TEAM PROJECT HUMAN COMPUTER INTERACTION AOL (Shopee Application)
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TA01 Proposal Human Computer Interaction

App Name:
Shopee

App Description:
Shoppe is an interactive online shopping platform designed to enhance the user experience through intuitive and seamless interactions. Its main purpose is to make shopping more engaging, efficient, and personalized by integrating advanced features like voice search, AI powered recommendations, augmented reality try-ons, and biometric authentication. By combining convenience with innovation, Shoppe ensures that users can browse, discover, and purchase products effortlessly while enjoying a smooth and immersive shopping journey.

App Interaction:
There's also a lot of interaction that user can do in shopee such as :

1. **Account User (Login & Register)**

   Shoppe offers a secure and flexible login system, allowing users to access their accounts effortlessly. Users can log in using email and password, social media accounts, phone numbers with OTP (One-Time Password), or biometric authentication such as fingerprint scanning and Face ID. To enhance security, Shoppe also supports multi-factor authentication (MFA), ensuring that user accounts remain protected from unauthorized access. The login process is designed to be fast, seamless, and secure, enabling users to start shopping without hassle while keeping their personal data safe.

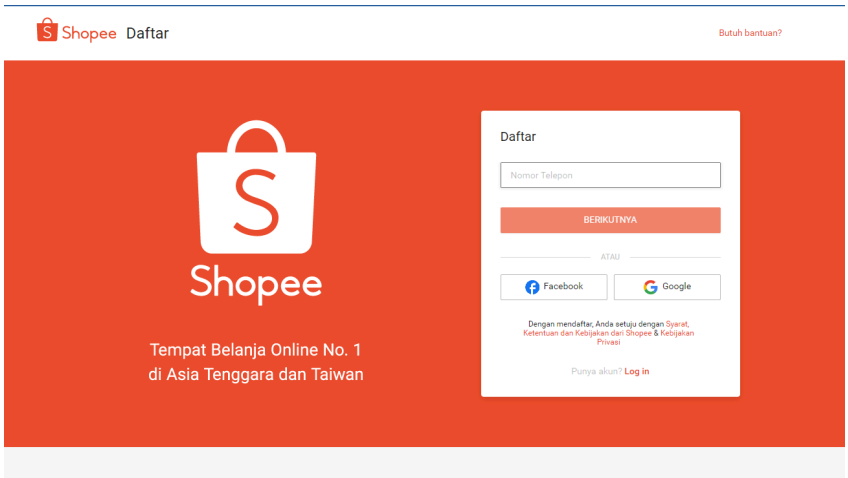

Image TA01_AppInteraction_Shoppe login

2. **Searching & Navigation**

   Finding products in Shoppe is quick and efficient, thanks to its smart search system. Users can type keywords, use voice search, or even upload images to find similar products through image recognition. Shoppe also provides personalized search results based on browsing history and preferences, making it easier to discover relevant items. Filters and sorting options help users

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refine their searches by category, price range, brand, or popularity. The search experience is designed to be intuitive and interactive, ensuring users can find exactly what they need with minimal effort.

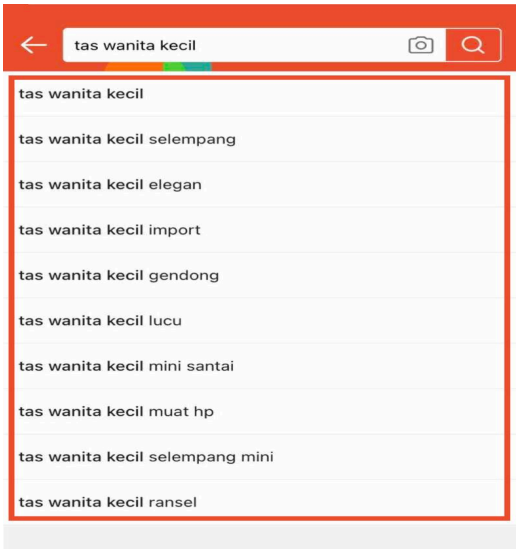

Image TA01_AppInteraction_Search Bar

3. **Social Collaboration (Chatting, Events, Feeds And Trending)**

Shoppe allows users to engage with others through social collaboration features, making shopping more interactive and connected. Users can chat with friends, ask for opinions on products, and share items directly via messaging or social media platforms. It also connects you with the product seller so it's easy for you to communicate about the products. The app also supports community discussions and live shopping events, where users can interact with influencers, sellers, or other shoppers in real time. Additionally, shoppers can like, comment on reviews, and follow their favorite brands or stores, creating a more engaging and community-driven shopping experience.

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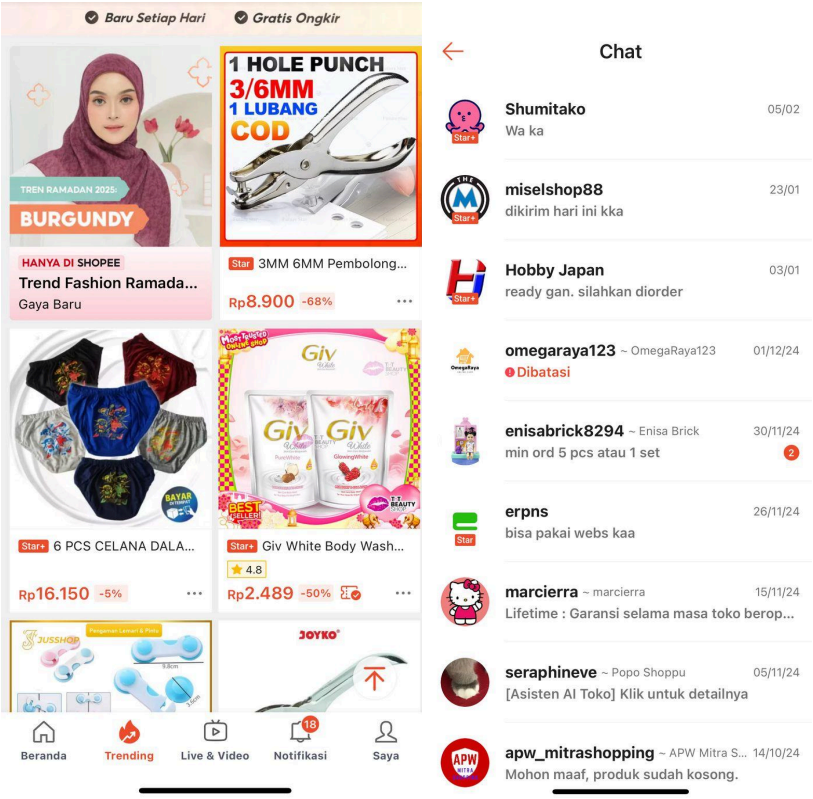

Image TA01_AppInteraction_Social Interaction

4. **Make A Transaction (Payment & Promo)**

Shoppe offers a seamless and secure transaction process, allowing users to complete purchases with ease. Payments can be made using various methods, including credit/debit cards, digital wallets, bank transfers, and even biometric authentication like fingerprint or Face ID for faster checkout. Shoppe also provides Discount and promo codes for users to get cheaper prices. Users receive instant payment confirmations and can track their order status in real time. Shoppe's also trying to give the best transaction experience to customers to be fast, secure, and user-friendly, ensuring that every purchase is smooth and hassle-free.

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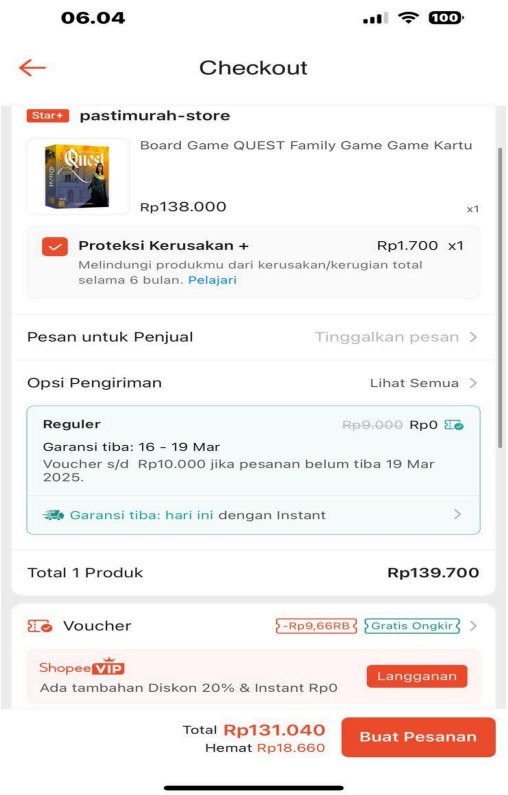

Image TA01_AppInteraction_Check Out

5. Shopping Cart

Shoppe features a personalized shopping cart, where users can add, remove, and modify items before making a purchase. The cart provides a clear breakdown of prices, discounts, and estimated delivery dates, helping users make informed decisions. To enhance convenience, Shoppe offers a save-for-later option, allowing users to move items to a wishlist if they're not ready to buy. The platform also supports multiple payment methods, including installment plans, ensuring a flexible and seamless checkout process. With real-time updates and easy navigation, the shopping cart provides a smooth and hassle-free shopping experience.

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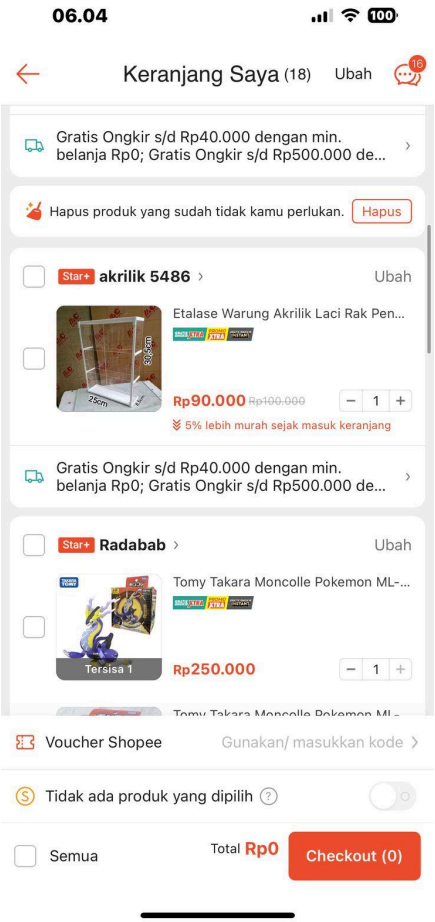

Image TA01_AppInteraction_ShoppingCart

6. **Review & Ratings**

Reviews and ratings also play a key role, as users can engage with other shoppers through comments and discussions, making shopping a community-driven experience. It's also a feature that makes it easier for users to know which product is good and not so they won't be confused which to choose. Shoppe also has a "main key" in their review ratings which shows the most repetitive comments on the product and shop. This features also help users easier to do transactions.

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Image TA01_AppInteraction_Reviews

7. **Order Tracking & Delivery Interaction**

After completing a purchase, users can track their orders in real-time through the Shoppe app. The system provides live updates on shipping status, estimated delivery time, and even allows users to communicate with delivery personnel for special instructions. If users are unavailable during delivery, they can reschedule or redirect their package to another location. This feature enhances transparency and convenience, ensuring that users stay informed about their purchases at all times.

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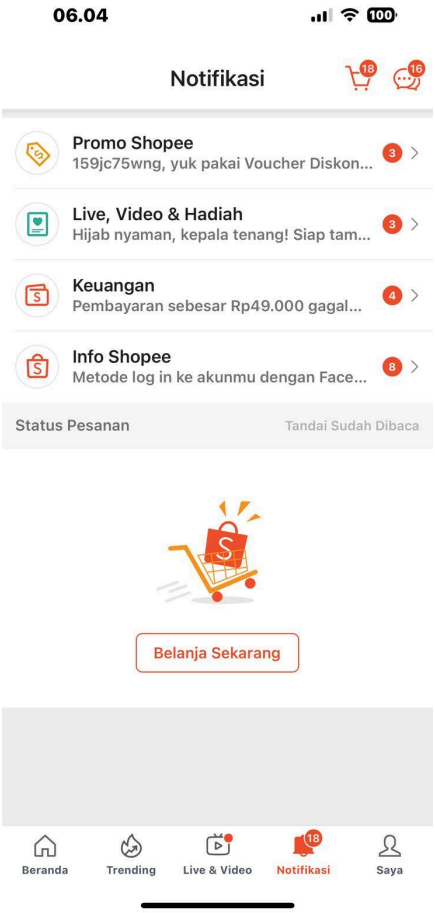

Image TA01_AppInteraction_Notification

Target User:

1. Customers

   Individuals who browse and purchase products on Shopee, taking advantage of discounts, flash sales, and promotions while using features like Shopee Live and Shoppe Pay for a seamless shopping experience. Customers can be split into two types of customers:

   a. Casual shoppers

      Casual shoppers are everyday consumers who use Shopee occasionally for convenience and affordability. They browse the platform to find essential products, trendy items, or daily needs like groceries, fashion, and electronics. Price and promotions heavily influence their purchasing decisions, so they often compare sellers and look for discounts before checking out. They are not highly engaged with Shopee's interactive features but may use vouchers or cashback when available. Most casual shoppers make impulsive or need-based purchases rather than planning ahead for major sales events.

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b. Power Buyers / Shoppers

Power buyers are highly active shoppers who frequently make purchases and strategically take advantage of Shopee's promotions, discounts, and loyalty programs. They plan their purchases around Shopee's major sales events like 9.9, 10.10, 11.11, and 12.12, where they can maximize savings with vouchers, Shopee Coins, and bundle deals. They often engage with Shopee Live, follow specific brands or sellers for exclusive promotions, and use ShopeePay for additional cashback rewards. Many power buyers also participate in group buying, pre-orders, and limited-time flash sales to get the best deals before stock runs out.

2. Sellers

Sellers on Shopee are businesses or individuals who list and sell products on the platform. They range from small independent sellers to large brands and official stores. Shopee provides various tools to help them grow, such as Shopee Ads for visibility, Shopee Live for real-time product demonstrations, and Shopee Mall for premium branding. Sellers can manage their stores through Shopee's Seller Center, handle customer inquiries via in-app chat, and use Shopee's logistics services to streamline shipping.

Problems

However Shopee doesn't put its features to its maximum usage, there are problems found in the system that also doesn't follow Shneiderman's Eight Golden Rules which should have been the standard for a good app design:

1. No information feedback when browsing product

When scrolling through product pages, there is insufficient feedback to guide the user's actions. Compared to tokopedia and Blibli, both applications have a navigation bar that can provide information about which section the user is in. In addition, users can also access the other sections with the help of the navigation bar.

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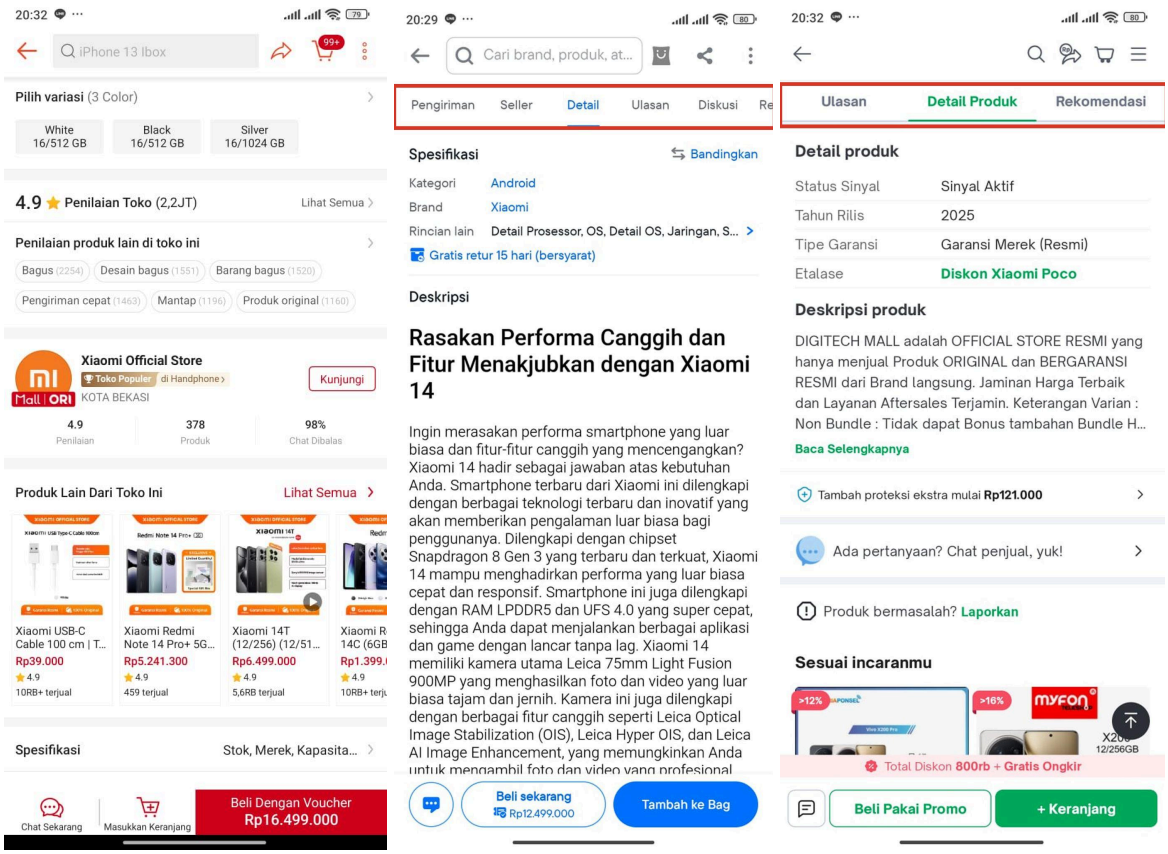

Image TA01_Problems_Product Description

2. Short term of memory load because of repetitive voucher

In the cart tab, each store of the products in the cart has a button to select vouchers per store. Then, at the bottom, there is a button to select general vouchers as well. This repetitive voucher section can trigger short term memory load for users because each voucher tab has several cards in it. It would be better if the vouchers are unified in one place only.

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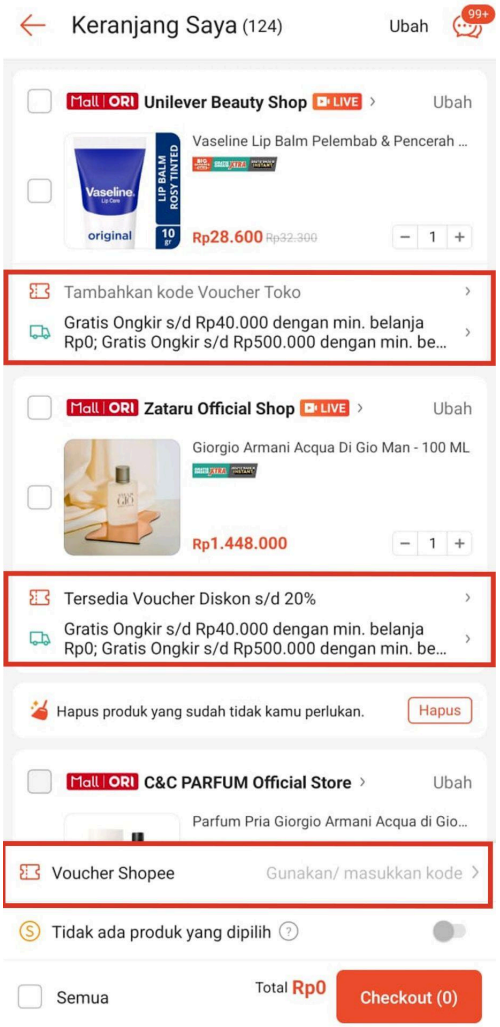

Image TA01_Problems_Vouchers

3. Causes short-term memory load due to disorganized chat features

   Shopee's app design often requires users to remember multiple steps and options, increasing their cognitive load and leading to mental fatigue.

   Users must remember which messages belong to sellers versus personal contacts instead of relying on a structured interface, increasing cognitive load and reducing efficiency. This lack of separation can lead to confusion, especially for users who frequently communicate with multiple sellers and need to track order-related discussions efficiently.

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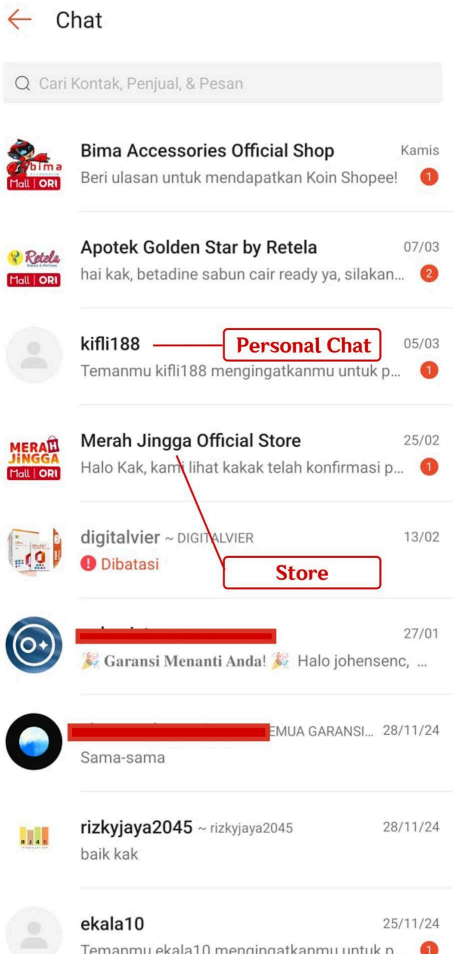

Image TA01_Problems_Chat

4. Short term memory load due to too much effort to finding products in the cart

When the number of products in the cart is too large, it will be difficult to find the product that the user wants, because the number of products in the cart can be up to 99+ while humans are only capable of retaining 5 items in our short term memory at one time. Due to this problem, a searching feature is needed to make it easier for users to find the desired product.

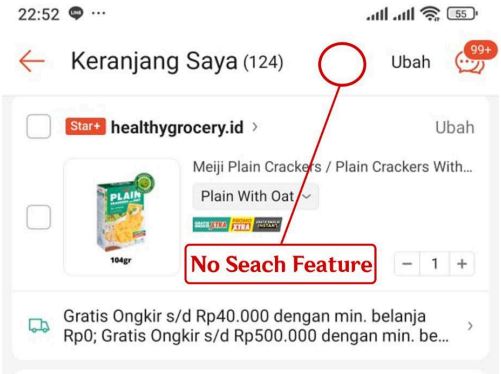

Image TA01_Problems_Cart Search

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5. Lack of internal locus of control

Users cannot delete individual search history entries; they can only clear all history at once. This lack of flexibility can be frustrating, especially for users who want to remove only certain searches while keeping others for future reference. Without the ability to selectively manage their search records, users may hesitate to clear their history altogether, leading to unnecessary clutter and difficulty in quickly finding relevant past searches. Implementing an option to delete specific entries would significantly improve user control and enhance the overall browsing experience.

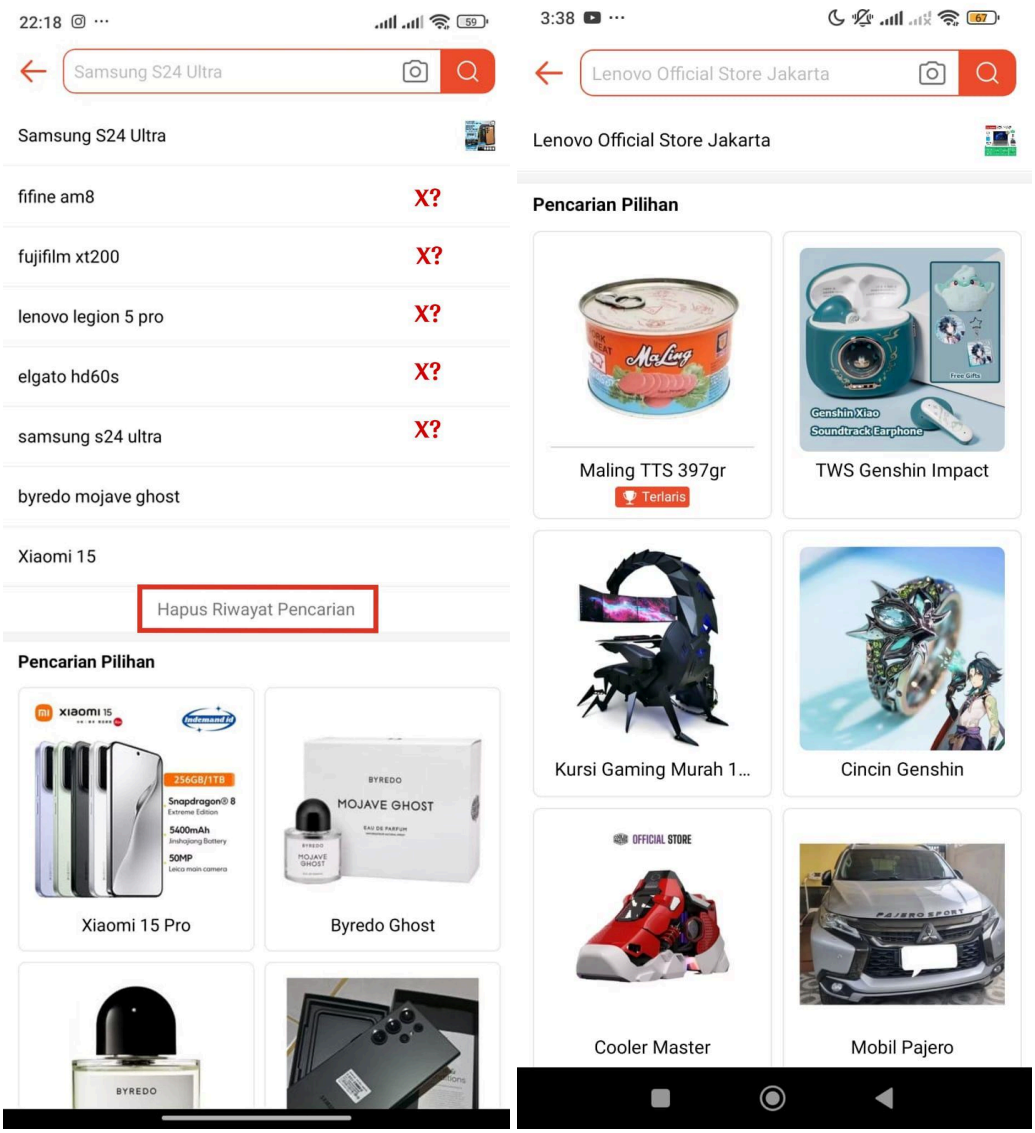

Image TA01_Problems_Search History

6. Enable Frequent Users to Use Shortcuts

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The ‘Riwayat Pesanan Saya’ (Order History) feature is buried within the ‘Saya’ (Me) tab, making it difficult to track orders. The ‘Notifikasi’ (Notifications) tab is not very useful in the navigation bar and could be replaced with a more frequently accessed feature.

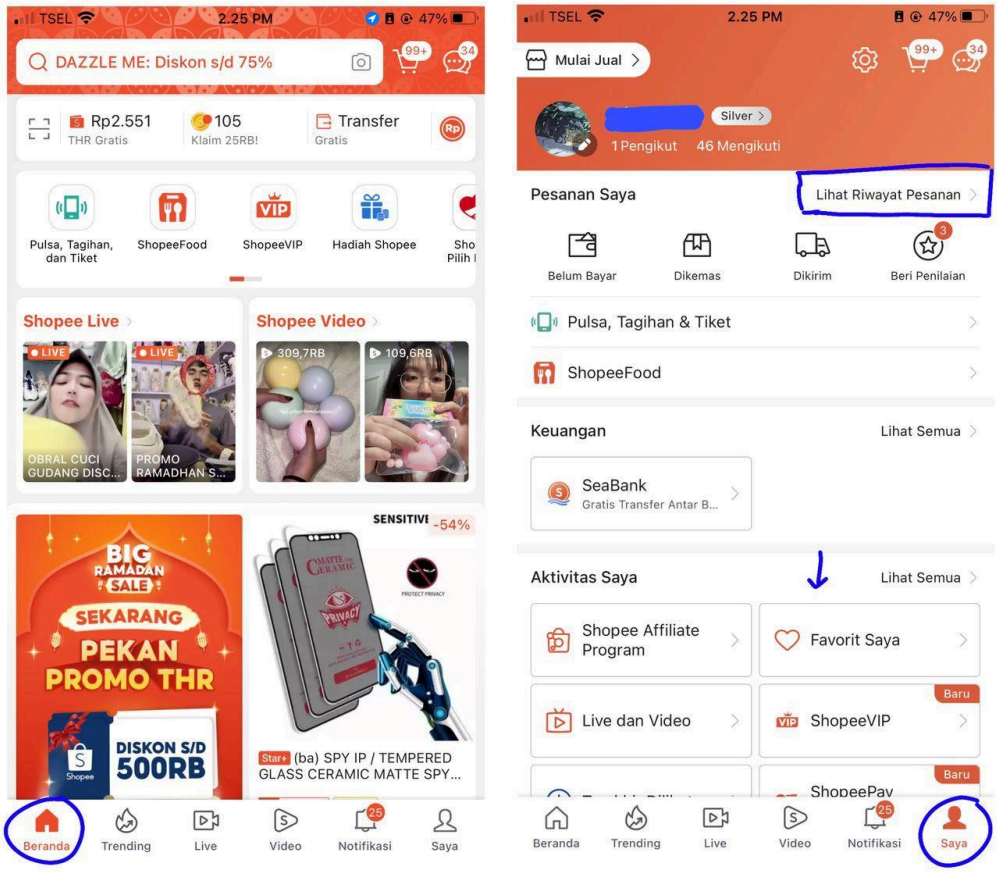

Image TA01_Problems_Transaction History

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Solution

Here are the solution in general for all problems:

Improve navigation by relocating frequently used features (e.g., Order History) to more accessible areas.

- **Enhance user control** by allowing individual search history deletion and better transaction history management.
- **Improve filtering and categorization** in the shopping cart, favorite items, and search results.
- **Separate seller and personal messages** in the chat system to improve clarity.
- **Enable customization options** so users can modify the layout of their homepage or rearrange menu items based on their preferences.

Here are the solutions for the six issues found in Shopee based on **Shneiderman's Eight Golden Rules**:

1. Lack of Information Feedback When Browsing Products

Solution:

- Add a **sticky navigation bar** at the top of the page to indicate the current section the user is in.
- Implement **breadcrumb navigation** so users can easily track their location and return to previous categories.
- Include a **page/category indicator**, similar to what Tokopedia and Blibli have, to provide better context.

2. Short-Term Memory Load Due to Repetitive Vouchers

Solution:

- Combine **store vouchers and general vouchers into a single location** to reduce cognitive load.
- Introduce an **auto-apply best voucher** feature based on the items in the cart.

3. Short-Term Memory Load Due to Disorganised Chat Features

Solution:

- Separate **seller chats and personal chats** into two distinct tabs.
- Add a **filter or categorisation feature** to sort messages by store or order status.
- Use clear **icons or labels** to distinguish between **order-related messages and general chats**.

4. Short-Term Memory Load Due to Difficulty Finding Products in the Cart

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Solution:

- Introduce a **search feature within the cart** to help users quickly find products.
- Allow users to **group products by category or store** for better organisation.
- Display **recently added or frequently purchased items at the top** for easier access.

5. Lack of Internal Locus of Control in Search History

Solution:

- Enable **deleting individual search history entries** instead of only offering a full clear option.
- Provide an option to **save favourite searches** so users can retain important queries without keeping unnecessary history.
- Add a **confirmation prompt before clearing all history** to prevent accidental deletion.

6. Lack of Shortcuts for Frequent Users

Solution:

- Move the **"My Order History" feature to the homepage or create a dedicated shortcut** for quick access.
- Replace the **"Notifications" tab with a more useful feature**, such as a direct "Orders" tab for easy tracking.
- Allow users to **customize shortcuts** on the homepage for frequently used features.

These solutions will enhance the Shopee user experience and align the app with **better design standards**.

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TA02 Shopee Mobile Application Product Requirement Document

I. Introduction

Shopee is one of the leading mobile e-commerce platforms in Southeast Asia, serving millions of users daily across various markets including Indonesia, Malaysia, the Philippines, and Vietnam. The application caters to three primary user groups consumers, sellers, and advertisers by providing a comprehensive environment for browsing, purchasing, selling, and promoting a wide array of products.While Shopee has achieved widespread popularity and offers a robust set of features, it faces significant challenges in terms of user experience (UX). Usability testing and user feedback have revealed pain points related to inefficient navigation, high cognitive load, and a lack of interface organization, which can lead to user fatigue, confusion, and friction in completing key actions such as searching for products, applying vouchers, and managing chats with sellers.

II. Objectives

The primary objective of this redesign is to significantly improve the overall user experience of the Shopee mobile application by addressing key usability challenges that hinder navigation, efficiency, and user satisfaction. This initiative seeks to minimize cognitive load, streamline feature accessibility, and align the interface design with Shneiderman's Eight Golden Rules to ensure a more intuitive, responsive, and user-controlled interaction flow. By introducing enhancements such as an always-accessible search bar, customizable home shortcuts for frequent actions like checking order history or accessing saved items, a restructured chat system that separates personal and transactional conversations, and a smart voucher management system, the redesign aims to make Shopee more efficient and enjoyable for both casual users and power shoppers. Additionally, the project intends to create a more inclusive design that supports biometric login, voice input, and personalized recommendations through artificial intelligence, while maintaining performance and data security standards. These objectives ultimately support Shopee's broader mission to become the most user-friendly and innovative mobile shopping platform in Southeast Asia, drive higher user retention, and increase engagement during major sale events by offering a seamless, adaptive, and personalized shopping experience.

III. Stakeholders

Our stakeholders consist of 3 individuals, that is :

1. Consumers (Casual Shoppers & Power Buyers)

   Consumers are the primary users of the Shopee app, ranging from occasional buyers to highly active shoppers who engage in flash sales, use loyalty rewards, and participate in community driven features like Shopee Live. They expect a smooth, fast, and personalized shopping experience. Many users have reported challenges related to search, cart management, and chat organization, which can impact satisfaction and

repeat usage. Enhancing the user interface to reduce mental fatigue and streamline common actions directly benefits this stakeholder group.

2. Sellers (Individuals & Official Stores)

   Sellers use the Shopee platform to list products, manage orders, communicate with buyers, and run promotions through tools like Shopee Ads and Shopee Live. Their experience depends heavily on organized communication channels and a user interface that allows buyers to interact confidently and efficiently. Disorganized chat layouts and poor navigation can negatively impact trust and conversion rates. By improving buyer-side usability and transaction clarity, the redesign indirectly helps sellers improve customer satisfaction and increase sales.

3. Admins (Shopee Management & Business Strategy Team)

   This group sets long-term goals related to growth, engagement, and user retention. They are highly invested in ensuring the platform remains competitive, especially during major campaign seasons like 9.9 and 12.12. A better user experience translates to increased time spent in-app, higher conversion rates, and better feedback from users. The redesign supports business goals by modernizing the platform and aligning it with evolving user expectations and digital retail trends.

IV. Use Persona

a. Use Persona #1 : Matthew

TA02_4.a.1 Picture Interview with Matthew Anthony

Matthew is a 21-year-old Data Science student from Binus University, class of B27. He's tech savvy, organized, and often looks for tools and platforms that make his life easier. As someone who is constantly juggling academic projects, online classes, and extracurricular activities, he heavily relies on e-commerce platforms like Shopee to fulfill his day to day needs ranging from groceries and electronics to K-pop merchandise and coding accessories. Matthew especially enjoys browsing during flash sales and national

campaigns like 9.9 or 12.12, where he maximizes voucher use, cashback, and Shopee Coins.

However, despite being a loyal Shopee user, Matthew finds the app's interface unintuitive and mentally draining at times. He often struggles with the overwhelming number of vouchers presented at checkout, which forces him to check multiple layers of discounts without a clear best choice. In addition, he's frustrated with how deeply buried useful shortcuts like "Order History" are, especially when he wants to quickly track a recent order before class. Matthew wishes there were a better way to customize the homepage, clean up his cart, and simplify discount selection so he could shop efficiently without wasting time.

b. Use Persona #2 : Nathen

TA02_4.a.1 Picture Interview with Nathen

Nathen, also a 21 year old Binus Data Science student from class B27, is known among his peers for being highly analytical and detail-focused. He often buys components for his DIY tech projects, including Raspberry Pi gear, microcontrollers, and soldering tools. Because he cares deeply about product quality and reliability, he spends a lot of time researching sellers, comparing reviews, and browsing user-uploaded product photos before committing to a purchase. Nathen also uses Shopee Live occasionally to watch product demonstrations or Q&A sessions hosted by sellers or influencers.

What frustrates Nathen most is the inefficiency of Shopee's search system. He often finds himself scrolling endlessly through irrelevant results because of poor filtering and a lack of advanced search logic. He's also annoyed by the inability to delete individual search history entries, having to clear everything when he only wants to remove a few. Nathen wishes Shopee would offer better categorization, refined filters, and give him more control over his shopping experience. He's also a fan of orderliness, so a better-organized cart with search functionality would make a huge difference to him.

c. Use Persona #3 : Richie

TA02_4.a.1 Picture Interview with Richie

Richie is a 22 year old entrepreneur at heart and a fellow Binus B27 Data Science student. Apart from studying, Richie runs a small business selling mechanical keyboard parts and limited-edition keycaps through his Shopee store. He started his store as a side hustle during the pandemic, and it has since grown into a decent monthly income stream. Richie is both a frequent seller and a dedicated Shopee user, often buying raw materials from other sellers and fulfilling orders for fellow keyboard enthusiasts around the country.

Richie's biggest issue with Shopee is the poor separation between his buyer and seller chats. His inbox is cluttered with inquiries, promotions, and personal order-related messages, making it hard to quickly respond to urgent customer concerns. The lack of message categorization often causes delays, leading to lower seller ratings. Richie also finds the mobile app lacks a quick-access dashboard for his store analytics or order management. He wishes there was a way to better customize his interface, separate his roles, and streamline his daily routine as both a student and a seller.

d. Use Persona #4 : Moreno

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TA02_4.a.1 Picture Interview with Alexanderosso Moreno

Moreno is a laid-back, easygoing 21 year old who also studies Data Science at Binus University B27. He enjoys online shopping but doesn't use Shopee as obsessively as his peers. Moreno typically purchases basic items like phone chargers, snacks, and streetwear clothing, often influenced by TikTok trends or peer suggestions. He likes using features like "Save to Wishlist" and appreciates any app that reduces the number of taps it takes to buy something. For Moreno, convenience is everything if it takes too much effort, he'll just skip the purchase.

Moreno's main pain point is his chaotic shopping cart. He often adds multiple items to compare prices or check later, but with 50 products from different sellers, he quickly loses track of what he actually wants to buy. Without a search bar in the cart or sorting tools, he finds it mentally exhausting to scroll through everything just to find a single shirt or charger he added days ago. Moreno would love to see smart grouping options, cart filters, and a "frequently added" section to reduce confusion and speed up the checkout process.

V. Workflow

a. Workflow Introduction

This workflow diagram represents the end-to-end interaction within a digital video streaming and marketplace platform involving four primary actors: Other Users, the User, Admin, and Seller. It outlines the processes from account creation to content interaction, transactions, and product handling, capturing both user-centric and system-level behaviors. Designed to ensure smooth communication among all parties, this flowchart helps visualize the complexity of interrelated actions across the platform while emphasizing clarity and logical flow in user experience.

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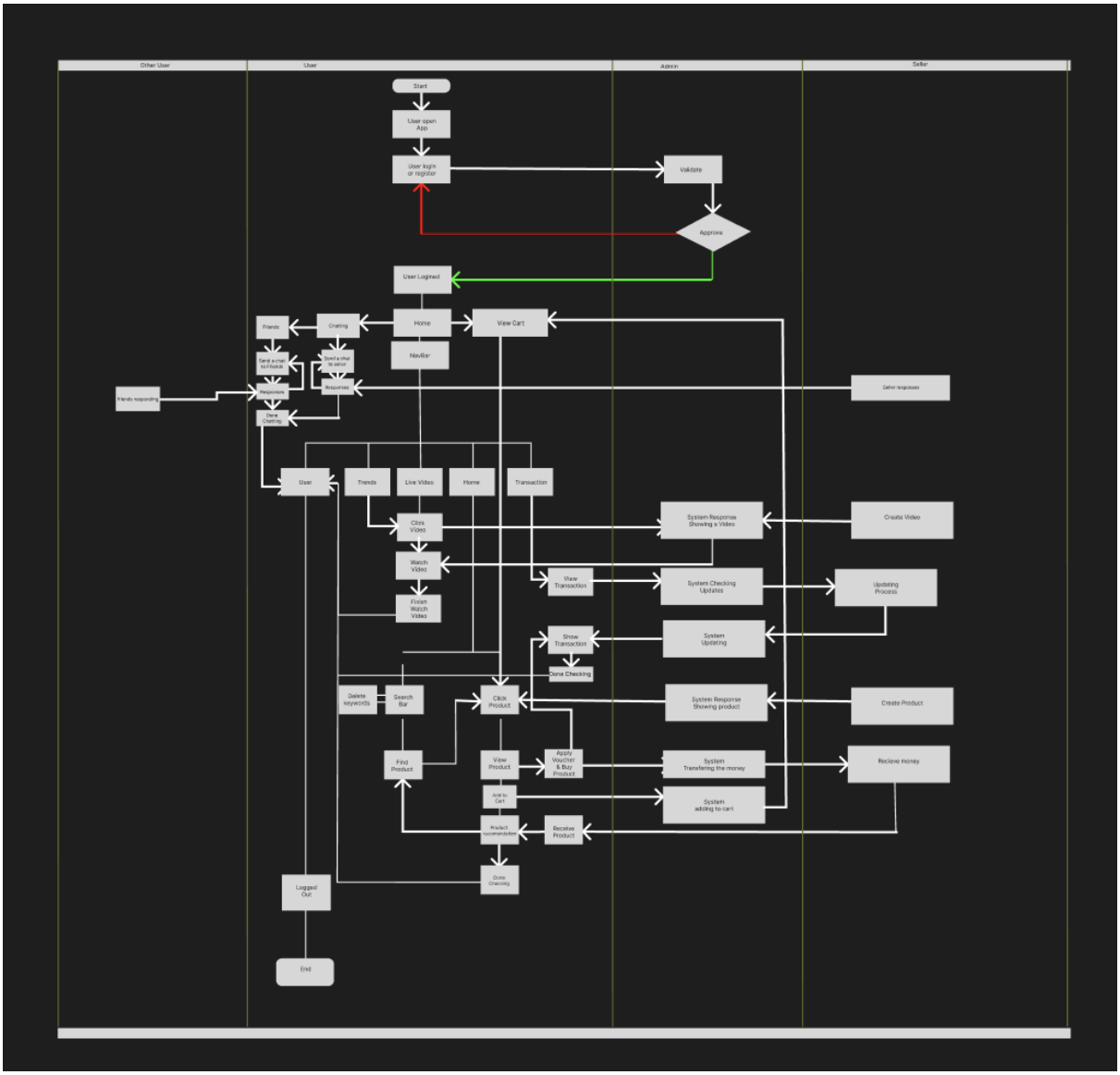


TA02_5.1 Picture of Workflow Format For Shoppe Application

b. Workflow Description

The user journey begins at the login or sign-up stage. If a new user signs up, their information is first validated by the Admin, who then either approves or rejects the registration. Once approved, the user is logged in and directed to the homepage, where they can explore videos, navigate through menus, search for products, or view their cart. Notably, the platform accommodates multi-role access, enabling seamless transitions between exploring content and shopping activities.

From the seller's perspective, they can create videos, products, and manage promotions after logging in. When users select a product, it triggers system-level processes like checking stock, updating inventory, and handling transactions. Payments are processed securely, and once confirmed, the system updates the order status and initiates product shipping. Meanwhile, users can track their orders, update their profiles, and log out when finished. Throughout, Admin plays

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

a key role in overseeing user approvals and monitoring streaming content, ensuring system integrity and user safety.

This comprehensive and dynamic workflow is built with the user in mind, balancing ease of navigation with powerful backend automation. It not only supports content discovery and consumption but also manages financial transactions and product fulfillment efficiently, making the platform a well-integrated space for both consumers and content creators.

c. Workflow Figma Link
https://www.figma.com/design/3P6zFdAGKAqAtTAHRS8kgu/Untitled?node-id=0-1&t=3YOqgRfGe54LM2rl-1

VI. Aspects

1. Product Design

1.1. The cart interface shall be redesigned to minimize visual clutter and consolidate store and general vouchers into one clear section.

1.2. The product detail page shall feature a sticky navigation bar or breadcrumb trail to help users stay oriented and switch between sections like Description, Reviews, and Specifications with ease.

1.3. The chat interface shall visually differentiate merchant conversations and personal/social messages, using tabs, colors, or icons to enhance recognition and reduce confusion.

2. Functionality

2.1. The voucher system shall automatically detect and apply the best combination of store and platform discounts during checkout.

2.2. The cart system shall include a search bar that enables users to search by item name, seller, or category.

2.3. The search history system shall allow individual deletion of entries, instead of only offering a full-clear option.

2.4. The chat system shall support filtering by order status, unread messages, and store name.

2.5. Users shall be able to access transaction history and pending orders through homepage shortcuts.

3. Interactivity

3.1. The shortcut system shall allow users to pin frequently used features such as "Order History" or "ShopeePay Transactions" for quick access.

3.2. The voucher application process shall provide real-time feedback when discounts are applied, including highlighting savings per item.

3.3. The cart search function shall return instant results and update dynamically as users type.

3.4. Deletion of search entries shall include a confirmation prompt and optional undo within 10 seconds.

4. Adaptive Intelligence

4.1. The voucher system shall use smart logic to suggest and auto-apply the most beneficial discounts based on cart contents and user behavior.

4.2. The cart system may prioritize recently added or frequently purchased items at the top of the list to reduce browsing time.

5. Customization

5.1. The homepage shall allow users to customize shortcut placement, enabling them to personalize their layout for faster navigation.

5.2. Users may choose which features appear in the bottom navigation bar or top menu based on their usage frequency.

5.3. The chat interface should allow users to reorder or hide tabs (for example like hide personal chats when in business mode).

VII. Open Questions

- Can we implement a smart voucher engine that automatically applies the best discount without compromising user control or transparency?
- How can we ensure the chat separation system (merchant vs. personal) remains flexible for users who engage in both types of interactions frequently?
- What is the best UI approach to enable individual deletion of search history without cluttering the interface or overwhelming new users?
- How can we make the cart search feature performant even when users have a large number of items, while maintaining fast load times?
- Would allowing users to customize their homepage layout (like reorder shortcuts, hide tabs) increase engagement or create additional usability complexity?
- Can we add breadcrumb style navigation to product pages without disrupting the existing layout, especially on smaller screen sizes?

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

TA03 Shopee Mobile Application Design Report

1. Problem

Users of the Shopee Mobile Application face several frictions:

- Consumers need streamlined flows for searching, filtering, and purchasing products, including voucher application and cart management.
- Consumers want seamless access to chat features (with friends and sellers), product recommendations, video content, and order tracking.
- Sellers require efficient tools for chatting with customers, creating product listings and videos, updating order status, and receiving payments.
- Admins must reliably manage user authentication, promotional cart additions, financial transactions, and video analytics.

This report addresses these issues through detailed user and task analysis, followed by use case modeling.

2. Users

Based on stakeholder analysis, the primary users interacting directly with the Shopee Mobile Application are:

- Customer: End users who browse, search, filter, and purchase products; apply vouchers; manage carts; chat with friends and sellers; watch videos; receive personalized recommendations; and track orders.

- Seller: Merchants or individual sellers who create and update product listings and videos, chat with customers, manage order fulfillment, receive payments, and configure platform roles.

- Admin: Platform administrators responsible for authenticating users, configuring promotional rules that auto-add products to carts, processing and verifying transactions, and reviewing video performance analytics.

3. Tasks

Each user class performs multiple tasks to achieve their goals. Below are key tasks for each user, each with a defined goal.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

3.1. Customer Tasks

Task	Goal
Login / Register	Authenticate existing users or create new user accounts.
Search & Filter	Locate relevant products quickly with keyword search and filters.
Find Product	Select and view detailed information of a specific product.
Buy Product	Purchase selected products or add them to the cart.
Apply Voucher	Obtain maximum discount by selecting valid vouchers at checkout.
View Cart	Review and modify cart contents before final checkout.
Chat with Friend	Communicate in real time with friends within the app.
Chat with Seller	Ask pre- or post-purchase questions directly to sellers.
Watch Video	Stream promotional or product videos within the app.
Product Recommendation	Discover personalized product suggestions based on behavior.
Track Order	Monitor real-time status and estimated delivery of orders.

TA03_Table_3.1

3.2. Seller Tasks

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Task	Goal
Chat with Customer	Respond to customer inquiries in real time.
Create Product	Add new products to the marketplace.
Create Video	Upload promotional videos for product listings.
Receive Money	Collect payments from customers into seller accounts.
Update Process	Manage and update order fulfillment status.
Other User Management	Configure roles and permissions for sub-accounts or moderators.

TA03_Table_3.2

3.3. Admin Tasks

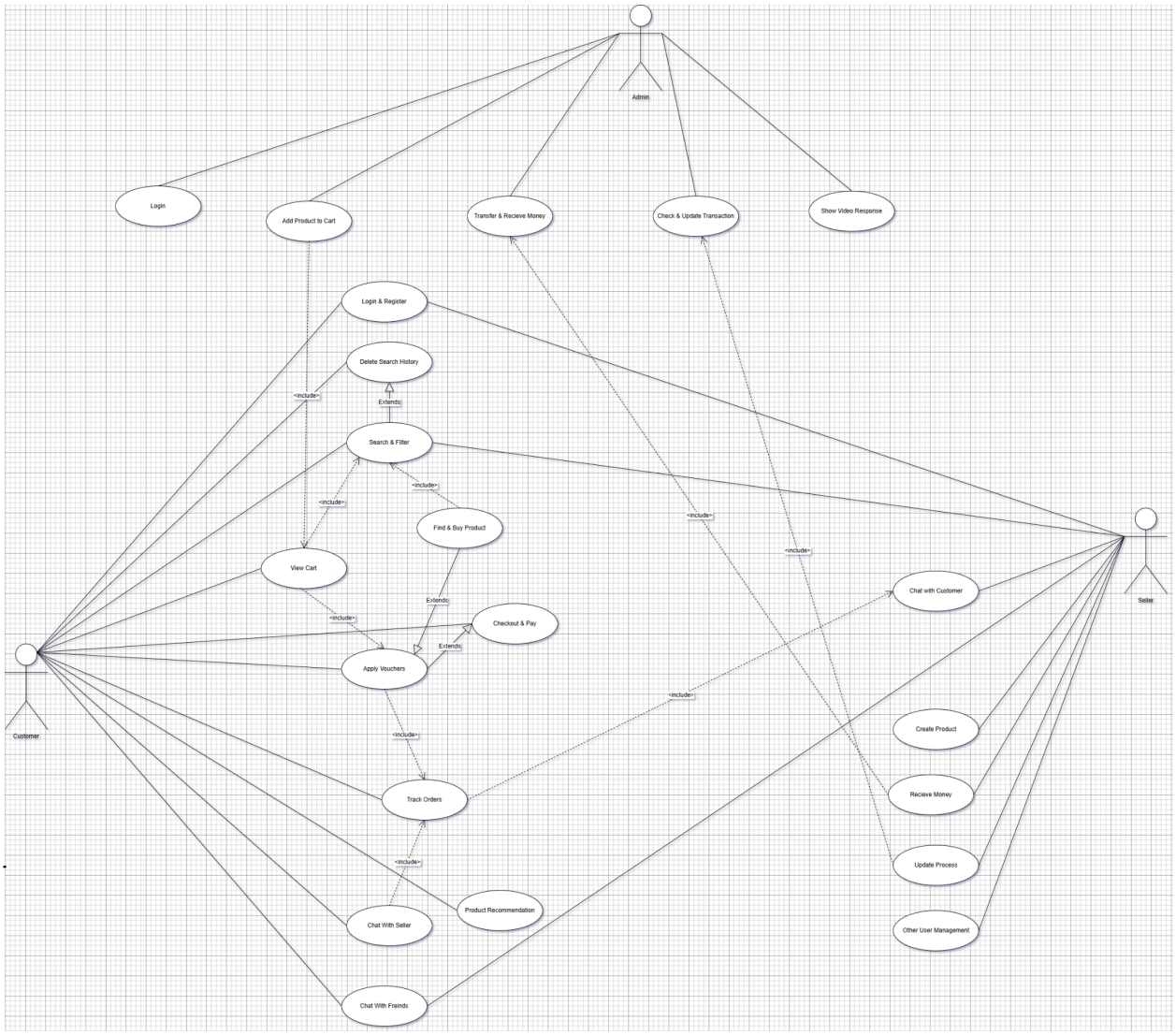
Task	Goal
Login	Authenticate admin users for secure access to back-end tools.
Add Product to Cart	Automatically include promotional items in customer carts based on rules.
Transfer & Receive Money	Process and record fund transfers between users and the platform.
Check & Update Transaction	Verify the integrity of transactions and update their status.
Show Video Response	Display performance analytics for video content on the platform.

TA03_Table_3.3

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

4. Use Case Diagram & Descriptions

The use case diagram for Shopee Mobile Application is shown below.



TA03_Use Case Diagram

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Detailed descriptions for each use case follow.

Use Case Descriptions - Shopee Mobile Application

Use Case: Login / Register

Field	Description
Actor	Customer
Scenario	Customer logs into the Shopee app or registers a new account.
Triggering Event	Customer opens the app and selects Login/Register.
Brief Description	Authenticate existing users and register new ones.
Preconditions	App is installed; network available.
Postconditions	Customer is authenticated or registered and sees home screen.
Flow Activities	1. Tap Login/Register icon 2. Enter credentials or details 3. Submit 4. System validates and authenticates
Exception Conditions	Invalid credentials → "Username or password incorrect."

TA03_Table_4

Use Case: Search & Filter

Field	Description
Actor	Customer
Scenario	Customer searches products and applies filters.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Triggering Event	Customer taps search and inputs keywords.
Brief Description	Find relevant products quickly.
Preconditions	On home screen.
Postconditions	Filtered product list displayed.
Flow Activities	1. Tap search 2. Enter keywords 3. Apply filters 4. View results
Exception Conditions	No products → “No products found.”

TA03_Table_5

Use Case: Find Product

Field	Description
Actor	Customer
Scenario	Customer selects a product from results.
Triggering Event	Results are displayed.
Brief Description	Navigate to product detail.
Preconditions	Results available.
Postconditions	Detail page opened.
Flow Activities	1. Scroll results 2. Select product
Exception Conditions	Product gone → “Product no longer available.”

TA03_Table_6

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Use Case: Buy Product

Field	Description
Actor	Customer
Scenario	Customer purchases a product.
Triggering Event	Customer taps Buy on detail page.
Brief Description	Initiate purchase or add to cart.
Preconditions	On product page.
Postconditions	Cart updated or order created.
Flow Activities	1. Tap Buy 2. System processes
Exception Conditions	Out of stock → “Product out of stock.”

TA03_Table_7

Use Case: Apply Voucher

Field	Description
Actor	Customer
Scenario	Customer applies voucher at checkout.
Triggering Event	Customer at checkout.
Brief Description	Apply best discount.
Preconditions	Items in cart.
Postconditions	Total updated.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Flow Activities	1. Open checkout 2. Select voucher 3. Apply
Exception Conditions	Invalid voucher → “Voucher not valid.”

TA03_Table_8

Use Case: View Cart

Field	Description
Actor	Customer
Scenario	Customer reviews and edits cart.
Triggering Event	Taps cart icon.
Brief Description	Manage cart items.
Preconditions	Items in cart.
Postconditions	Cart shows updates.
Flow Activities	1. Open cart 2. Modify items 3. Save
Exception Conditions	Update error → “Cannot update cart.”

TA03_Table_9

Use Case: Chat with Friend

Field	Description

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Actor	Customer
Scenario	Customer chats with friends.
Triggering Event	Opens friend chat.
Brief Description	Message friends in-app.
Preconditions	Friend connections exist.
Postconditions	Messages exchanged.
Flow Activities	1. Open friend chat 2. Send message
Exception Conditions	Send fail → “Message failed.”

TA03_Table_10

Use Case: Chat with Seller

Field	Description
Actor	Customer
Scenario	Customer chats with seller.
Triggering Event	Taps chat on product/order.
Brief Description	Ask seller about products/orders.
Preconditions	Viewing product or order.
Postconditions	Thread updated.
Flow Activities	1. Open seller chat 2. Type and send
Exception Conditions	Seller offline → “Seller unavailable.”

TA03_Table_11

Use Case: Watch Video

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Field	Description
Actor	Customer
Scenario	Customer watches videos.
Triggering Event	Taps video thumbnail.
Brief Description	Stream promotional/product videos.
Preconditions	Video available.
Postconditions	Video plays.
Flow Activities	1. Select video 2. Play
Exception Conditions	Error → “Playback failed.”

TA03_Table_12

Use Case: Product Recommendation

Field	Description
Actor	Customer
Scenario	System suggests products.
Triggering Event	On home feed or after search.
Brief Description	Display personalized recommendations.
Preconditions	User data available.
Postconditions	Recommendations shown.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Flow Activities	1. Analyze data 2. Display list
Exception Conditions	No data → “No recommendations.”

TA03_Table_13

Use Case: Track Order

Field	Description
Actor	Customer
Scenario	Customer tracks order status.
Triggering Event	Opens order history.
Brief Description	Monitor delivery timeline.
Preconditions	Order exists.
Postconditions	Status displayed.
Flow Activities	1. Open history 2. View timeline
Exception Conditions	No order → “Order not found.”

TA03_Table_14

Use Case: Login

Field	Description
Actor	Admin
Scenario	Admin logs into admin panel.
Triggering Event	Admin opens login screen.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Brief Description	Authenticate admin.
Preconditions	Admin portal accessible.
Postconditions	Admin dashboard shown.
Flow Activities	1. Enter credentials 2. Submit 3. Access granted
Exception Conditions	Access denied → “Invalid credentials.”

TA03_Table_15

Use Case: Add Product to Cart

Field	Description
Actor	Admin
Scenario	System auto-adds promo items to cart.
Triggering Event	Promotional rule active.
Brief Description	Apply promotions automatically.
Preconditions	Rule defined.
Postconditions	Items added.
Flow Activities	1. Evaluate cart 2. Add items
Exception Conditions	Rule error → “Promotion failed.”

Use Case: Transfer & Receive Money

Field	Description

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Actor	Admin
Scenario	Admin processes fund transfers.
Triggering Event	Transaction initiated.
Brief Description	Manage financial transfers.
Preconditions	Transaction recorded.
Postconditions	Funds transferred.
Flow Activities	1. Process transfer 2. Update records
Exception Conditions	Insufficient funds → “Transfer failed.”

TA03_Table_16

Use Case: Check & Update Transaction

Field	Description
Actor	Admin
Scenario	System updates transaction statuses.
Triggering Event	Transaction pending/completed.
Brief Description	Validate and update transactions.
Preconditions	Transaction exists.
Postconditions	Status current.
Flow Activities	1. Check gateway 2. Update record
Exception Conditions	Gateway error → “Cannot verify transaction.”

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

TA03_Table_17

Use Case: Show Video Response

Field	Description
Actor	Admin
Scenario	Admin views video analytics.
Triggering Event	Admin selects video report.
Brief Description	Display video performance metrics.
Preconditions	Analytics available.
Postconditions	Metrics shown.
Flow Activities	1. Open report 2. Render metrics
Exception Conditions	Data error → “Cannot load metrics.”

TA03_Table_18

Use Case: Chat with Customer

Field	Description
Actor	Seller
Scenario	Seller chats with a customer.
Triggering Event	Customer initiates chat.
Brief Description	Respond to customer inquiries.
Preconditions	Chat thread exists.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Postconditions	Messages exchanged.
Flow Activities	1. Open customer chat 2. Reply to message
Exception Conditions	Send fail → “Could not send message.”

TA03_Table_19

Use Case: Create Video

Field	Description
Actor	Seller
Scenario	Seller uploads product video.
Triggering Event	Seller chooses add video.
Brief Description	Enhance listings with video.
Preconditions	Listing exists.
Postconditions	Video attached.
Flow Activities	1. Upload video 2. Save
Exception Conditions	Upload fail → “Video upload failed.”

TA03_Table_20

Use Case: Create Product

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Field	Description
Actor	Seller
Scenario	Seller creates new listing.
Triggering Event	Seller selects Add Product.
Brief Description	Add item to marketplace.
Preconditions	Seller logged in.
Postconditions	Listing created.
Flow Activities	1. Enter details 2. Save
Exception Conditions	Validation error → “Fill required fields.”

TA03_Table_21

Use Case: Receive Money

Field	Description
Actor	Seller
Scenario	Seller receives payment.
Triggering Event	Customer completes purchase.
Brief Description	Transfer funds to seller.
Preconditions	Payment confirmed.
Postconditions	Balance updated.
Flow Activities	1. Process payout 2. Notify seller
Exception Conditions	Payout error → “Unable to payout.”

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

TA03_Table_22

Use Case: Update Process

Field	Description
Actor	Seller
Scenario	Seller updates order status.
Triggering Event	Seller ships order.
Brief Description	Keep orders updated.
Preconditions	Order exists.
Postconditions	Status updated.
Flow Activities	1. Mark shipped 2. Update status
Exception Conditions	Update error → “Failed to update.”

TA03_Table_23

Use Case: Other User Management

Field	Description
Actor	Seller
Scenario	Seller manages user roles.
Triggering Event	Access user management.
Brief Description	Configure user permissions.
Preconditions	Seller has rights.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Postconditions	Settings applied.
Flow Activities	1. Open management 2. Modify roles 3. Save
Exception Conditions	Permission error → “Insufficient privileges.”

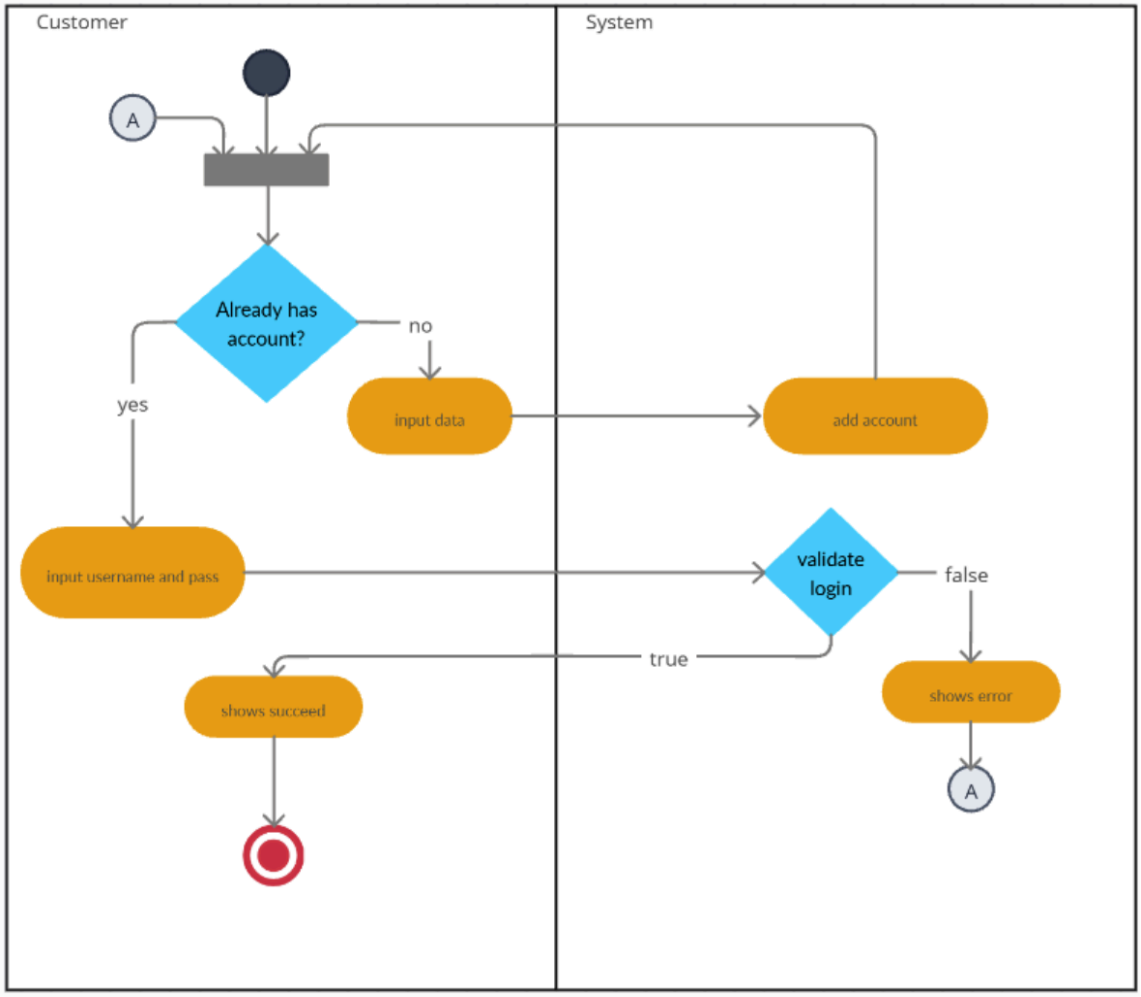
TA03_Table_24

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

TA04 Activity Design & Paper Prototyping

1. Activity Diagram

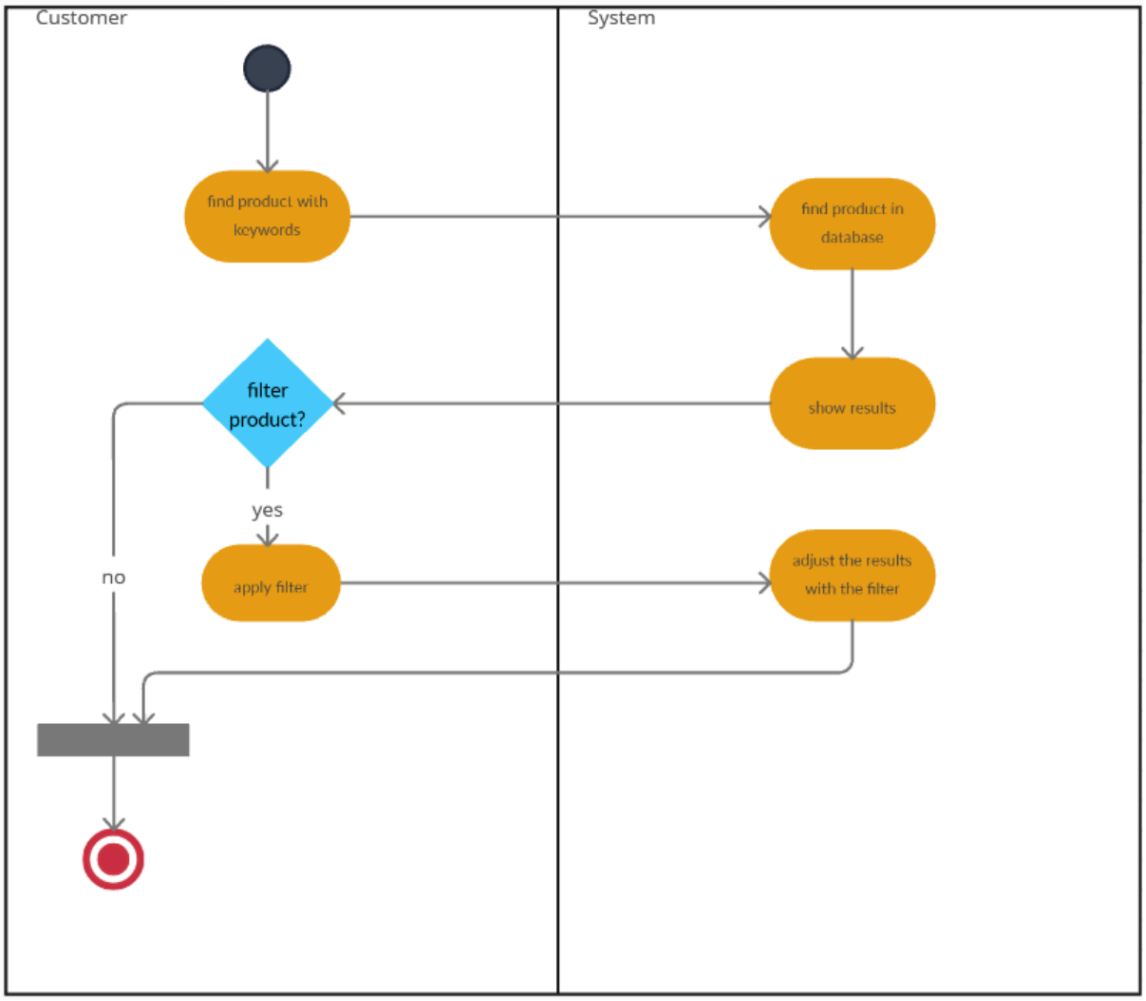
1.1. Activity diagram of login & register



TA04_Image_1

1.2. Activity diagram of search & filter

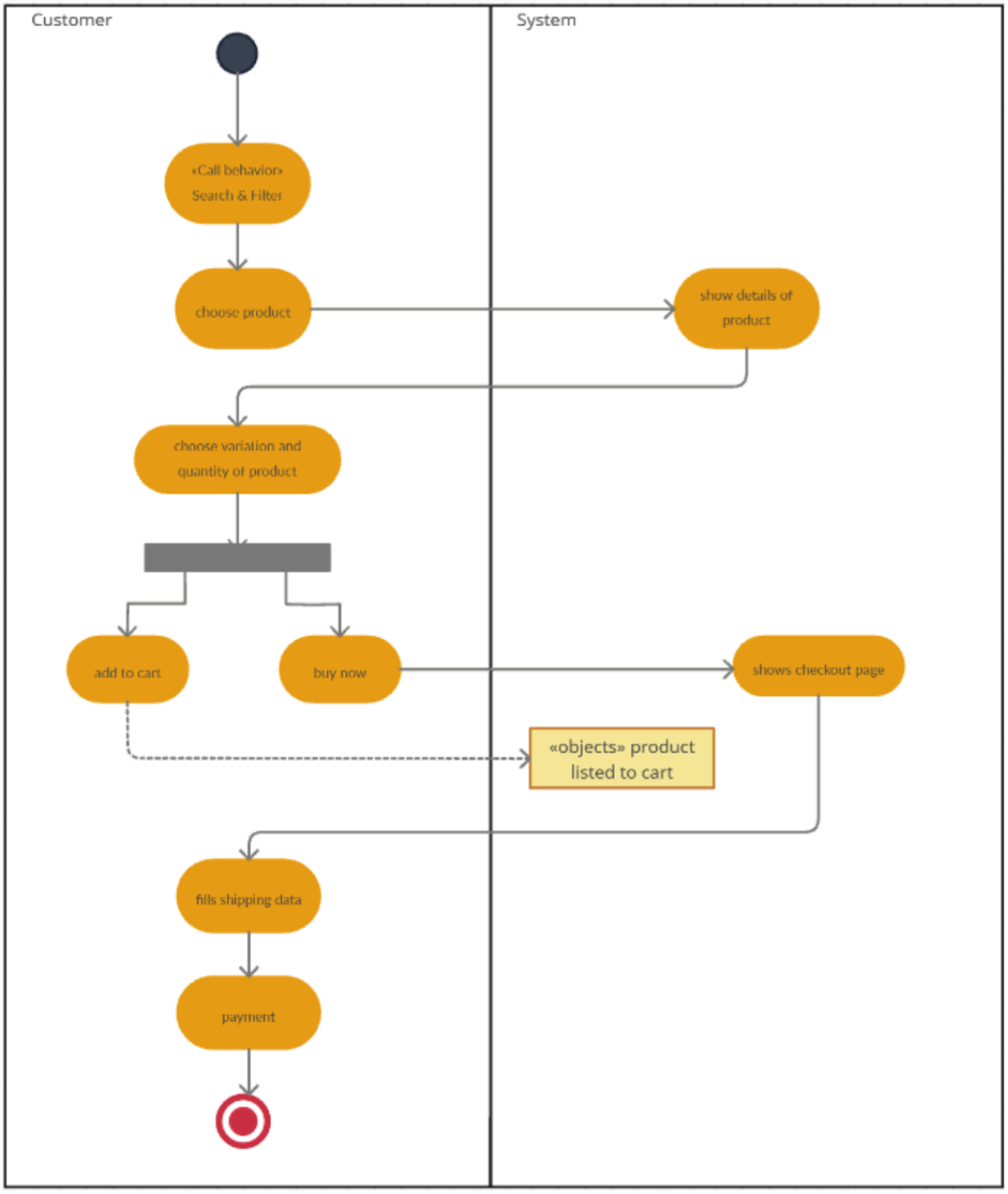
Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing



TA04_Image_2

1.3. Activity diagram find & buy

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing



TA04_Image_3

1.4. Activity diagram delete search history

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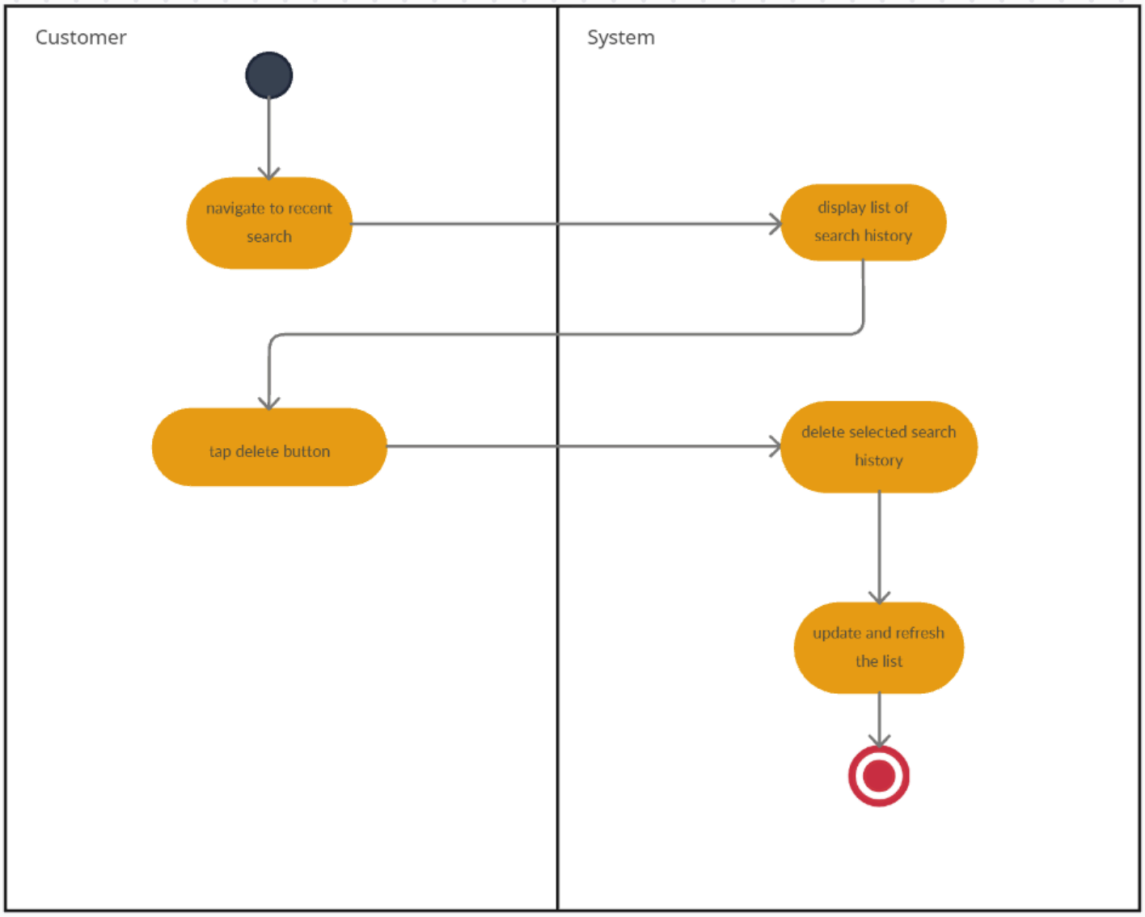
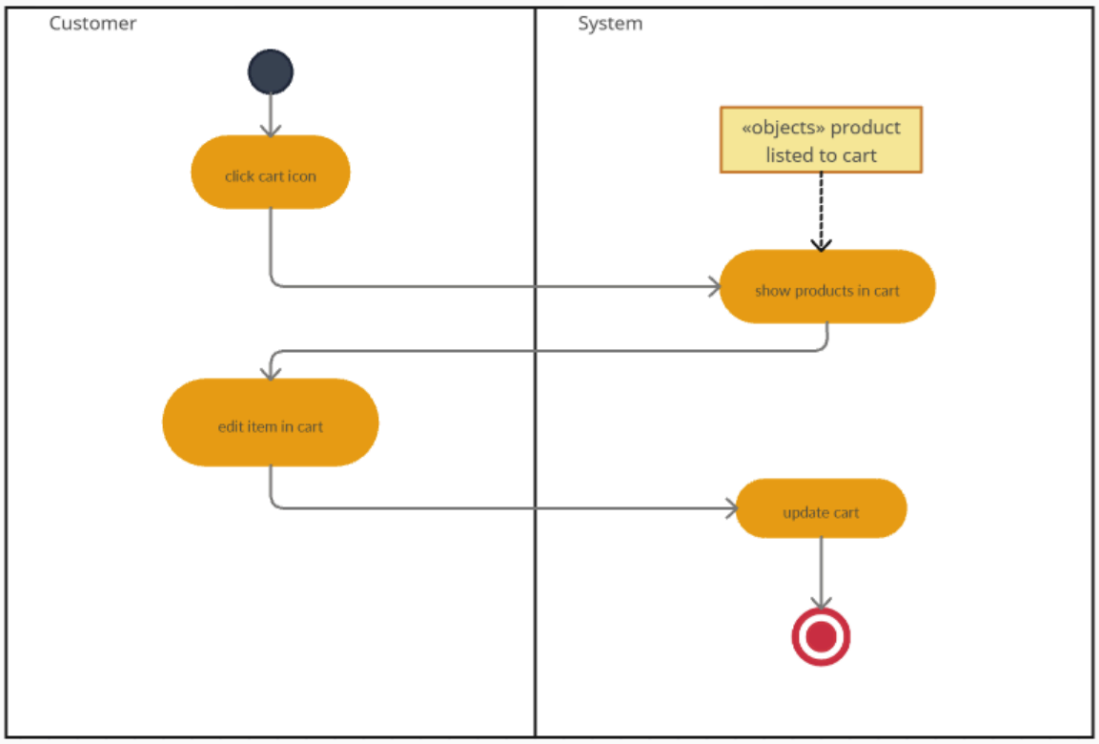


TA04_Image_4

1.5. Activity diagram view cart

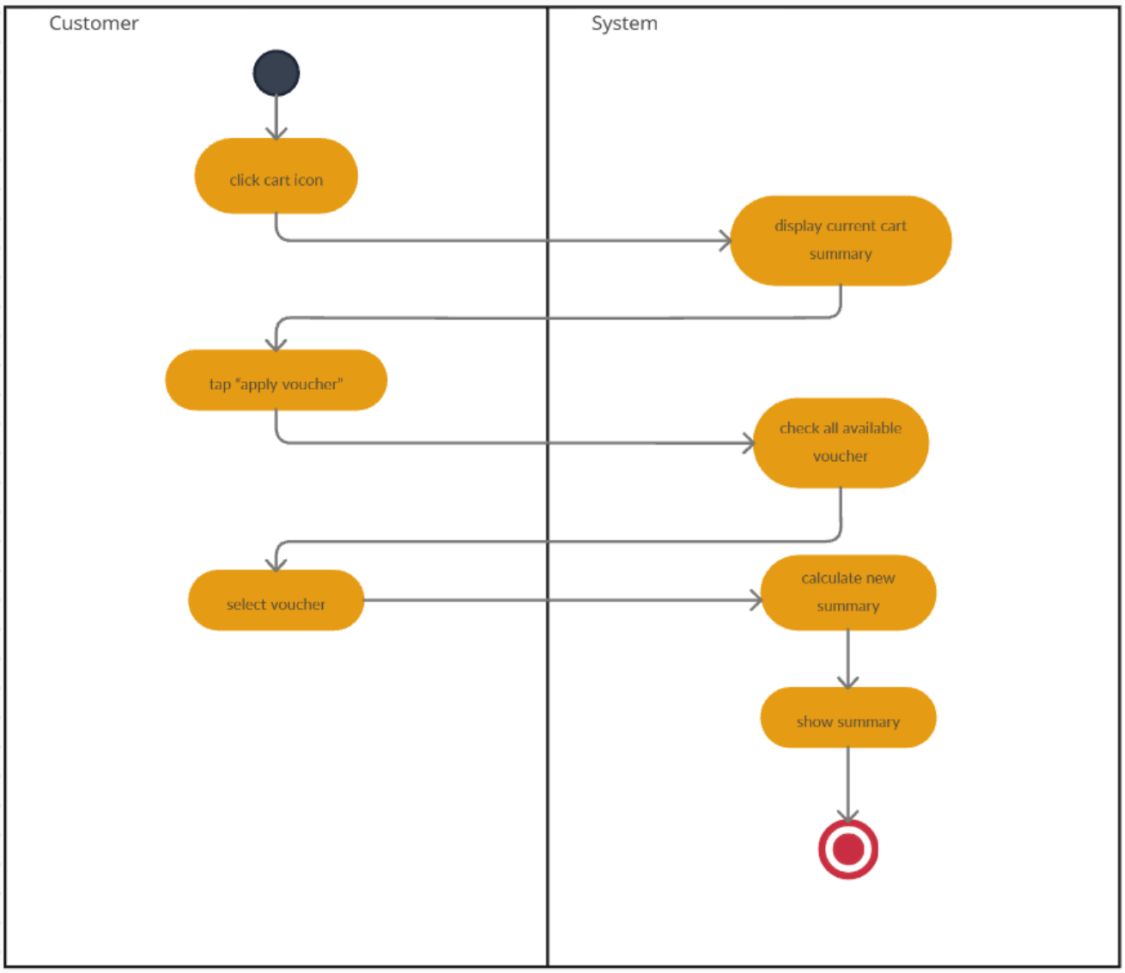
Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing



TA04_Image_5

1.6. Activity diagram apply voucher

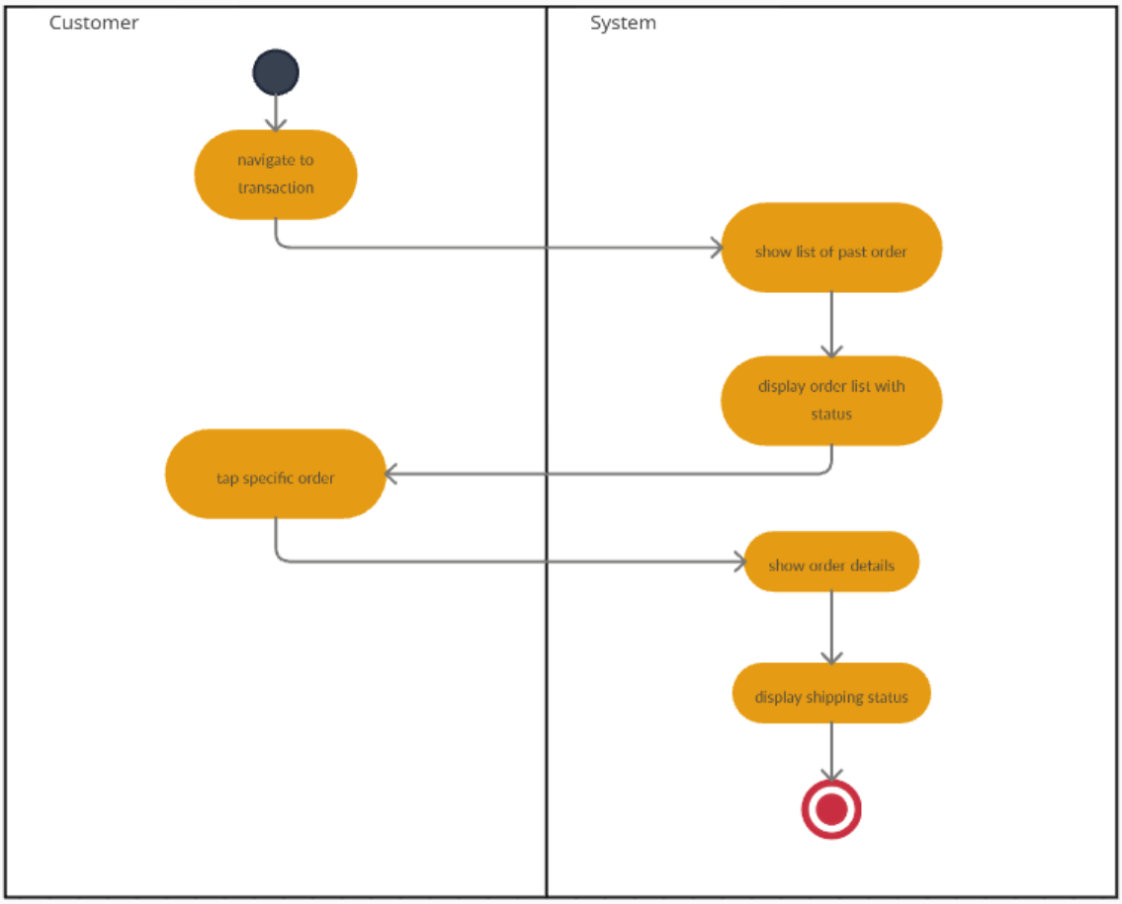
Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing



TA04_Image_6

1.7. Activity diagram track order

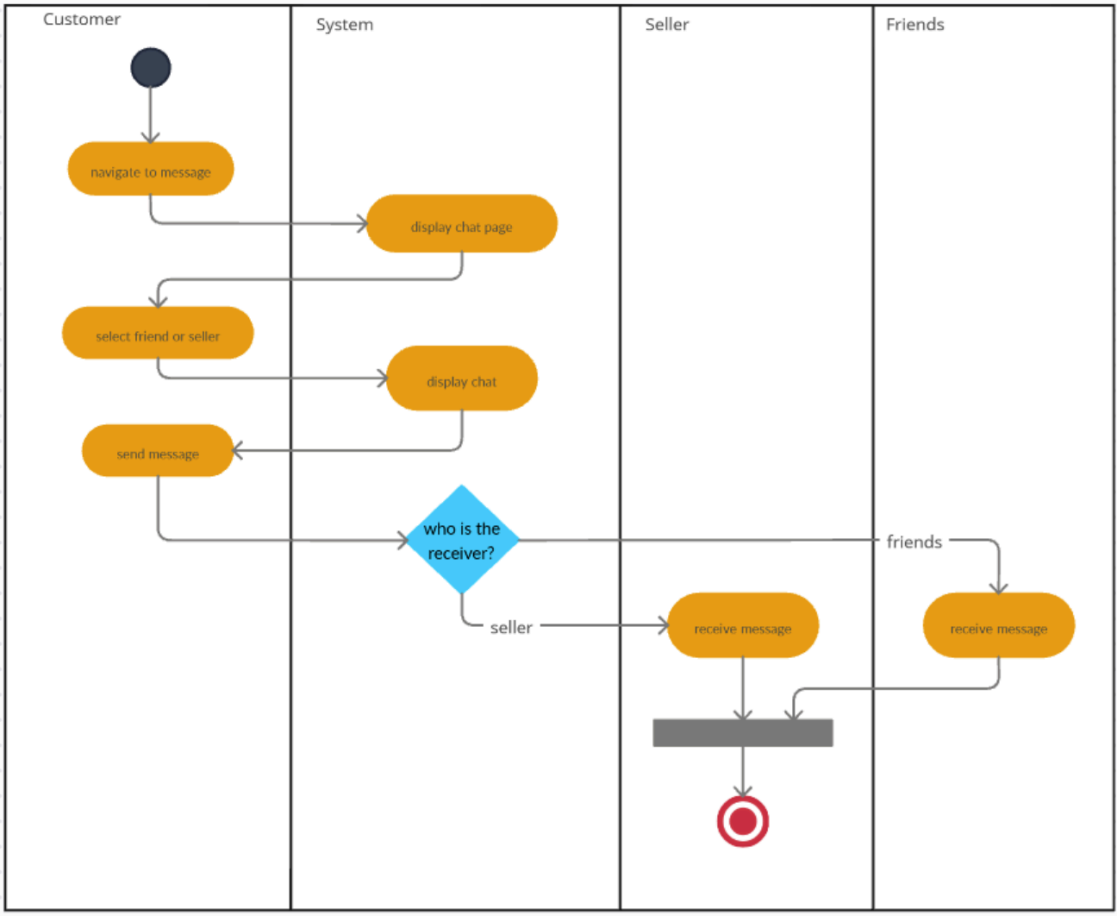
Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing



TA04_Image_7

1.8. Activity diagram chat seller or friend

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing



TA04_Image_8

1.9. Activity diagram create product

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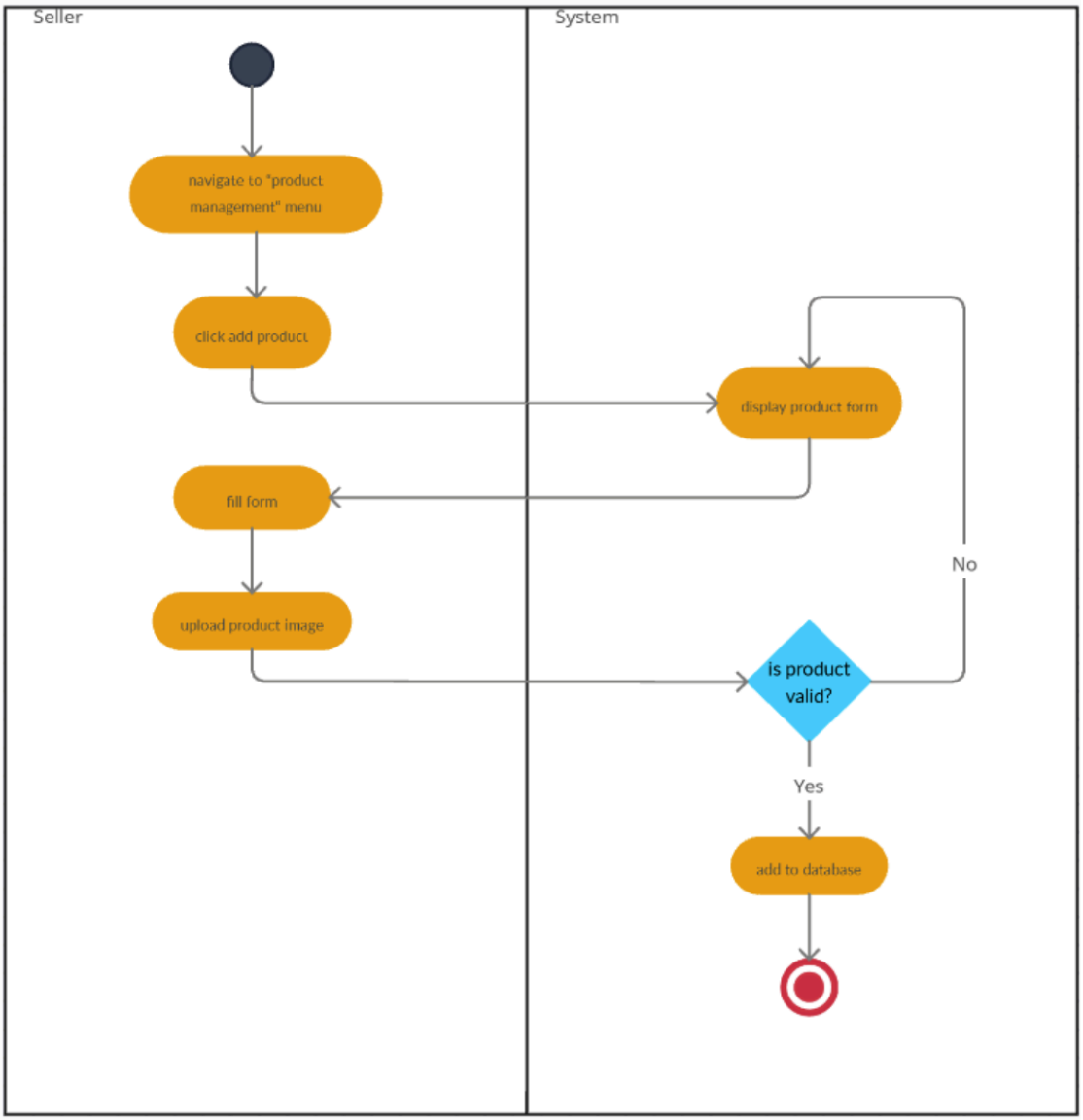

TA04_Image_9

1.10. Activity diagram receive money

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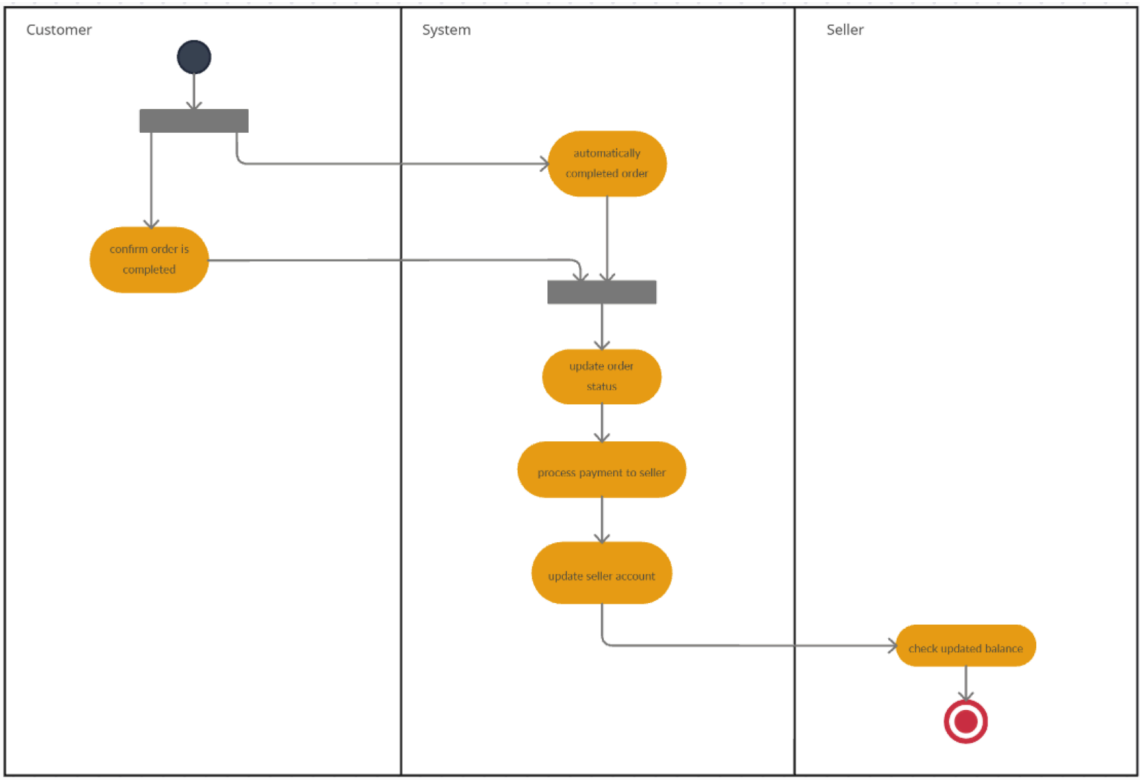
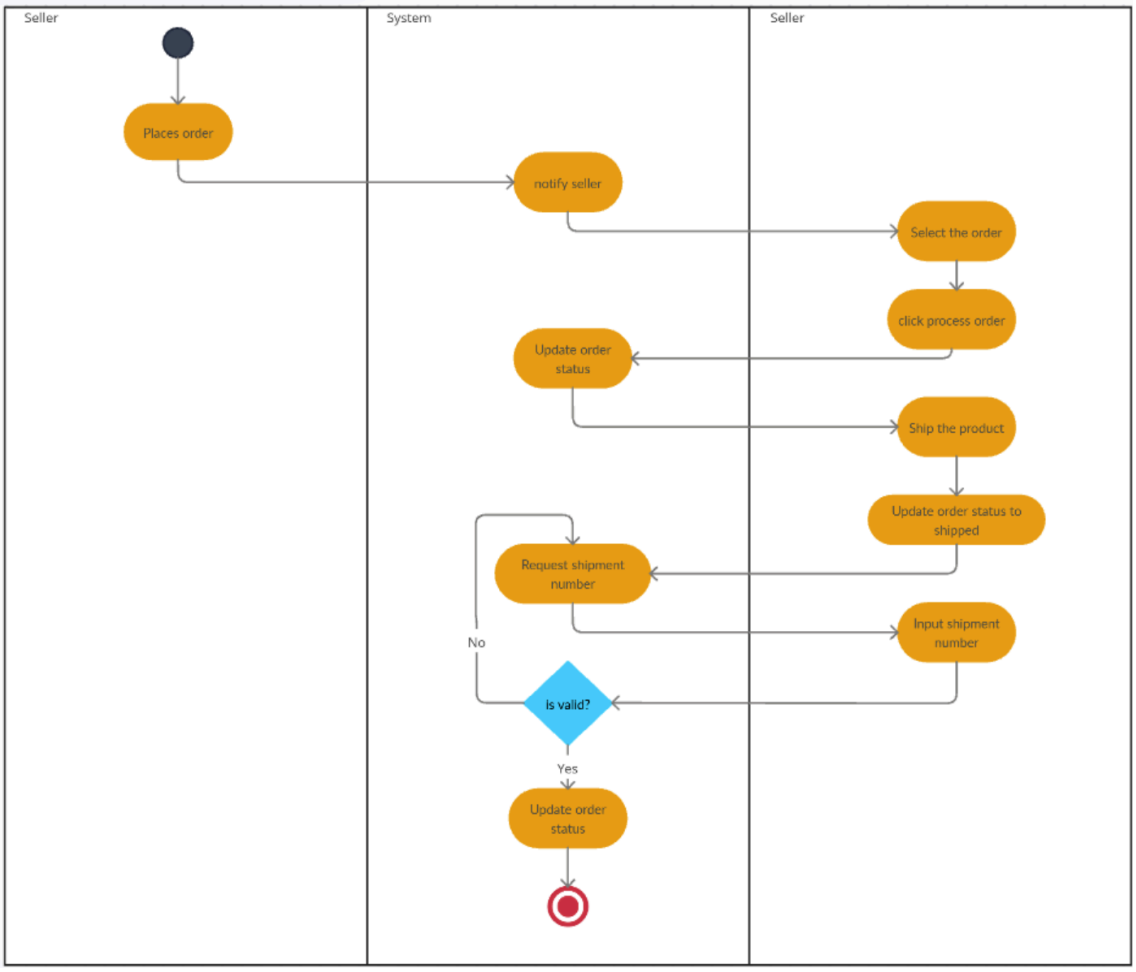


TA04_Image_10

1.11. Activity diagram update process

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing



TA04_Image_11

2. **List of possible interaction metaphor**
   - ❖ Login & Register
     🔐 *Key and Gateway Entrance*
     → Logging in is like unlocking a door to enter the system.
   - ❖ Search & Filter
     🔎 *Magnifying Glass & Water Filter*
     → Searching is like using a magnifying glass to find something; filters act like a water filter, removing irrelevant items.
   - ❖ Delete Search History
     🧽 *Eraser or Sweeping Paper*
     → Deleting search history is like wiping a whiteboard or discarding old notes.
   - ❖ View Cart
     🛒 *Physical Shopping Cart*
     → Adding to the cart is like putting items into a shopping cart at the supermarket.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

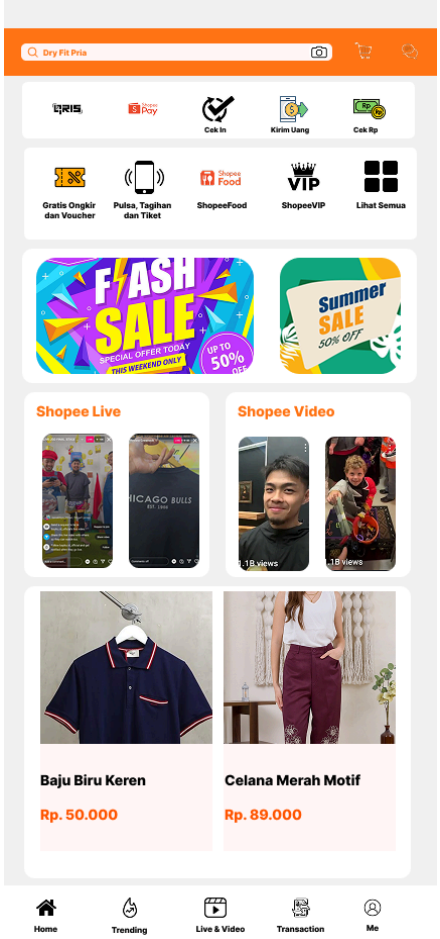
- ❖ Apply Vouchers
  ✂️ *Paper Discount Coupons*
  → Applying for a voucher is like handing in a cut-out discount coupon at checkout.
- ❖ Checkout & Pay
  💳 *Supermarket Cashier*
  → The checkout process resembles going to a cashier and paying for your items.
- ❖ Track Orders
  📦 *Courier Package Delivery*
  → Tracking an order is like following a package being delivered by a courier.
- ❖ Chat with Seller
  💬 *In-store Conversation*
  → Messaging a seller is like asking a question to a shopkeeper directly in a store.

3. Prototyping

3.1. Home page

The Home Page serves as the main dashboard where users can browse featured promotions, product categories, and recommended items. It includes banners for flash sales, top-up services, and special deals to attract user engagement. The layout is designed for quick navigation, with a bottom menu that allows users to switch between Home, Trends, Live, Cart, and Profile pages efficiently. Here's the picture of our Home Page.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

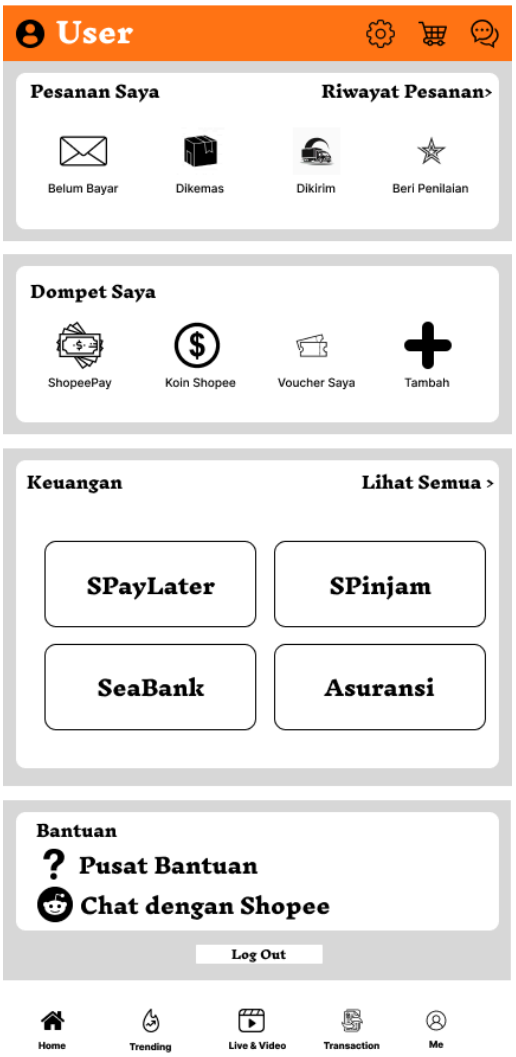


3.a Picture of Our Home Page (FIGMA)

3.2. User profile

The User Page acts as the user's personal dashboard where they can manage their account settings, view order history, check reviews, access their wallet or vouchers, and get customer support. It centralizes user-related features and preferences in one place for easy access and control. Here's the picture of our User profile Page.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

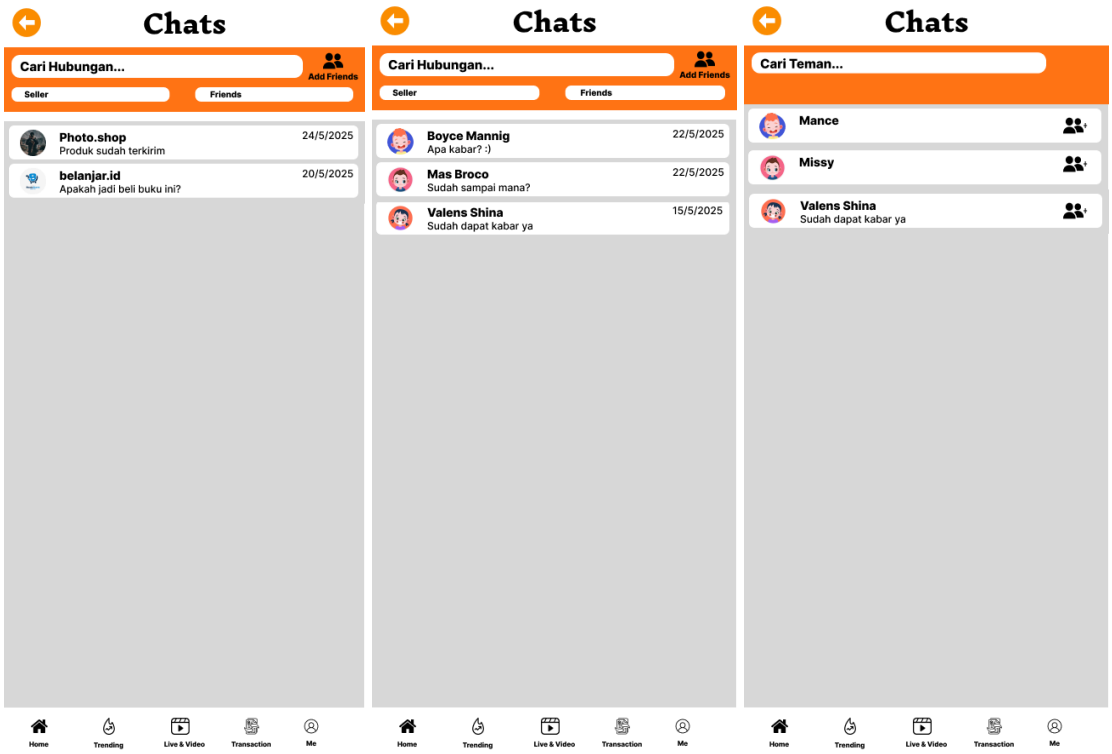


3.b Picture of Our User Page (FIGMA)

3.3. Chat

The Chat Page provides users with a list of ongoing conversations with sellers or customer support. It includes different tabs or filters for "All", "To Respond", and "Unread" messages, helping users manage their interactions efficiently. Clicking on a chat opens the conversation, enabling users to ask questions about products, discuss orders, or negotiate. Here's the picture of our Chat Page.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

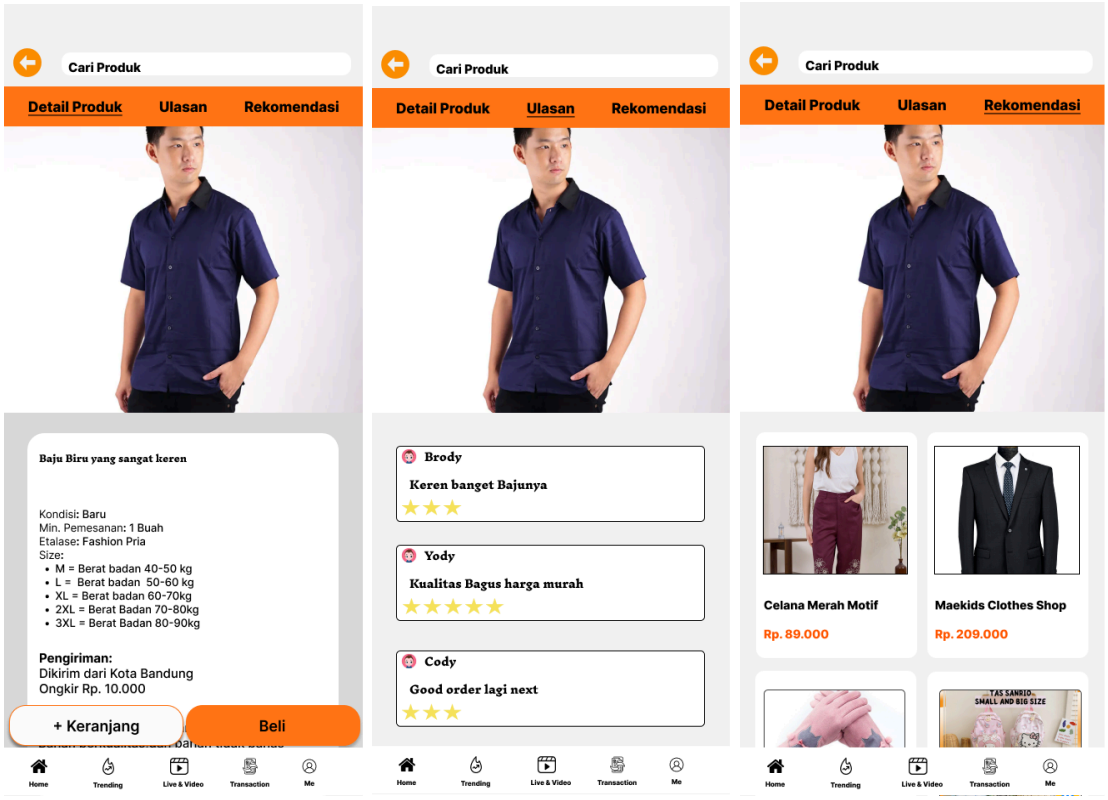


3.c Picture of Our Chat Page (FIGMA)

3.4. View Product

The View Product Page provides detailed information about a specific item, including high-quality images, product descriptions, size and color options, pricing, ratings, and reviews. It includes call-to-action buttons like "Add to Cart", "Buy Now", and allows users to favorite or share the product. Suggestions for similar items are often shown at the bottom. Here's the picture of our View Product Page.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

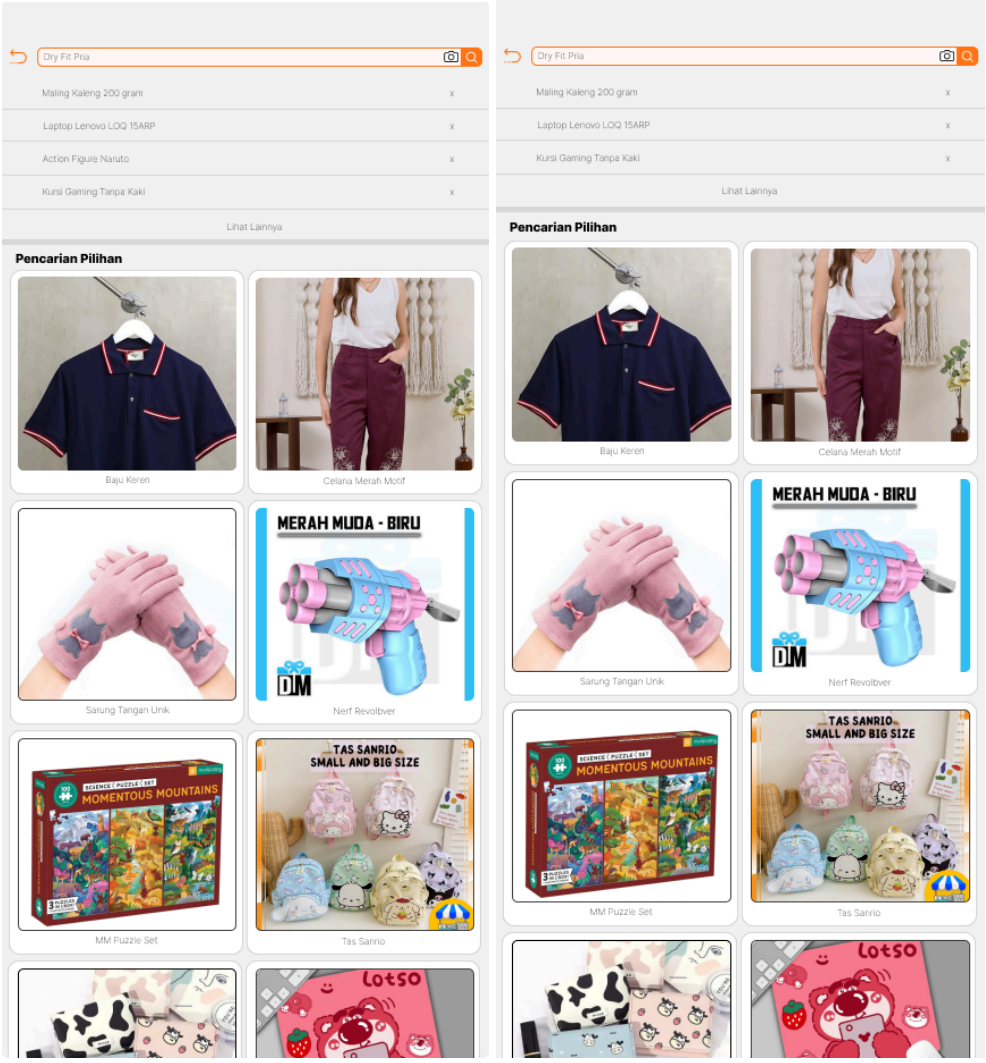


3.d Picture of Our View Product Page (FIGMA)

3.5. SearchBar

The Search Bar Page allows users to enter keywords and search for specific products. After a query is entered, the results are displayed in a product grid format, showcasing relevant items with images, names, and prices. It streamlines product discovery and helps users quickly find what they are looking for by filtering or scrolling through visual suggestions. Here's the picture of our SearchBarPage.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

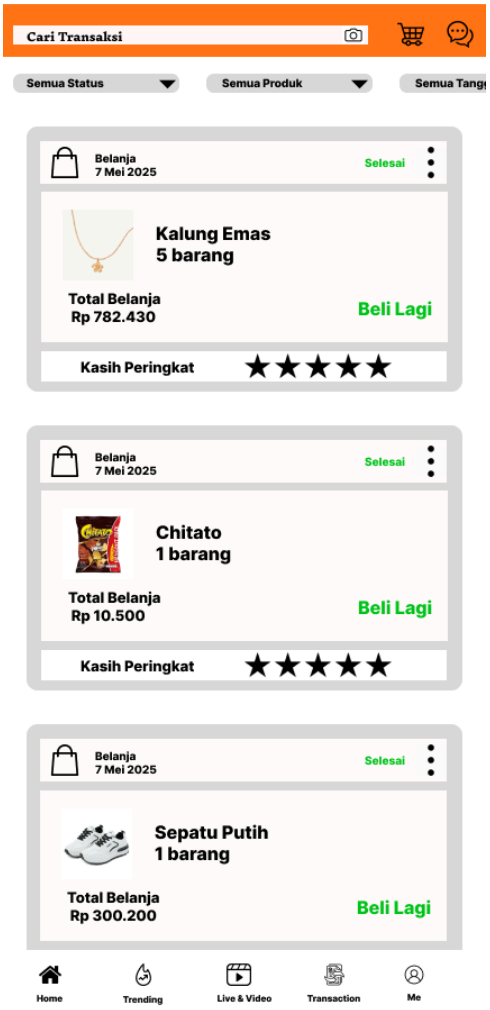


3.e Picture of Our View Search Bar Page (FIGMA)

3.6. Transaction

The Transaction Page shows the user's order history and current orders, with tabs or filters for statuses like "To Pay", "To Ship", "To Receive", and "Completed". Each entry includes product details, payment information, and tracking updates, allowing users to monitor the progress of their purchases easily. Here's the picture of our Transaction Page.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

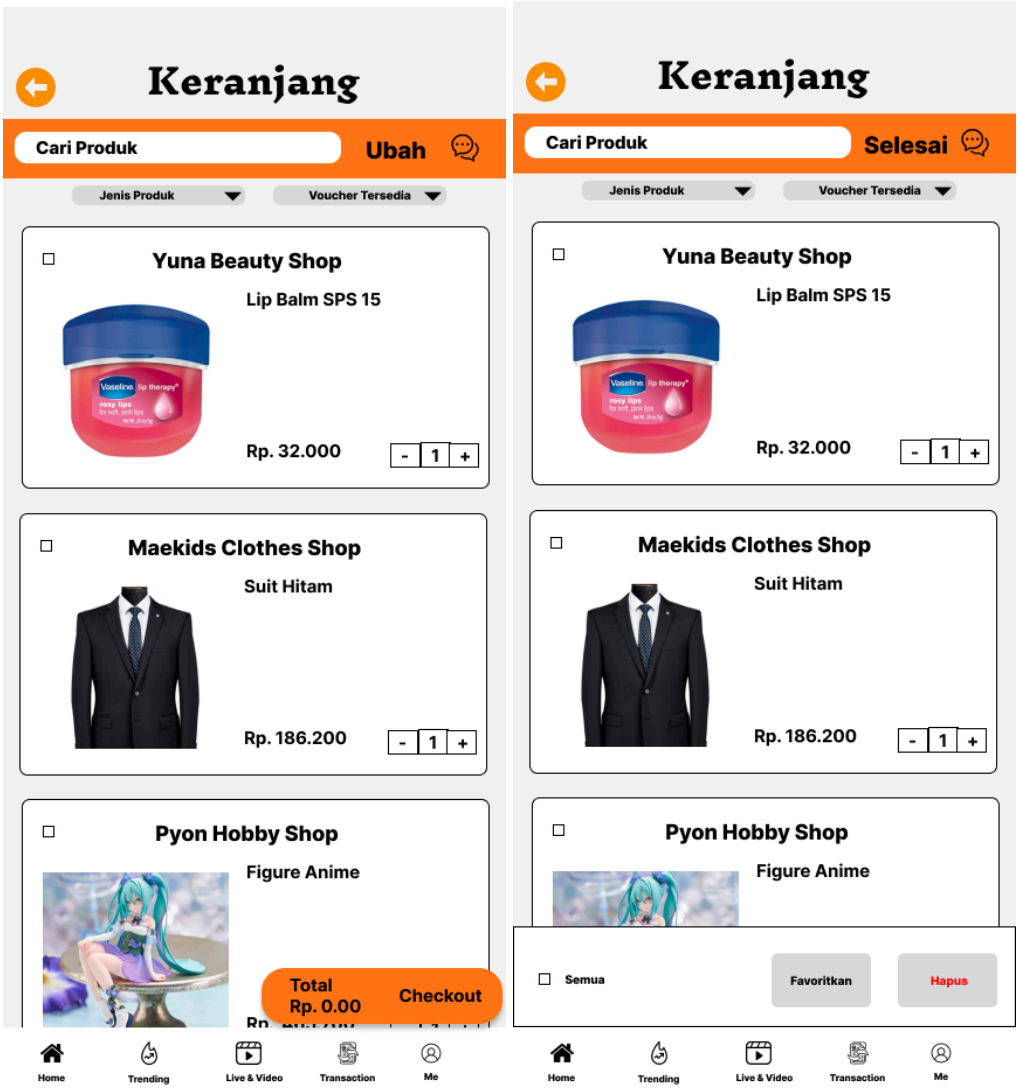


3.f Picture of Our Transaction Page (FIGMA)

3.7. Cart

The Cart Page displays all the items the user has added for purchase, including product images, names, prices, quantities, and the option to remove or modify them. It provides a summary of the total cost and includes a checkout button for proceeding to payment. This page helps users review their selected items before finalizing the transaction. Here's the picture of our Cart Page.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

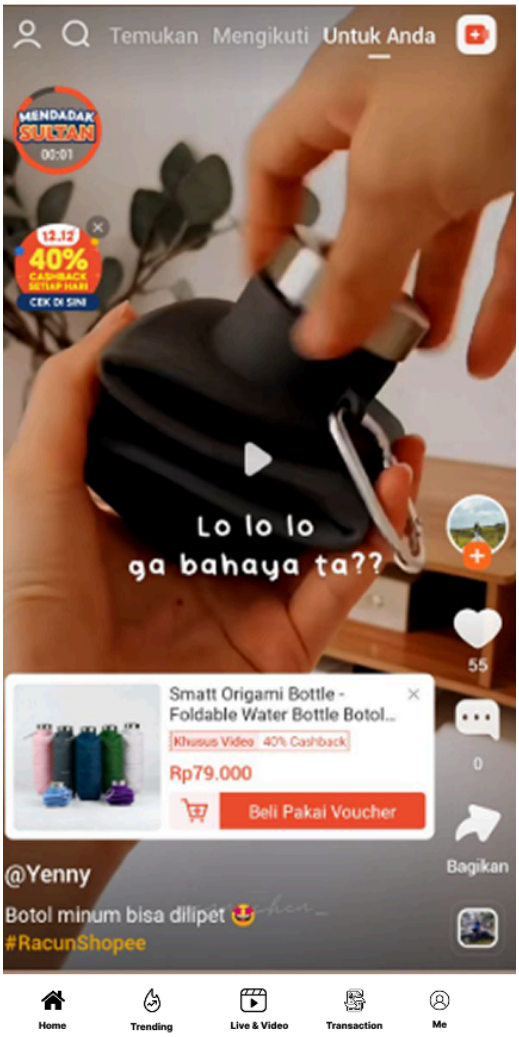


3.g Picture of Our Cart Page (FIGMA)

3.8. Live & video

The Live & Video Page features live shopping events and short product videos where sellers demonstrate their products in real time. Users can watch, like, and directly purchase items shown in the video. This interactive content format enhances engagement and builds trust through visual storytelling and live interaction. Here's the picture of our Live & Video Page.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

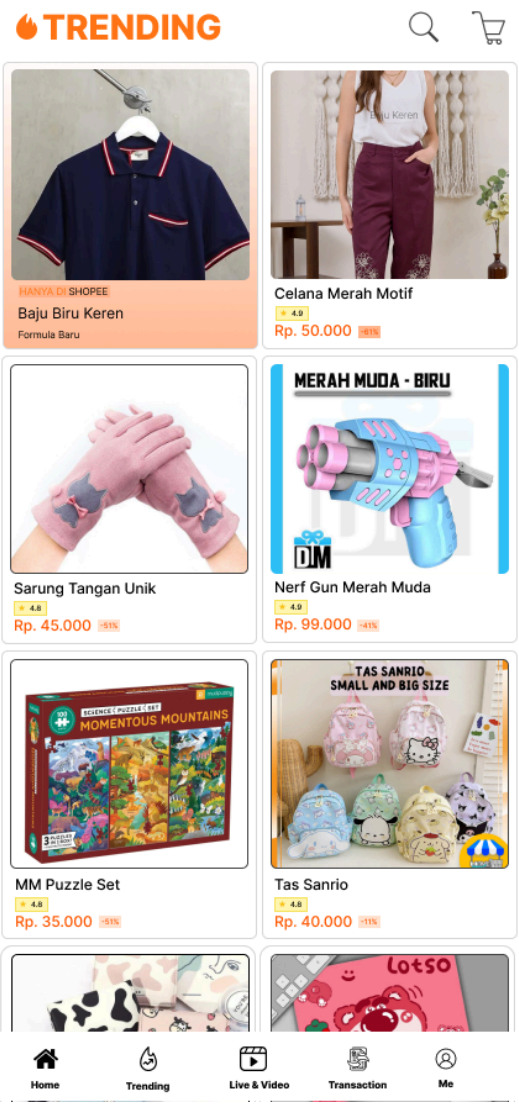


3.h Picture of Our Live & Video Page (FIGMA)

3.9. Trends

The Trends Page showcases trending products or categories based on popularity, seasonal campaigns, or social buzz. It acts as a discovery hub, helping users find what's currently popular or on sale. The layout encourages browsing through curated product selections. Here's the picture of our Trends Page.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing



3.i Picture of Our Trending Page (FIGMA)

3.10. Link Figma

For the full access of our Website Design can be seen in this link below:
https://www.figma.com/design/WqqXDKWtjCeVl7Lxeor42I/HCI-LEC?node-id=0-1&p=f

Step by Step To Startup our interaction design:

1. Open the Figma
2. Set the Prototype to Iphone 14 Pro Max
3. Run the Figma

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

TA05 High Fidelity Prototyping

- **Startup Instructions**

  Here is the manual to startup our coding to run the website on a local host

  1. Make sure Visual Studio Code is installed. Along with the extension called 'Live Server'
  2. Download the Zip Folder and extract it's content to your local storage
  3. Open the Folder and type cmd on the path bar
  4. Type code . in Command Prompt (CMD)
  5. Once file is loaded in Visual Studio Code. Go to home.html. Press 'Go Live' on the bottom right corner of the screen
  6. Inspect the web browser by pressing F12 or right-clicking the page and press Inspect, and choose the dimension of Iphone 14 Pro Max

- **Link Codingan**

  The coding to run the liveserver of our website can be download in this google drive https://drive.google.com/file/d/1xDeiEuQj0vSDRFqDGT7Zsi2XxORGsb5Y/view?usp=sharing

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

TA06 Heuristic Evaluation

Link to updated prototype: **https://aarongho.github.io/Project_HCI/**

Heuristic	Is the heuristic violated?	How?	Severity
1. Visibility of system status	**Yes**	When the user opens the "Transaction" page, the navigation bar does not provide informative feedback about which page the user is currently on the text in the navigation bar only changes color when hovered over.	**Catastrophic**
2. Match between system and the real world	No	The icons effectively represent real-world concepts, such as the magnifying glass icon for search, the coupon icon for vouchers, and the coin icon for Shopee Coins.	
3. User control and freedom	No	Users are generally able to undo or back out of actions without being locked in. Features such as the ability to navigate freely between pages, cancel actions, or edit cart items provide users with a sense of control. There are no major restrictions or forced flows that would limit user freedom, hence no violation is observed here.	
4. Consistency and standards	No	The application consistently uses familiar icons, colors, and interface patterns throughout the design. For example, the search, cart, and profile pages all follow the same layout structure and interaction style. Terminology and actions are also predictable, adhering to common mobile e-commerce standards.	

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

5. Error prevention	**Yes**	There is no confirmation when deleting search history. It would be better to include a confirmation prompt to prevent accidental deletions. However, an option to disable the confirmation (user control and freedom) could also be provided for users who prefer a faster process.	**Minor**
6. Recognition rather than recall	No	Most actions in the app do not require users to memorize information. Options such as filters, sorting, and cart items are always visible or easily accessible, reducing the mental load. Icons are clearly labeled or intuitive, allowing users to recognize their purpose without needing to recall steps from memory.	
7. Flexibility and efficiency of use	No	The system accommodates both new and experienced users. Features like shortcut access to frequently used sections (e.g., transaction history, vouchers) allow power users to operate more efficiently, while beginners can still navigate easily through standard menus.	
8. Aesthetic and minimalist design	**Yes**	The "Add Friend" button can have the text removed and replaced with a '+' symbol on the icon instead. Looking at the other buttons, most of them are already minimalist and use icons without additional text, so this change would create a more consistent and cleaner interface.	**Minor**
9. Help users recognise, diagnose and recover from errors	No	Although there are limited instances of error states, the system generally handles errors gracefully. For example, when a page fails to load or a product is unavailable, the app gives a clear message such as “Product not found”	

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

		rather than crashing or becoming unresponsive. These responses help users understand and recover from issues without confusion.	
10. Help and documentation	No	The application is designed to be intuitive and simple enough that users rarely need external documentation. In cases where guidance might be needed (e.g., how to apply a voucher), the interface provides visual cues and tooltips, reducing the need for dedicated help pages.	

TA06_Table_1

Based on the results of the heuristic evaluation, our group has responded to the issues with the following improvements:

1. **Visibility of System Status**
   - **Issue:** The navigation bar did not provide clear feedback about the active page.
   - **Response:** We have added a permanent visual indicator (highlight and distinct color) for the currently active page. This ensures users are always aware of their location within the system.
2. **Match Between System and the Real World**
   - **Issue:** No significant violations were found, though it was noted that the icons were already appropriate.
   - **Response:** We maintained the representative icons that align with real-world conventions, such as the magnifying glass, coupon, and coin icons. No further changes were necessary.
3. **Error Prevention**
   - **Issue:** There was no confirmation when deleting search history.
   - **Response:** We have implemented a confirmation dialog before deleting history data. Additionally, we offer users the option to disable the confirmation for a faster process (as part of user freedom).
4. **Aesthetic and Minimalist Design**
   - **Issue:** The “Add friend” text was considered less minimalist compared to other icons.
   - **Response:** We replaced the “Add friend” text with a '+' icon to match the style of other buttons, resulting in a cleaner and more consistent interface.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

TA07 User Testing

1. **SUS Evaluation**

User Persona	Age	Sex	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Raw	Score
Matthew	**20**	**Male**	**3**	**3**	**5**	**2**	**4**	**2**	**4**	**2**	**3**	**2**	**30**	**75.0**
Nathen	**21**	**Male**	**3**	**2**	**3**	**3**	**4**	**2**	**2**	**2**	**4**	**4**	**29**	**73.0**
Richie	**20**	**Male**	**4**	**2**	**4**	**3**	**3**	**2**	**3**	**2**	**2**	**3**	**28**	**70.0**
Moreno	**20**	**Male**	**4**	**3**	**3**	**3**	**4**	**2**	**2**	**2**	**3**	**2**	**28**	**70.0**
Andreas	**21**	**Male**	**4**	**2**	**2**	**3**	**5**	**4**	**4**	**2**	**3**	**2**	**31**	**78.0**

TA07_Table1

Link to SUS Table Score:
https://docs.google.com/spreadsheets/d/1Fyw4xB_F_SpUs6KMK1h16xRQEsLL-5BY/edit?usp=sharing&ouid=117996875720482551323&rtpof=true&sd=true

Respondent 1 = 30 × 2.5 = 75.0
Respondent 2 = 29 × 2.5 = 72.5
Respondent 3 = 28 × 2.5 = 70.0
Respondent 4 = 28 × 2.5 = 70.0
Respondent 5 = 31 × 2.5 = 77.5

User Persona	SUS Score	Grade	Interpret
Matthew	75.0	Good	The app experience feels more practical. The search and navigation process is also much easier.
Nathen	73.0	Fairly Good	Navigation and search history are nice improvements, but the search feature still has room for development.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Richie	70.0	Fairly Good	The separation between buyer and seller chats is very helpful, though it still requires a bit of adjustment.
Moreno	70.0	Fairly Good	The addition of a search function in the cart is very helpful, especially for users who tend to accumulate many items.
Andreas	78.0	Very Good	The new features are very helpful, particularly because access to the transaction section is now faster and more convenient.

TA07_Table2

The average SUS score is 73,

Which indicates that the new design has a good level of usability and is capable of improving user satisfaction.

SUS analysis:

a. System Feels Complicated, some users felt the app is not fully intuitive or easy to use.
   Response:
   We added confirmation dialogs for important actions, such as deleting search history, to prevent accidental mistakes and make the process clearer for users. We also added tooltips to several buttons and icons so users can easily understand what each function does just by hovering their cursor. The navigation layout is kept consistent across all pages, helping users feel more comfortable as they explore different parts of the app.

b. Inconsistent Visual Design, users observed inconsistencies in the user interface.

   Response:
   We standardized the colors, icons, and button shapes throughout the app. For example, the Add friend button, which previously was the button difference icon with the other,now we has matched the style with other buttons. This makes the user interface more consistent and visually harmonious.

c. Usability Barriers Still Exist, some users mentioned needing support or guidance to use certain features.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Response:
We improved guidance by adding descriptive tooltips on icons and key buttons, so users can quickly understand their functions. Also, confirmation dialogs were implemented for actions that may cause confusion, and navigation is now more intuitive, which helps users move through the app without needing extra assistance.

d. Requires a Learning Curve, several users indicated they needed time to get familiar with how the system works.

Response:

To help users understand where they are within the app, the updated prototype includes a clear visual indicator in the navigation bar. Each active page is now marked with a different color or highlight, allowing users to instantly recognize their current location. This small but important change supports user orientation, especially for first-time users, and reduces hesitation when switching between sections. Over time, it helps users build a mental map of the app's structure, making navigation feel more intuitive and natural.

2. UEQ Evaluation

Responden	Items												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Matthew	5	6	1	3	1	1	1	4	2	2	1	1	3
Nathen	6	7	3	3	4	2	1	6	3	3	1	2	1
Richie	5	5	1	1	3	3	1	4	2	1	1	4	3
Moreno	4	5	2	2	3	3	3	6	1	2	1	2	2
Andreas	7	7	1	2	2	3	1	6	3	2	1	2	3

TA07_Table3

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Responden	Items												
	14	15	16	17	18	19	20	21	22	23	24	25	26
Matthew	3	6	3	2	2	1	3	3	1	1	1	1	1
Nathen	3	5	3	3	1	3	1	3	3	2	4	3	2
Richie	2	4	3	3	1	3	2	2	2	2	4	2	2
Moreno	4	4	2	4	2	1	2	3	3	2	2	3	1
Andreas	1	7	1	3	1	1	2	1	2	3	2	1	1

TA07_Table4

Result (mean):

1) Attractiveness: 0.600 (neutral)
2) Perspicuity: 0.950 (positive)
3) Efficiency: 0.000 (neutral)
4) Dependability: 0.350 (neutral)
5) Stimulation: –0.050 (neutral)
6) Novelty: 0.750 (neutral)

Conclusion: the system delivers a clear and moderately novel user experience, but other dimensions such as stimulation and efficiency remain in the neutral zone and show room for improvement.

Excel link:
https://docs.google.com/spreadsheets/d/1_AV01XSur6Z1MHBfHzfscCDNcF90W_Ht/edit?usp=sharing&ouid=109756671465884270257&rtpof=true&sd=true

3. **Link to updated prototype: https://aarongho.github.io/Project_HCI/**

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

TA08 Final Report

I. Problem:

Several recurring pain points have been identified based on both heuristic evaluation and user feedback, indicating a need for an improved user interface and user experience. Key issues include:

1. **Lack of Feedback When Browsing Products**
   Users receive insufficient feedback while navigating product pages, making it difficult to understand which section they are currently in. Competing apps like Tokopedia and Blibli provide better navigational cues, such as sticky navigation bars, to enhance orientation.

2. **Cognitive Overload from Repetitive Voucher Interfaces**
   Users face duplicated voucher sections — both per store and at the cart level. This leads to increased short-term memory load and inefficient decision-making, as users are forced to compare multiple discounts across several layers.

3. **Unorganized Chat System**
   The absence of clear categorization between buyer-seller chats and personal notifications leads to confusion, particularly for sellers or buyers with high communication traffic. This disorganization reduces efficiency and increases mental fatigue.

4. **Difficulty Finding Products in the Cart**
   Users with a large number of cart items (50–99+) struggle to locate specific products. Without search or filtering tools in the cart, they are forced to manually scroll through all items, exceeding the limits of human short-term memory.

5. **Lack of User Control over Search History**
   The app does not allow users to delete individual search entries — only a full clear is possible. This restriction diminishes the internal locus of control, frustrating users who want to maintain a tidy search history without losing relevant past queries.

6. **Buried Access to Frequently Used Features**
   Key features like "Order History" are not easily accessible, while underutilized sections (like Notifications) take up space in the navigation bar. This design choice fails to accommodate frequent users who require quicker access to essential tools.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Target Users

We aimed to fix Shopee's issues that appeal to casual shoppers who need simple flows for essential purchases and sellers who require streamlined communication and order management tools that is represented on the identified four user personas that reflect the diversity of Shopee's audience:

- Matthew (Power Buyer / Tech savings Student) Shops frequently during sales campaigns and values efficiency in browsing and voucher application.
- Nathen (Detail-Oriented Researcher) Prioritizes quality and clarity in product filtering and search control; annoyed by irrelevant results and lack of granularity.
- Richie (Seller & Buyer / Entrepreneur) Runs a small business and relies on Shopee for both sourcing and selling. Needs better chat organization and seller tools.
- Moreno (Casual Buyer / Trend Follower) Looks for convenience and quick access. Easily overwhelmed by cluttered interfaces and disorganized cart systems.

II. Design

1. Design Objectives

Our design aimed to address the six key problems mentioned earlier by introducing solutions based on Shneiderman's Eight Golden Rules and HCI principles. These included reducing memory load, increasing user control, providing visibility, and enhancing minimalist design.

2. Design Evolution

Figma Prototyping: We created redesigned high-fidelity prototypes in Figma for key pages including the homepage, chat interface, cart, and search history. Through user feedback, we received strong support for improvements such as the implementation of a sticky navigation bar and clearly structured chat tabs. The interactive Figma prototype allowed users to simulate real navigation flows and provide more detailed usability insights.

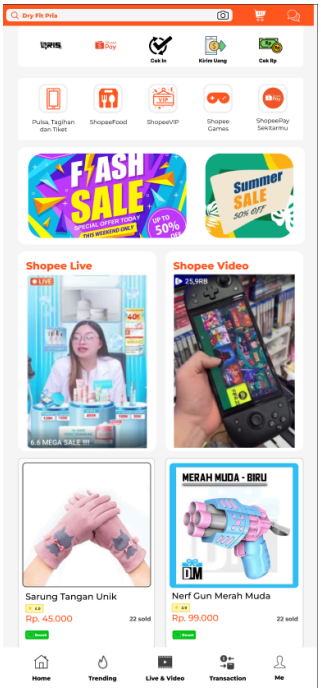
Heuristic Evaluation: Identified 3 issues which include system visibility, error prevention, and minimalist design. These led us to refine active-page indicators, add confirmation dialogs, and reduce clutter in UI.

User Testing: We validated usability improvements through SUS and UEQ metrics. Iterative refinements followed.

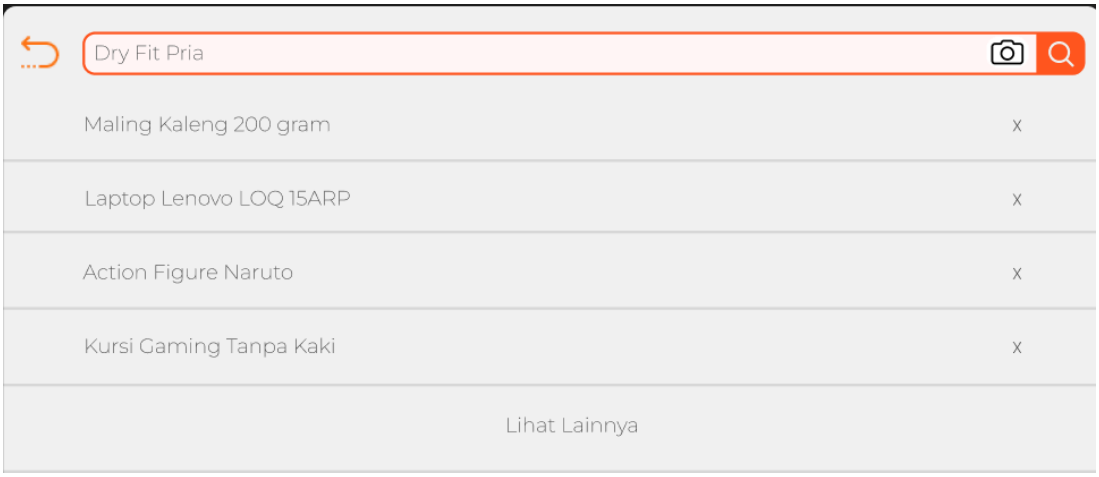
3. Final UI Design (Screenshots and Description)

Homepage: Customizable shortcuts, cleaner layout, faster access to order history.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

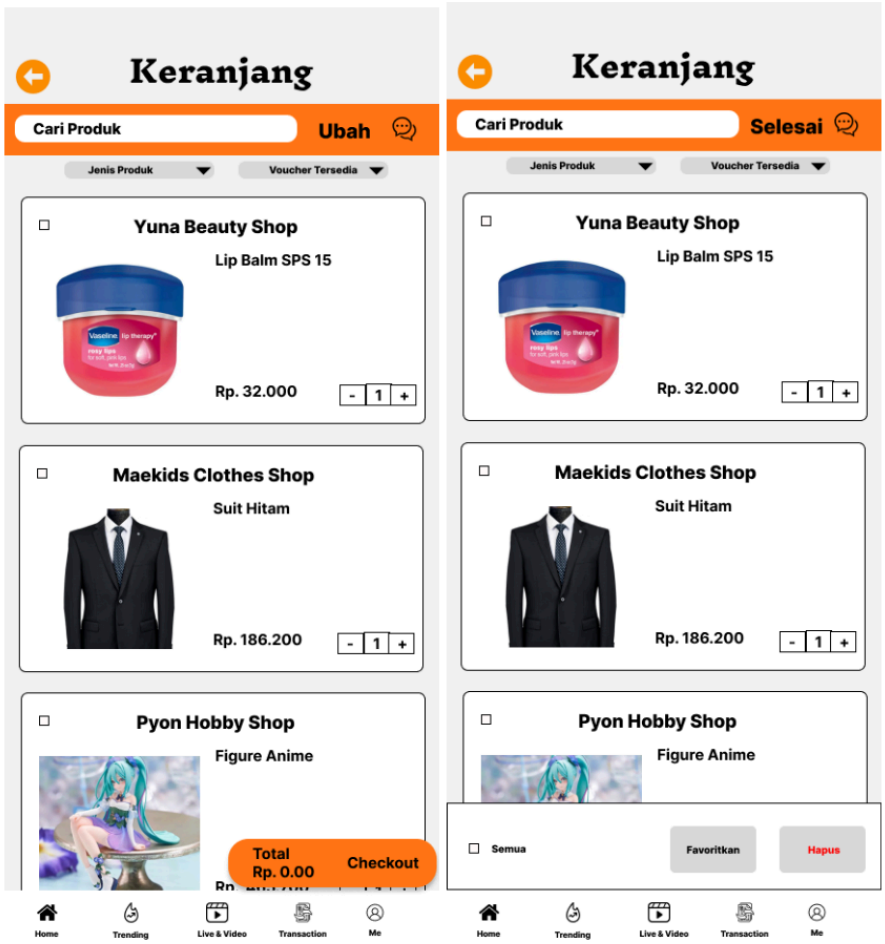


Search History: Users can delete individual entries or clear all, with confirmation.

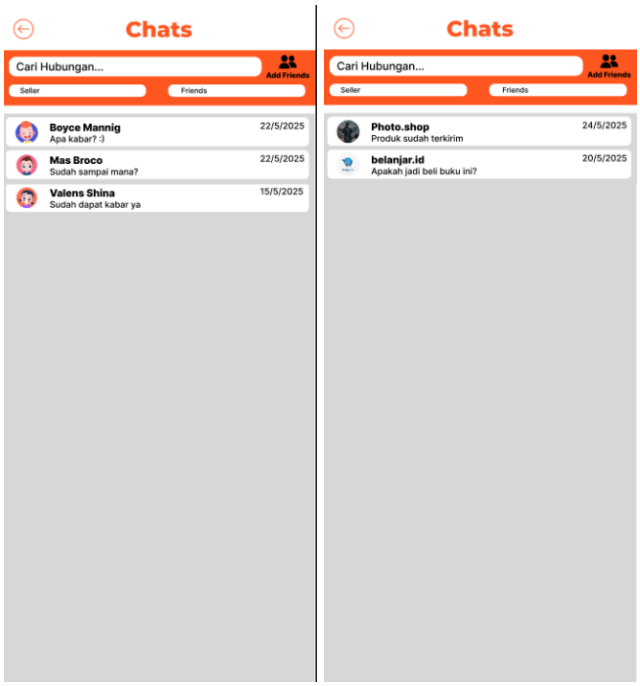


Cart: Search bar, item grouping, frequently purchased item suggestions. Also unified voucher selection with auto-apply best option.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

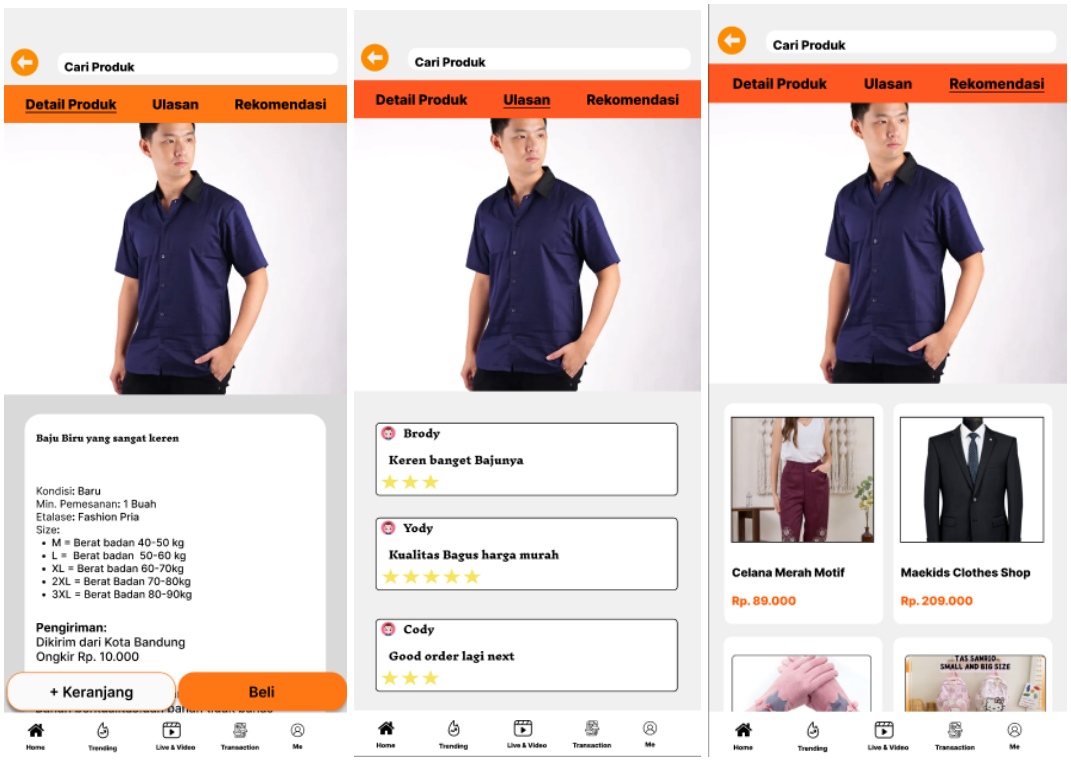


Chat Interface: Tabs for seller vs personal messages; colored tags for orders.



Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

Product Detail Page: Sticky breadcrumb bar with improved product info visibility.



Figma Prototype Link
https://www.figma.com/design/WqqXDKWtjCeVl7Lxeor42I/HCI-LEC?node-id=0-1&p=f&t=fzoMZhjYGA6jXEf1-0
HTML CSS JS GitHub Link
https://aarongho.github.io/Project_HCI/assets/html/home.html

III. Implementation

The final design was implemented as a high-fidelity website prototype using HTML, CSS, and JavaScript, and deployed via GitHub Pages. We followed a mobile-first design approach (optimized for iPhone 14 Pro Max view) using Visual Studio Code with Live Server.

1. System Architecture

Static Frontend: No backend integration; interactions simulated.

Component Structure: Separated into modular HTML pages for homepage, product page, chat, cart, and profile.

UI Libraries: Custom CSS for responsiveness and modern aesthetics.

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

2. **Design Challenges**

Performance: Simulating dynamic cart behavior (searching in large cart) on a static site required preloading fake items and optimizing DOM updates.

Navigation Context: Without JS routing, simulating "active tabs" was achieved with CSS state persistence.

3. **Impact on Usability**

While most tasks were emulated well, real-time backend-dependent features like chat syncing and order tracking were only visually represented. Nonetheless, the high-fidelity mockup effectively demonstrated the new user flows and interaction enhancements.

IV. Evaluation

1. **User Testing Approach**

We conducted user testing using the System Usability Scale (SUS) and the User Experience Questionnaire (UEQ) to evaluate the usability and user experience of our system prototype. The testing was carried out on a high-fidelity interactive prototype developed in Figma and implemented as a website using HTML/CSS/JS through a live server.

2. **Participant Selection and Representativeness**

We tested the system with participants aged 19–20, all of whom were male university students—representing our target user group: young e-commerce users, digital natives who are familiar with online shopping via mobile devices. As part of the demographic that most frequently uses apps like Shopee, they are considered fairly representative of our potential user population.

3. **Briefing and Task Execution**

Before testing, each participant was given a short briefing that included:

The purpose of the prototype (a simulation of an e-commerce application) and instructions to complete a series of user scenarios, including:

- Searching for a specific product using the search and filter features.
- Viewing transaction history and tracking orders.
- Filtering a user's contact history on the social interface
- Deleting search history.
- Viewing a product's description
- The use of frequent shortcuts (navigation bar on bottom application)

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing

V. Reflection

During the iterative design process, we learned that:

- High fidelity prototyping is very helpful in evaluating the overall UX experience compared to initial sketches.
- User feedback is more valuable when collected in a structured manner through SUS/UEQ and direct observation.
- Heuristic evaluation remains crucial, especially for identifying usability issues that may not be noticed by regular users.

What We Would Have Done Differently

- Conducting user testing earlier on low-fidelity prototypes. In the early iterations, we focused too much on visuals and features, when in fact the user flow structure could have been tested earlier using simple wireframes.
- Using interactive prototyping techniques from the beginning. Our initial prototypes were not fully clickable or responsive, which caused confusion for some users. In the future, we plan to use tools like Figma Interactive or Adobe XD prototyping more effectively from the early stages.
- Involving a more diverse range of users. We only tested the system with users aged 20–21. For more valid results, we should have included users from a wider age range and backgrounds, including women and those less familiar with technology.
- Using additional qualitative evaluation methods such as the Think-Aloud Protocol so we can directly hear the users' difficulties while interacting with the application

Link Gdrive: https://drive.google.com/drive/folders/1xzzzf3ENuphVb3DHZZEVlFFukK-Ult3f?usp=sharing