UTM'S E-COMMERCE OF SERVICES (SERVICEX)

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3/SECRH
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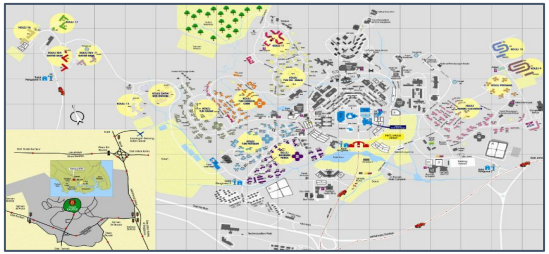
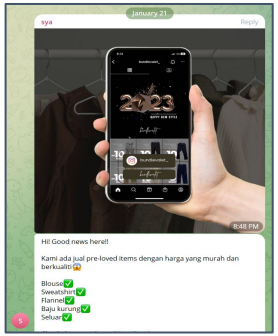
Background

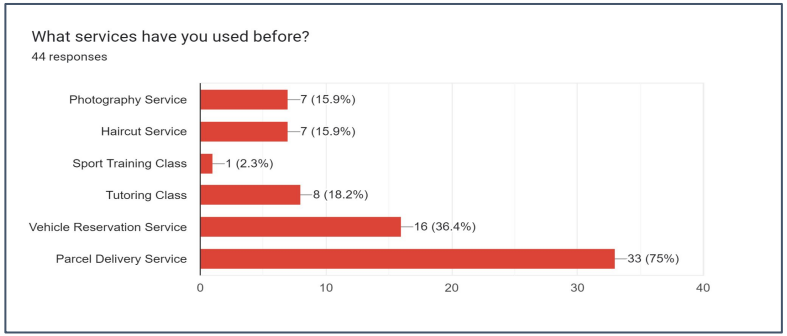


Location
Universiti Teknologi Malaysia, Skudai

Seller
UTM community

Buyer
UTM community





Goal

Ideal platform

- **Seller**: Advertise their services by category
- **Buyer**: Assess seller's credibility, verify service availability, and place an order anytime.

Objectives

Identify ServiceX's requirements in mobile applications.

Design and develop ServiceX based on user requirements.

Test the functionality of ServiceX according to user requirements.

Scope

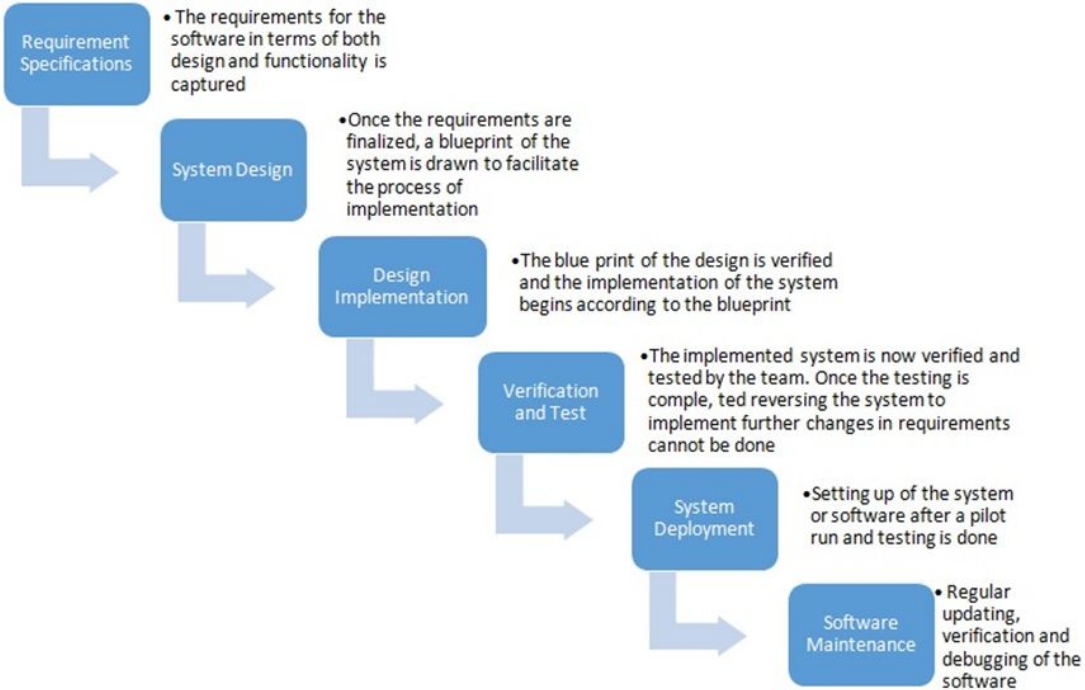
ServiceX is focus on the **UTM, Johor Bahru's community** only.

Users of this application include **guest**, **seller**, **buyer**, and **administrators**.

ServiceX only uses an **online payment stimulator**.

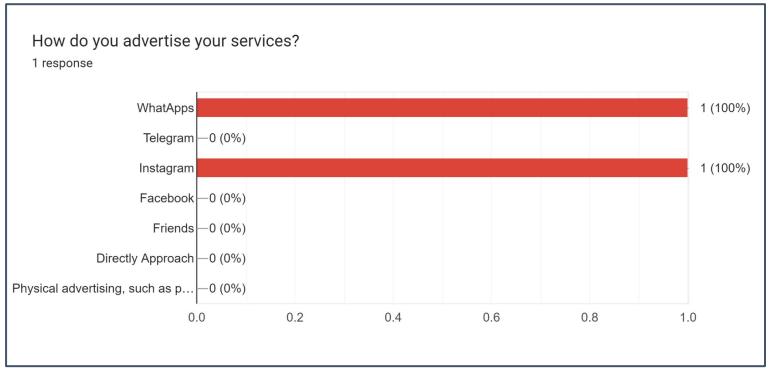
ServiceX only focus on users with **Android devices**.

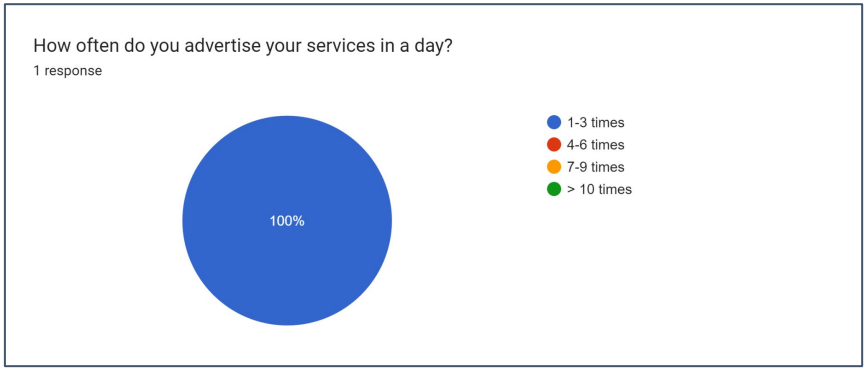
Methodology

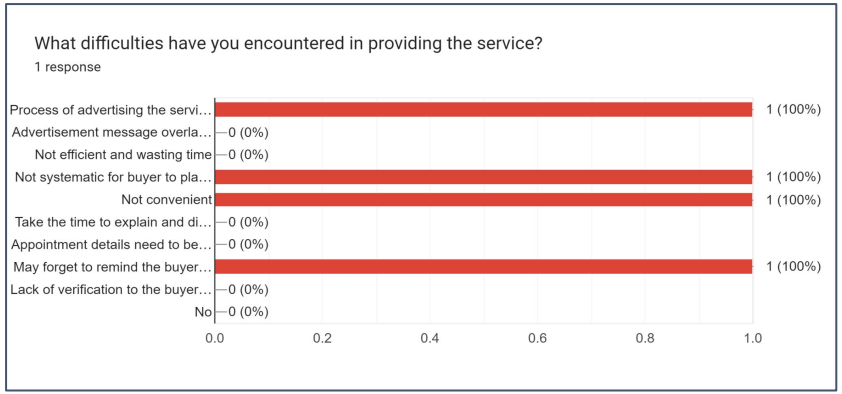


Six Phases of the waterfall model (Team, 2013)

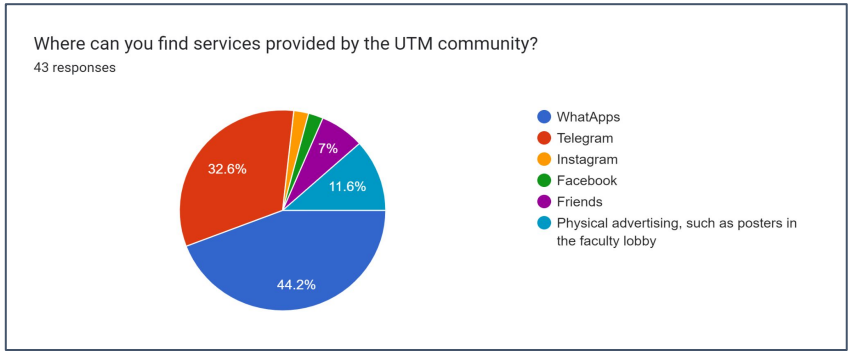
User requirements (Seller)

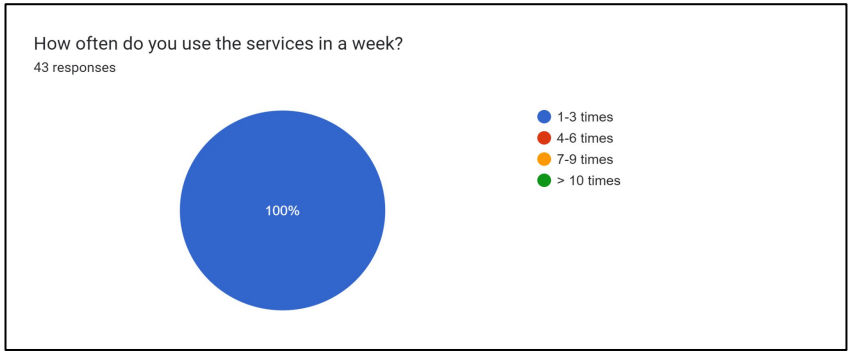


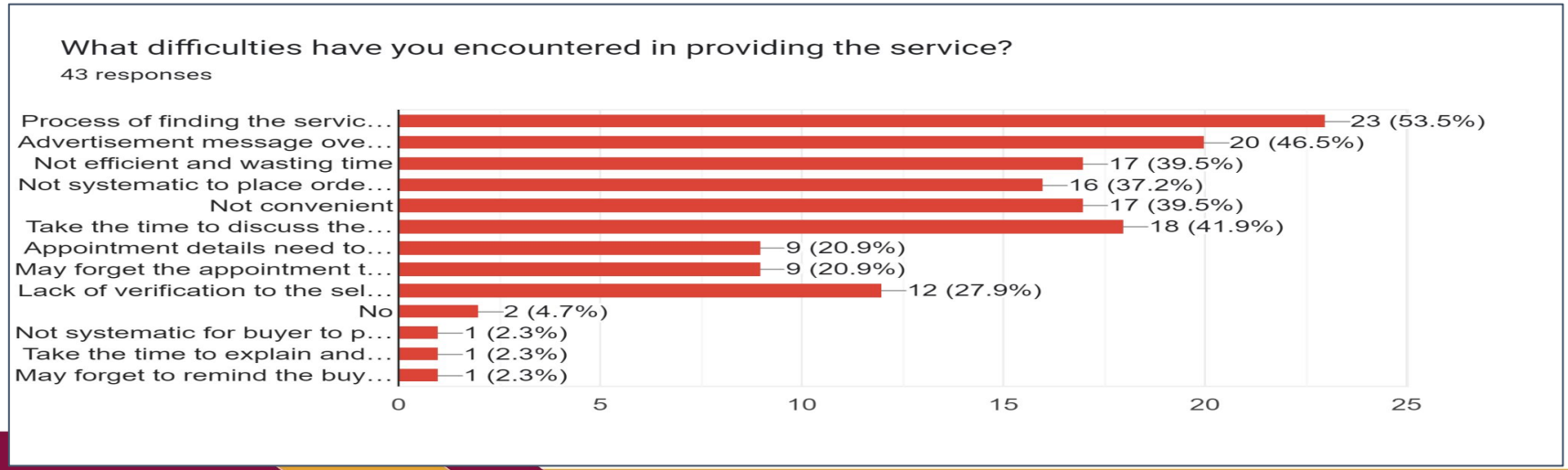




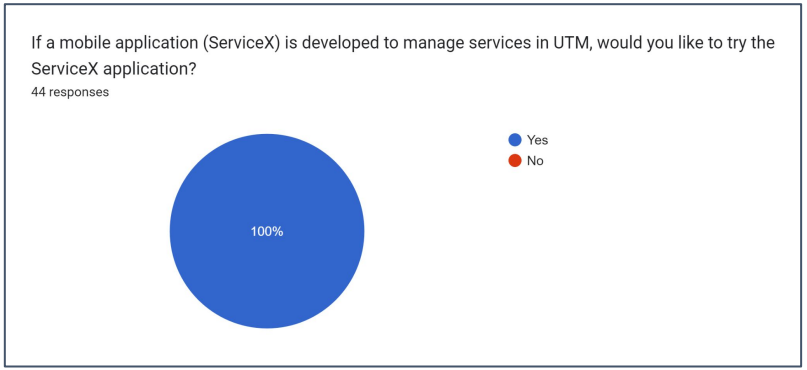
User requirements (Buyer)

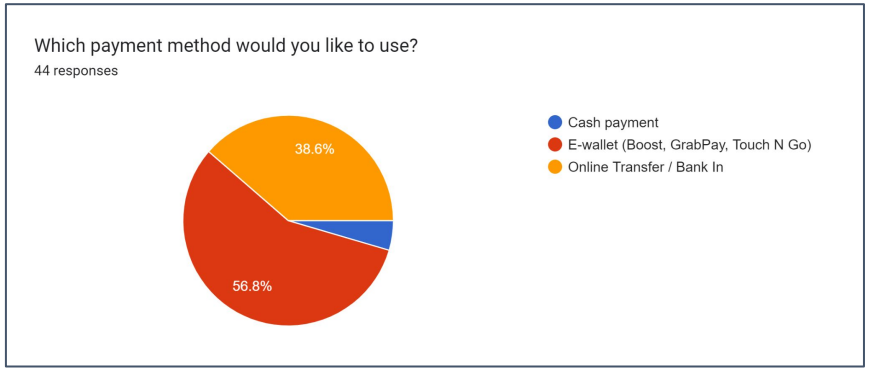


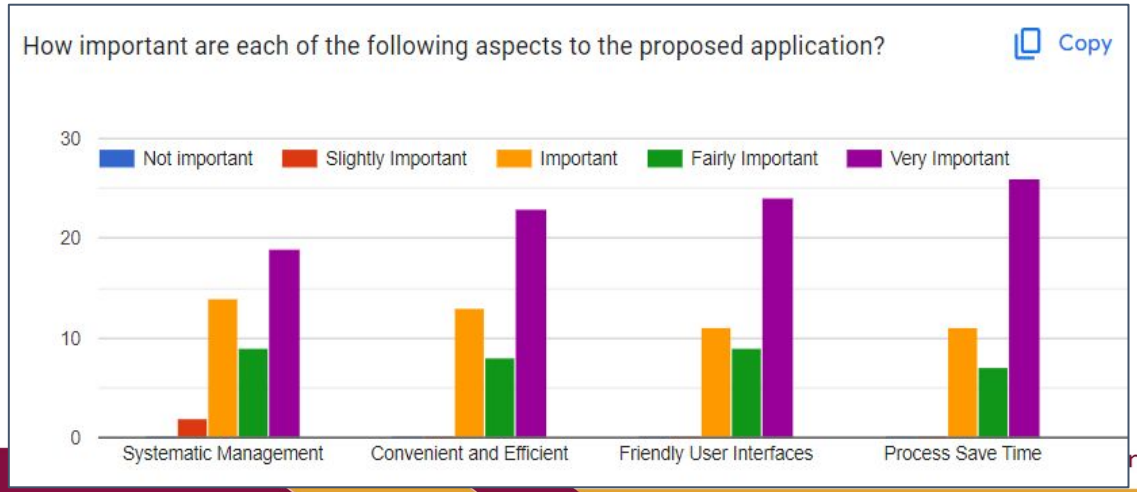




User requirements (ServiceX)



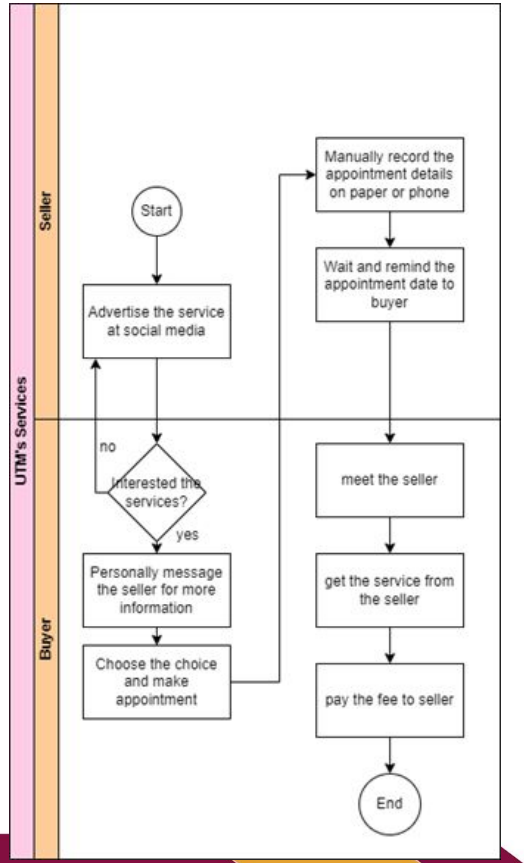




Differences between the systems that have been studied

Features	Lazada	Mudah.my	Recommend.my	ServiceX
Able to sign in with Facebook and Google	/	/	/	/
Bottom navigation bar	/	/	X	/
Various kind of payment method	/	X	/	/
Auto calculated the fee after the selection	/	X	/	/
Buyer can easily to contact the seller	/	/	/	/
Buyer can report the seller	/	/	X	/
Buyer can review the seller	/	X	/	/
User interface is clean and user-friendly	/	/	/	/
Buyer and seller are user within the same application	X	/	X	/
Provide a detail of the services	/	/	/	/

Flowchart of Current System



Not having the right platform to advertise their services

Inefficient for buyer to place order by personal message or calling

Buyer unaware of the quality of the service and the seller's credibility

Handwritten orders are less systematic

Seller and Buyer might forget the appointment

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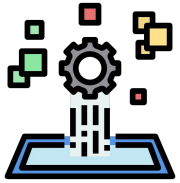
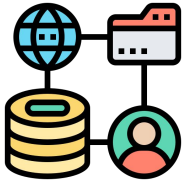


Ideal Advertising Platform

Place order at anytime

Review the Service's quality

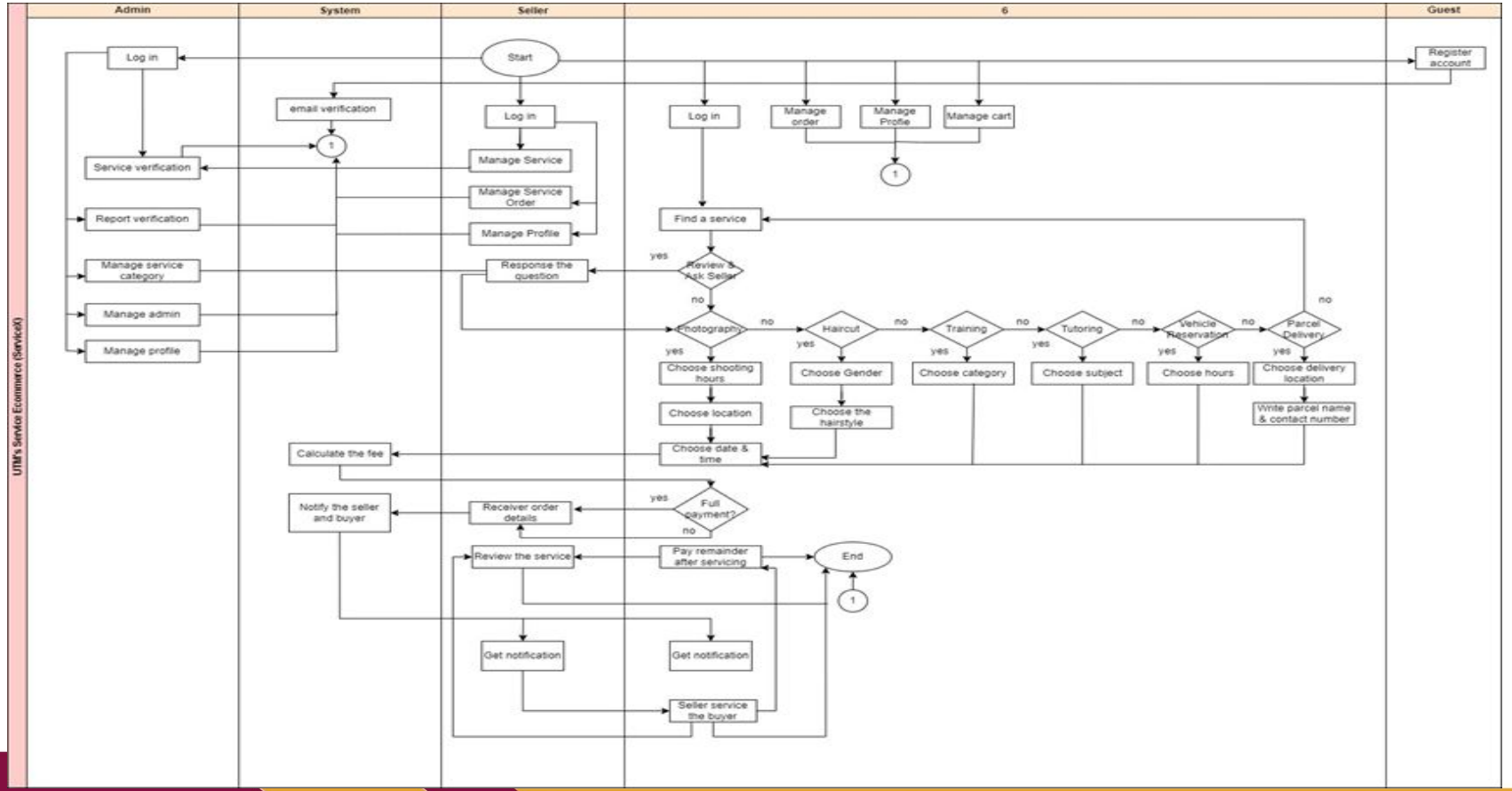


Systematic Data Storage

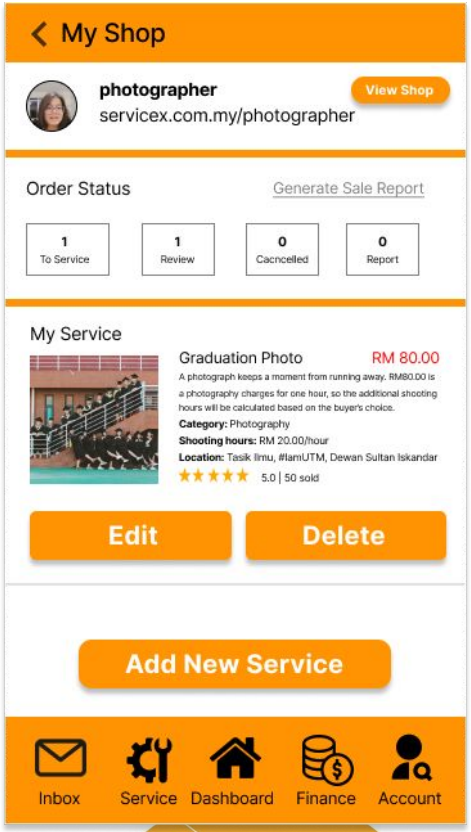
Appointment Notification

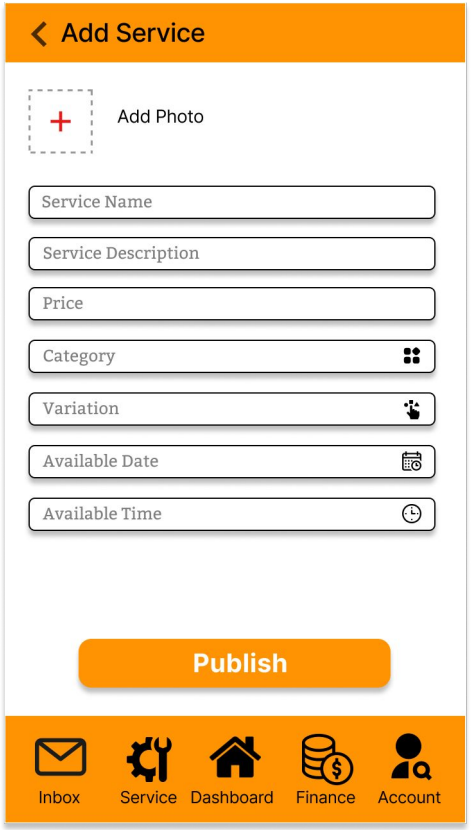
Auto-generate sales report

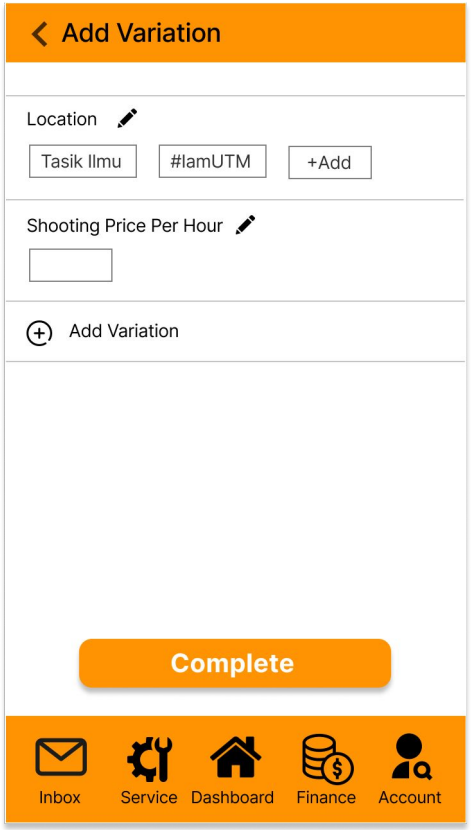
Swimlane Diagram of ServiceX



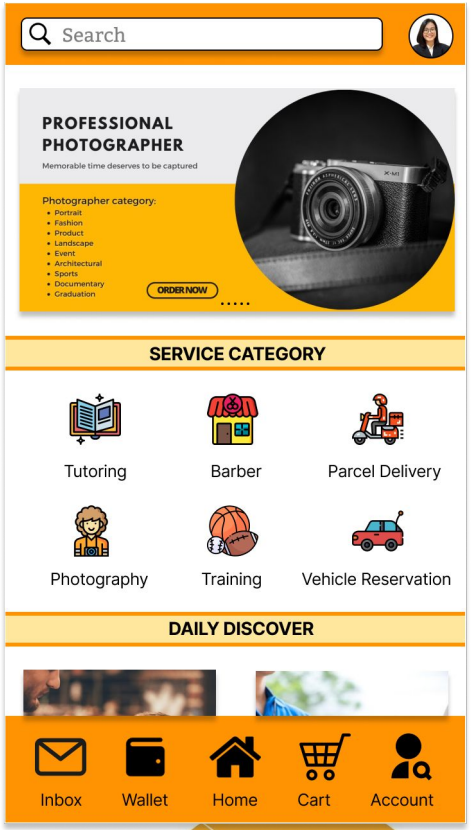
ServiceX - Seller advertise their service

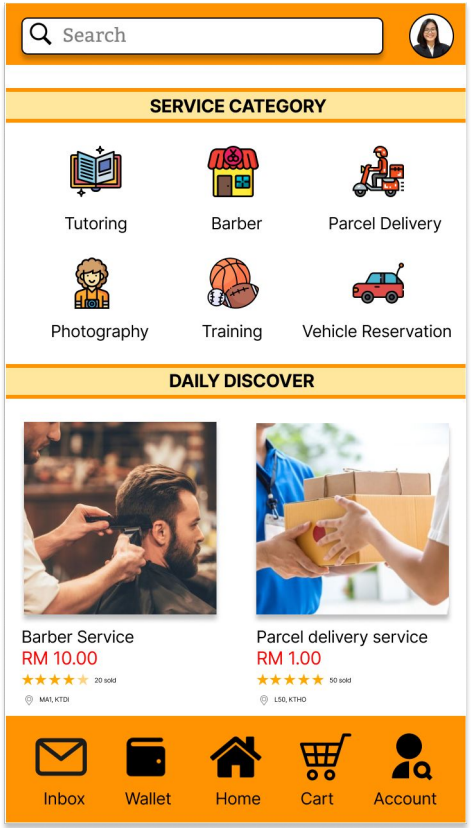




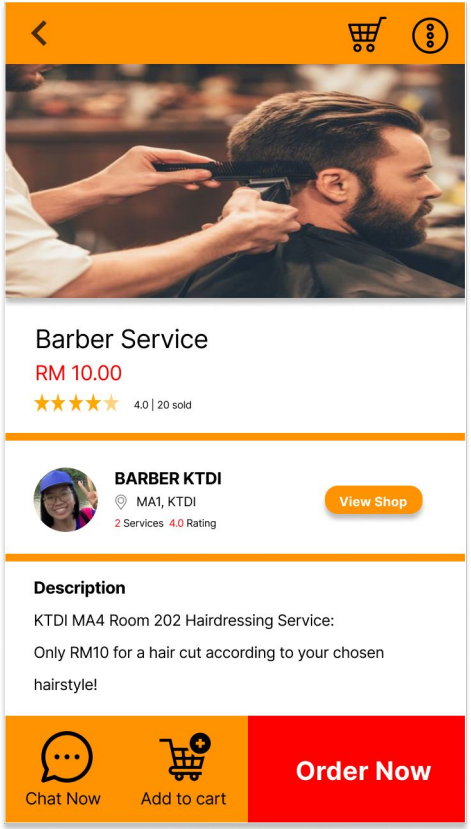


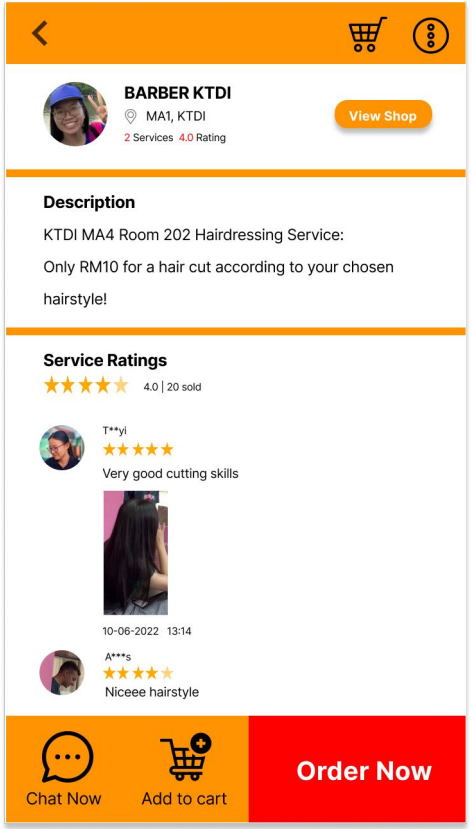
ServiceX - Advertising platform



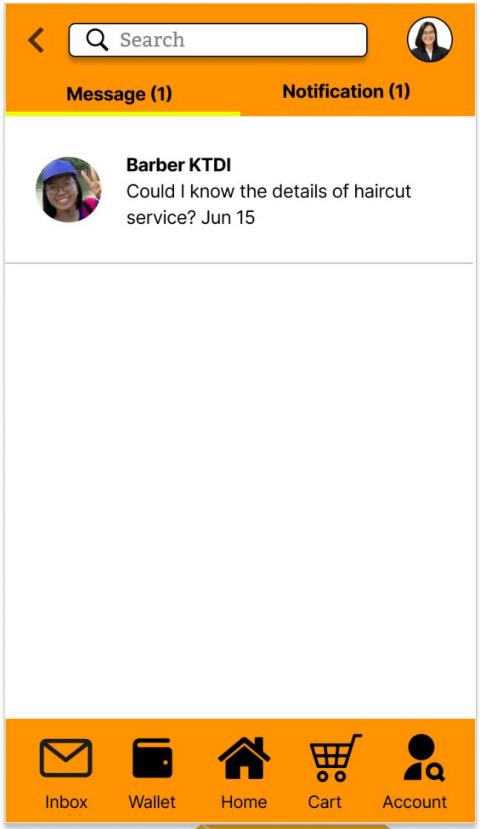


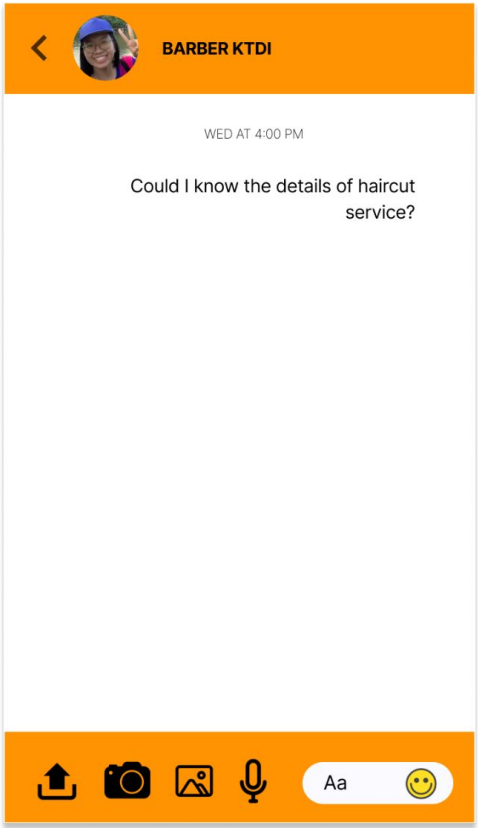
ServiceX - Quality of the Service & Seller's Credibility

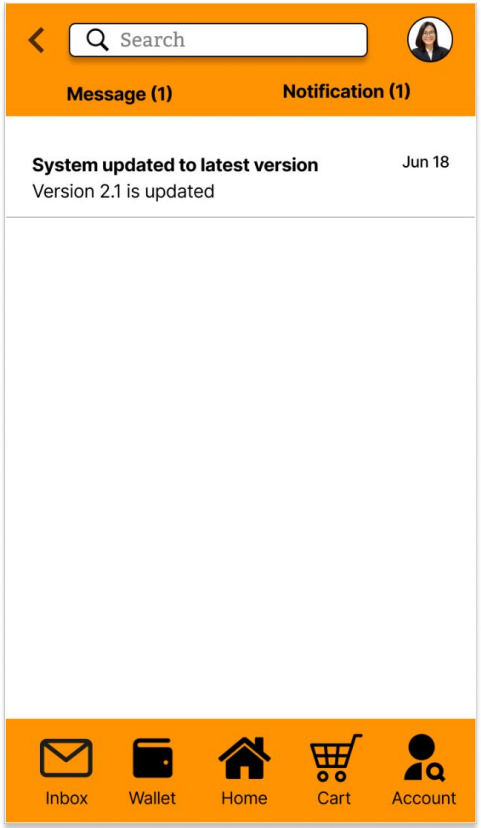




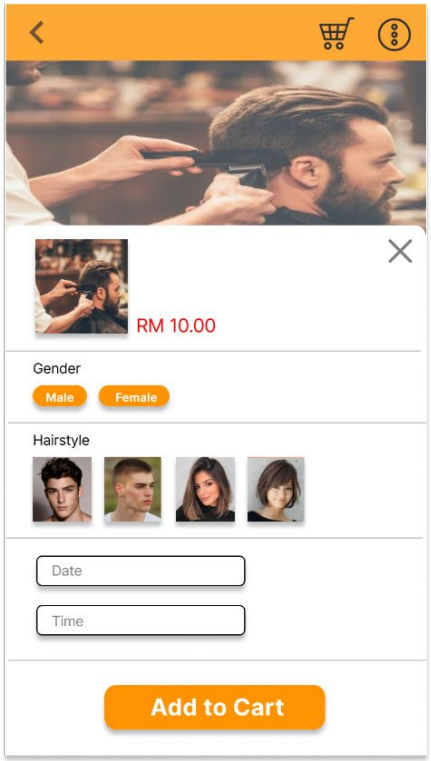
ServiceX - Inquiry & Notification

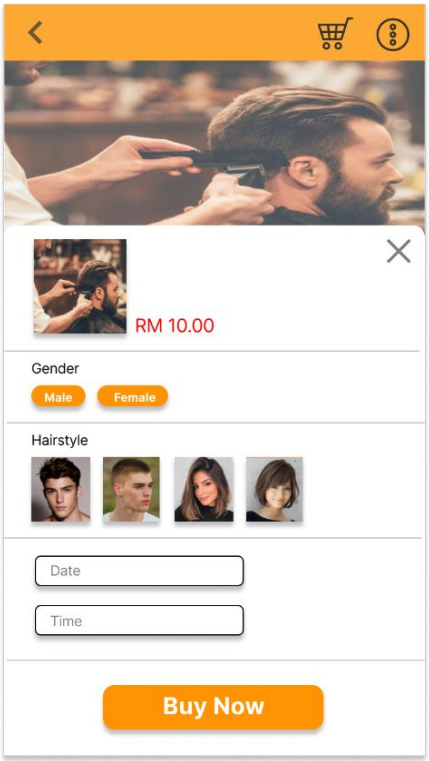


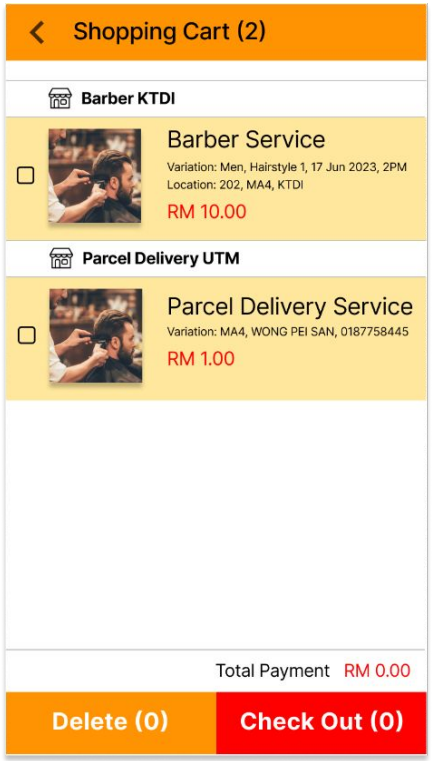


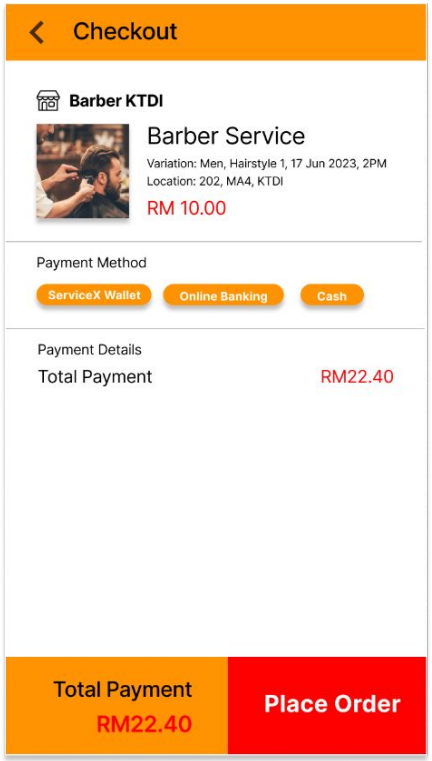


ServiceX - Making Order

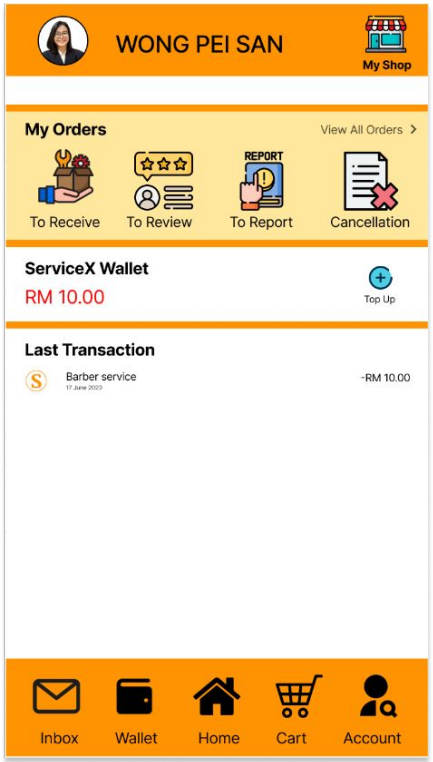


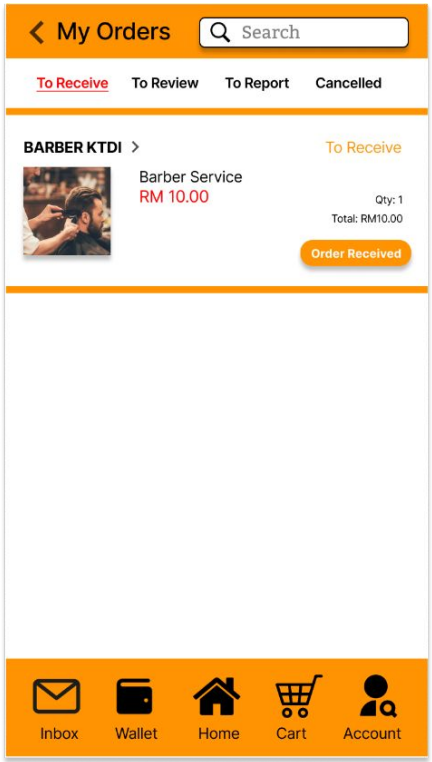


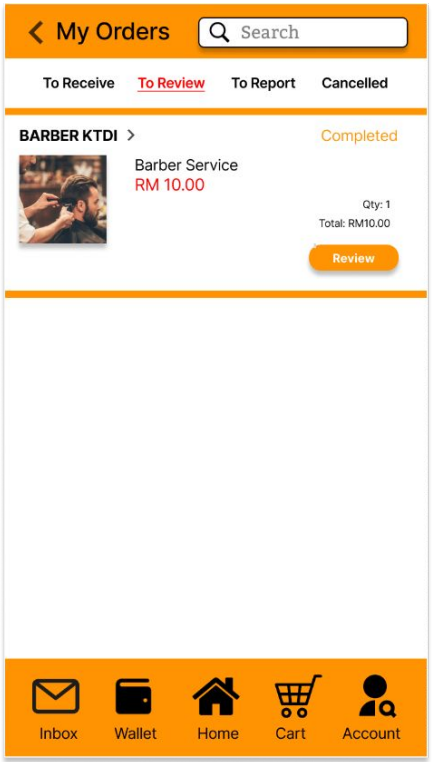


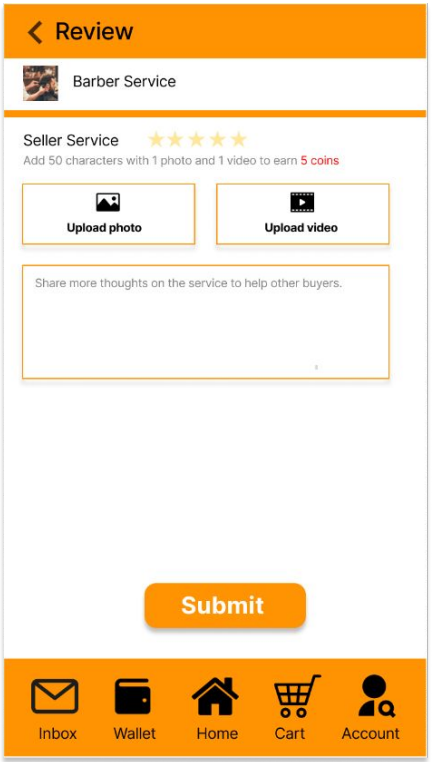


ServiceX - My Orders

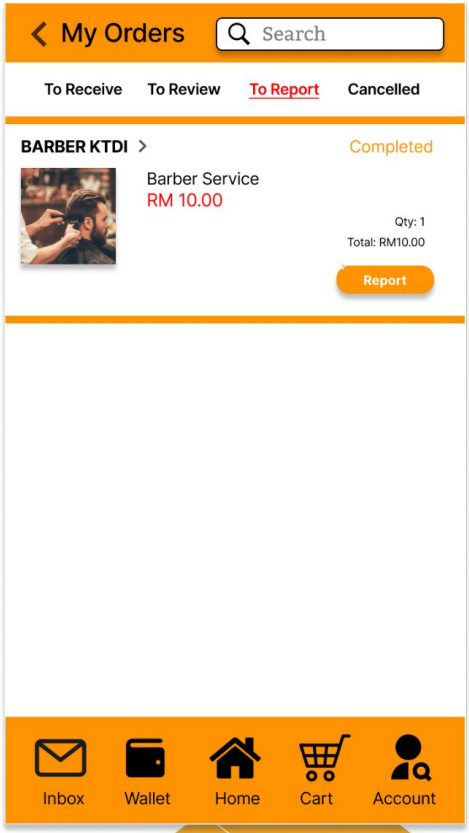


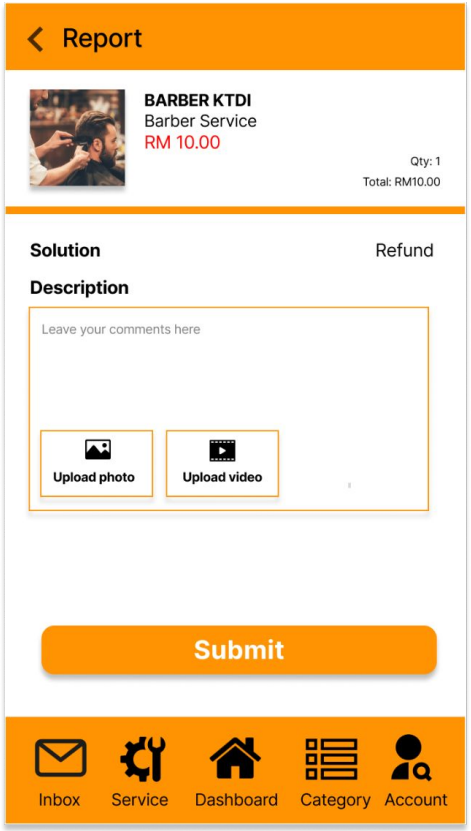


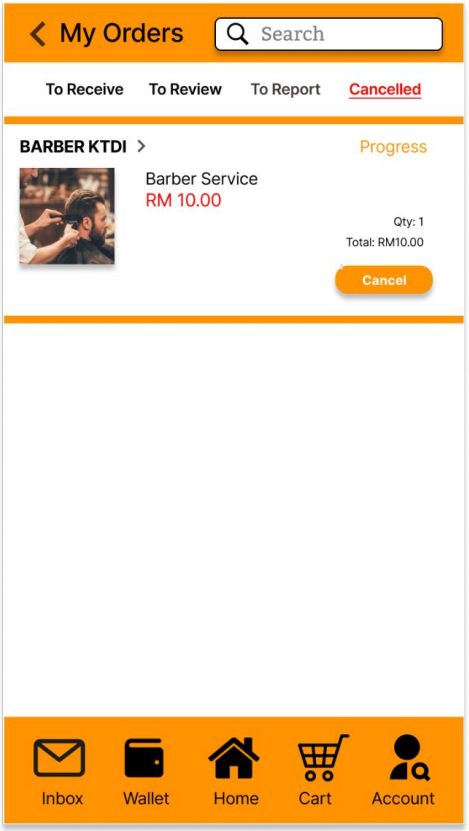




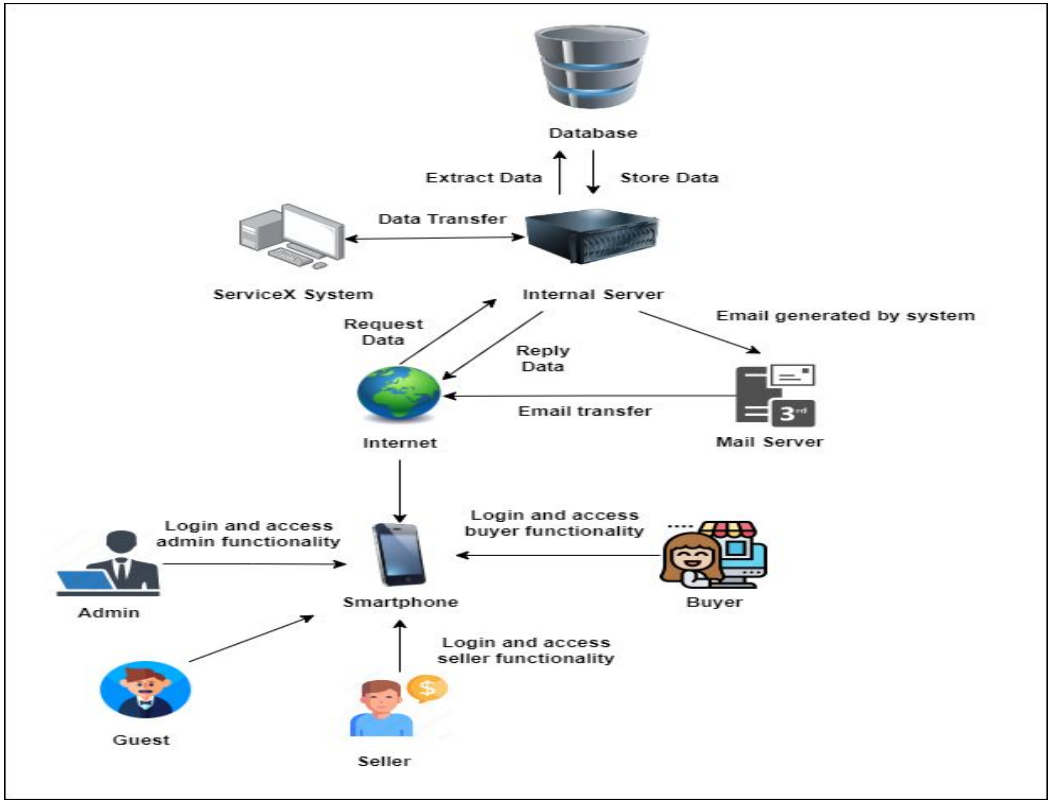
ServiceX - My Orders Con.



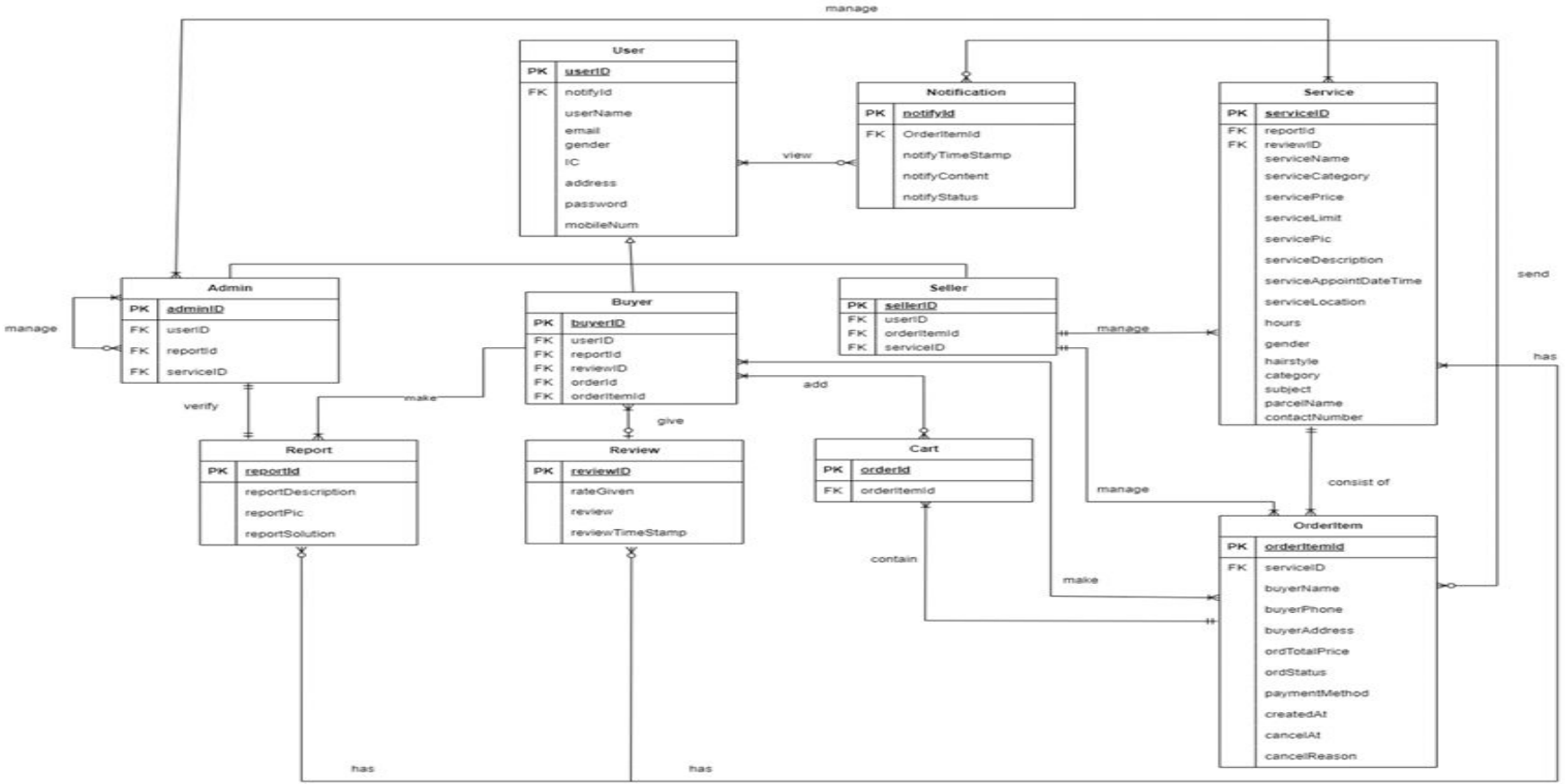




System Architecture



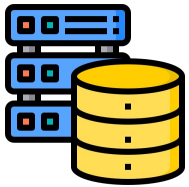
Database Design



Network & Security Element

User Authentication and Verification
Mobile Number, Password, Email

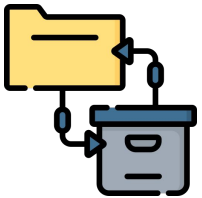
Authorization & Access Control List
Guest, Seller, Buyer, Admin



Secure Data Storage
Encrypt sensitive user data stored locally on the device to protect it from unauthorized access or theft.

- **Encryption**: Salt and Hash Passwords(bcrypt, Argon2), AES
- Password, Email, Phone Number

Network & Security Element Con.

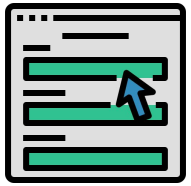


Secure Data Transmission

Make sure to use HTTPS when sending data between your mobile app and the backend servers. HTTPS encrypts the data during transmission, keeping it secure from potential eavesdroppers.

Secure Error Handling

Implement proper error handling and avoid exposing sensitive information in error messages that could be exploited by attackers.



Input Validation & Sanitization

Protect application from various types of attacks and ensure the overall reliability and safety of user interactions.

Software

Window 11

Flutter

Android Studio

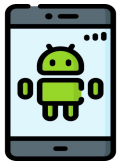
Email

Figma

Draw.io

Hardware

Laptop



Smartphone

Project Importance

Goal Achievement

Efficiency and Productivity

Stakeholder Satisfaction

Organization and Data Management

Innovation and Improvement

Time and Resource Saving

Reporting and Insights

Thank you