



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

UNIVERSITI TEKNOLOGI MALAYSIA
SEMESTER 1, SESSION 2023/2024

PROPOSAL PROJECT

SECD2523 : DATABASE
SECTION 10

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1.0 INTRODUCTION

In this world of concern in beauty and skincare the demand for convenient and efficient ways to access cosmetics products has led to the era of online cosmetic ordering systems. Customers are increasingly turning to digital platforms for their shopping needs where the cosmetics industry has recognized and established a robust online presence. Imbeauty has a solution that has customers preference and provides an avenue for companies to expand their market to reach the customer and know them as customers. Imbeauty is a digital platform that is designed to facilitate the seamless purchase of cosmetics products online. This could ease the customers to purchase the product that they need. Furthermore, Imbeauty encompasses a user-friendly interface that allows customers to explore a diverse range of beauty and skincare items, place orders and have them delivered to their doorstep. This creativity in a system represents a convergence of technology and beauty. Revolutionising the traditional method of shopping experience.

2.0 BACKGROUND STUDY

The online cosmetic ordering system has revealed that increasing consumer preference for the convenience of purchasing cosmetics products online. The rising reliance on digital channels for shopping, coupled with the equality of smartphones and internet access, has fueled the demand for efficient and user-friendly online cosmetics systems. The younger generation seeks for a personalised shopping experience. The cosmetics industry may now take advantage of digital platforms to boost market penetration, following in the footsteps of other successful e-commerce giants in different industries. This background study emphasises how technology is changing the cosmetic retail industry and how important it is to have a well-designed online cosmetic ordering system in order to fulfil changing consumer demands in the digital age.

3.0 PROBLEM STATEMENT

In this era of the beauty and cosmetics industry, the traditional retail model faces challenges that demand innovative solutions. The advent of online cosmetic ordering systems has brought convenience to customers but several persistent issues need to be addressed to optimise the user experience and ensure the sustained success of these platforms.

1. Limited Product Information

- It might be difficult for customers to make wise selections when using online cosmetic ordering systems because many of them lack thorough product information. Inadequate information on ingredients, usage guidelines, and possible allergies makes it more difficult for consumers to select products that suit their tastes and skin types.

2. Security Concerns

- Security continues to be the top priority as online transactions become more common. Customers frequently hesitate to divulge sensitive information, like credit card numbers and personal information. Strong security features are necessary for online cosmetic ordering systems to provide users confidence and safeguard their privacy.

3. Return and Refund Complications

- One major obstacle is the lack of an efficient and user-friendly return and refund procedure. Consumers frequently run into issues when trying to return items or get refunds, which irritates them and makes them lose faith in the online shopping platform.

4. Inadequate Customer Support

- Customer dissatisfaction is partly caused by inadequate customer care options, such as live chat, helplines, and responsive email services. Good channels of communication are essential for answering questions, resolving problems, and creating a satisfying experience for customers.

4.0 PROPOSED SOLUTIONS

This project will explore our reasons for making an e-commerce system about online makeup stores. Our online makeup store's name is Imbeauty, it matches our product that will make everyone who applied our makeup products turn into a beauty. The Megadata Cloud finds out there are few problems on the other online makeup stores such as limited product information, no security concerns, inadequate customer support and less return and refund policies or services. Based on the problem statement, we provide the solutions. The proposed solutions for our problem statement are unlimited product information, more security concerns, customer service and return and refund policies.

First, we start with unlimited product information. In our system, to prevent our systems from lacking the information of our products we put many pictures to present our product. For lipsticks we put many pictures depending on every colour that we have. Next, we also put out try-on videos. Try-on video is a content like we try our products on our model, recorded it and uploaded on our website. By doing so, our customers will know if the products suit them or not since they cannot try it on themselves first before buying because it's an e-commerce system. Then, we also put a star icon among customer reviews. Star icon presents the rate that previous customers gave who already bought our products and would like to give reviews on our website after buying it. The star icons can be other customers' references.

Second, our Imbeauty website customers can buy our products online for sure. Our system provides the best secure payment service. The service prevents customer information about their bank and account number from being leaked. Next, the most important thing is to provide data backup. Our data backup works like when the customer bought our products their information remains there. Means when they want to make another purchase they do not need to put their information again. They can go to the next step easily which is making the payment. Our customers data and their purchases data recorded on our databases.

Third, customer support or service. Since our system is about e-commerce. We need two-way communications with customers. We offer live chat service. Customers can ask questions there related to our makeup products. The questions will be answered by generated AI but if the question is not something familiar or we do not set it to our AI customers need to wait to be answered by our staff. Next, we provide our social media on our website. There, customers can watch more information about our products and they will not miss the latest update about our products if they follow or do regular checking on our social media.

Last but not least, our Imbeauty system implements return and refund policies. As a human being, Megadata Cloud group also does online shopping on our own. We know the feeling when e-commerce has a return and refund policies. Such as, when customers buy our product and its broken or wrong order when they received it, customers can apply for the return and refund. We want our customers to receive the product that they ordered from us perfectly. We implement the service so that our customers will come back to buy more of our products from our system. Customers need to fulfil the policies to receive our return or refund service. We proposed the solutions so that we can ease Imbeauty customers' problems when they buy products online specifically on our system.

5.0 OBJECTIVES

In this project, we provide four objectives for Imbeauty. The objectives consist of :

1. Develop databases to keep customers and store records.

- We can keep customers record and trace their purchase if they need any suggestions related to what product they have always used. It can also help customers if they want to refund or complain about their purchase by cross checking their receipts and our records in the database.

2. Improve customers utilisation

- To make our makeup brands as the first choices of customers, we need to provide customers with some convenience. Such as building our online makeup store. It gives customers the facility to explore all of our makeup products and it also provides some recommendations because we want customers to make the best decision before buying our makeup products.

3. Manage production and sales

- By establishing our system, we can monitor data in the production and sales section. All of it can be accessed using our system. We can estimate how many products we need to produce in a month thus we will reduce the waste of our makeup products.

4. Advertise new product

- In our system we will advertise our new product when we add one. Our product increment is affected because we want to keep updated. We will produce makeup that has been a trend among customers because we do not want our makeup brand to be far behind than other makeup brands.

6.0 SCOPE

The system Imbeauty will give us and customers an advantage. Starts with system scope, customers can order and buy using our system. All the customers' records and purchase records will be stored in the Imbeauty database. Our database will hold the records and have requirements that can be done by admin such as delete, update and alter data in our databases.

Next, for user scope it gives customers convenience to buy our makeup products using our system. Customers can use our system to survey our products before buying them by watching reviews that were provided by us and some customers that already bought our products. Then, our system management will receive direct orders from customers after they make a purchase on our system. In user scope, it consists of benefits for customers and our management.

7.0 PROJECT PLANNING

7.1 HUMAN RESOURCE

1. Project Manager

- The project manager collaborates with stakeholders to precisely outline the goals and parameters of the undertaking.
- Evaluating the project's viability in light of available resources, possible dangers, and compatibility with company objectives.
- Putting together a thorough project plan that includes the tasks, deadlines, completion dates, and resource needs.

2. Software Developers

- Write well-documented, maintainable, and effective code and utilise the project-specific programming languages and frameworks.
- Give feedback on the development process and make recommendations for enhancements based on your experiences working on the project.
- When it comes to the technical components of project planning, software developers are essential since they provide their skills to make sure the project is doable, organised, and performed effectively. Successful project outcomes depend on their cooperation with quality assurance teams, project managers, and other stakeholders.

3. Database Administrators

- Work together to create database architecture that are scalable and effective with developers and other stakeholders.
- Database management systems (DBMS) like MySQL, Oracle, Microsoft SQL Server, and others to be installed and configured.
- To depict the relationships and structure of the database, create and maintain data models.

4. Quality Assurance (QA) Testers

- Have a crucial part in the software development life cycle by making sure that programmes are developed according to the guidelines and work as intended. Their main goal is to find and fix problems so they can provide a high-quality product.
- Conduct exploratory testing to identify unexpected issues or behaviours in the software.
- Play a vital part in guaranteeing the calibre of software products prior to their distribution to end customers. Their efforts enhance the overall success of the development process, minimise post-release difficulties, and improve the user experience.

5. System Analysts

- Establishing a connection between technological solutions and business needs. An information system analyst's main responsibility is to analyse, design, and execute information systems that solve particular business opportunities or issues.
- Create workflows, interfaces, and data structures that complement technical capabilities and business requirements.
- Play a vital part in making sure that IT solutions support organisational success and are in line with business goals. Their proficiency in analysis, effective communication, and comprehension of technical and business elements enable them to be an invaluable part of the software development lifecycle.

6. Security Experts

- Determine and evaluate any security risks or weaknesses in the systems and procedures of the company.
- Create, put into practise, and uphold security guidelines, standards, and practises to guarantee a reliable and secure computing environment.
- Create and put into place a strong security architecture that complies with industry best practices and the needs of the organisation.

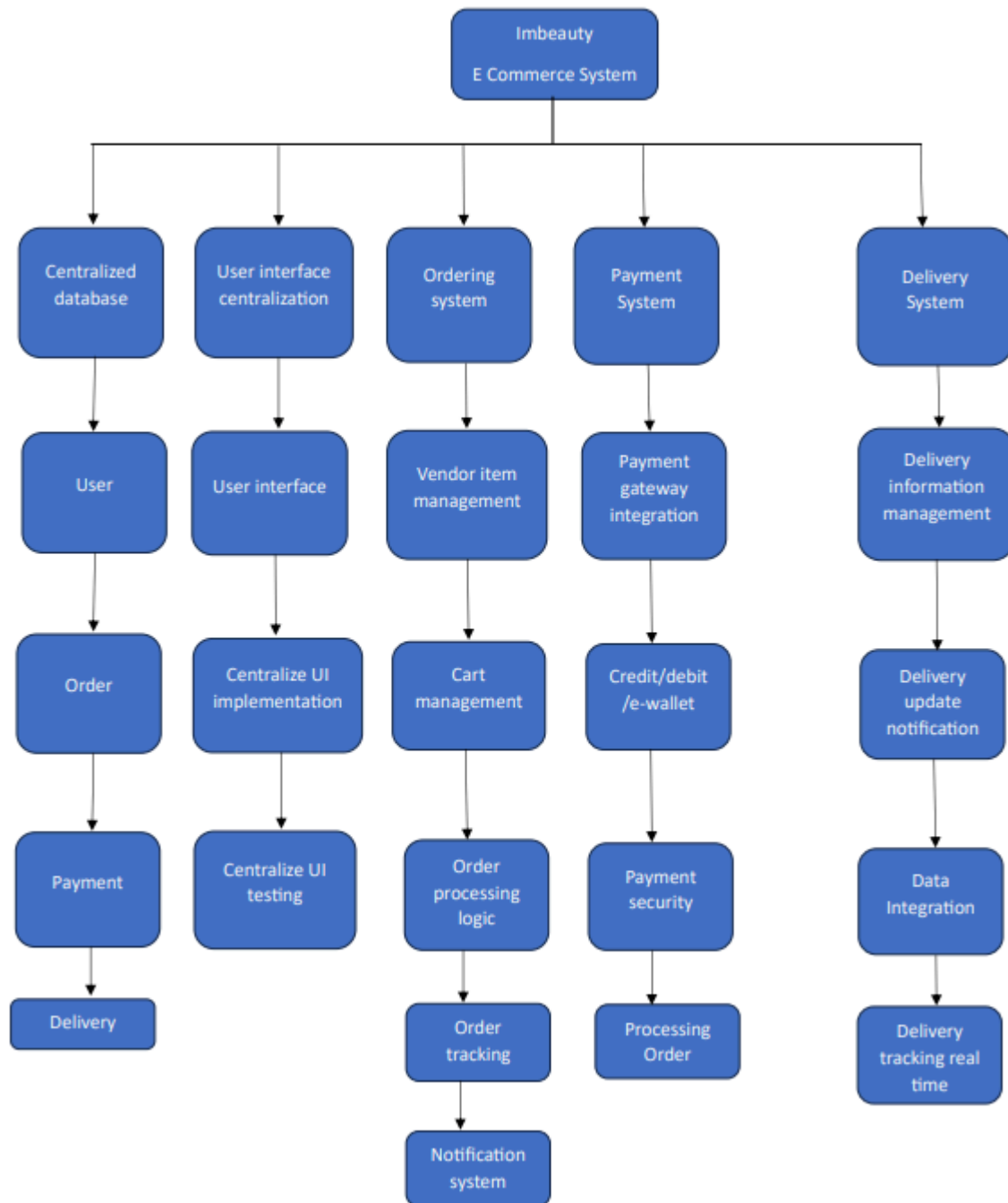
7. User Support and Training

- To help users adjust to new features or interfaces in software, hold training sessions.
- Effectively communicate with end users to learn about problems and offer answers or instructions that are easy to understand.
- Vital to guaranteeing a satisfying user experience, reducing downtime, and increasing employee productivity in a company. Across the organisation, efficient and seamless use of technological resources is facilitated by effective training and support.

8. Finance and Budgeting

- Expenses for hiring, training, and other HR-related charges should be taken into account when allocating resources.
- Give project stakeholders access to financial reports so they can see how the project's finances are doing, how the budget is being spent, and what expenses are incurred.
- Assist other teams, developers, and project managers in aligning project goals with budgetary planning.
- Allocate funds for the project's several phases, including development, testing, training, and ongoing maintenance.

7.2 WORK BREAKDOWN STRUCTURE (WBS)

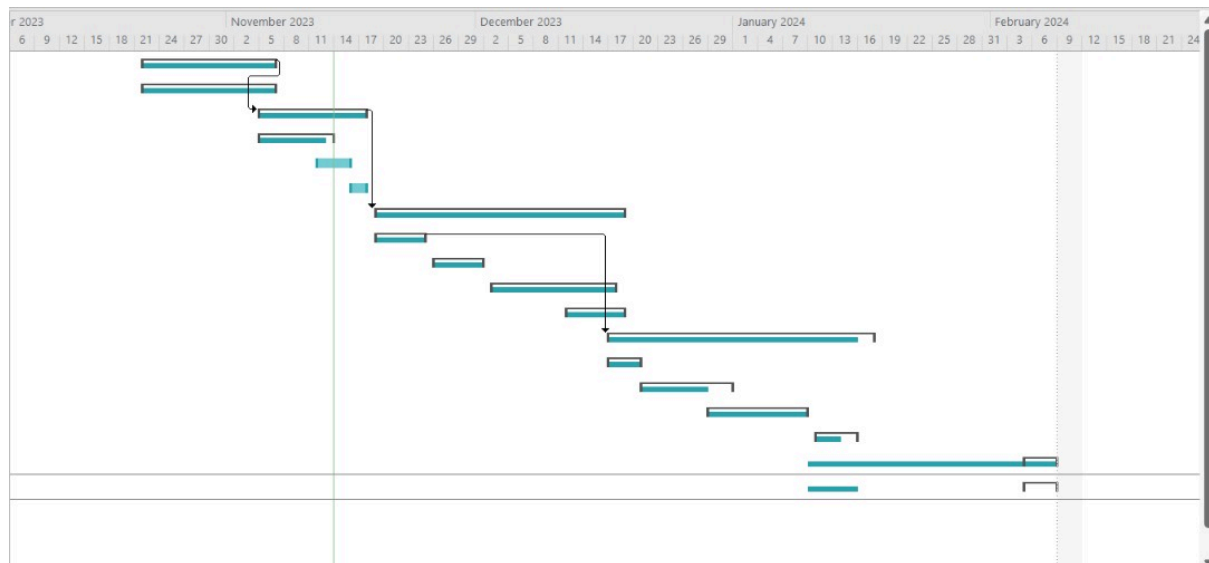


7.3 GANTT CHART

ID	Task Name	Duration	Start	Finish	Predecessors
1	PLANNING	12 days	Sun 22/10/23	Mon 6/11/23	
2	Database Project Planning	12 days	Sun 22/10/23	Mon 6/11/23	
6	PHASE 1	11 days	Sun 5/11/23	Fri 17/11/23	1
7	Create Draft Project Proposal	7 days	Sun 5/11/23	Mon 13/11/23	
13	Finding Database Requirement	4 days	Sun 12/11/23	Wed 15/11/23	
14	Project Proposal Report	2 days	Thu 16/11/23	Fri 17/11/23	
15	PHASE 2	22 days	Sun 19/11/23	Mon 18/12/23	6
16	Create Initial Conceptual Design Report	6 days	Sun 19/11/23	Fri 24/11/23	
20	Finding Data & Transaction Requirement	6 days	Sun 26/11/23	Fri 1/12/23	19
23	Create Conceptual Design	11 days	Sun 3/12/23	Sun 17/12/23	
26	Conceptual Design Report Refinement	5 days	Tue 12/12/23	Mon 18/12/23	
29	PHASE 3	24 days	Sun 17/12/23	Wed 17/1/24	16
30	Create Initial Logical Design & SQL Report	4 days	Sun 17/12/23	Wed 20/12/23	
33	Create Logical Design	7 days	Thu 21/12/23	Sun 31/12/23	
37	SQL Programming	9 days	Fri 29/12/23	Tue 9/1/24	
40	Logical Design & SQL Report Refinement	3 days	Thu 11/1/24	Mon 15/1/24	
44	PRESENTATION	4 days	Mon 5/2/24	Thu 8/2/24	31,34,38
45	Final Project Presentation	4 days	Mon 5/2/24	Thu 8/2/24	

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16	Create Initial Conceptual Design Report	6 days	Sun 19/11/23	Fri 24/11/23	
17	Introduction	2 days	Sun 19/11/23	Mon 20/11/23	
18	DFD	2 days	Tue 21/11/23	Wed 22/11/23	
19	Data Dictionary	2 days	Thu 23/11/23	Fri 24/11/23	
20	Finding Data & Transaction Requirement	6 days	Sun 26/11/23	Fri 1/12/23	19
21	Proposed Business Rule	3 days	Sun 26/11/23	Tue 28/11/23	
22	Proposed Data & Transactional	3 days	Wed 29/11/23	Fri 1/12/23	
23	Create Conceptual Design	11 days	Sun 3/12/23	Sun 17/12/23	
24	Conceptual ERD	6 days	Sun 3/12/23	Fri 8/12/23	
25	Enhanced ERD (EERD)	11 days	Sun 3/12/23	Sun 17/12/23	
26	Conceptual Design Report Refinement	5 days	Tue 12/12/23	Mon 18/12/23	
27	Summary	2 days	Tue 12/12/23	Wed 13/12/23	
28	Documentation Refinement	3 days	Thu 14/12/23	Mon 18/12/23	

ID	Task Name	Duration	Start	Finish	Predecessors
1	▸ PLANNING	12 days	Sun 22/10/23	Mon 6/11/23	
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8.0 REQUIREMENT ANALYSIS

The requirement analysis for the ImBeauty system identifies the weaknesses of the current platform and emphasises the features and improvements needed for an extensive and user-friendly one, all based on the current (AS-IS) study. It might also make the system's functional and non-functional requirements clearer. Here are the requirement of the system:

Functional Requirements

- **User Authentication and Authorization**
 - Allow users to sign up for personal accounts in order to gain access to custom features and settings on the website securely.
- **Products Management**
 - Allow administrators to add , edit and remove ImBeauty products and organise.
- **Shopping Cart and Checkout**
 - It should be possible for users to add items to a shopping cart and check out securely with a variety of payment methods. Order confirmation needs to be accurate and have tracking capabilities.
- **Product Details**
 - Enable administrators to make changes to the thorough product pages that include descriptions, prices, photos, and customer reviews.

Nonfunctional Requirements

- **Performance**
 - **Response Time :** Pages on the website should load in fewer than three seconds, for example, if the time limit is set.
 - **Scalability:** During peak periods, the system should be able handle increased user loads without experiencing significant performance reduction.
- **Reliability**
 - **Availability:** There should be little downtime and constant access to the website 24/7.
 - **Fault Tolerance:** In the event of a hardware or software malfunction, the system should be able to function.
- **Security**
 - **Data Encryption:** During transmission, all sensitive data, including user and payment information, should be encrypted.
 - **Secure Transactions:** Make sure that financial transactions are handled securely by following industry guidelines.
- **Maintainability**
 - **Modularity:** To facilitate simpler upgrades and maintenance, the system needs to be customizable.
 - **Documentation:** To make future maintenance easier, provide thorough documentation for all code, setups, and procedures.

8.1 CURRENT BUSINESS PROCESS

Scenarios

Imbeauty has a unique flow that can easily be followed by customers. We provide the easiest flow because we need to maintain the user-friendly e-commerce system for customers. Our flow system completes the transition from the moment customers use our system until they receive their orders.

First, user registration. Customers need to register an account in our system. We only need a few details for registration. The customer's details will be recorded and stored in our databases. Imbeauty will store customers records because customers will not need to register every time they want to use our system.

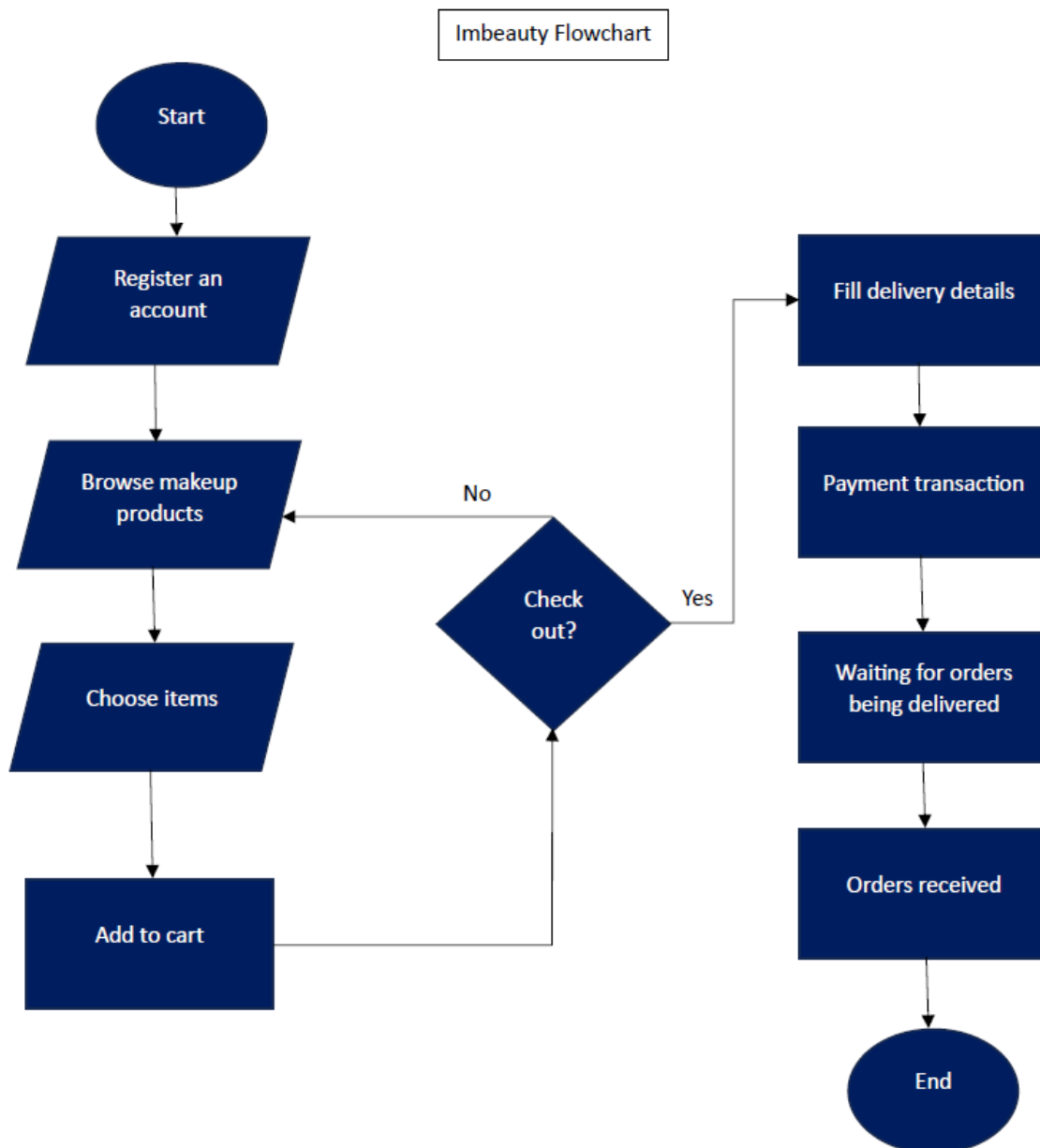
Second, browsing products. In the Imbeauty system, we have many products that consist of eyeliner, lipstick, blusher, highlighter and many more various makeup products. Customers need to browse the products of their choices.

Third, add to cart. If customers found their choices of heart among our products, they need to click add to cart. Add to cart functions is to store customer choices so customers can proceed to the next step which is check out.

Fourth, check out products. After customers add their orders in the cart, if they want to proceed with the purchase they need to click the Check Out button. The button will lead the customer to the next process. If customers do not want to proceed with the purchase they can go back to browsing products. The items in the cart will stay there because we want to provide convenience for customers so they do not need to browse one more time to looking for the same items.

Fifth, customers need to fill in details. The details require customers to give out their name, address and phone number. Next, customers can proceed to the payment gateway. Since we implement security concerns in payment gateway they do not need to worry about their information being leaked. Last, after customers complete their payment they only need to wait for their orders to be delivered.

Workflow



9.0 TRANSACTION REQUIREMENT

The ImBeauty system includes exchange for the need for data entry, data update/delete, and data inquiries. These transactions are necessary to maintain the accuracy and timeliness of the database, which serves as the foundation for the system's operation. The following is a list of transaction requirements that correspond with these procedures.

Data Entry

- **Product listing**
 - **Requirement** : Allow administrators to add new product arrivals to the system including the price , description and number of stock availability.

- **Product Information**
 - **Requirement** : Provide a mechanism for administrators to add and update the price and discount or offer to each product's page also the upcoming colour of shade of the product.

- **Product Configuration**
 - **Requirement** : Allow administrators to set the tutorial for each product for beginners makeover.

Update/Delete

- **Update Product Details**
 - **Requirement** : Enable administrators to update products stock availability , discount or offer price , colour of shade product.
- **Delete Product Information**
 - **Requirement** : Allow administrators to delete or remove unavailable stock and product's price.
- **Modify Product Details**
 - **Requirement** : Provide the capability to modify details of stock , price and colour of shade .
- **Update user profile**
 - **Requirement** : Enable users to update their profile information including personal details and change the new password for security.

Data queries

- **Product Search**
 - **Requirement** : Allow users to search the products they want such as the name of the product.

- **Product Listing**
 - **Requirement:** Listing all the products to make it easier for users to find.

- **Stock Availability**
 - **Requirement** : Provide users with exact stock availability for a specific product.

- **Online Purchase**
 - **Requirement** : Giving option for users to choose either purchasing online or pick up at store.

- **Tutorial Product**
 - **Requirement** : Provide the “ how to apply “ on page for users to acknowledge on how to use the product.

- **Review and Feedback Product**
 - **Requirement** : Aggregate user reviews and feedback to display for each product to improve.

The ImBeauty system can effectively manage data entry, update, or delete queries thanks to these transaction constraints, which also facilitate administrative activities and user interactions. Further, the system's general functioning, security, and data integrity are enhanced by these interactions.

10.0 BENEFIT AND SUMMARY OF PROPOSED SYSTEM

Benefit for our proposed system is efficiency because a well thought out Imbeauty system can simplify procedures, and cut down on the time and effort needed to help clients achieve their needs. It saves money on transportation costs and improves convenience. The Imbeauty platform improved systemic communication and it offers clients a centralised platform for information such as notification of stock availability, product issues, and damage. This will make it easier for customers to make online purchases. We will eventually thus ensure client satisfaction through their order. Direct client interaction with the system can result in better services, quicker response times, and higher levels of overall customer satisfaction. Hence , it is the official ImBeauty system that can enhance capabilities to improve the user acknowledgement , adding features like simple navigation, special deals, and loyalty programs. Users would therefore greatly benefit from the Imbeauty applications for their survey and appreciation of the product.

11.0 SUMMARY

Our goal for the Imbeauty project description is to significantly increase productivity by having enough inventory on hand and saving people especially employees and students with time and effort. Its easy-to-use layout and seamless ordering procedure enhance the user experience overall, making the product more accessible and enjoyable to use. The ability for customers to select makeup products that best suits their skin tone is a crucial component. Real-time information on order preparation and order receiving confirmation facilitates increased communication and transparency. With the installation of a centralised management system, managers and owners of makeup tools are better prepared to oversee and regulate orders, inventory, and other areas of service. Furthermore, the technology generates meaningful data regarding user preferences and popularity. Furthermore, the system generates informative data regarding user preferences and popular products presented, which facilitates improved decision-making without the need for a consultant. In summary, our Imbeauty system positions itself as a flexible, user-centered solution that can be developed further and adjusted to meet evolving needs in addition to current problems.