UTM

UNIVERSITI TEKNOLOGI MALAYSIA

DATABASE

SECD2523

SECTION 10

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1.0 Introduction

Nowadays, there has been a significant shift in the e-commerce market that has changed how companies and consumers place their orders. The rise of digital commerce platforms was not only easier for the shopping experience but also revolutionised how sellers and retailers interact with their clients. Our e-commerce system, rightfully called “Shopify”, takes precedence from the groundbreaking success of “Shopee”. This innovative e-commerce platform raised standards in the Asian region and beyond, within this dynamic and always-changing environment.

In appreciation of Shopee’s amazing impact and outstanding accomplishments in the field of online shopping, the name “Shopify” pays respect to the company. With Shopify, we are hoping to expand the insightful lessons we’ve learned from Shopee’s experience while also offering our own viewpoint and proactive solutions to meet the specific needs and tastes of our target market.

We have far bigger plans for Shopify than just the typical. After giving careful consideration to the difficulties encountered by today’s e-commerce customers, we aim to include features that influence the direction of e-commerce in the future. Our ongoing commitment to quality drives us to deliver a personalised, fast, secure purchasing experience that caters to your individual tastes regardless of the location of the desired item. We have bigger plans for Shopify than just conventional e-commerce. We’ve made use of cutting-edge technology to provide customers with an unconventional shopping experience.

Through the use of augmented reality (AR) and virtual reality (VR) elements, shoppers may go on a shopping trip that includes not just transactions but also experiences and items. Before making a picture, have the ability to digitally try on apparel, accessories, or even house furniture. Shopify’s augmented capabilities let you see items in your real environment, guaranteeing that you will receive exactly what you see. Whether you are remodelling your

living space or your wardrobe, Shopify's AR integration will help everybody to make more accurate and precise decisions.

2.0 Background Study

As more and more people buy online and therefore consumers are facing challenges in their quest for well-informed purchases. The limitations of traditional e-commerce platforms in giving buyers true knowledge of the things they want to buy are one of the most crucial problems. Consumers are frequently left in the dark regarding important details such as size, colour, appropriateness, and general fit with their particular demands, forcing them to rely their judgements only on two-dimensional photos and written descriptions.

At this point, the customers may become confused and disappointed if they are unable to view and evaluate the actual goods they are interested in purchasing. For example, when purchasing clothing, buyers frequently worry about whether the item will fit and complement them as intended. Customers who also shop for home furnishings often struggle with the question of whether a certain piece would complement the design and size of their living area. These kinds of problems not only make purchasing more difficult but also lead to greater percentages of unhappy customers and product returns.

We decided to create Shopify as a solution to these challenges because we understand how important they are. Through the use of the most recent innovations, particularly augmented reality (AR) and virtual reality (VR), we are launching a game-changing solution that lets consumers get past these issues and have a completely different experience when they purchase online. Customers can virtually try on apparel, and accessories, and even view how furniture fits into their living spaces with Shopify's AR and VR capabilities. Users are better equipped to make decisions thanks to this integration, which also reduces doubts regarding appropriateness, colours, and sizing. This technology really improves the whole online buying experience by guaranteeing that what customers see on the screen correctly reflects reality.

In a nutshell, Shopify offers a creative and proactive solution to the fundamental difficulties of online purchasing rather than just an e-commerce system. We hope to transform the e-commerce platforms by implementing the goods of AR and VR technology, giving customers an engaging and educational buying experience.

3.0 Problem Statement

1. Limitations on Two-Dimension

Static two-dimensional photos and written descriptions are the backbone of traditional e-commerce, nevertheless, they fall short of capturing the features and physical characteristics of goods. Customers are not able to get a throughout comprehension of things since they can only imagine and evaluate them based on the text and photos alone. This limitation limits their capacity to examine details, textures, or measurements up close, which is really crucial when making a decision, especially when buying house furniture, apparel or accessories.

2. Confusion and Disappointment among Customers

Customers are sometimes left feeling apprehensive and disappointed when they are unable to personally inspect things before making a purchase. When purchasing clothes and accessories, for example, buyers frequently fret about whether will fit well and will compliment their bodies as intended. Similar to this, buyers of home furnishing might be unsure about whether a specific item would match their current style and fit in their available area. These kinds of worries may lead to a greater rate of post-purchase returns and unhappiness as the merchandise may not live up to the customer's expectations.

3. High Return Rates

The increased number of product returns in the e-commerce sector is a result of the difficulty clients encounter when assessing things online. Due to the absence of a physical shopping experience businesses encounter operational problems when it comes to managing returns and exchanges from customers who receive products that fall short of their expectations. High return rates are a critical problem for online purchasing since they have an effect on both profitability and consumer pleasure.

4. **Technology Gaps**

The major difficulty in tackling these concerns is the deficiency of technology on several e-commerce sites. Traditional methods often cannot integrate cutting-edge technology like virtual reality (VR) and augmented reality (AR). This immersive and educational buying experience that these technologies offer is vital in closing the gap between online shopping and in-store purchasing. The lack of these developments limits consumers' ability to interact and comprehend items in the digital space, which emphasises the necessity for creative solutions like Shopify.

5. **Decreased Trust from Customers**

In fact, customers' trust in the online purchasing experience is undermined when things are not accurately represented on screen. As they are unsure about the items' look, fit, and compatibility, they can be reluctant to buy. This will lower the level of customers' confidence resulting in organisations missing out on sales opportunities and increasing customer dissatisfaction which may negatively impact reputation and brand loyalty.

6. **Absence of actual knowledge**

Most online retailers are not able to give their clients a physical, immersive experience with their items, which leaves them unclear about the actual size, colour, rightness, and general fit of the products with their particular requirements. The lack of practical expertise makes it more difficult for buyers to make correct and wise purchases. Therefore, customers lack trust in their choices when they are not able to touch, feel, or try on things, which will lead to hesitancy and abandonment of shopping carts.

7. **Lack of proper review**

Customers can't make good decisions when reading reviews online. Improving the review system's reliability, genuineness, and accuracy is necessary to build trust among customers, make the user experience better, and raise general satisfaction in the e-commerce platform.

4.0 Proposed Solutions

Technical feasibility:

The proposed solutions to improve the online buying experience have shown how to deal with the limitations of traditional e-commerce platforms in a more comprehensive way. From a technological standpoint, there are great opportunities in order to create a more interactive online shopping experience through the integration of Virtual Reality (VR) and Augmented Reality (AR) technologies, and the use of 3D product visualisation in Shopify.

For example, if the customer is using an AR and VR-enabled e-commerce platform when buying furniture in our system , they may place a 3D model of a sofa in their living room using their smartphone or a simulated reality headset via the internet. It allows them to see how it fits and matches the decor, and they are even able to test the comfort level of the furniture. Traditional two-dimensional graphics and text descriptions in the comment box are insufficient for this level of involvement. They may walk around the virtual sofa, see it from different angles or even sit on it, making for an extremely realistic experience. This has decreased the possibility of returns and post-purchase disappointment in addition to helping customers make more accurate purchasing choices.

Operational feasibility:

Operational feasibility contains a variety of important factors to ensure the success of these improvements. Helping both buyers and sellers take full use of the latest AR and VR technologies requires significant user training and support. Creating detailed tutorials and FAQs to assist users in navigating the technology effectively are able to help people utilise the technology . Additionally, customer support needs to be responsible for handling any problems in order to ensure that customers have a great online shopping experience.

In order to manage the increases in product returns, restocking, and quality control, efficient logistics and inventory management systems are necessary. For example, a furniture

company that uses the technology of augmented reality to place furniture in customer homes virtually must have the setup processes to handle returns or exchanges if the customer is dissatisfied with the purchased items. Restocking and quality control operations must be improved to maintain the quality of the shopping experience.

Moreover, for supermarket shopping, where augmented reality (AR) apps give accurate product information, operational feasibility relies on offering accurate and real-time data updates related to product details. This includes maintaining current information on product availability, prices, nutritional information, and ingredients. Accurate data is essential to provide reliable information to customers during their purchasing experience.

Economic feasibility (CBA):

Estimated Cost	
Hardware	RM 20000
Software	RM 10000
Training	RM 7500
Advertising	RM 5500 per year
Maintenance	RM 5000 per year

Estimated benefits	
Savings	RM 25000 per year
Sales Growth	RM 35000 per year

Assumptions	
Discount rate	10%

Sensitivity factor(cost)	1.1
Sensitivity factor(benefits)	0.9
Annual change in production costs	7%
Annual change in benefits	5%

Cost	**Year 0**	**Year 1**	**Year 2**	**Year 3**
Development Cost				
Hardware	22000			
Software	11000			
Training	8250			
Total	41250			
Production Cost				
Advertising		6050	6474	6928
Maintenance		5500	5885	6297
Annual Prod.Costs (Present Value)		11550 10500	12359 11236	13225 12023
Accumulated Costs		51750	62986	75009

Benefits	**Year 0**	**Year 1**	**Year 2**	**Year 3**
Savings		22500	23625	24807
Sales Growth		31500	33075	34729
Annual inventory costs (Present Value)		54000 49091	56700 51546	59536 54124

Accumulated benefits		49091	100637	154761
Gain or Loss		(2659)	37651	79752
Profitability Index	1.9			

The profitability index of 1.90 means that the project is a good business opportunity. If the profitability index is higher than 1, it means that the present value of anticipated future income is higher than the starting investment. In this case, a profitability score of 1.90 means a good deal, which highlights the chance of making money. The project shows that it can be funded and offers good returns. This index helps people make decisions by showing that the expected cash benefits are much greater than the costs. So, the project not only seems like a good idea from a financial point of view, but it also is like a great investment chance, giving it a solid base for continued development and success.

5.0 Objective

To enhance the user experience of our system, we established some objectives which aim to ease the user burdens:

1. **Seamless User Experience**:
    - Ensure a smooth and intuitive user interface, making it easy for customers to try on clothing and accessories.
    - The system should be user-friendly, with a simple and intuitive design that guides users through the virtual try-on process effortlessly.
2. **Accurate Sizing and Fit**:
    - Provide precise sizing recommendations and realistic virtual fittings.
    - Users should be confident that the app accurately shows how the clothing or accessories will fit them in reality, reducing the need for regards and returns.
3. **Comprehensive Catalog**:
    - Provide a wide range of clothing and accessory merchandise to fit the needs of users.
    - A diverse catalogue will increase user engagement and encourage them to explore different styles and brands of merchandise in the system.
4. **High-Quality AR Rendering**:
    - Develop top-notch AR technology for lifelike representations for the users.
    - The AR rendering should be in high quality, ensuring that virtual try-ons look as close to reality as possible.
5. **Cross-Platform Compatibility**:
    - Make the app accessible on various devices and platforms.
    - Users should be able to use the app on both iOS and Android devices, as well as different smartphones, tablets and computers.
6. **Integration with E-commerce**:
    - Seamlessly integrate shopping functionality within the system.
    - The app should allow users to purchase the items they try on, creating a convenient and streamlined shopping experience.

7. **Privacy and Data Security**:
    - Prioritise user data security and privacy.
    - Implement strong data protection methods to maintain users' personal data, especially when dealing with personal photos and account information.

8. **Proper review on items**

- A rewarded review system in e-commerce means giving buyers a reason to give feedback on the goods or services they have bought.
- This can be done with a variety of rewards, such as discounts, free coins, early entry to sales, or even free gifts.

6.0 Project Scope

In the constantly changing e-commerce environment, our project, "Shopify," aims to redefine the online shopping experience which is inspired from the incredible success of platforms like "Shopee". Since Shopee has created significant success on the Asian and global markets, Shopify comes with a creative online shopping solution, looking to not just replicate the successes of its predecessor's, but also introducing unique perspectives and solutions tailored for our target audience.

For Customers:

What makes Shopify unique is its use of Augmented Reality (AR) Technology which imitates the virtual reality elements, offering customers a distinctive and immersive shopping experience. Imagine virtually trying on clothing, accessories, and even visualising any merchandise within your living space before making a purchase. Shopify's AR features enable users to seamlessly integrate digital elements into their real surroundings, ensuring that what they see is exactly what they get. Whether you wish to buy new goods to your living space or refresh your wardrobe, Shopify's AR integration ensures the users to make knowledgeable, accurate, and precise decisions.

Moreover, Shopify highly focuses on customer privacy. The app uses strong methods to safeguard the personal data, ensuring that user information remains safe and secure throughout

their shopping journey. This commitment to privacy enhances the confidential shopping experience, building trust and confidence among the Shopify users. Other that, Shopify users will be introduced with a rewarded review system in an e-commerce environment involve providing consumers with incentives to offer feedback regarding products or services they have purchased.

For Sellers:

Within the Shopify platform, sellers benefit from an intuitive interface that enables seamless updates to their inventory data. Automated alerts are triggered when stock levels approach critical limits, such as 10 or 20 remaining products on the online shopping platform, facilitating proactive inventory management. Shopify provides sellers with easy access to comprehensive sales data analytics, offering insights into weekly earnings and other key metrics. Moreover, sellers can utilise Shopify's features to ensure accurate and high-quality products are dispatched to buyers, enhancing overall customer satisfaction and trust.

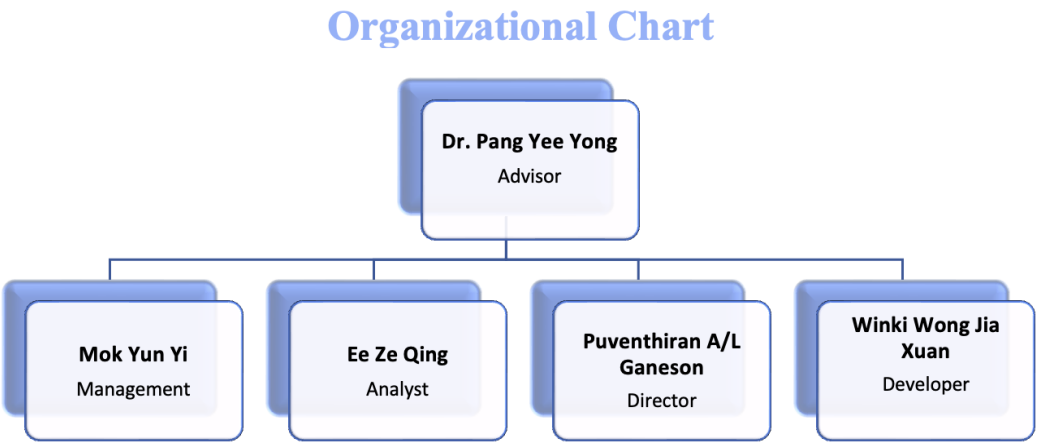
For Couriers:

Shopify extends functionality to couriers, allowing them to efficiently update the real-time status of packages during transit or delivery. This instant update mechanism ensures that both sellers and buyers receive updated information from time to time. If there is an unfortunate event such as a lost parcel during transit, couriers can promptly update the parcel status. This immediate update not only aids in the claims process with the courier company but also expedites interactions with the insurance company, ensuring a smooth and efficient resolution for the loss. Shopify aims to provide a stress-free experience for both buyers and sellers while maintaining clear and responsive communication throughout the delivery process.

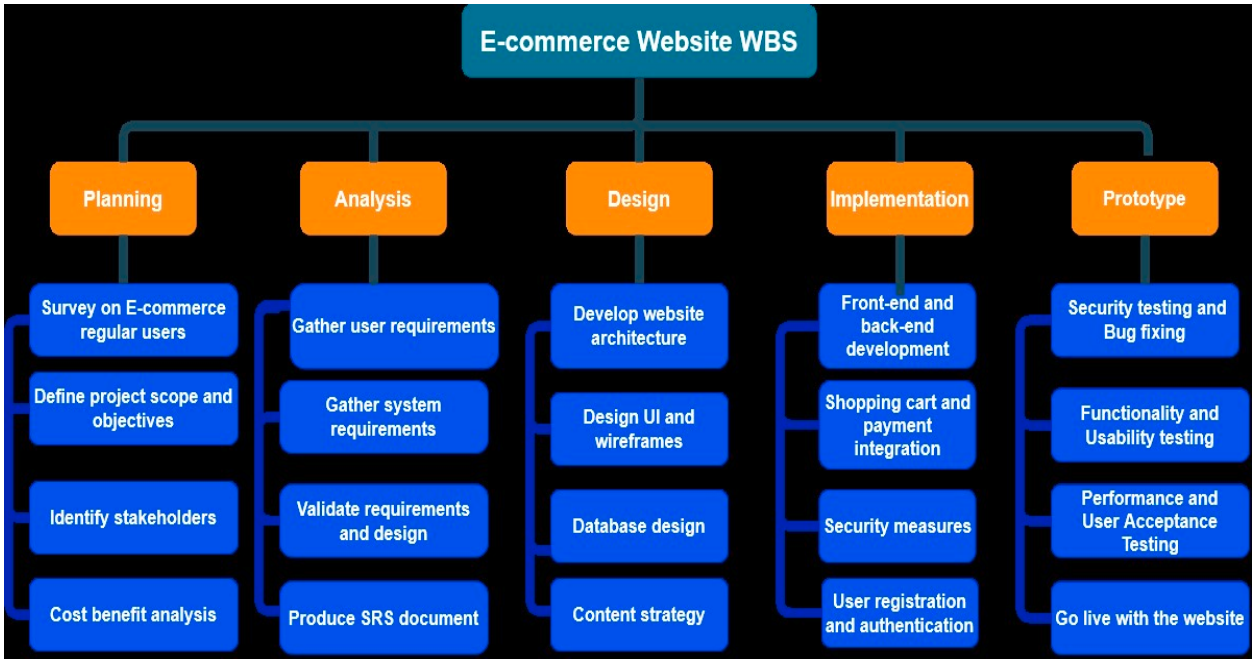
In essence, Shopify aims to be more than a typical e-commerce platform, it wants to bring innovation to the global online shopping environment, using technology to deliver a distinctive and fulfilling experience for users. Through this project, our goal is to bypass the boundaries of traditional e-commerce, becoming a pioneer into the future of retail where the lines between digital and physical shopping are gradually fading into a blur.

7.0 Project Planning

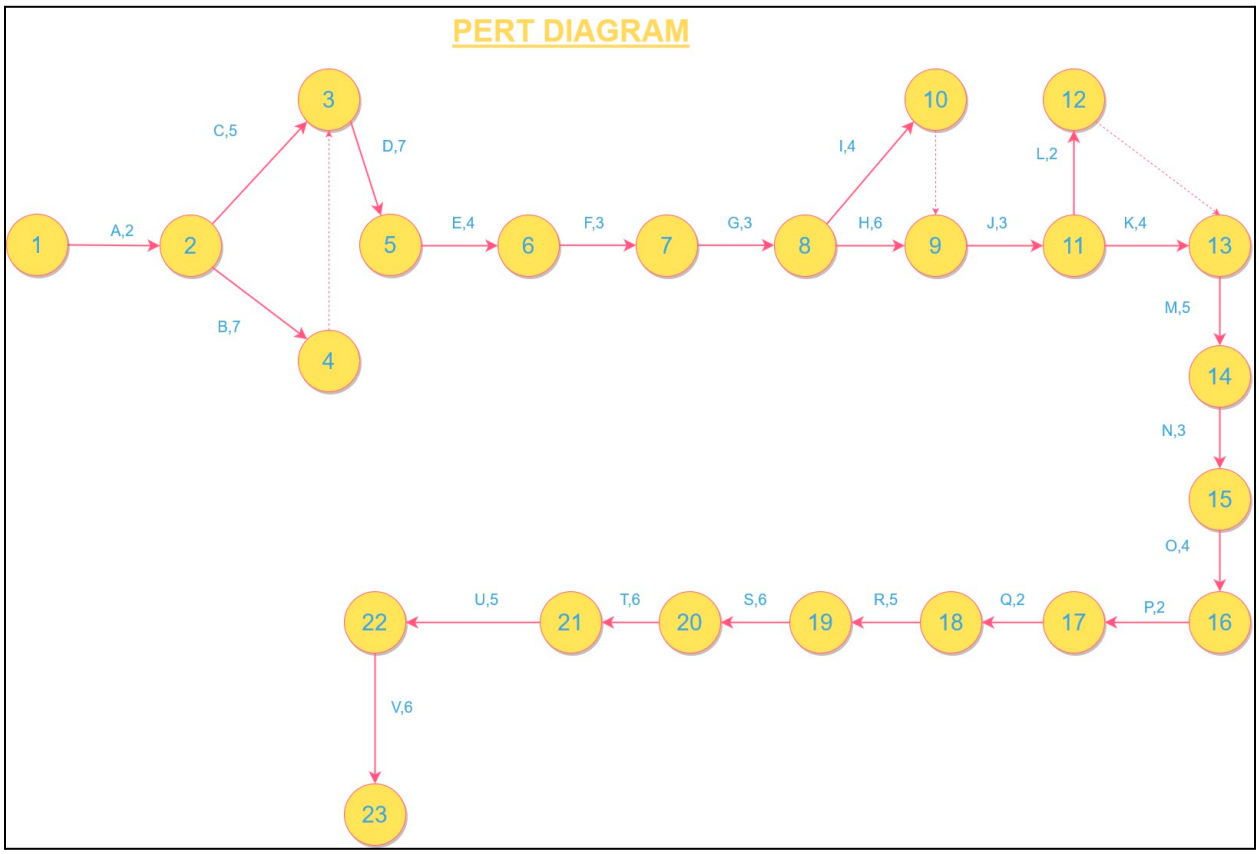
7.1 Human Resources



7.2 Work Breakdown Structure (WBS)



7.3 PERT Chart



All durations are stated in days.

1. **A-C-D-E-F-G-H-J-K-M-N-O-P-Q-R-S-T-U-V**

   Duration: 2+5+7+4+3+3+6+4+5+3+4+3+4+2+5+6+6+5+6=78

2. A-C-D-E-F-G-I-J-K-M-N-O-P-Q-R-S-T-U-V

   Duration: 2+5+7+4+3+3+6+4+4+3+4+3+4+2+5+6+6+5+6=77

3. A-C-D-E-F-G-H-J-L-M-N-O-P-Q-R-S-T-U-V

   Duration: 2+5+7+4+3+3+6+2+5+3+4+3+4+2+5+6+6+5+6=74

4. A-C-D-E-F-G-I-J-L-M-N-O-P-Q-R-S-T-U-V

   Duration: 2+5+7+4+3+3+6+4+3+2+4+3+4+2+5+6+6+5+6=74

5. A-B-D-E-F-G-H-J-K-M-N-O-P-Q-R-S-T-U-V

   Duration: 2+7+4+3+3+6+4+5+3+4+3+4+2+5+6+6+5+6=77

6. A-B-D-E-F-G-H-J-L-M-N-O-P-Q-R-S-T-U-V

   Duration: 2+7+4+3+3+6+2+5+3+4+3+4+2+5+6+6+5+6=74

7. A-B-D-E-F-G-I-J-L-M-N-O-P-Q-R-S-T-U-V

   Duration: 2+7+4+3+3+6+4+3+2+4+3+4+2+5+6+6+5+6=74

8. A-B-D-E-F-G-I-J-K-M-N-O-P-Q-R-S-T-U-V

   Duration: 2+7+4+3+3+6+4+4+3+4+3+4+2+5+6+6+5+6=76

Since the critical path is the longest path through the network diagram, Path 1 are the critical path for this Project.

7.4 Gantt chart

PROJECT PHASE 1

[Shopify(E-commerce system]

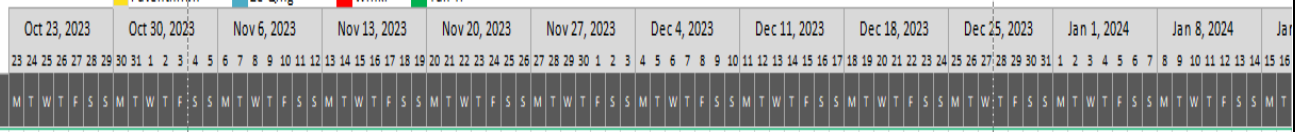
▶ Watch How to Make a Gantt Chart in Excel

Project Start: Sun, 10/22/2023

Today: Sun, 10/22/2023

Display Week: 1

Puventhiran Ze Qing Winki Yun Yi



TASK	ASSIGNED TO	PROGRESS	START	END
Project Planning				
Survey on E-commerce users	Winki	100%	10/22/23	10/24/23
Identify stakeholder	Puventhiran	100%	10/25/23	10/31/23
Define project scope & objectives	Ze Qing	100%	10/29/23	11/2/23
Cost Benefit Analysis	Yun Yi	100%	11/3/23	11/9/23
Analysis				
Gather user requirements	Winki	0%	11/10/23	11/13/23
Gather system requirements	Puventhiran	0%	11/14/23	11/16/23
Validate requirements and design	Ze Qing	0%	11/17/23	11/19/23
Produce SRS document	Yun Yi	0%	11/20/23	11/25/23
Design				
Develop website architecture	Winki	0%	11/24/23	11/27/23
Design UI and wireframes	Puventhiran	0%	11/28/23	11/30/23
Database design	Ze Qing	0%	12/1/23	12/4/23
Content strategy	Yun Yi	0%	12/5/23	12/6/23
Implementation				
Front-end developmment	Winki	0%	12/5/23	12/9/23
Back-end development	Puventhiran	0%	12/10/23	12/12/23
Shopping & Payment integration	Ze Qing	0%	12/13/23	12/16/23
Security measures	Yun Yi	0%	12/17/23	12/18/23
User registration & authentication	Puventhiran	0%	12/19/23	12/20/23
Prototype				
Security testing	Winki	0%	12/21/23	12/25/23
Functionality & Usability testing	Puventhiran	0%	12/26/23	12/31/23
Performance Testing	Ze Qing	0%	1/1/24	1/6/24
User acceptence testing	Yun Yi	0%	1/7/24	1/11/24
Go live with the website	Yun Yi	0%	1/10/24	1/16/24

8.0 Requirement Analysis (based from AS-IS analysis)

The present condition of the e-commerce platform exhibits a basic architectural framework distinguished by a restricted range of product classifications. The optimization of the website's navigation system is insufficient, hence presenting difficulties for users who are in search of certain things. The lack of a strong review system increases the challenges faced by users, since it hinders their ability to obtain full information regarding product quality and customer happiness.

An example initiative aimed at improving the platform is the addition of modern Augmented Reality (AR) and Virtual Reality (VR) technology. The primary objective of this strategic move is to enhance the capabilities of both purchasers and suppliers through the supply of immersive and interactive encounters, thereby nurturing a deeper level of involvement with various products and services. The platform aims to disrupt the conventional online shopping experience and remain at the top of the list of technology breakthroughs by utilizing these state-of-the-art technologies.

Nevertheless, despite these possible developments, the present condition of the platform has been affected by an elevated rate of returns. This matter indicates an inconsistency between the expected preferences of customers and actual offerings or facilities provided. The reduction of returns and the maintenance of customer satisfaction can be achieved by focusing on several contributing elements, such as to product quality, precise product descriptions, and efficient shipping processes.

Moreover, the noticeable decrease in client trust presents a substantial obstacle. The decrease in popularity can be linked to multiple factors, such as a deficiency in transparency, concerns regarding security, or dissatisfaction with the whole purchasing encounter. The process of rebuilding trust requires the implementation of a comprehensive strategy that includes transparent communication, effective security measures, and a concerted effort to enhance the overall user experience.

Functional Requirements:

Real Opinions Regarding Products:

- ➔ Customer evaluations and ratings must be reliable, so you have to develop a system that is both open and simple to use. It raises users' confidence in the platform, helps potential buyers learn more, and strengthens the platform's sense of community. For an even deeper and visual evaluation, users can add photographs or videos to their evaluations. To ensure system integrity, AI can detect and reduce abuses like fraudulent reviews and

biassed input. This smart technique strengthens customer reviews and promotes e-commerce community participation. Create a badge for "verified purchasers" to identify reviews from genuine customers. By doing so only purchasers can review on item, preventing random 5 star feedbacks.

Augmented and Virtual Reality Technology:

- ➔ A way for customers to experience things in their actual surroundings, using a combination of AR and VR. The ability to virtually try things before making a purchase greatly improves the online purchasing experience. Augmented reality allows consumers to digitally "try on" outfits. Using augmented reality, a user's furniture purchases can be virtually placed in their own home. Making sure the augmented reality is available in most of smart phones.

Finding Flawed Products:

- ➔ Implement a system to identify damaged goods in inventory and mark them for attention before they are shipped to customers. Make use of image recognition technology to spot flaws in product photographs before listing. Install Internet of Things (IoT) sensors in the warehouse to find damaged goods. This method guarantees the shipment of high-quality goods, cuts down on returns, and raises contentment levels among buyers. Make use of image recognition technology to spot flaws in product photographs before listing. Install Internet of Things (IoT) sensors in the warehouse to find damaged goods.

Integration with Customer Support:

- ➔ We need to integrate our customer service feedback and faulty product detection systems. Having the ability to respond quickly to consumer issues is important since it allows for more effective support in the event of unfavorable comments or reports of faulty products. When customers leave negative reviews, our team is notified immediately so that any issues can be addressed as soon as possible. When a complaint about a defective product is received, an investigation and replacement are started right away.

Continuous Improvement Mechanism:

- ➔ Implement a process for reviewing reported bugs and other user comments in order to make constant enhancements. This mechanism enables more informed choices by highlighting patterns, improvement areas, and new product opportunities hidden in the

accumulated data. Use data-mining applications to compile reports on patterns in customer reviews. In order to enhance product quality and supplier relationships, it is important to routinely evaluate defect detection data.

Non Functional Requirements:

Performance

- ➔ The pages for products must display in a maximum of three seconds when utilizing standard internet connectivity. Making sure optimal effectiveness is a critical factor in maintaining the interest and engagement of users. Users are more likely to leave a website that requires more than a few seconds to display, according to research. The optimisation of page load speed by the e-commerce platform ensures a smooth and effective browsing experience, which in turn enhances customer satisfaction and has the potential to boost conversion rates.

Scalability

- ➔ The system must maintain optimal performance even when confronted with a 20% growth in simultaneous users during periods of high demand. Scalability is critical in order to effectively manage increases in user traffic, especially when faced with high-demand periods like sales or promotions. The e-commerce website maintains stability and responsiveness by ensuring that the system can effectively manage increased loads. This prevents potential breakdowns or slowdowns that may occur during periods of high demand.

Reliability

- ➔ The website must maintain an uptime of precisely 99.9%. A fundamental requirement for the success of an e-commerce website is dependability. In addition to prevent user access, downtime reduces trustworthiness. Ensuring consistent site accessibility through a dependable platform nurtures consumer confidence and loyalty.

Protection

- ➔ The system enable SSL encryption to ensure the security of data transmission and stick to PCI DSS, which is an industry standard for payment security. The system also ensuring security is of the greatest concern in an electronic commerce setting that handles sensitive data, including financial and personal information. The transmission of data is encrypted with SSL, and adherence to PCI DSS standards guarantees the secure management of payment information. These precautions safeguard both the clients and the e-commerce company's reputation.

Practicality

- ➔ In accordance to WCAG standards, the website must be navigable and accessible to users with disabilities. Usability exceeds simple appearance. Achieving accessibility for all users, including

individuals with disabilities, is in accordance with legal requirements and ethical principles. A website that complies with WCAG standards ensures greater accessibility by delivering an ideal user experience to a wide range of visitors.

Upkeep Capabilities

- ➔ The codebase of the website should conform to coding standards and be thoroughly documented. The maintenance of a codebase is of the utmost importance for continuous development, problem fixes, and updates. By sticking to established coding standards and furnishing thorough documentation, the development team can effectively understand and modify the code, thereby minimizing the likelihood of errors and promoting the e-commerce platform's sustainability over time.

7. Backup and Recovery of Data:

- ➔ Implement automated backups of critical data on a recurring basis and develop a disaster recovery strategy. The effects of data loss can be profound. The risk of losing critical information is reduced by implementing automated backups and a comprehensive disaster recovery strategy. This practice mitigates the impact of unexpected events on business operations, restricts periods of inactivity, and protects against possible financial and reputational damage.

8.1 Current business process (scenarios, workflow)

The following scenarios and workflow demonstrated on how Shopify enterprise the current business process:

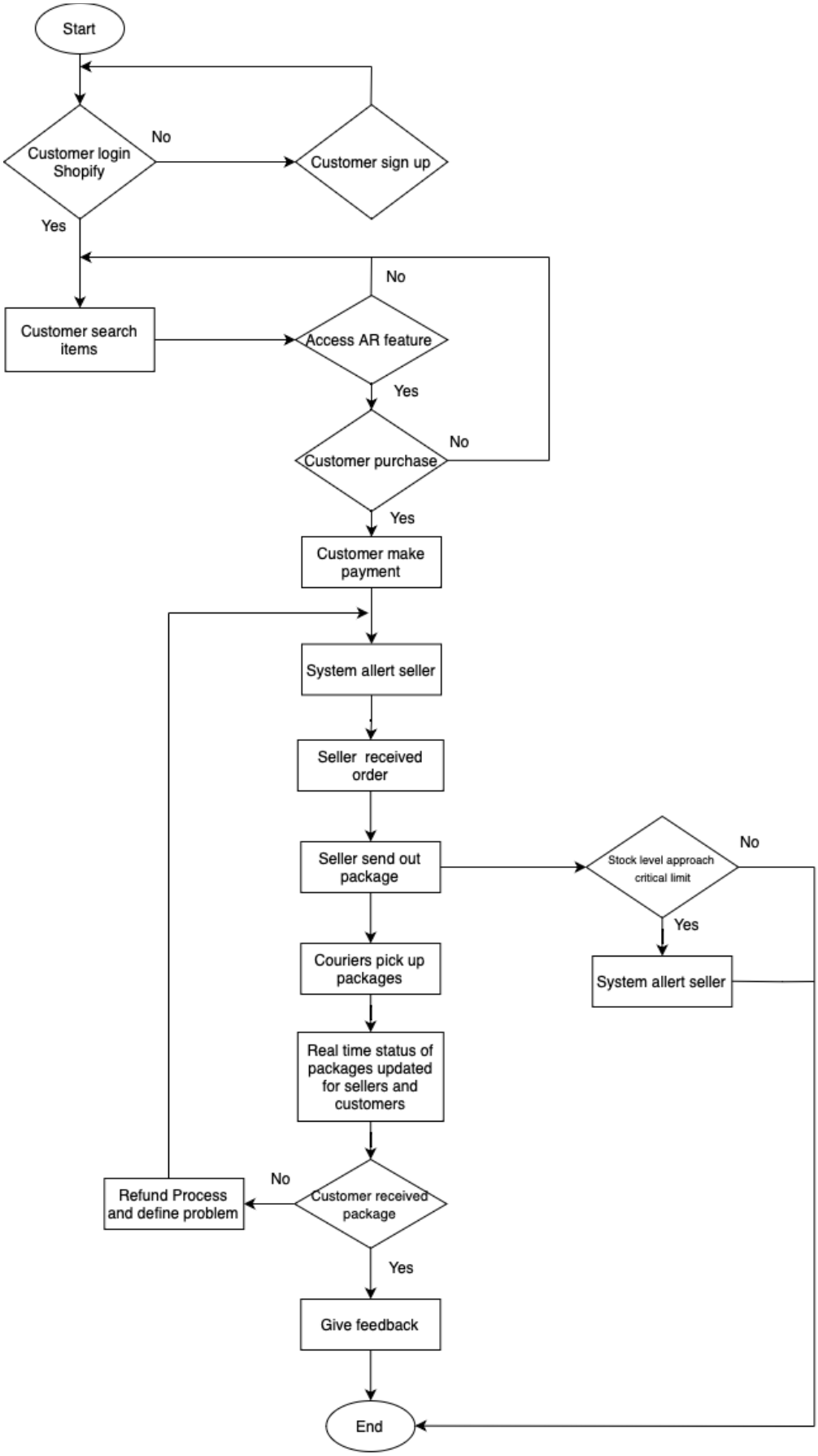
1. Customer login or sign up to Shopify.
2. Customer choose to search items with accessing AR features.
3. Customer confirm purchase and make payment.
4. Seller received the order and prepare the order.
5. Seller sends out package.

   5.1 if the stock level approach critical limit,system inform seller.

6. Courier pick up package.
7. Real time status of packages updated for sellers and customers.
8. Customer received package.

   8.1 if customer did not receive package, the refund process will be initiated.

9. Customer give feedback.


Start
Customer login Shopify
No
Customer sign up
Yes
Customer search items
Access AR feature
No
Yes
Customer purchase
No
Yes
Customer make payment
System allert seller
Seller received order
Seller send out package
Stock level approach critical limit
No
Yes
System allert seller
Couriers pick up packages
Real time status of packages updated for sellers and customers
Customer received package
No
Refund Process and define problem
Yes
Give feedback
End

10.0 Benefit and Summary of Proposed System

Our proposed system is tailored to increase the efficiency of the sales process and simplify inventory management for sellers on the Shopify platform. This proposal is a response to observed challenges faced by our clients, particularly in obtaining crucial sales data and managing inventory. In light of these challenges, we have outlined several benefits to be integrated into Shopify, addressing these issues and achieving our project objectives.

1. **Tailored Data Views:**

   Sellers can log in to Shopify and directly customise data based on their specific interests. This feature ensures a user-friendly and efficient data organisation process.

2. **Automated Sales Data Management:**

   The system automates the collection and organisation of sales data, presenting it in an easily accessible format for stakeholders. This simplifies the process of analysing the sales performance.

3. **Efficient Product Management:**

   Shopify Enhancement Solution empowers sellers to efficiently organise and systemize their product lists within the Shopify platform. Through a straightforward login process, sellers can easily check current stock status, ensuring real-time visibility into inventory levels.

4. **Order Data Notifications:**

   In cases of insufficient order data, Shopify sellers receive timely notification emails, reminding them to restock and update product information. This feature ensures continuous availability of products for customers within the Shopify platform.

5. **Defective Product Detection:**

   The system includes functionality to detect defective products, enabling Shopify sellers to identify and address issues before packaging. This guarantees that buyers receive high-quality products, enhancing overall customer satisfaction within the Shopify platform.

6. **Honest feedback on items**

   E-commerce rewarded review systems use AI to evaluate customer reviews before rewarding them. Language sentiment, relevancy, and user behaviour can help AI

algorithms verify reviews. This rewards helpful and informative reviews, creating a more credible feedback ecosystem. To ensure system integrity, AI can detect and reduce abuses like fraudulent reviews and biassed input. This smart technique strengthens customer reviews and promotes e-commerce community participation.

This system is designed to enhance the shopping experience for Shopify users, particularly sellers, by addressing critical pain points in the sales process and inventory management. The system not only simplifies the operational aspects of the selling process but also provides practical solutions to challenges faced by Shopify sellers. Utilising this system will be an enjoyable and seamless experience for the user, a streamlined approach to sales and inventory management are maintained and resolve the issues raised by the stakeholders, fulfilling their satisfaction to Shopify overall performance.

9.0 Transaction requirements

Entity	Data	Data Entity	Data Update	Data Deletion	Data Queries
Customer	1. Customer ID 2. Name 3. Email 4. Password 5. Phone number 6. Security question	Customer Sign Up	Update Customer Information	Delete Customer	Query Customer Data (e.g., by manager)
Staff / Admin	1. Staff/Admin ID 2. Name 3. Email 4. Password 5. Role/ Permission 6. Contact Information	Staff/Admin Registration	Update Staff/Admin details	Remove Staff/Admin account	1. Search Staff/ Admin by role, name, etc. 2. Retrieve Staff/ Admin details
Product	1. Product ID 2. Name 3. Description 4. Price 5. Category 6. Stock Quantity	Add product to catalogue	Update product information	Remove product from catalogue	1. Search Product by category, name etc. 2. Retrieve Product
Order	1. Order ID 2. Customer ID 3. Order date 4. Order status 5. Total amount 6. Shipping address 7. Billing address	1. Create new order 2. Add items to the cart 3. Proceed to checkout 4. Confirm and place order	1. Modify order 2. Update Shipping /Billing informa-tion 3. Track order status		

Inventory	1. Product ID 2. Stock quantity 3. Supplier information 4. Purchase order information 5. Warehouse location	1. Receive new stock 2. Adjust stock level 3. Track stock expiry dates	Update stock level	Remove the product from inventory	Check product availability
Payment	1. Payment ID 2. Order ID 3. Payment method 4. Payment amount	Payment process	Update payment details	Refund payment	Query payment record
Coupon/ Discount	1. Coupon / Discount ID 2. Code 3. Discount percentage 4. Expiry date	Create coupons/ discount	Update coupons/ discount	Delete coupons/ discount	Query active coupons/ discount
Shipping	1. Shipping ID 2. Order ID 3. Shipping carrier 4. Shipping address	Generate shipping labels	Updates shipping information	Cancel shipments	Query shipment status
Review	1. Review ID 2. Product ID 3. Customer ID 4. Rating 5. Review text	1. Submit product review 2. Read review	Update reviews	Delete review	View product review

11.0 Summary

The proposed system, Shopify is an e-commerce platform that aims to enhance the online shopping experience by implementing revolutionary technologies such as Augmented Reality (AR) and Virtual Reality (VR). Shopify not only follows the path of its predecessor but also introduces unique perspectives and proactive solutions which are tailored to the target audience.

The system provides some useful key features for sellers, allowing them to easily update the inventory and receive automated alerts when there is low stock. Sales data is efficiently managed and organised in a systematic database, providing sellers with crystal clear inspection. Shopify also focuses on detecting defective products before shipment, ensuring high-quality products for buyers.

In the perspective of customers, Shopify stands out with its use of AR technology, enabling virtual try-ons of clothing, and accessories, and visualising merchandise in their living space. The focus on privacy and data security ensures the overall shopping experience is safe, and a rewarded review system encourages genuine and informative feedback.

Furthermore, to address challenges in traditional e-commerce, Shopify implements AR and VR technologies, bypassing the limitations in two-dimensional product representation. It aims to reduce confusion and disappointment among customers, lower return rates, bridge technology gaps, and increase customer trust.

Eventually, Shopify is designed to benefit both sellers and customers, providing a unique and immersive online shopping experience. The system's objectives include seamless user experience, accurate sizing recommendations, high-quality AR rendering, cross-platform compatibility, integration with e-commerce, and emphasising privacy and data security. The project scope is to go beyond conventional e-commerce, aiming to blur the lines between digital and physical shopping.

12.0 References

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