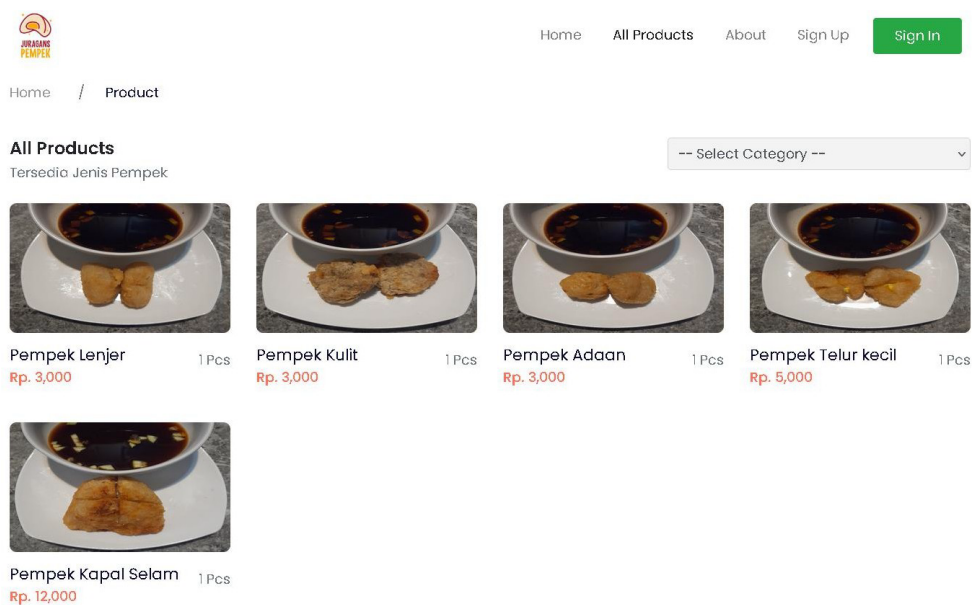


Figure 15. Katalog page

Home / Cart

Image	Nama	Banyak	Price	Total	Menu
	Pempek Kapal Selam 1 Pcs	1	Rp. 12,000 IDR	Rp. 12,000 IDR	<button>Remove</button>

Shipping Details

Kota

BEKASI TIMUR

No HP / WA

081324621488

Kode Pos

17523

Masukkan Alamat Anda :

Villa Mutiara Gading 2

Payment Information

1 Pcs

Banyak Barang

Rp. 12,000

Total

Checkout

Now

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Figure 16. Cart page



Dashboard

Transactions

profile

Back To Home

Sign Out

Dashboard

Hi, ara

Hai ini adalah dashboard kamu

Transactions

1

Transaction

Rp. 3,000

Figure 17. Dshboard User Page

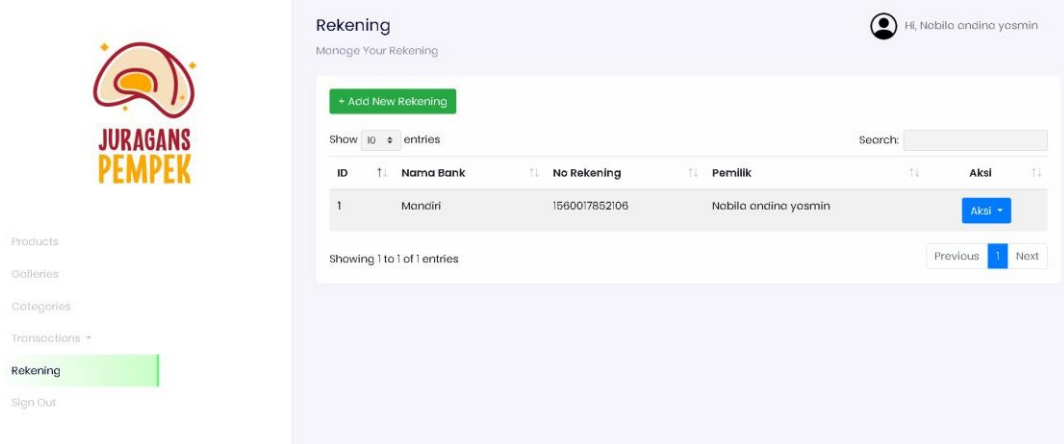


Figure 18. Dshboard Admin Page

Testing Table

Browser Testing Table:

Browser Testing			
No	Nama Browser	Spesifikasi Laptop	Hasil
1.	Google Chrome	DESKTOP-VCL4DGM dengan spesifikasi Processor Intel(R) Core(TM) i5-8265U CPU @ 1.60GHz 1.80 GHz, Ram 16,0 GB.	Works fine
2.	Microsoft Edge	DESKTOP-VCL4DGM dengan spesifikasi Processor Intel(R) Core(TM) i5-8265U CPU @ 1.60GHz 1.80 GHz, Ram 16,0 GB.	Works fine
3.	OperaGX	DESKTOP-VCL4DGM dengan spesifikasi Processor Intel(R) Core(TM) i5-8265U CPU @ 1.60GHz 1.80 GHz, Ram 16,0 GB.	Works fine

Device Testing Table:

Device Testing			
No	Nama Perangkat	Spesifikasi	Hasil
1.	Xiaomi Redmi Note 11	Processor: Qualcomm Snapdragon 680 RAM: 6GB Penyimpanan: 64GB Baterai: 5000 mAh Sistem Operasi: MIUI 13	Works fine

2.	Samsung A12	Processor: MediaTek Helio P35 RAM: 6GB Penyimpanan: 128GB Baterai: 5000 mAh Sistem Operasi: Android 10	Works fine
3.	Iphone 13	Processor : Apple A15 Bionic RAM : 4GB Penyimpanan: 128GB/256GB/512GB Baterai : 3240 mAh Sistem Operasi : iOS 15	Works fine

CONCLUSION

The implementation of the Pempek sales system on the website has succeeded in facilitating the ordering and payment process, allowing buyers to easily order via a user-friendly platform and choose various available payment methods, so that transactions become more comfortable and efficient. For sellers, this system provides an effective solution for managing stock and inventory with integrated stock management features, enabling real-time monitoring of product availability, reducing the risk of running out of stock, simplifying the restocking process, and assisting in more accurate inventory recording and reporting. In addition, with a sales website, sellers' market reach becomes wider, allowing them to reach customers from various locations that were previously difficult to reach through conventional sales methods, providing the opportunity to increase sales volume and expand the customer base.

SUGGESTION

Continuous Development so that this application continues to be relevant and in accordance with user needs, developers must regularly update and add new features in accordance with feedback from users and the latest technological developments such as In it, adding driver features can improve the user experience by expanding the application's capabilities to more efficient and on-time delivery.

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