



P-ISSN: 1978-2853  
E-ISSN: 2302-8890

## Matrik: JURNAL MANAJEMEN, STRATEGI BISNIS, DAN KEWIRAUSAHAAN

Homepage: <https://ojs.unud.ac.id/index.php/jmbk/index>

Vol. XX No. X, XXXXX (XXXX), XX-XX



### DESIGN WEBSITE UI FOR PALEMBANG SOUVENIR MSMEs USING HUMAN CENTERED DESIGN METHOD



SINTA 2

Diana Rosilawati<sup>1)</sup>, Leon Andretti Abdillah<sup>\*1,2,3)</sup>, Nyimas Sopiah<sup>1)</sup>,  
R.M. Nasrul Halim<sup>1)</sup>

<sup>1)</sup> Department of Information Systems, Universitas Bina Darma, Palembang, Indonesia

<sup>2)</sup> Research Fellow, INTI International University, Nilai, Malaysia

<sup>3)</sup> Research Fellow, Chung Hua University, Hsinchu City, Taiwan

Email: leon.abdillah@yahoo.com

DOI : XXXXXX

#### ABSTRACT

With the increasing use of the internet in society, marketing through the internet has become a promising business opportunity for local MSMEs (Micro, Small, and Medium Enterprises). This is also true for Terazz'ibon Collection, which sells local Palembang souvenirs such as jumputan bags, pouches, and hijabs. Terazz'ibon Collection faces challenges in disseminating product information digitally to accelerate communication about their business and products to customers for purchasing purposes. Therefore, the owner of Terazz'ibon Collection wishes to create a UI website design prototype containing information about the MSME and facilitating purchases, which will be very useful for the future development of the Terazz'ibon Collection website. Using the Human-Centered Design (HCD) method, the MSME requires an evaluation of the design prototype creation process using the System Usability Scale (SUS). From this evaluation, the design received a score of 80, which falls within the "B" range, categorized as "excellent," indicating that most users feel comfortable and satisfied with the design prototype.

**Keyword:** Human Centered Design; MSMEs; Souvenir; System Usability Scale; User Interface.

#### INTRODUCTION

Information technology (IT) has become an inseparable aspect due to the influence of globalization. Indonesia's digital economy is developing at a very quick pace every year (Hidayat et al., 2020). The swift advancement of technology is enhancing people's daily lives by guaranteeing effectiveness, security, and comfort (Dah et al., 2024). Today, the number of people using information technology is increasing, one of which is through websites. Websites are used as a medium for fast and effective information dissemination for various institutions, including the marketing world for micro, small, and medium enterprises (MSMEs). This proves that access to technology and information is becoming increasingly easy (Adha et al., 2023). A prototype is a software development technique that represents a physical model of system behavior and serves as the first version of the system (Wahidah et al., 2021). A prototype is a basic working model for developing a software program. Prototypes are created specifically for development before full-scale

production or mass production. Prototypes allow developers to visually design and test various features and interactions planned before starting the more in-depth development process. Micro, small, and medium enterprises (MSMEs) play an important role in a country's economy as they can create job opportunities and supply raw materials for large-scale industries (Lubis & Salsabila, 2024). Terizz'ibon Collection is one such MSME located on Bungaran II Street in Palembang, specializing in Palembang souvenirs. There are three categories of Palembang souvenir products: Jumputan Bags, Jumputan Pouches, and Jumputan Hijabs. Based on an interview with the owner of Terizz'ibon Collection, the MSME faces challenges in the digital dissemination of product information, which could accelerate communication about their business and products to customers for purchasing purposes. Therefore, the owner of Terizz'ibon Collection desires the creation of a UI website design prototype that contains information about the MSME and facilitates purchasing.

Previous research serves as a reference for the author in strengthening the study, allowing the author to enrich the theories used to analyze the research being conducted (Kusumadewi, 2020). The first prior study discussed the digital transformation (Abdillah et al., 2024) of small and medium-sized companies (SMEs) in the songket cloth industry as a critical step toward maintaining and developing this traditional textile using contemporary technologies. According to research, incorporating digital technologies such as e-commerce platforms and digital marketing tactics enables songket SMEs to improve production efficiency, increase market access, and better interact with worldwide audiences. However, this change brings with it obstacles, such as the need for digital skill development and technology infrastructure, which are required to capitalize on these improvements while preserving the cultural legacy rooted in songket artistry. The second research resulted in a website design prototype tailored to the needs and desires of users, also enhancing customer service quality (Odius & Susanto, 2023). The third study developed a new website prototype using the Human-Centered Design method, incorporating additional features and an improved interface that was usability-tested with the System Usability Scale (SUS) method (Septamuyassar et al., 2023). Referring to those previous studies, this research will develop a UI design prototype using minimalist design principles to create a clean and easy-to-navigate interface. Simple and consistent visual elements will be selected to enhance readability and user comfort. The chosen colors will align with the store's identity. Additionally, a product category feature will be added to help users navigate the website more easily and quickly. Users can find the type of product they are looking for without going through an entire product list that may not be relevant to their needs, and the option to select couriers will be available.

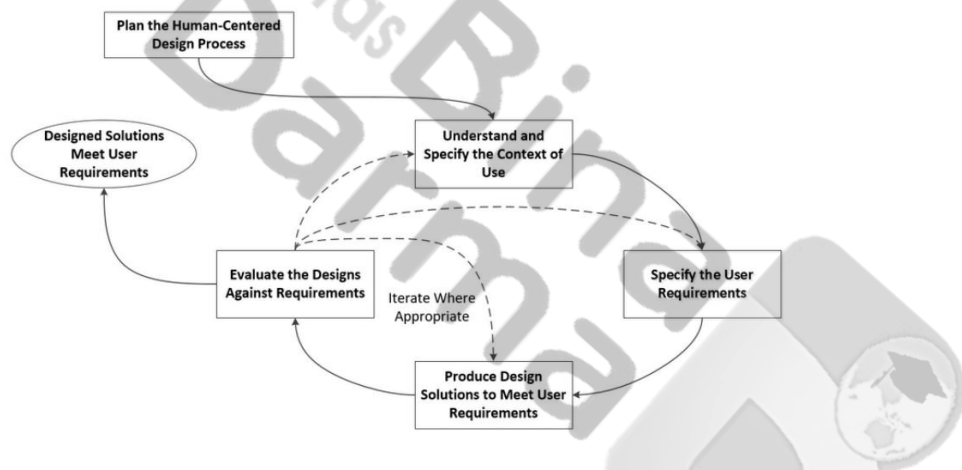
The objective of this research is to develop and produce a UI design prototype for the Terizz'ibon Collection website using the Human-Centered Design (HCD) method, which can be further developed and make it easier for users to access information about the Terizz'ibon Collection MSME.

## **METHODS**

Terazz'ibon Collection as research facility is a micro, small, and medium company (MSME) situated at Jl. Bungaran II, 7 Ulu, Seberang Ulu I District, Palembang City, South Sumatra 30252, and was created on March 29, 2013, with license beginning in 2019.

They sell things, particularly souvenirs, with a contemporary twist that merges current style with local cultural treasures from South Sumatra. Terazz'ibon Collection provides three types of typical Palembang souvenir products: jumputan bags, jumputan pouches, and jumputan headscarves.

The method that will be used is the Human-Centered Design (HCD) approach (Norman et al., 2021). HCD (Figure 1) is a system development method aimed at creating more interactive and user-friendly systems (Muslimin & Zuraidah, 2023). This method is divided into several categories: understanding and specifying the context of use, understanding user needs (Specify the user requirements), designing solutions (Produce design solutions to meet user requirements), and evaluating the designs against the requirements (Evaluate the designs against requirements).



**Figure 1. Stages of the Human-Centered Design Method**

The implementation from the beginning to the end of this research involves the following steps: 1) **Understanding and Specifying the Context of Use**, the first stage is understanding and specifying the context of use, where researchers conduct studies to comprehend and define the context in which the UI design prototype will be used. In this stage, researchers identify the users and create user personas from the perspectives of both the seller and the users to gain a clear understanding of who will interact with the design (Odius & Susanto, 2023), 2) **Specifying the User Requirements**, the second stage involves defining user requirements by identifying the needs of the users, specifically the admin, through a user requirements questionnaire filled out by the owner of Terazz'ibon Collection. A sitemap is then created to provide a visual representation of the menu and sub-menu layout of the web pages. The goal of this stage is to determine the features, fonts, colors, and other elements that align with the users' needs for optimal prototype design (Odius & Susanto, 2023), 3) **Produce Design Solutions to Meet User Requirements**, design solutions are developed based on the analysis and identification of the user context and requirements (Pamungkas et al., 2023). The interface design begins with the creation of wireframes, screenflows, and prototypes, which are then tested with users. Wireframes help plan the layout, information hierarchy, and interaction between various components (Setiadi & Setiaji, 2020). Screenflows visually represent how users will interact with the interface from start to finish, illustrating user movement through

various screens and pages, along with the interactions and flows that may occur between them (Jongmans et al., 2022). The user interface prototype is refined and approaches the final product's appearance based on this process, 4) **Evaluate the Designs Against Requirements**, in this stage, the researcher tests the designs previously created using Figma, allowing users to evaluate the design through usability testing. The evaluation focuses on the functionality and design of the UI prototype to assess the designed solution and gather feedback.

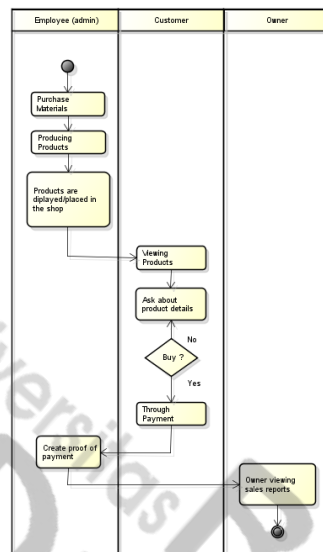
Data collection techniques are methods or ways used by researchers to collect information or data needed in a study. The purpose of data collection is to obtain accurate and relevant information. The data collection methods used in this study consists of primary and secondary data. Primary data is data that is collected or obtained directly in the field, researchers obtain this data in various ways, including observation and interviews (Sudarmanto et al., 2021). Secondary data is data that has been previously collected by a researcher and will be used as a research reference. Secondary data is easily accessible and is usually pre-processed. Examples of secondary data include specific data from previous research published in previous research journals, websites, and articles.

## RESULT AND DISCUSSION

The business process takes a user-centered approach to improve the digital experience of micro, little, and medium-sized companies (MSMEs) that offer Palembang souvenirs. The Human-Centered Design (HCD) approach entails working directly with stakeholders—both company owners and users—at every level of the design process. The process starts with assessing the needs of MSMEs and their consumers through user research, such as interviews and questionnaires. These insights guide the development of personas and scenarios that match normal user behavior and requirements. Following that, the design team creates wireframes and prototypes based on the requirements, ensuring that the interface is intuitive, simple to use, and accessible. Continuous testing and feedback loops are essential for refining the design prior to final deployment, ensuring that the UI effectively supports MSMEs' business goals while also improving the user experience.

Current Business Process (Figure 2), the current business process includes a series of activities designed to achieve operational efficiency and meet the needs of customers and other stakeholders. This involves understanding workflows, user roles, and the interactions between various elements within the system.

The figure 2 illustrates the conventional business process between seller and buyer. The process begins on the seller's side, starting with the purchase of raw materials needed to produce the products. After acquiring the materials, the seller proceeds to manufacture the product by cutting and sewing the materials that have been measured and prepared. Once production is complete, the product is packaged and displayed or placed in the store for sale.



**Figure 2. Business Process**

On the buyer's side, the process starts when they view the products displayed in the store. The buyer may inquire about the details of the desired product. If the buyer decides not to purchase, the process ends there. However, if the buyer chooses to make a purchase, they proceed to make a payment to the seller. After the payment is made, the seller issues a receipt, marking the end of the sales transaction.

**Understanding & Specifying the Context of Use**, based on interviews with the owner of the Palembang souvenir MSME, Terazz'ibon Collection, the following information was gathered regarding the desired features and appearance of the website design. Have a customer account feature, display product information based on categories, provide information about the Terazz'ibon Collection MSME, include an ordering (checkout) and payment system, implement a simple and consistent visual design to enhance readability and user comfort, ensuring the chosen colors align with the store's identity and target audience, admin should be able to manage product data, categories, sales reports, and transactions/orders.

**Table 1. User Identification**

Number	User	Tasks
1.	Owner	- Able to access sales report data, view, filter reports, print reports, and receive reports.
2.	Employee (admin)	- Manage product categories: add, edit, and delete categories. - Manage product data: add, edit, and delete products. - Manage orders: process incoming orders/transactions, verify payments, and update shipping status. - View customer data, sales reports, and manage admin data.
3.	Buyer (customer)	- Search for products: browse product categories to find desired souvenirs. - View product details: read product descriptions, view images, and check prices. - Select and order products: add products to the shopping cart and proceed to checkout. - Make payments: complete the payment and finalize the transaction.

**User Identification**, Table 1 shows the identification of users who will be involved in the use of the UI design website prototype. The primary users identified are the owner, employees, and customers of Terazz'ibon Collection SME. This identification is essential to ensure that each feature developed aligns with the tasks of each user, thereby improving operational efficiency and user experience. User Persona, table 2 shows the user persona from the seller's side of the Terazz'ibon Collection MSME. A user persona includes the persona's name, demographic details (name, age, occupation, city), the problems faced by the persona, and the expectations or goals they hope to achieve.

**Table 2. Seller User Persona**

Table 3 shows the user persona from the perspective of a buyer for the SME

<b>User 1</b>	
<b>Demographics</b>	<b>Goals</b>
<b>Name:</b> Linda Shelly	Managing and overseeing category data, product data, customer data, transactions/orders, sales reports, and admin data through the website.
<b>Age:</b> 52 years old	Providing complete information about products and services to potential buyers.
<b>Occupation:</b> Entrepreneur	
<b>City:</b> Palembang	
<b>User needs</b>	
Easy-to-use platform: An intuitive and user-friendly interface for adding, editing, and managing products and website content.	
<b>Frustrations</b>	<b>Motivations</b>
Difficulty in reaching potential customers.	Motivation to see her business grow and thrive with the help of digital technology. A desire to provide the best service to customers.
<b>Impacts</b>	
Effective product information dissemination is expected to increase sales.	

Terazz'ibon Collection. The main goal of the buyer is to find and purchase products easily and quickly.

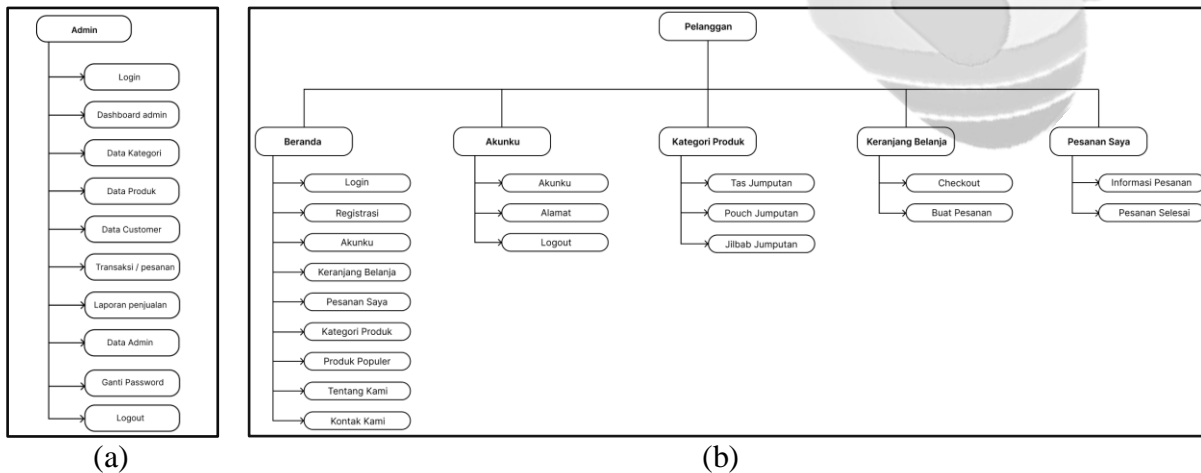
**Table 3. Buyer User Persona**

<b>User 2</b>	
<b>Demographics</b>	<b>Goals</b>
<b>Name:</b> Pebby Indira Utami	Access product information and purchase Palembang souvenirs easily.
<b>Age:</b> 22 years old	Complete the purchase process quickly and without obstacles.
<b>Occupation:</b> Student	Have access to clear product descriptions, prices, and availability.
<b>City:</b> Palembang	
<b>User needs</b>	
Clear product information: complete product descriptions, including high-quality images, prices, and stock information.	
Simple purchasing process: an easy-to-use and non-confusing shopping cart and checkout.	
<b>Frustrations</b>	<b>Motivations</b>
May feel confused when choosing the most suitable product for their needs.	Convenience and comfort: desires an easy and comfortable shopping experience from home, efficient product information, and ease of ordering.
<b>Impacts</b>	
Customer satisfaction: with easy access to product information and a simple purchasing process, customer satisfaction is expected to increase.	

Specifying User Requirements, based on observations and interviews, user needs for the SME Terazz'ibon Collection require filling out a user needs questionnaire by the SME owner to identify the specific user requirements. Table 4 shows the results of the user needs questionnaire.

**Table 4. Owner Questionnaire (User Needs)**

Question	Answer
How many role permissions do you need for the website?	Owner,admin and customer
What theme do you want to apply to the design of your website?	Simple and clean
Does your store have a specific color scheme you want to apply to your website design?	Yellow
What font style do you want to use in the design?	Inter
For customers, what features do you need?	Customer account, product categories, about us, contact us, my orders
For admins, what features do you need?	Category data, product data, customer data, transactions/orders, sales reports, admin data
What payment method do you usually use?	Transfer
What courier options do you usually use?	JNE
What information theme do you want to see on the product detail page?	Product name, price, stock, size, weight, product description
Do you need an invoice after placing an order? (An invoice is a document serving as proof of the transaction between the seller and buyer.)	Yes

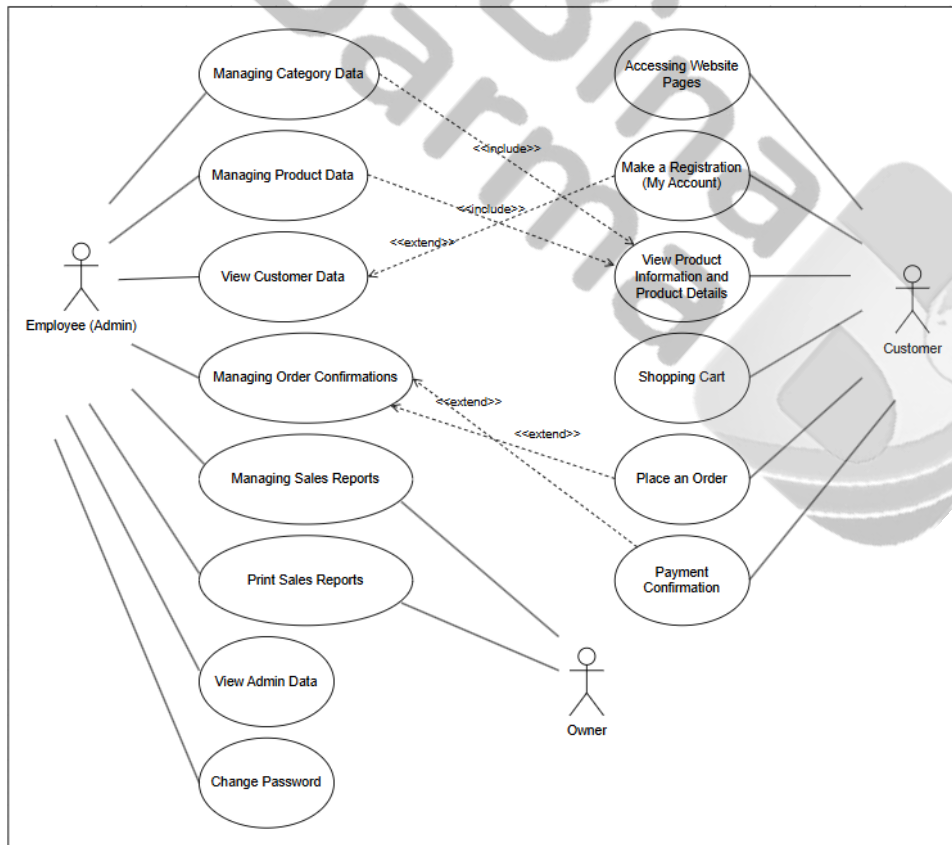


**Figure 3. Sitemap (a) Admin b (Customer)**

In the next stage of specifying user requirements, a sitemap will be created to provide an overview of the layout from menu to menu and sub-menu on each web page (Odius & Susanto, 2023). In Figure 3.a, the admin panel includes login, dashboard, category data, product data, customer data, transactions/orders, sales reports, admin data, password change, and logout. In Figure 3.b, the customer homepage includes options such as login, registration, my account, shopping cart, my orders, product categories, popular

products, about us, and contact us. My account has sub-menus for account management, addresses, and logout. Product categories display options like tie-dye bags, tie-dye pouches, and tie-dye hijabs. The shopping cart provides options for checkout and order creation. My orders include order information and completed order status.

Design Solutions (Produce Design Solutions To Meet User Requirements), the use case diagram in Figure 4 illustrates various activities that can be performed by the owner, employee, and buyer. Figure 4 illustrates the use case diagram of a sales system with three actors: Employee (Admin), Owner, and Customer. The admin manages product categories, product data, customer data, order confirmations, sales reports, and account security. The Owner shares similar responsibilities with the admin, particularly in managing order confirmations and sales reports, while also acting as the main decision-maker. The Customer interacts with the system by accessing the website, registering an account, viewing product details, adding items to the shopping cart, placing orders, and confirming payments.



**Figure 4. Use Case Diagram**

Wireframe and Screenflow, Figures 5 and 6 show the Wireframe and Screenflow for both admin and customer interfaces. Wireframes help plan the layout, information hierarchy, and interaction between various components (Setiaji, 2020).





Figure 5. Wireframe and Screenflow for Admin

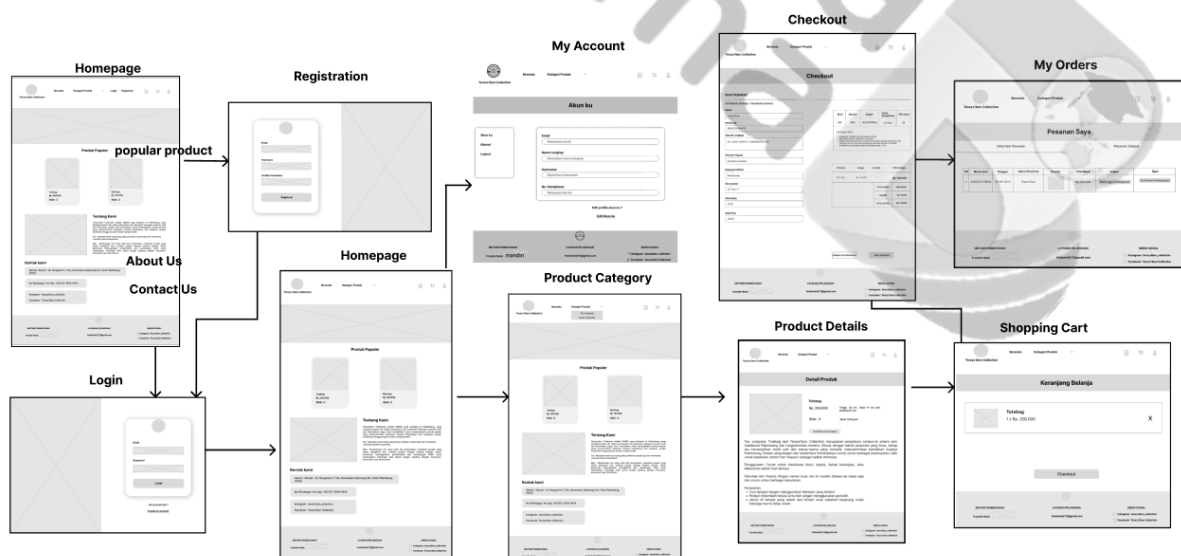


Figure 6. Wireframe and Screenflow for Customer

Prototype Design UI (Admin), figure 8 shows the prototype design (UI) of the administration system for "Terazz'ibon Collection," a souvenir business. Here's a brief explanation of each page shown:

**Admin Login:** The initial page to log into the system by entering a username and password. **Dashboard:** Displays a summary of important information after logging in.

**Category Data:** Allows management to view, add, edit, and delete product category data.

**Product Data:** Provides a page to view, add, edit, and delete product data.

Customer Data: Contains information about customers who have made transactions.

Transactions/Orders: A page to manage transactions or orders made by customers.

Sales Reports: Displays sales reports and allows viewing data by date, month, year, and product category, or printing.

Admin Data: Shows and manages admin data with access to the system.

Change Password: A feature to change the registered admin password.

Logout: A button to exit the administration system.

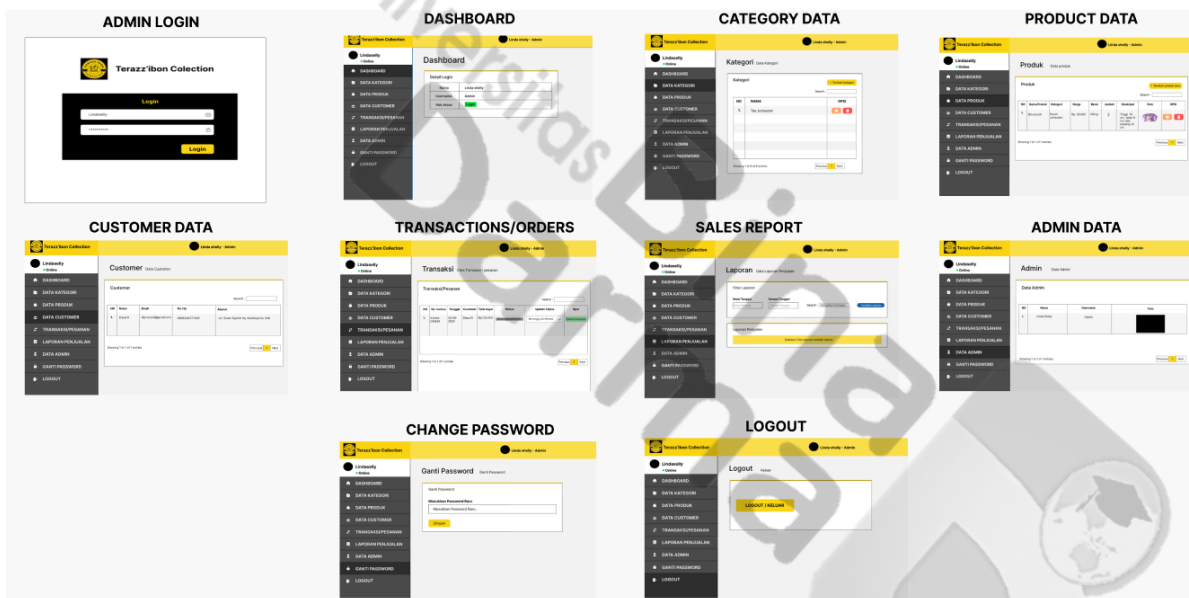


Figure 7. Prototype Design for Admin

Prototype Design UI (Customer), Figure 8 represents the prototype UI design for the customer website before logging into the "Terazz'ibon Collection" account, a Palembang souvenir business. Here's a brief explanation of each page:

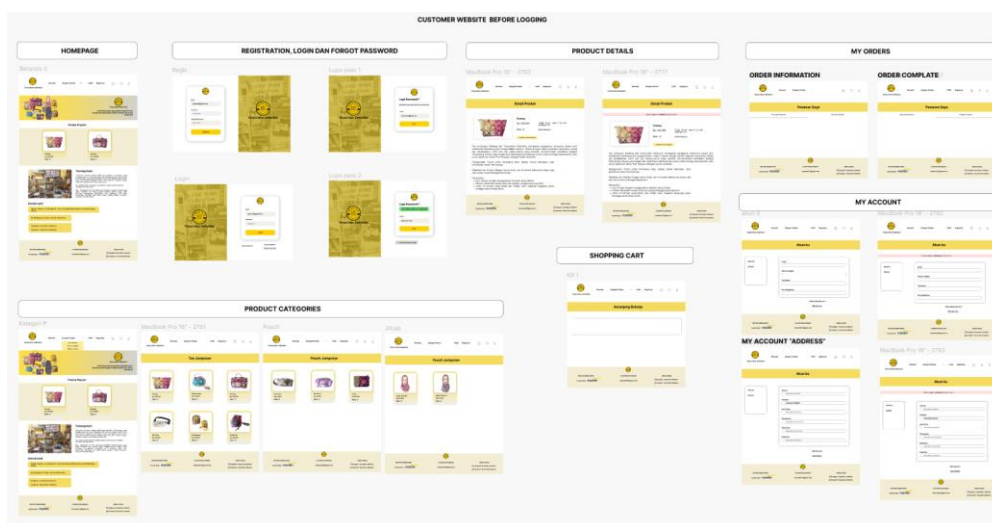


Figure 8. Prototype Design for Admin

**Homepage:** The main page of the website displaying popular products, my account features, shopping cart, my orders, registration, and login.

**Registration, Login, and Forgot Password:** Pages allowing users to register a new account, log into an existing account, or reset a forgotten password.

**Product Details:** Provides detailed information about a specific product, including description, price, and purchasing options.

**My Orders:** A page displaying the status of customer orders, whether in process or completed.

**Product Categories:** Displays various product categories sold by Terazz'ibon Collection, helping customers find desired items.

**Shopping Cart:** Shows a list of products selected by the customer for purchase, allowing them to review and edit before purchasing.

**My Account:** A customer profile page allowing updates to personal information and account details.

**My Account 'Address':** A section of the account page for customers to add or modify their shipping addresses.

In Figures 9.a and 9.b, the prototype UI design for the customer website after logging into the Terazz'ibon Collection account is shown. Here's a brief explanation of each page:

**Homepage:** Similar to before login, with added access to manage the account and messages.

**My Account:** Allows users to edit account and address information and view logout status.

**Product Categories:** Similar to the previous view, showing available categories and products.

**Shopping Cart:** Shows the shopping cart, either empty or containing selected products, and checkout details.

**Checkout:** Contains shipping details such as name, phone number, address, province (South Sumatra), district/city, sub-district, village, and postal code. Options to select the courier and display total payment after selecting the courier. The "Place Order" button confirms the order.

**My Orders:** Displayed in detail after placing an order, showing status from pending payment to complete and received orders, with invoice details.

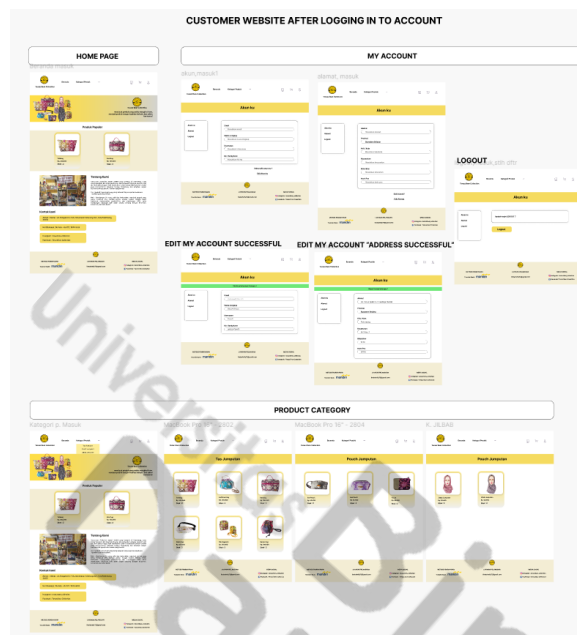


Figure 9.a Prototype Design UI (Customer) After Login

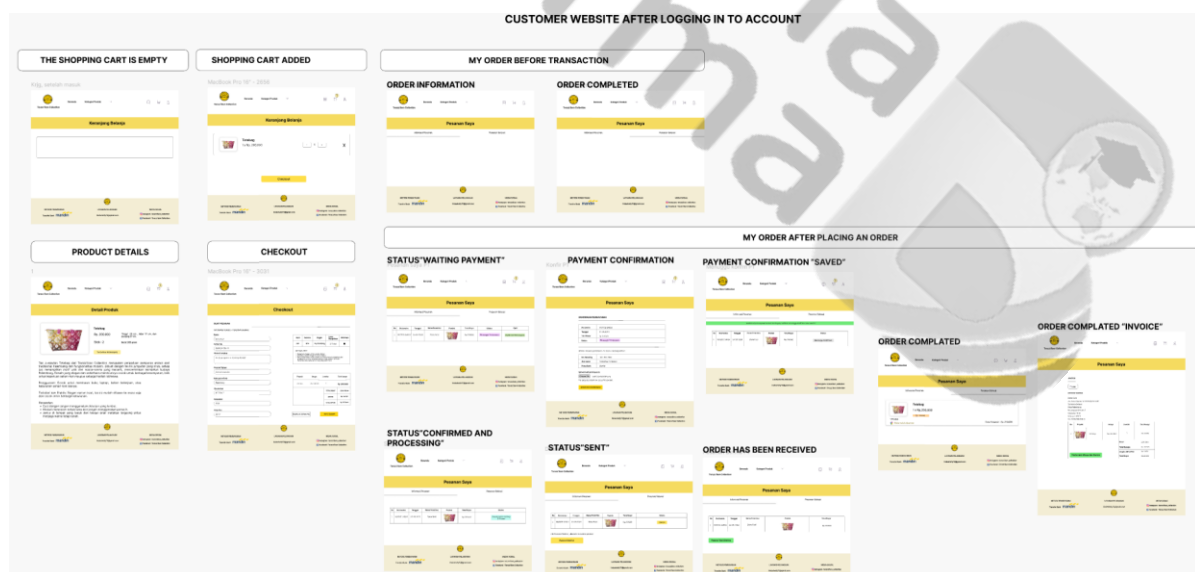


Figure 9.b Prototype Design UI (Customer) After Login

## CONCLUSIONS

The purpose of making this UI prototype is to develop and produce a prototype of the Terazz'ibon Collection website UI using the Human Centered Design (HCD) method that can be further developed and help users or programmers develop systems that require Terazz'ibon Collection SMEs. The benefits of making this UI design prototype are useful for the development of the Palembang souvenir SME website in the future for Terazz'ibon Collection owners, and as a reference for prototype development research for micro, small, and medium enterprises (MSMEs) related to UI/UX design. This prototype is ready to be implemented further in the development of the Palembang

souvenir SME website for Terazz'ibon Collection owners in the future. However, the drawback is that further implementation and development may require additional investment time and costs, especially if more complex features are needed. For further research, it is to develop it into a web-based application by using HTML 5. A number of modifications to HTML (Mayrita et al., 2024) brought about by the rise of new devices, platforms, protocols, and increasingly sophisticated systems made standards development more difficult.

## ACKNOWLEDGEMENT

The author team would like to express their gratitude to a number of parties who have helped so that this research can be completed properly, namely: Terazz'ibon Collection, and the Center for ICT Innovation Research, Smart Systems, & Data Science (Enterprise Systems Group of Research, ES-GoR).

## REFERENCES

- Abdillah, L. A., Aisyah, Panggabean, W. P. & Erkinovich, S. E. (2024). Knowledge of Songket Cloth Small Medium Enterprise Digital Transformation. *Sinkron : Jurnal Dan Penelitian Teknik Informatika*, 9(1), 609–616. <https://doi.org/10.33395/sinkron.v9i1.13408>
- Adha, I. A., Voutama, A. & Ridha, A. A. (2023). Perancangan UI/UX Aplikasi Ogan Lopian DISKOMINFO Purwakarta Menggunakan Metode Design Thinking. *JOISIE (Journal Of Information Systems And Informatics Engineering)*, 7(1), 55–70. <https://ejournal.pelitaindonesia.ac.id/ojs32/index.php/JOISIE/article/view/2938/1147>
- Dah, A. O. F. A., Dewi, D. A., Kurniawan, T. B. & Abdillah, L. A. (2024). Virtual reality application for new shopping experience integrated with social distancing compliance. *Journal of Engineering Science and Technology (JESTEC)*, 19(2), 145–153. [https://jestec.taylors.edu.my/Special Issue on ICIT2022\\_3/ICIT2022\\_3\\_16.pdf](https://jestec.taylors.edu.my/Special%20Issue%20on%20ICIT2022_3/ICIT2022_3_16.pdf)
- Hidayat, Y. W., Abdillah, L. A., Prayuda, I., Kusumo, A. J., Pranata, D. U. & Syarriansyah, M. (2020). Designing Palembang's Typical Culinary Information Systems Based on Website and Social Media. *SISTEMASI: Jurnal Sistem Informasi*, 9(2), 343. <https://doi.org/10.32520/stmsi.v9i2.817>
- Jongmans, E., Jeannot, F., Liang, L. & Damp rat, M. (2022). Impact of website visual design on user experience and website evaluation: the sequential mediating roles of usability and pleasure. *Journal of Marketing Management*, 38(17–18), 2078–2113. <https://doi.org/10.1080/0267257X.2022.2085315>
- Kusumadewi, A. N. (2020). Implementasi Jiwa Wirausaha Dan Pemanfaatan Media Sosial Terhadap Minat Berwirausaha Pada Mahasiswi Purwakarta. *Eqien: Jurnal Ekonomi Dan Bisnis*, 7(2), 87–94. <https://doi.org/10.34308/eqien.v7i2.141>
- Lubis, P. S. I. & Salsabila, R. (2024). Peran UMKM (Usaha Mikro, Kecil, Dan Menengah) dalam Meningkatkan Pembangunan Ekonomi Di Indonesia. *MUQADDIMAH: Jurnal Ekonomi, Manajemen, Akuntansi Dan Bisnis*, 2(2), 91–110.

- Mayrita, H., Sahfitri, V., Aprilia, F., Abdillah, L. A. & Saputra, H. (2024). Design of an Interactive Digital Encyclopedia of Palembang Urban Culture on a Web-Based HTML5 Platform as an Implication for BIPA Learning. *Edelweiss Applied Science and Technology*, 8(5). <https://learning-gate.com/index.php/2576-8484/article/view/1728>
- Muslimin, W. & Zuraidah, E. (2023). Desain UI/UX Prototype SPP Metode Human Centered Design. *KLIK: Kajian Ilmiah Informatika Dan Komputer*, 4(2), 746–756. <https://doi.org/10.30865/klik.v4i2.1081>
- Norman, M. K., Hamm, M. E., Schenker, Y., Mayowski, C. A., Hierholzer, W., Rubio, D. M. & Reis, S. E. (2021). Assessing the application of human-centered design to translational research. *Journal of Clinical and Translational Science*, 5(1). <https://doi.org/10.1017/cts.2021.794>
- Odius, Y. I. & Susanto, N. (2023). Rancang Bangun Desain Antarmuka Pengguna Pada Website Penjualan UMKM Roti Ity Menggunakan Metode Human-Centered Design. *Industrial Engineering Online Journal*, 12(4). <https://ejournal3.undip.ac.id/index.php/ieoj/article/view/41336>
- Pamungkas, R. K., Putra, W. H. N. & Purnomo, W. (2023). Perancangan User Interface Website e-Commerce UMKM dengan Metode Human Centered Design (Studi Kasus: Veilplease. Hijab). *Jurnal Pengembangan Teknologi Informasi Dan Ilmu Komputer*, 7(7), 3365–3374.
- Septamuyassar, N., Indah, D. R. & Kurniawan, D. (2023). Perancangan UI/UX Website SMA PGRI 268 Pangkalan Kersik Menggunakan Metode Human Centered Design. 7(2), 276–286. <https://ejournal.pelitaindonesia.ac.id/ojs32/index.php/JOISIE/article/download/3965/1366>
- Setiadi, A. R. & Setiaji, H. (2020). Perancangan UI/UX menggunakan pendekatan HCD (Human-Centered design) pada website Thriftdoor. *Automata*, 1(2), 228–233.
- Sudarmanto, E., Kurniullah, A. Z., Revida, E., Ferinia, R., Butarbutar, M., Abdilah, L. A., Sudarso, A., Purba, B., Purba, S., Yuniwati, I., Hidayatulloh, A. N., HM, I. & Suyuthi, N. F. (2021). *Desain Penelitian Bisnis: Pendekatan Kuantitatif*. Yayasan Kita Menulis.
- Wahidah, A. W. U., Az-Zahra, H. M. & Wardhono, W. S. (2021). Perancangan Antarmuka Sistem Informasi Akademik Siswa berbasis Web menggunakan Metode Human Centered Design (Studi Kasus: SMK Negeri 8 Malang). *Jurnal Pengembangan Teknologi Informasi Dan Ilmu Komputer (J-PTIHK)*, 5(10), 4268–4277. <http://j-ptiik.ub.ac.id/index.php/j-ptiik/article/download/9929/4422>