



Faculty of Computer Science and Information Technology

***DY HAIR SALON ONLINE MANAGEMENT
SYSTEM (DYSS)***

Lok Mei Shin

**Bachelor of Computer Science with Honors
(Computational Science)**

2022

**DY HAIR SALON ONLINE MANAGEMENT
SYSTEM (DYSS)**

LOK MEI SHIN

This project is submitted in partial fulfillment of the
requirements for the degree of Bachelor of Computer
Science with Honours

Faculty of Computer Science and Information Technology
UNIVERSITI MALAYSIA SARAWAK

2022

DECLARATION

I hereby declare that this research together with all of its content is none other than that of my own work, with consideration of the exception of research-based information and relative materials that were adapted and extracted from other resources, which have evidently been quoted or stated respectively.

Signed,



.....

(LOK MEI SHIN)

Faculty of Computer Science and
Information Technology
Universiti Malaysia Sarawak

24 JANUARY 2023

UNIVERSITI MALAYSIA SARAWAK

THESIS STATUS ENDORSEMENT FORM

TITLE DY HAIR SALON ONLINE MANAGEMENT SYSTEM (DYSS)

ACADEMIC SESSION: 2022/2023

LOK MEI SHIN
(CAPITAL LETTERS)


hereby agree that this Thesis* shall be kept at the Centre for Academic Information Services, Universiti Malaysia Sarawak, subject to the following terms and conditions:

- 1. The Thesis is solely owned by Universiti Malaysia Sarawak
- 2. The Centre for Academic Information Services is given full rights to produce copies for educational purposes only
- 3. The Centre for Academic Information Services is given full rights to do digitization in order to develop local content database
- 4. The Centre for Academic Information Services is given full rights to produce copies of this Thesis as part of its exchange item program between Higher Learning Institutions [or for the purpose of interlibrary loan between HLI]
- 5. ** Please tick (√)

- CONFIDENTIAL (Contains classified information bounded by the OFFICIAL SECRETS ACT 1972)
- RESTRICTED (Contains restricted information as dictated by the body or organization where the research was conducted)
- UNRESTRICTED



(AUTHOR'S SIGNATURE)

Validated by


(SUPERVISOR'S SIGNATURE)

Permanent Address
360 PERSIARAN GUNUNG RAPAT 1,
31350 IPOH
PERAK

Date: 18 July 2023 Date: 21 July 2023

Note * Thesis refers to PhD, Master, and Bachelor Degree
** For Confidential or Restricted materials, please attach relevant documents from relevant organizations / authorities

ACKNOWLEDGEMENT

I would like to express my gratitude to my Final Year Project (FYP) supervisor, Madam Noor Hazlini bt Borhan for her guidance, assistance, and encouragement throughout this final year project. With her guidance, I can finish my thesis and system by the time given. Also, I would like to thank the FYP coordinator, Professor Dr. Wang Yin Chai who provided a series of lectures to give guidelines on this project's completion. Furthermore, a special thanks goes to the owner of DY Hair Salon and targeted customers who spend their time with me to conduct the interview and survey using a questionnaire to accomplish the project. Lastly, I would like to thank all my friends who helped me a lot by sharing their knowledge and I came to know about new things to solve the problems met.

TABLE OF CONTENT

ACKNOWLEDGEMENT	i
LIST OF FIGURES	vii
LIST OF TABLES	x
ABSTRACT	xi
ABSTRAK.....	xii
CHAPTER 1: INTRODUCTION	1
1.1 Project Overview	1
1.2 Problem Statement	2
1.3 Aim and Objective	3
1.4 Brief Methodology	3
1.5 Scope	5
1.6 Significance of Project.....	6
1.7 Project Schedule	6
1.8 Expected Outcome.....	6
1.9 Outline Project.....	7
CHAPTER 2: LITERATURE REVIEW	9
2.1 Beauty Hair Salon.....	9
2.2 Current Manual System.....	10
2.3 Weaknesses of the Current Manual System	11
2.4 Reviewed of the Existing System.....	11
2.4.1 Advantage Salon and Spa System	12
2.4.2 ELite Salon and Spa Management System	14
2.4.3 JeffLee The Hair Company	16
2.4.4 MySalon Hair Studio.....	18
2.5 Comparison with the Existing Systems	20
2.6 Summary	23
CHAPTER 3: REQUIREMENT ANALYSIS AND DESIGN	24
3.1 Waterfall model.....	24
3.2 Requirement Gathering and Analysis.....	26
3.2.1 Interview.....	26

3.2.2 Questionnaire	27
3.3 Functional Requirements	32
3.4 Non-Functional Requirements	34
3.5 Software Requirements.....	35
3.6 Hardware Requirements	36
3.7 Design	36
3.7.1 Flow Chart	37
3.7.2 Use Case Diagram.....	37
3.7.3 Context Diagram	38
3.7.4 Level-0 Data Flow Diagram (DFD).....	39
3.7.5 Level-1 Data Flow Diagram.....	41
3.7.6 Entity Relationship Diagram (ERD).....	44
3.7.8 Data Dictionary.....	45
3.7.9 Wireframe	50
3.8 Summary	59
CHAPTER 4: IMPLEMENTATION.....	60
4.1 System Configuration	60
4.1.1 Installation WAMP for local servers	60
4.1.2 PhpMyAdmin.....	62
4.1.3 Database Connection.....	63
4.2 Both Customer and Administrator Module.....	64
4.2.1 Login and Logout	65
4.2.2 Forget Password	66
4.2.3 Edit Profile	67
4.2.4 Change Password.....	68
4.3 Customer Module.....	69
4.3.1 Sign Up	69
4.3.2 Book Appointment.....	70
4.3.3 Purchase Product.....	73
4.3.4 View Invoice History	76
4.4 Administrator Module	77
4.4.1 Dashboard	78
4.4.2 Add Service	79

4.4.2 View and Delete Service	80
4.4.3 Edit and Update Service.....	81
4.4.4 Add Inventory	82
4.4.5 View and Delete Inventory.....	83
4.4.6 Edit and Update Inventory	84
4.4.7 Add Customer	85
4.4.8 View Customer List.....	86
4.4.8 Search Customer	86
4.4.9 Add Employee.....	87
4.4.10 View and Delete Employee.....	88
4.4.11 Edit and Update Employee	88
4.4.12 View Purchase Order	89
4.4.13 Search Purchase Order.....	90
4.4.14 Calendar Appointment	90
4.4.15 View Appointment.....	91
4.4.16 Search Appointment.....	92
4.4.16 View Report	92
4.4.16 View Invoice	93
4.4.17 Search Invoice	94
4.5 Summary	95
CHAPTER 5: TESTING	96
5.1 Unit Testing.....	96
5.2 Integration Testing.....	96
5.3 System Testing.....	97
5.3.1 Functional Testing.....	97
5.3.2 Non-functional Testing.....	97
5.4 User Acceptance Testing.....	99
5.5 Analysis of Testing Result.....	100
5.5.1 Interface of System (Customer).....	101
5.5.2 Information Presentation (Customer)	101
5.5.3 Features of System (Customer)	102
5.5.4 Overall Experience About Using the System (Customer).....	103
5.5.5 Interface of System (Administrator).....	103

5.5.6 Information Presentation (Administrator)	104
5.5.7 Features of System (Administrator)	105
5.5.8 Overall Experience About Using the System (Administrator)	105
5.6 Summary	106
CHAPTER 6: CONCLUSION AND FUTURE WORK	107
6.1 Project Summary	107
6.2 Project Limitation	108
6.3 Future Work	109
6.4 Summary	110
References	111
APPENDIX A: PROJECT SCHEDULE	113
APPENDIX B: INTERVIEW QUESTION	116
APPENDIX C: SURVEY USING QUESTIONNAIRE	117
APPENDIX D: TESTING	120
1.0 Unit Testing	120
1.1 Customer Module	120
2.1 Administrator Module	130
2.0 Integration Testing	147
3.0 System Testing	152
3.0.1 Functional Testing	152
3.0.2 Non-functional Testing	155
4.0 User Acceptance Testing (Customer)	156
5.0 User Acceptance Testing (Administrator)	159

LIST OF FIGURES

Figure 1.1 Waterfall Model.....	4
Figure 2.1 Use Case Diagram for Current Manual System	10
Figure 2.2 Main Window of Advantage Salon and Spa System	12
Figure 2.3 Appointment Book View of Advantage Salon and Spa System	13
Figure 2.4 Client Page View of Advantage Salon and Spa System.....	13
Figure 2.5 Main Window of Elite Salon and Spa Management System	14
Figure 2.6 Client Information View of Elite Salon and Spa Management System	15
Figure 2.7 Home Page View of JeffLee The Hair Company.....	16
Figure 2.8 Appointment Booking View of JeffLee The Hair Company	17
Figure 2.9 Type of Service Detail View of MySalon Hair Studio.....	18
Figure 2.10 Salon Booking View of MySalon Hair Studio	19
Figure 3.1 Phases of Waterfall Model	24
Figure 3.2 Percentage of respondents with different age ranges	28
Figure 3.3 Percentage of respondents who own a mobile device	28
Figure 3.4 Appointment booking experience at DY Hair Salon.....	29
Figure 3.5 Percentage of experiencing any problems during the appointment booking process .	29
Figure 3.6 Percentage of problems experienced at DY Hair Salon	30
Figure 3.7 Customer service satisfaction at DY Hair Salon	30
Figure 3.8 Experience in booking any hair salon appointment online	31
Figure 3.9 Convenience of online booking hair salon appointment	31
Figure 3.10 Percentage of number of respondents with the functionality of the proposed system	32
Figure 3.11 Flow chart of DY Hair Salon Online Management System	37
Figure 3.12 Use case diagram of DY Hair Salon Online Management System	38
Figure 3.13 Context Diagram of DY Hair Salon Online Management System.....	39
Figure 3.14 Level-0 Data Flow Diagram of Process 0	40
Figure 3.15 Level-1 Data Flow Diagram for Process 8, Make Product Payment	41
Figure 3.16 Level-1 Data Flow Diagram for Process 10, Make Appointment Payment.....	42
Figure 3.17 Level-1 Data Flow Diagram for Process 14, Manage Appointment	43
Figure 3.18 Level-1 Data Flow Diagram for Process 15, Manage Product.....	43
Figure 3.19 Entity Relationship Diagram of proposed system	44
Figure 3.20 Without login into the proposed system	51
Figure 3.21 Logged in the side menu of the proposed system.....	52
Figure 3.22(a) User Registration Page.....	52
Figure 3.22(b) User Login Page.....	53
Figure 3.23 Appointment Booking	53
Figure 3.24 Payment	54
Figure 3.25 Booking History	54
Figure 3.26 Invoice History	54

Figure 3.27 Administrator Login Page	55
Figure 3.28 Administrator Home Page	55
Figure 3.29 Add Employee Page	56
Figure 3.30 Add Customer Page.....	56
Figure 3.31 Add InventoryPage.....	57
Figure 3.32 Add Service Page	57
Figure 3.33 Appointment	58
Figure 3.34 Invoice Page	58
Figure 3.35 Between Date Report.....	59
Figure 3.36 Sales Report.....	59
Figure 4.1 Initial page for WAMP Installation.....	61
Figure 4.2 Component that user can choose	62
Figure 4.3 Database for DYSS.....	63
Figure 4.4 Snippet for 'dyssdb' database connection	63
Figure 4.5 Top navigation bar of the Home Page (before both user login)	64
Figure 4.6 Top navigation bar of the Home Page (after customer login).....	64
Figure 4.7 Login Page of Customer.....	65
Figure 4.8 Login Page of Administrator	65
Figure 4.9 Forget Password Page of Customer.....	66
Figure 4.10 Forget Password Page of Administrator.....	66
Figure 4.11 Profile Page of Customer.....	67
Figure 4.12 Profile Page of Administrator.....	67
Figure 4.13 Change Password Page for Customer.....	68
Figure 4.14 Change Password Page for Administrator.....	68
Figure 4.15 Sign Up Page for Customer	69
Figure 4.16 Book Appointment Page.....	70
Figure 4.17 Snippet code for booking apointment.....	71
Figure 4.18 Payment Appointment Page	71
Figure 4.19 Appointment History Page	72
Figure 4.20 Product Page.....	73
Figure 4.21 Add Product Page	73
Figure 4.22 Snippet code for adding the product to the cart.....	74
Figure 4.23 Cart Page	74
Figure 4.24 Delivery Form Page.....	75
Figure 4.25 Payment Purchase Page	75
Figure 4.26 Purchase Order History	76
Figure 4.27 Invoice History Page	76
Figure 4.28 Invoice Appointment History Page	77
Figure 4.29 Invoice Order History Page	77
Figure 4.30 Dashboard.....	78

Figure 4.31 Add Service Page	79
Figure 4.32 Snippet code for add a service.....	80
Figure 4.33 Service Page	80
Figure 4.34 Edit and Update Service Page	81
Figure 4.35 Add Inventory Page.....	82
Figure 4.36 Snippet code for adding an inventory.....	83
Figure 4.37 Inventory Page.....	83
Figure 4.38 Edit and Update Inventory Page.....	84
Figure 4.39 Add Customer Page.....	85
Figure 4.40 Customer List Page.....	86
Figure 4.41 Search Customer Page.....	86
Figure 4.42 Add Employee Page	87
Figure 4.43 View Employee Page	88
Figure 4.44 Edit and Update Employee Page	88
Figure 4.45 Purchase Order Page.....	89
Figure 4.46 Search Purchase Order Page.....	90
Figure 4.47 Calendar Appointment Page.....	90
Figure 4.48 Appointment Page	91
Figure 4.49 Search Appointment Page	92
Figure 4.50 Between Dates Report Page	92
Figure 4.51 Sales Report Page	93
Figure 4.52 Appointment Invoice Page	93
Figure 4.53 Product Order Invoice Page.....	94
Figure 4.54 Search Invoice Salon Appointment Page	94
Figure 4.55 Search Invoice Product Order Page.....	95
Figure 5.1 UI of system on 50% compatibility in size	98
Figure 5.2 UI of system on 100% compatibility in size	98
Figure 5.3 UAT result analysis on interface of developed system	101
Figure 5.4 UAT result analysis on information presentation of developed system.....	101
Figure 5.5 UAT result analysis on features of developed system.....	102
Figure 5.6 UAT result analysis on overall experience using developed system	103
Figure 5.7 Administrator UAT result analysis on interface of developed system.....	103
Figure 5.8 Administrator UAT result analysis on information presentation of developed system	104
Figure 5.9 Administrator UAT result analysis on features of developed system	105
Figure 5.10 Administrator UAT result analysis on overall experience using developed system	105

LIST OF TABLES

Table 2.1 Comparison between the existing system and DY Hair Salon Online Management System.....	20
Table 3.1 Functional Requirements of End User	33
Table 3.2 Non-functional requirements	34
Table 3.3 Software requirements	35
Table 3.4 Customer table for storing customer information	45
Table 3.5 Administrator table for storing administrator information.....	45
Table 3.6 Employee table for storing employee information.....	46
Table 3.7 Purchase table for storing purchase information.....	46
Table 3.8 Inventory table for storing inventory information	47
Table 3.9 Booking table for storing booking information	48
Table 3.10 Enquiry table for storing enquiry information	48
Table 3.11 Invoice table for storing invoice information.....	48
Table 3.12 Page table for storing page information	49
Table 3.13 Payment table for storing payment information.....	50
Table 3.14 Service table for storing service information	50
Table 5.1 UAT Testing User Checklist.....	99
Table 5.2 UAT Testing Administrator Task List	100

ABSTRACT

DY Hair Salon is a Kuching business that offers a variety of services to both men and women. Beauty salons may offer services such as professional hair cutting and styling, manicures, and pedicures. DY Hair Salon maintains a manual system for their business, even though computer technology is increasingly being used in the business to provide efficient and yet convenient service to both the owner and the customers. Aside from the owner's difficulties in managing customer appointments, customers also encounter difficulties during the appointment booking process. The adoption of the business system is getting popular as many customers own a mobile device and delivering service via mobile devices can reach out to more intended customers. Based on the review of four appointment booking systems, each of them has some weaknesses that did not cover the user needs. Therefore, DY Hair Salon Online Management System (DYSS) for DY Hair Salon is developed in this project. The Waterfall methodology is being used to build the project. One of the frameworks for system development is the waterfall technique. The methodology was chosen to conduct this project since the major system requirements were gathered early on and could be specified. In general, this DYSS is easy to use that is intuitive and easy to navigate. Both users provide feedback on the user interface, indicating the system is user-friendly. For customers, the system allows them to select specific services or stylists, and book appointments according to their preferences. For administrator, the system integrates with other salon operations, such as employee management, inventory control, and reporting. This system has improved the salon's overall operational efficiency and customer experience.

ABSTRAK

DY Hair Salon adalah perniagaan di Kuching yang menyediakan pelbagai perkhidmatan untuk lelaki dan wanita. Potongan dan penggayaan rambut profesional, rias kuku dan pedikur adalah semua perkhidmatan yang boleh disediakan oleh salon rambut. Walaupun teknologi komputer semasa semakin diterima pakai dalam perniagaan untuk menyampaikan perkhidmatan yang cekap dan lagi mudah kepada pemilik dan pelanggan, DY Hair Salon masih mengekalkan sistem manual untuk perniagaan mereka. Selain pemilik mengalami kesukaran dalam menguruskan temujanji pelanggan, pelanggan juga menghadapi masalah semasa proses tempahan temujanji. Penggunaan sistem perniagaan semakin popular kerana ramai pelanggan memiliki peranti mudah alih dan menyampaikan perkhidmatan melalui peranti mudah alih boleh menjangkau pelanggan yang lebih berminat. Berdasarkan semakan terhadap empat sistem tempahan temujanji, setiap satu daripadanya mempunyai beberapa kelemahan yang tidak menampung keperluan pengguna. Oleh itu, DY Hair Salon Online Management System (DYSS) untuk DY Hair Salon diciptakan dalam projek ini Metodologi Air Terjun sedang digunakan untuk membina projek. Salah satu rangka kerja pembangunan sistem ialah teknik air terjun. Metodologi telah dipilih untuk melaksanakan projek ini kerana keperluan sistem utama telah dikumpulkan awal dan boleh dinyatakan dengan jelas. Secara umumnya, DYSS ini mudah digunakan iaitu intuitif dan mudah dinavigasi. Kedua-dua pengguna memberikan maklum balas pada antara muka pengguna, menunjukkan sistem ini mesra pengguna. Bagi pelanggan, sistem ini membolehkan mereka memilih perkhidmatan atau penggaya tertentu, dan menempah janji temu mengikut keutamaan mereka. Untuk pentadbir, sistem ini disepadukan dengan operasi salon lain, seperti pengurusan pekerja, kawalan inventori dan pelaporan. Sistem ini telah meningkatkan kecekapan operasi keseluruhan salon dan pengalaman pelanggan.

CHAPTER 1: INTRODUCTION

1.1 Project Overview

DY Hair Salon is one of the salons located at Kota Samarahan, Sarawak which provides customers with multiple types of hair and beauty services. Currently, this salon manages its operations manually, which requires a lot of paperwork. It has been running the business for more than five years, but the world is evolving, and cannot use the traditional way to run the business. Thus, advanced IT (Information Technology) technology should be used to help DY Hair Salon to run the business.

The DY Hair Salon is having some issues because they are using the manual process to manage their business without any IT technology. The customers normally book an appointment by using handphones to call or text the staff. As a result, the staff must record the appointment and service details on paper or in notes, creating a misplacement of appointment information issue. This is not a organized way to keep their data, which puts it at risk if they lose the booking information for their consumers. Customers who come often must queue for a long time because there is no online booking system and most of them have busy activities in this condition. Thus, their customers are inconvenienced by this method of scheduling appointments. Also, the product sales are not ideal as most clients visit the salon for the services rather than look at the products. The staff does not have enough time to approach their products to clients.

Therefore, DYSS is a web-based system created to replace the non-computerized system used by the salon. The owner and staff of DY Hair Salon will be able to handle fewer tasks due to the system that has been created. DYSS will be created using the Software Development Life Cycle methodology. This system is set up on a computer system. The database server is MySQL,

and it will run on a local host server. The PHP programming language was utilized to create the DYSS.

1.2 Problem Statement

There are numerous goods resulting from technological advancements nowadays. However, the management processes at the DY Hair Salon are now handled manually. The only proper way for its clients to schedule an appointment is to contact or visit the salon. Through this method, it will lead to a misplacement issue which causes a long queue and time wastage. The owner or employees must check the memo to look up the appointment information before they confirm the appointment status to the consumers via mobile phone. Sometimes a human will make a mistake, such as mishearing a customer's voice during a phone conversation or wrongly writing the clients' appointment details on a piece of paper, a calendar, or a note. Therefore, a long queue cannot be avoided, and clients will waste time waiting for their service. Additionally, it is unlikely that a customer will return if they leave the store with nothing in their hands but frustration.

Another problem is that the DY Hair Salon's product sales are not ideal because most clients visit the salon for the services rather than look at the products. As claimed by Nathan (2021), 75% of Malaysians stated they browsed an e-commerce site during the surveyed period, while 45% claimed they made purchases. The staff does not have enough time to advertise their products to clients, which results in a loss of profit. Lack of proper staff training and poor customer care can hinder the hair salon's income. These are the issues that cause weaknesses that affect the effectiveness of the DY Hair Salon business. All the problems will result in ineffective management. This system was created to deal with the problems that DY Hair Salon has been facing.

The DYSS will assist the customers in scheduling appointments dynamically by keeping track of the timetable and entering the appointment information into the database, so that can resolve the misplaced problem. In addition, the salon management system has an online product store that displays product information like the price and description to aid DY Hair Salon in advertising its products.

1.3 Aim and Objective

- To reduce paper-based tasks at the salon, such as using a calendar to track appointment information so that administrator can manage their appointments through the salon management system.
- To develop a proposed system namely as DY Hair Salon Online Management System (DYSS).
- To evaluate the effectiveness of the proposed system.

1.4 Brief Methodology

The project is developed using the Waterfall methodology. The waterfall approach is one of the frameworks for system development. The methodology is adopted to conduct this project because the main system requirements were collected at the beginning and could be clearly defined. In this project, the iterative waterfall methodology consists of a series of phases, which are requirement analysis, design, development, testing, and maintenance. Figure 1.1 shows the general overview of the Waterfall model.

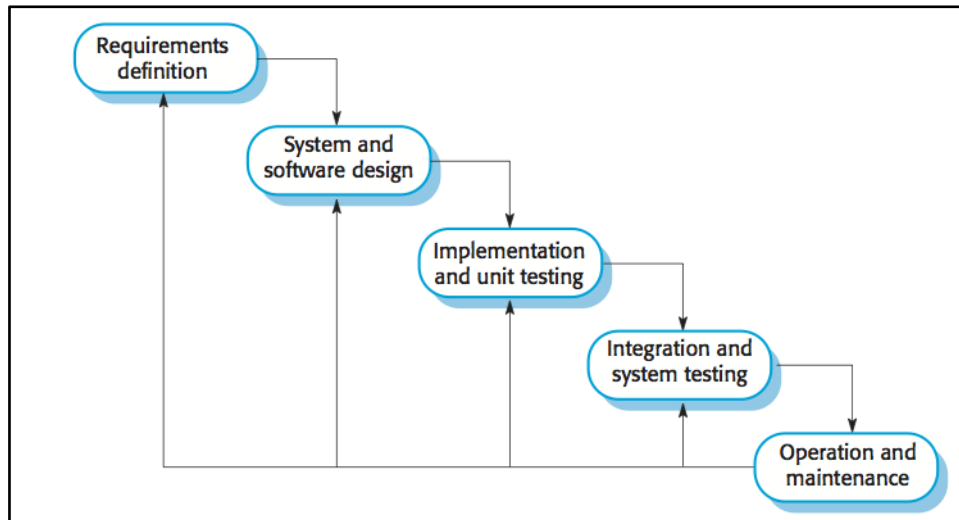


Figure 1.1 Waterfall Model

During the requirement definition phase, the user requirements are gathered via requirement elicitation techniques such as an interview and a questionnaire whereas regarding the software requirements will be analyzed to ensure that the proposed system meets the project objectives. All requirements will be documented as a guideline for the design phase.

While the system and software design phase describe the structure and the functionalities of the proposed system in detail. The blueprint of the user interface (GUI) of the system is designed based on the specified requirements at the previous stage. Furthermore, the database is designed which provides an overview of the input and output of data within the whole system.

The development phase is the coding stage which is divided into two modules, user interface and backend computing for database management. The system development is based on the system design discussed previously to ensure the product deliverable is developed as required.

After the completion of system implementation, system testing is performed to verify and validate the product deliverable against the requirement specifications. Generally, unit testing, integration testing, system testing, and user acceptance testing will be conducted. System testing

will be further subdivided into two types: functional testing and non-functional testing. This phase will also check for any faults or failures to ensure that the final product works properly.

The maintenance of the system is the last stage in the Waterfall model which is implemented immediately after the testing phases, or the product is operational for a period when the end users have discovered any issues within the system. The tasks include bug fixing and improvement of the system to address changes to the end user's needs. The system is updated and released to the end users.

1.5 Scope

The system will have two potential users as given below:

- Salon Owner (Administrator)
- Customer

This DYSS is designed and developed for all users. The DYSS provides a platform for DY hair salon customers to book their hair service appointment anywhere and anytime. The salon owner can manage their customer's appointments via this DYSS.

The list of scopes is below:

- Providing the facility to register salon staff and maintain their details.
- Providing the facility to register customers.
- Facilitate appointment handling.
- View appointments through a calendar.
- Handling salon services and products along with their respective price.
- All the activities will be logged for future tracking purposes and status checking.

1.6 Significance of Project

This project will provide a platform for DY Hair Salon to book their service appointments depending on their preferred time without visiting DY Hair Solon and manually booking a salon. Additionally, this system will provide faster and easier navigation, and smoothen up the task of the end user. Apart from that, this system brings convenience to the customers as the information provided eases them in deciding or choosing the desired appointment.

1.7 Project Schedule

The project schedule shows the listing of activities that need to be carried out in this project. Each activity is associated with the timeline from start to finish dates. Refer to **Appendix A**.

1.8 Expected Outcome

At the end of the project, a hair salon online management system is developed. This project shows a more effective salon management system that is user-friendly among salon administrator, customers, and DYSS. This system allows customers to reserve their appointment and purchase salon products online. On the salon management side, the administrator can obtain customer information and the kind of services booked by the customers. The system should have five modules which are the login module, registration module, user profile management module, salon information management module, and appointment information module.

For the login module, the system should allow users to log in to the system using an email and password. The system should alert the user to invalid input. Other than that, the system should redirect the user to the respective home page once login successfully.

For the registration module, the system should allow the registration of new customers and should show an error when an empty field is found.

For the user profile management module, the system should allow users to view and edit their personal information.

For the salon information management module, the system should allow the administrator to insert new salon service and product information. Other than that, the system should allow the administrator to edit the salon service and product information.

For the appointment module, the system should allow the customer to insert a new appointment. Furthermore, the system should allow the administrator to view the appointment schedule.

1.9 Outline Project

This project outline consists of six chapters. All six chapters are summarized below.

Chapter 1: The introduction provides a brief explanation which mainly contains the problem statement, project objectives, methodology, expected outcomes, project significance, and project schedules.

Chapter 2: Literature Review, covers the study and review of currently existing systems. The benefits and drawbacks of each existing system, comparisons are made. This clears the way for the features and functionalities that should be incorporated into the suggested system.

Chapter 3: Methodology, discuss the aims to solve the problem. The analysis and solution design are also covered in this part. The whole project's processes, features, and interface will serve as guidelines.

Chapter 4: Implementation, covers the implementation of the proposed system and includes details on the database design and interface design.

Chapter 5: Testing covers the whole system's evaluation to improve the project and record its progress.

Chapter 6: Conclusion and Future Works consists of a summary of the project, its limitations, future works, and a conclusion.

CHAPTER 2: LITERATURE REVIEW

The purpose of the literature review is to study and review four existing related systems. The functionalities and features of the four existing systems are studied to determine their strength and weakness. Discussions will be accompanied by screenshots of each system for better representation. From the reviews, a comparison will be carried out between the related system and the proposed system to outline the benefits that will be delivered by the proposed system.

2.1 Beauty Hair Salon

A beauty salon may only provide hair care and styling services, or nail treatments. Most beauty hair salons provide a combination of hair styling and nail services. In addition, beauty salons may include skin care services such as facials, exfoliating scrubs, and anti-aging methods conducted by aestheticians. Many beauty salons also provide cosmetic services such as makeup application, eye enhancement, general makeovers, and cosmetic instruction.

Online appointment scheduling is an optional function available with all software products. Your business can have a unique website where customers can book appointments and browse information about your business such as services offered, offers, and location (Thamrin, 2020). This also provides the researcher with a foundation on the aspects that have been investigated and those that have not yet been studied.

The booking process for the online salon is simple. Users simply enter the information that they requested, such as the user's available time and the stylist that the user wants. Having an online system is a huge benefit for some business owners.