

A SALON APPOINTMENT BOOKING APPLICATION: A case study of Sparkles Beauty

Salon

TABITHA ILEJU

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ABSTRACT

This report is about a salon appointment booking application that was developed for Sparkles Unisex beauty Salon to enable their customers book appointments online.

A salon appointment booking app is a mobile application that enables customers to schedule appointments with salons, hairdressers, spas, or beauty professionals. These apps typically provide a user-friendly interface that allows customers to search for local salons, view available services, select preferred stylists or therapists, choose suitable time slots, and book appointments conveniently from their mobile devices such as phones laptops, tablets and desktops

With this application, one is able to find out the location of the place especially for those new in the area and unaware of the prices of a particular hairstyle.

Chapter one consists of the introduction, background, problem statement, main objective, other objectives, purpose of the application project, its significance and scope. Chapter two consists of the literature review the related information to the application, chapter three consists of the methodology, chapter 4 consists of system design, chapter five consist of implementations of the system and finally chapter 6 consists recommendations, conclusions and summary.

DECLARATION

I ILEJU TABITHA declare that this is my original work made personally and with my brain and hands genuine work of my own potential ability and analysis, it is not duplicated from any other source but rather through scrutinizing the data I collected during my data collection and has never been submitted to any institution of higher learning for any reward.

Date..... 4-09-2023.....

Signature..... .....

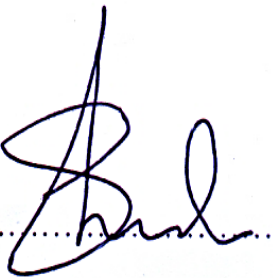
Name ILEJU TABITHA

Regno S18B06/117

APPROVAL

This is to certify that this final year report was done under my supervision and now is ready for submission as a partial fulfillment of the requirement for her completion of the award of degree in business computing at Uganda Christian University

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Signature.....

Date.....4-09-2023.

MR WANDA PETER

(SUPERVISOR)

DEDICATION

This report is dedicated to the **ALMIGHTY GOD** for enabling me to overcome all the temptation in my education, my sweet mother **MRS ASEGE MARY** for her continued love and financial support not forgetting my supervisor **MR WANDA PETER** for continuous guidance he gave to me during my research.

Thank you for your support

ACKNOWLEDGEMENT

At the very onset, I want to acknowledge and most grateful to Almighty God the most merciful for blessing me with patience and tenancy of mind to complete my course and produce a report which is a requirement for the degree successfully. More so I would like to submit my heartfelt gratitude to the following for their constructive contributions, advice, lectures guidance and assistance for having this report complete.

I would like to thank my supervisor, Mr. Wanda Peter for his unique guidance, supervision, patience and time he gave me towards my professional development and enrichment to my report.

CHAPTER ONE

This chapter covers the major insights of the project the topic of a salon appointment booking app and its case study Sparkles salon, its introduction, background of the study, problem statement, main objective, specific objective, scope of the study and finally the significance of the study.

1.0 INTRODUCTION

A salon appointment booking app is a mobile application that enables customers to schedule appointments with salons, hairdressers, spas, or beauty professionals. These apps typically provide a user-friendly interface that allows customers to search for local salons, view available services, select preferred stylists or therapists, choose suitable time slots, and book appointments conveniently from their mobile devices.

Salon appointment booking apps offer several benefits for both customers and salon owners. For customers, these apps provide a convenient way to find and book appointments without the need for phone calls or in-person visits. They often include features such as real-time availability, automated reminders, and the ability to reschedule or cancel appointments.

For salon owners, these apps streamline the appointment management process, reduce administrative tasks, and help optimize their schedules. They often come equipped with features like calendar management, client databases, online payment processing, and marketing tools. Salon owners can easily track appointments, manage their staff's availability, and gain insights into customer preferences and trends.

1.1 BACKGROUND OF THE STUDY

Sparkles salon is a business establishment to provide various beauty and grooming services to its customers. Salons are typically focused on offering services related to hairstyling, hair care, and beauty treatments. Some common services provided by salons include haircuts, hair styling, hair coloring, manicures, pedicures, facials, waxing, makeup application, and massages.

Sparkles salons are located in Kampala and they have mainly five branches in Lugogo mail, Acacia mail, Oasis mail, Forest mall and finally Garden mall. These Salons are staffed by trained professionals such as hairstylists, cosmetologists, estheticians, nail technicians, and massage

therapists who have expertise in their respective areas. They work with clients to understand their preferences and provide personalized services to enhance their appearance and well-being.

Sparkles salon will need the application to ease their work for example if a clients need to braid their hair, they will a guide on the location, which branch, hairstyle, time and the price of a particular hairstyle

1.2 PROBLEM STATEMENT

Currently the sparkles salons have been experiencing challenges such as many people finding it difficult to schedule appointments at salons due to long waiting times on the phone or lack of online booking options, leading to frustration and inconvenience, miscommunication, difficult to get real location and the right prices of a particular hairstyles among others. therefore, this app will enable the clients and the hairdressers interact well hence leading to successful business at sparkles salons.

1.3 MAIN OBJECTIVE

To develop the booking app that will provide a comprehensive and user-friendly technological solution that streamlines the appointment booking process.

1.4 SPECIFIC OBJECTIVES

- To analyze the current Sparkles salon management system.
- To design Sparkles salon management application.
- To implement and maintain the developed application.
- To test the functionality of the developed system.

1.5 SCOPE OF THE STUDY

The system covers the different branches of Sparkles salons these include Forest mall, Garden city, Acacia mall, Lugogo mall, Oasis mall all found in Kampala. These salons are located in urban areas and serve a broader customer base within the city. They may attract clients from different neighborhoods or even nearby towns.

1.6 SIGNIFICANCE OF THE STUDY

- Implementing a salon appointment booking app that will improve the efficiency of the booking process for both salon owners and customers. It streamlines the appointment management system, reduces manual effort, and minimizes the risk of errors or double bookings. This increased efficiency can lead to better customer satisfaction and optimized salon operations.
- Improving Customers Experience to conveniently schedule appointments at their preferred sparkles salons without the need for physical visits or phone calls. It provides them with flexibility in choosing appointment slots, preferred stylists, and services, enhancing their overall experience and convenience.
- Increasing Salon Visibility and Reach: A salon appointment booking app can help sparkles salons to expand their reach and attract more customers. By being listed on the app, salons gain visibility to a larger audience, including both local residents and visitors. This exposure can lead to increased customer acquisition and business growth.
- The will app enables sparkles salons owners and stylists to better manage their time and resources. They can efficiently plan their schedules, allocate appropriate time slots for different services, and optimize their workday. This can result in improved productivity, reduced waiting times, and a more organized salon environment.
- With a salon appointment booking app, the sparkles salon managers will gather valuable data about customer preferences, appointment trends, and popular services. This data can be utilized to make informed business decisions, such as introducing new services, adjusting pricing, or promoting specific offerings based on customer demand.
- Implementing a salon appointment booking app will demonstrates a salon's commitment to adopting modern technologies and staying relevant in an increasingly digital world. It

positions sparkles salons as innovative and customer-centric, appealing to tech-savvy customers in Mukono District.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

The chapter covers related work from others scholars especially in the area of hair dressing salons. The purpose of this research is to evaluate the influence of customer experience to consumer satisfaction and consumer loyalty in hair and beauty salon industry.

2.1 REVIEW OF RELATED LITERATURE

1 Customer Experience Quality

Service quality now becomes one of the most common research focuses over the years and even now (Bubalo, 2015). Models that have been formulated for service quality measures is servquel. However, the underlying concept of SERVQUAL is the service experience, which is based on functional aspects (Chen, 2010). Experience quality tends to refer to the overall service rather than the attributes based. Experience quality focuses on assessments of the quality of service they received.

Pine and Gilmore (2002) argue that it is important to know the quality of the distinct from service experience: when a person is able to buy a service, he buys a series of intangible activities done on his own behalf, but when he buys for an experience, he pays to spend by enjoying a series of events presented by a company to engage him personally. Meanwhile, according to Poulson and Kale (2004) service is something done for you, such as a work done on your body (hair cut). While experience is a product that does something for you (entertain and educate) and usually leaves a memory about the product.

To create a successful business in any field, Carbone (2002) states that, providing a total memorable experience can create value for customers that will become a crucial marketing strategy to use. Several studies (Klaus, 2013; Meyer, 2007) have found that customer experience can provide a new means of competition in the service field. Therefore, the important variable that creates value to the customer is experience quality. Providing a good experience will have

an effect satisfaction and loyalty. In order to understand the relationships of experience quality, satisfaction, and loyalty, it is necessary to understand the meaning of experience quality itself.

Experience is a direct observation of the facts or events that occur. It can be said that experience quality is representation of how customer emotionally evaluates their experience as they participate in consumption activities and interact with the service providers (Chang, 2010).

Experience always happens when consumers engage with service providers or organizations (Mascarenhas, 2006). According to Kwortnik and Ross (2009) experience is made simultaneously by consumers and marketers to create events or facts that are meaningful and pleasurable. In this case, identifying the customers perceived their experience and service delivered by hair and beauty salon, and designing strategies to meet their needs can assist the hair and beauty salon managers to be more competitive. Wu (2017) proposed four assessments in experience quality including:

I. Interaction quality

Interaction quality focuses on how services are delivered by service providers (Brandy, 2001). Interaction quality also refers to the actions and attitude of service providers. The service is intangible and often inseparable from service providers to customers, personal interactions between customers and service providers have been viewed as the greatest influence of experience quality (Chang, 2010). In addition, behaviors such as smiling, greeting, and asking relevant questions with customers will be linked with a positive experience by costumers (Joorg Pareigis, 2011).

II. Physical environment quality

Conditions in which consumers enter and are in the corporate environment, consumers interact with the physical environment with five senses and gain experience at the same time. Facilities built for service delivery occur (Bitner).

III. Outcome quality

This dimension focuses on the outcome of the service, which indicates what customers get from the service. On the other hand, the outcome quality dimension can satisfy the needs and wants of

consumers. Outcome quality refers to the technical results of the service and a determinant whether the customer has a positive experience with the company (Brandy, 2001).

IV. Affective quality

The company's ability to drive service by affecting moods and emotions (Schmitt). Affective perception of the quality of all the stimuli which usually impinge at a time (fun, interesting or annoying) then it will affect the subsequent reaction towards the service process (Russell).

2 Customer Satisfaction

Customer satisfaction will arise if the needs and desires of customers can be fulfilled by a high-quality service. Consumer satisfaction is one of the important things in the literature and marketing activities (Sathis, 2011). A customer's satisfaction with a product can be seen by the behavior that appears after using the product (Minor, 2002). Another opinion, according to Boonlertvanich (2011), consumer satisfaction, generally defines as a feeling of happiness and pleasure when a person has achieved his goals or expectations. In brief, customer satisfaction is the feeling of the customer in receiving the product or service offered and comparing the performance received with their expectation.

Satisfaction refers to the comparison between previous expectations and perceived performance. It can result in dissatisfaction if perceived performance is lower than expected (Oliver). It can be concluded that satisfaction arises from the consumer's assessment of service provider performance and consumer expectation (Kao, 2007). Consumer satisfaction usually occurs when the customer finds the performance of a product consumed is higher than expected.

Therefore, companies are required to evaluate whether consumers feel that their needs and wants are met so that they are satisfied and the company can retain them, and be able to lure other consumers. Satisfied consumers can have an impact on their loyalty to a brand (Cronin, 2000). Consumer satisfaction with loyalty has a positive relationship in the service industry (Back, 2003).

3 Customer Loyalty

Customer loyalty is the most crucial end goal for a company to reach the long-term viability and sustainability. Customer loyalty is more than to recommend with friends, relatives or other people who have potential in using a product or service by doing free word of mouth (Shoemaker). Today, many companies are investing heavily to find out who their customers really are and determine what strategies need to be implemented to keep customers loyal and further contribute greatly to the company. According to Lovelock and Wirtz (2011) loyalty is the desire of the customer to continue to regularly re-purchase the company for a long time, and recommend the product to friends and colleagues, so that individuals can form the desire to seek information, to others about his experience with a service, buy or disregard certain services. Loyalty is the shaping of attitudes and behavior patterns of a consumer to the purchase and use of products from their previous experience (Griffin, 2012).

Consumer loyalty will make the company have a great competitiveness to compete with other companies (Cunningham, 2001). Customer loyalty is one of the core objectives sought in modern marketing. This is because with loyalty is expected the company will get long-term benefits over the relationship between the company and the customers within a certain time. Consumer loyalty is a sense of commitment and loyalty to a brand that is positive from customers in a consistent repeat purchase. Customer loyalty is the result of having consistently positive emotional experiences. Wu (2014) stated that experience quality and satisfaction have an essential role in influencing loyalty. Increased in experience quality leads to increase in satisfaction. Satisfaction in turn will lead to loyalty (Heskett, 2008). In fact, customer loyalty is one way of building a sustainable competitive advantage. Wu (2017) found that satisfaction acts as a mediator in the relationship between experience quality and loyalty. Earlier research conducted by Wu (2016) also found that experiential quality affected loyalty and satisfaction.

Chen and Chen (2010) research objective are to examine the experience of heritage tourism visitors and to investigate the relationship between experience quality, perceived value, satisfaction and behavioral intention. A total of 447 respondents completed a survey conducted at four heritage sites in Tainan, Taiwan. Using SEM techniques, the results show that there is a direct influence of experience quality on perceived value and satisfaction. However, there is an

indirect effect on experience quality on behavioral intention mediated by perceived value and satisfaction. Overall, the relationships between the variables are apparent.

Martina Donnelly (2009) this study was conducted in three- and four-star hotels in Waterford, Wexford and Kilkenny in the South East region of Ireland. Data were analyzed using NVivo (N7) and SPSS version 15. Distributed a questionnaire of 960 respondents conducted to 12 hotels. The result of this research shows that customer experience is the key determinant in loyalty. However, variable satisfaction must be excluded because it has problems with multicollinearity. Value and quality mediate the relationship between customer experience and customer loyalty. Keep in mind, mediation through value has greater influence than quality to customer loyalty. Also, it builds on the existing literature that values and quality become the determinants of customer loyalty.

In Chang and Horng (2010) study, three services firm selected for data collection, including Under ware Easy shop, Starbucks and KTV. The questionnaire was distributed at the universities in Northern and Southern Taiwan. A total number of respondents is 550, of 167 questionnaires for Easy Shop, 198 received from Starbucks, and 167 were collated dor KTV. The results of this research found that experience quality has a direct influence on satisfaction and indirect influence on loyalty.

Wu (2017) used exploratory factor analysis and confirmatory analysis and distributed 428 respondents Starbuck in Taipe City of Taiwan. The purpose of this study was to identify the dimensions of experiential quality and to examine the relationship between experiential quality, experiential satisfaction, perceived value, experiential trust and experiential loyalty. The result of this study is affective quality is the dimension that has the greatest influence of experiential quality perceived by coffee customers. Moreover, experiential quality significantly affects perceived value, and trust. Also, satisfaction is influenced by perceived value and 13 trust. Furthermore, the satisfaction of experience and the trust of experience is the determinant of experiential loyalty.

2.3 conclusion

This chapter has mainly been about what other scholars wrote on the subject similar to the stated topic of a salon appointment booking application.

CHAPTER THREE

METHODOLOGY

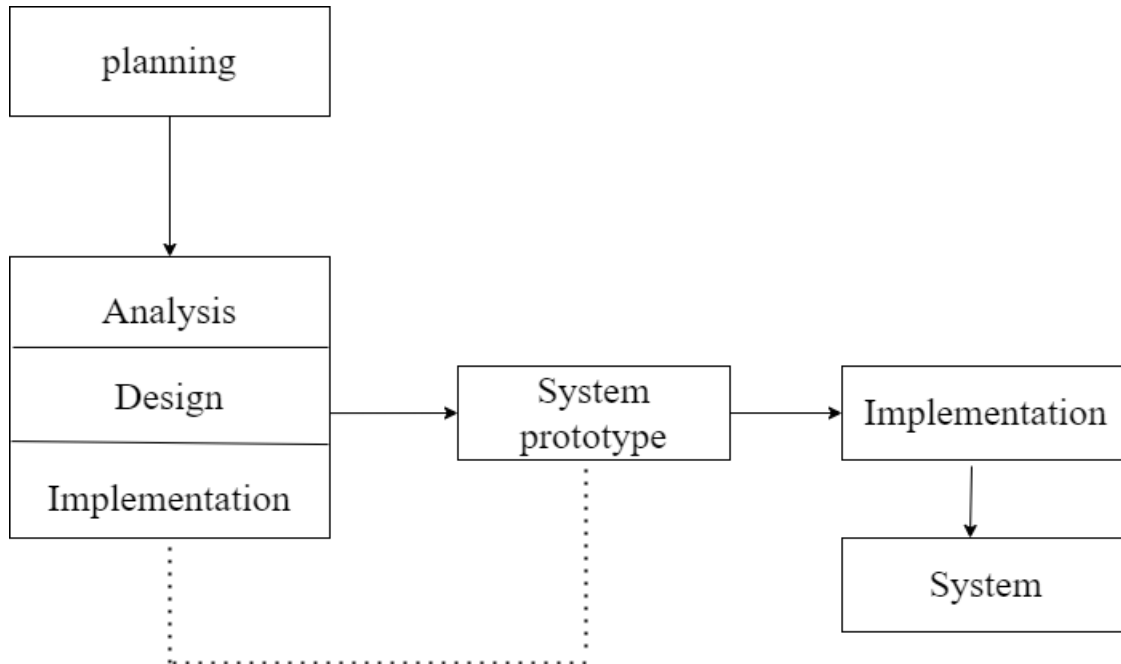
3.0 INTRODUCTION

This chapter presents the methodology employed for the development of the salon appointment booking application at Sparkles Beauty Salon. The chosen methodology for this project is the Prototype methodology, which follows a sequential approach to software development. It also discusses the research design, study population, sample size, data collection method, data analysis, design tools, implementation, testing, and validation processes.

3.0.1 Prototype Methodology

Prototype methodology, also known as the prototype model, is an iterative software development approach that focuses on creating a preliminary version of a software application to gather feedback and refine requirements. This methodology is particularly useful when the exact requirements are unclear, complex, or subject to change, as it allows stakeholders to interact with a working model of the software early in the development process. The primary goal of the prototype methodology is to ensure that the final product meets user needs and expectations.

3.1.1 Prototype Model



- 1 **Planning:** In the planning stage, the overall project is defined, and a strategy is developed. This involves identifying the project's goals, scope, requirements, budget, timeline and resources. The planning phase sets the foundation for the entire project and helps ensure that everyone involved has a clear understanding of the project's objectives.
- 2 **Analysis:** During the analysis stage, the project requirements are gathered, documented and analysed. This involves understanding the needs of the end-users and stakeholders, identifying the functional and non-functional requirements and defining the scope of the project. This stage helps create a detailed understanding of what the software needs to accomplish.
- 3 **Design:** In the design stage, the architecture and structure of the software system are planned. This involves creating a high-level design that outlines how the different components will interact and how the user interface will look and function. Additionally, technical details like database design and system architecture are decided upon during this stage.

- 4 **Implementation:** The implementation stage is where the actual coding of the software takes place. Developers write the code according to the design specifications. This is the phase where the software starts taking shape and the logic, algorithms and functionalities are translated into actual programming code.
- 5 **System Prototype:** This stage involves creating a functional prototype of the software, demonstrating its core functionalities and obtaining feedback from users and stakeholders.
- 6 **Testing:** After the implementation, the software undergoes thorough testing. This stage involves various types of testing, including unit testing (testing individual components), integration testing (testing how different components work together) and system testing (testing the entire system as a whole). The goal is to identify and fix any bugs or issues.
- 7 **Implementation (Deployment) and Maintenance:** Once the software has been thoroughly tested and deemed ready for release, it's deployed for actual use by end-users. This stage involves setting up the software on servers, making it accessible to users and providing any necessary training or documentation. After deployment, the software enters a maintenance phase, where updates, bug fixes and improvements are continuously managed to ensure the software's ongoing functionality and usability.

3.1 Research Design

The research design chosen for this study is a combination of qualitative and quantitative approaches. This mixed-methods approach allows for a comprehensive understanding of the feasibility and user requirements for developing a salon appointment booking application. The qualitative aspect involves gathering in-depth insights through interviews and focus groups, while the quantitative aspect involves collecting structured data through surveys.

3.2 Study Population (Optional)/Target Group

The study population for this research consists of salon owners, salon employees (including receptionists and stylists), and salon customers. These individuals have direct experience and

interactions with salon appointment booking processes, making them valuable sources of information regarding the requirements and challenges associated with such an application.

3.3 Sample Size

The sample size for this research will be determined based on the target group's diversity and the concept of data saturation. Aiming for a diverse range of participants, the research will include salon owners and employees from different branches of sparkles unisex beauty salon and customers from various demographic backgrounds. The sample size will be determined iteratively, with data saturation being monitored to ensure that new participants contribute substantially new insights.

3.4 Data Collection Tools and Methods

To collect the necessary data, multiple tools and methods will be employed:

- Surveys: Online surveys will be created to gather structured data from salon owners, employees, and customers. The surveys will be designed to capture information about their experiences, preferences, and expectations regarding appointment booking processes.
- Interviews: In-depth interviews will be conducted with salon owners, managers, and employees to gain a deeper understanding of their challenges, pain points, and specific requirements related to the salon appointment booking application.
- Focus Groups: Focus groups consisting of salon customers will be organized to facilitate group discussions, allowing for the exploration of shared experiences, preferences, and potential improvements in the appointment booking process.

3.5 Data Analysis

The collected data will undergo a comprehensive analysis using both qualitative and quantitative techniques:

- Qualitative Analysis: Thematic analysis will be employed to identify recurring themes, patterns, and insights from the interviews and focus groups. This will involve coding and categorizing the qualitative data to derive meaningful interpretations.

- **Quantitative Analysis:** Statistical analysis of the survey data will be performed to identify trends, preferences, and statistical significance. This will involve using appropriate statistical tools, such as descriptive statistics, correlation analysis, and regression analysis.

3.6 Design Tools

To develop the salon appointment booking application, various design tools will be utilized. These tools may include wireframing software, prototyping tools, and graphic design software. The choice of design tools will depend on the specific requirements of the application and the expertise of the design team.

3.7 Implementation

The implementation phase involves translating the design specifications into a functional application. The development team will utilize programming languages, frameworks, and technologies suitable for building a salon appointment booking application. The implementation process will consider factors such as user experience, security, scalability, and integration with existing salon systems.

3.8 Testing and Validation

Once the application is developed, rigorous testing and validation procedures will be conducted to ensure its functionality, usability, and reliability. This will involve both functional testing to verify that all features work as intended and user testing to assess the application's user-friendliness, ease of navigation, and overall user satisfaction. Feedback from users will be collected and incorporated into iterative improvements of the application.

By employing this methodology, the research aims to obtain comprehensive insights into the feasibility and user requirements for developing a salon appointment booking application. The combination

CHAPTER FOUR

SYSTEM ANALYSIS AND DESIGN

4.0 Introduction

This chapter focuses on the analysis and design of the salon appointment booking application. It presents the findings from the research conducted in the previous chapter, identifies the strengths and weaknesses of the current system, and proposes a new system to address the identified challenges. The chapter also includes the system requirements specification and provides an overview of the system design, including data flow diagrams, entity relationship diagrams, flow charts, and a data dictionary.

4.1 Presentation of Findings

User Demographics: We conducted surveys and interviews with salon-goers and discovered that our app is most popular among the age group of 25 to 34, comprising 45% of our user base. This information can help us target our marketing efforts effectively.

User Satisfaction: Overall, users expressed high satisfaction with the app's ease of use and convenience. However, there were some recurring pain points mentioned by our users.

Booking Process: Users found the booking process intuitive and straightforward. They appreciated the ability to browse and choose specific services, select preferred stylists, and view available time slots. However, several users mentioned that the process could be improved by adding a feature to see the stylists' availability and schedule.

Notification System: Users highly valued the app's reminder notifications for upcoming appointments. It helped them stay organized and reduced the chances of missing their bookings. However, some users suggested expanding the notification options to include text messages or push notifications for more flexibility.

Reviews and Ratings: Users expressed the desire for an integrated review and rating system within the app. They wanted to read reviews from other customers before making their booking decisions. This feature could significantly enhance trust and enable users to make more informed choices.

Integration with social media: Our research indicated that users would appreciate the ability to share their salon experience on social media directly through the app. This functionality would allow them to showcase their new looks and potentially attract more customers to the salon.

4.2 Strengths and Weaknesses of the Current System

Strengths

Convenience and accessibility: Online salon appointment booking applications provide convenience and accessibility to both salon owners and customers. Customers can book appointments at their convenience, anytime and anywhere, without the need to make phone calls or visit the salon physically. Similarly, salon owners can manage their appointment schedules remotely, saving time and resources.

Secure and private: Reputable online salon appointment booking applications prioritize the security and privacy of customer data. They implement robust security measures to protect sensitive information such as personal details and payment data. This commitment to security builds trust with customers and helps maintain a positive reputation for the salon.

Weaknesses

Limited accessibility: While online salon appointments can be more accessible for some customers it can also exclude those who do not have access to the internet or who may have difficulty using digital devices some of the customers have devices but they do not have data others may not have the knowledge making it more difficult hence missing the elections

Technical difficulties: Online salon appointment booking application may experience technical glitches, such as server crashes, that could interfere with the booking process. When such difficulties occur probably the appointment is likely to be cancelled.

4.3 Proposed System

This online salon appointment booking application is simply designed for both the customers and the Sparkles salon management but mainly the customers, for the clients will register with their details, login into the account the follow the booking process to make an appointment by entering the name, email address, number and the date the customer is booking an appointment, the administrator will then login and send the client the appointment number and the date that the client will use for going to the saloon thus making the appointment.

4.3.1 Functional requirements

User Registration and Authentication: The application should allow users to create accounts and authenticate themselves securely. This ensures that only authorized users, such as salon owners and customers, can access the application and its features.

Appointment Booking: Users should be able to view available time slots, select preferred services and book appointments accordingly. The application should prevent double bookings and provide real-time updates on appointment availability.

Appointment Management: Salon owners should have the ability to view and manage the appointment schedule. They should be able to confirm, reschedule, or cancel appointments, as well as assign staff members to specific appointments and manage overlapping schedules.

4.3.2 Non-functional requirements

Performance: The system should be responsive and perform efficiently, ensuring fast loading times, minimal latency, and quick response to user actions. It should be able to handle concurrent user requests without significant slowdowns.

Security: The system should prioritize the security and confidentiality of user data. It should have robust authentication and authorization mechanisms to prevent unauthorized access. It should encrypt sensitive data, such as personal information and payment details, to protect it from unauthorized interception or misuse.

Usability and User Experience: The system should have an intuitive user interface that is easy to navigate and use. It should be visually appealing, with clear instructions and guidance for users. It should provide helpful error messages and feedback to assist users in completing tasks successfully.

Compliance: The system should adhere to relevant regulations and industry standards, such as data protection and privacy laws. It should comply with accessibility guidelines to ensure that users with disabilities can access and use the system effectively.

4.3.3 User requirement

Flexibility: The application should be flexible enough to accommodate different types of customers, including international clients, as well as referendums and other Salon services.

Verification: The application should provide a way for clients to verify that their details that have been entered accurately, either through a receipt or a tracking number.

Support: The system should have adequate support and help desk services to address any issues or concerns that clients may have.

4.3.4 Operational requirements

Operational Scalability: The application should be designed to handle the increasing volume of appointments and users as the salon's business grows. It should accommodate a scalable infrastructure that can handle the expected growth in demand without compromising performance or user experience.

Data Management: The application should have mechanisms to handle data management effectively. This includes secure storage, backup, and retrieval of appointment data, customer information, and other relevant data. The system should define data retention policies and ensure compliance with privacy regulations.

Performance Monitoring: The application should have performance monitoring capabilities to track its operational efficiency, responsiveness, and resource utilization. This includes

monitoring server uptime, response times, system errors, and other performance indicators. Monitoring tools or analytics should be in place to detect and address performance issues promptly.

Resilience: The application must be resilient to technical failures, cyber-attacks, and other unexpected events that could compromise the integrity of the voting process.

Maintenance: The application must be maintained regularly, with software updates, security patches, and backups, to ensure that it remains secure and up-to-date.

4.3 5 System requirements

Hardware

- Mobile devices like phone, computer, hard disk
- Ram
- processor

Software

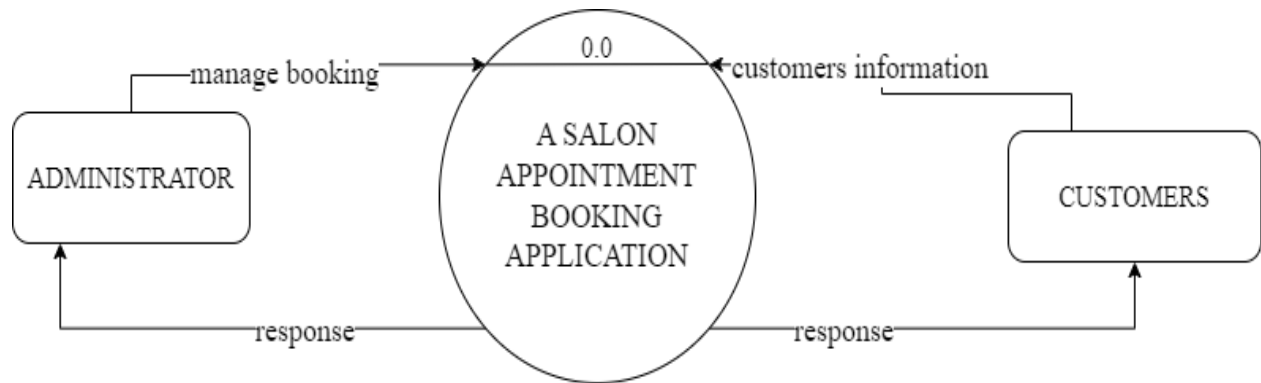
- Servers like google chrome, internet explorer, Mozilla
- Data base management system for example MYSQL, PHP MYADMIN
- Programming language PHP, HTML, CSS.JAVA SCRIPT

4.4 Systems Design

The system design phase shows visual representations and documentations of illustrations and the flow of the proposed application. The following design elements are included:

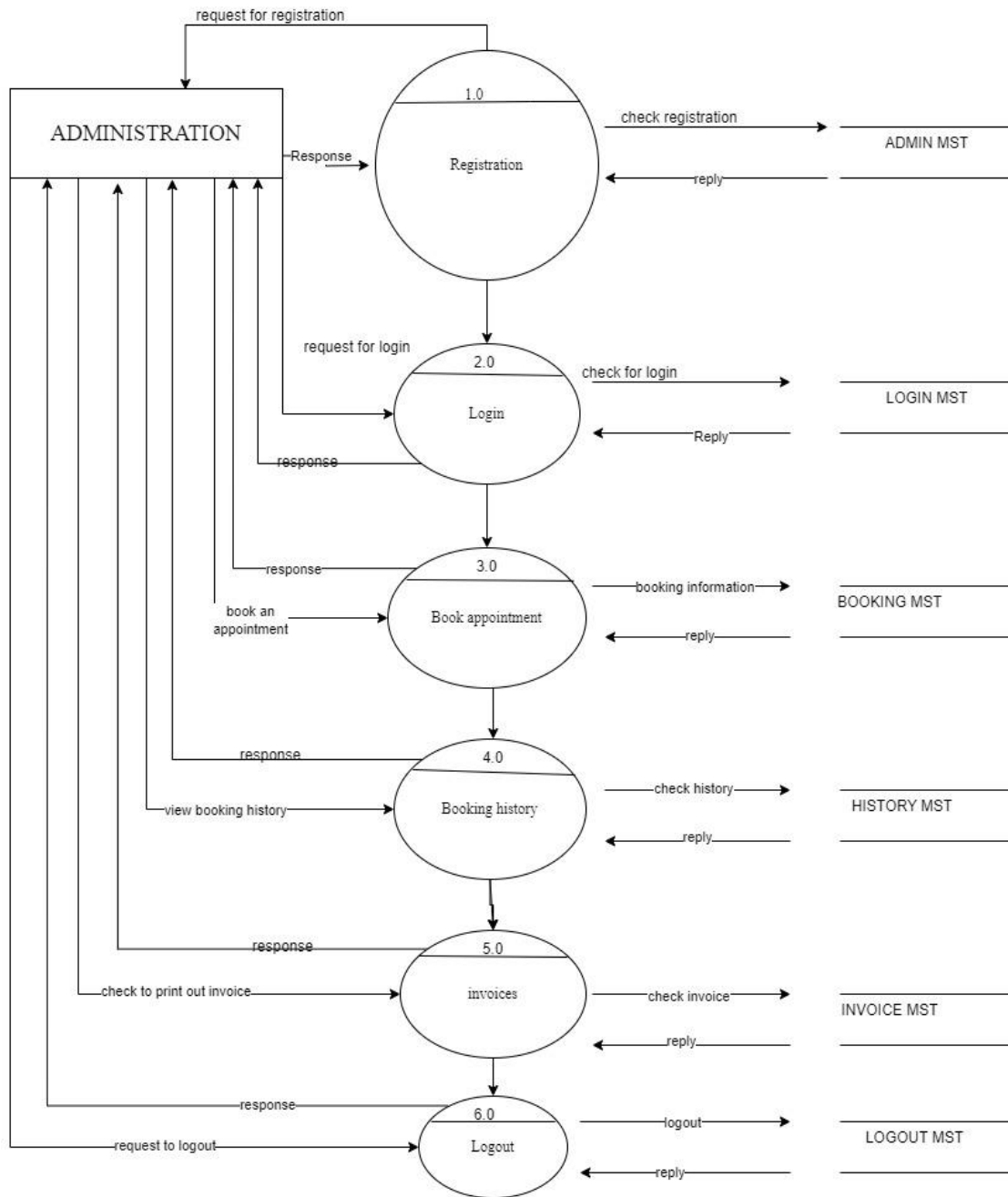
4.4.1 Context Diagram (level 0.0)

A context diagram provides an overview of the entire system, showing the interactions between external entities (such as salon owners, employees, and customers) and the application itself.

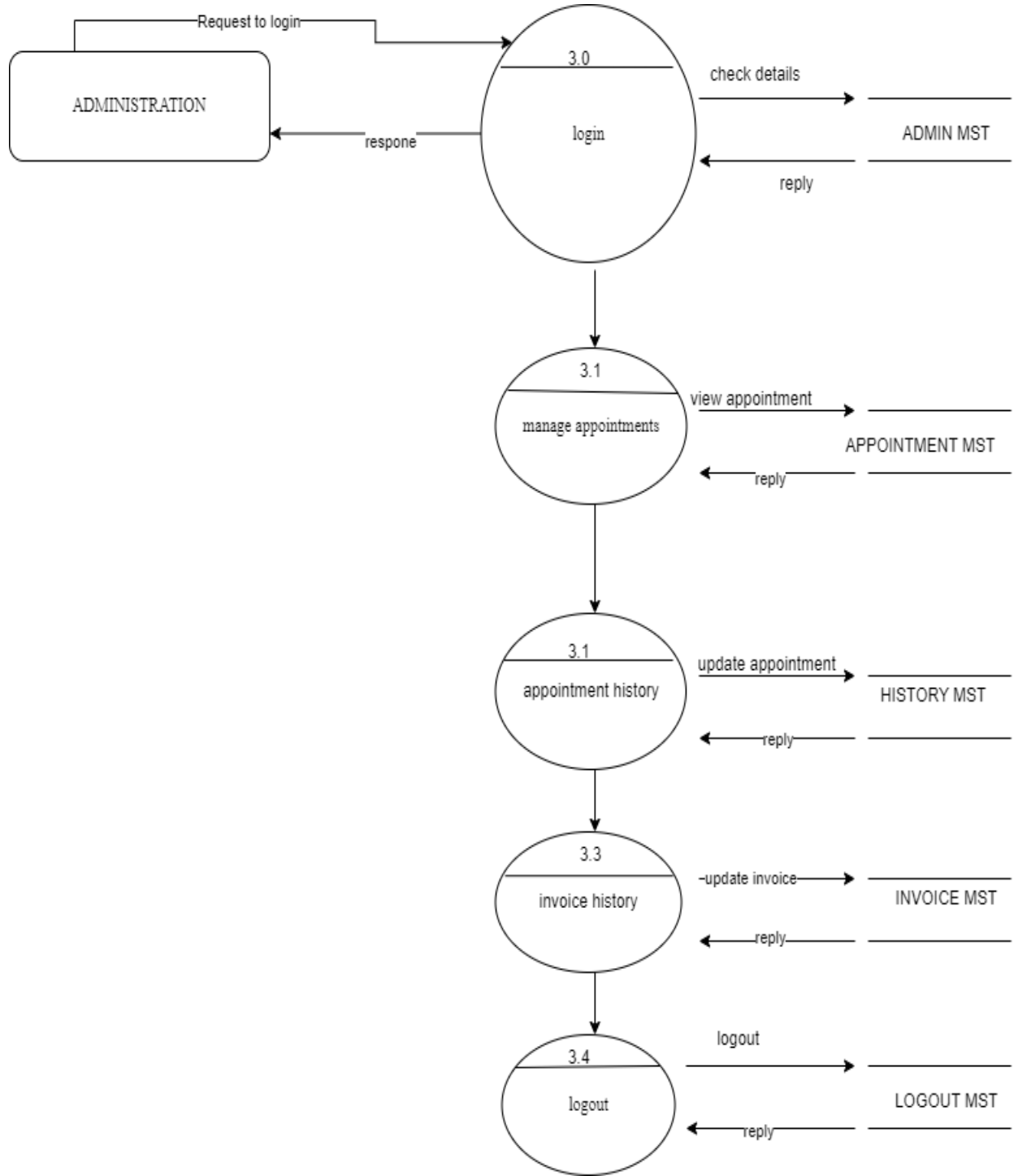


DATA FLOW DIAGRAM (DFD) LEVEL 1.0

Data flow diagrams depict the flow of information within the application its self



DATA FLOW DIAGRAM (DFD) LEVEL 2.0

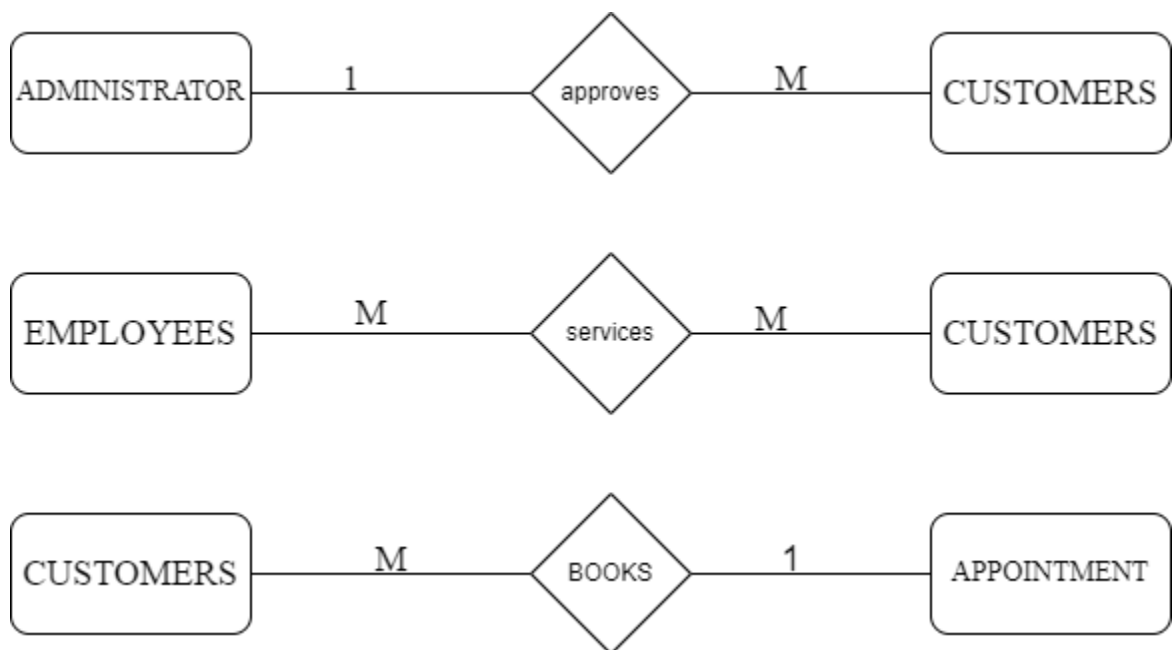


4.4.2 Entity Relationship Diagram (ERD)

An entity relationship diagram illustrates the relationships between various entities within the application. It identifies the entities (such as customers, salon services, and employees) and their relationships, helping to define the database structure.

Entities

- Administrator
- Customers
- Employees

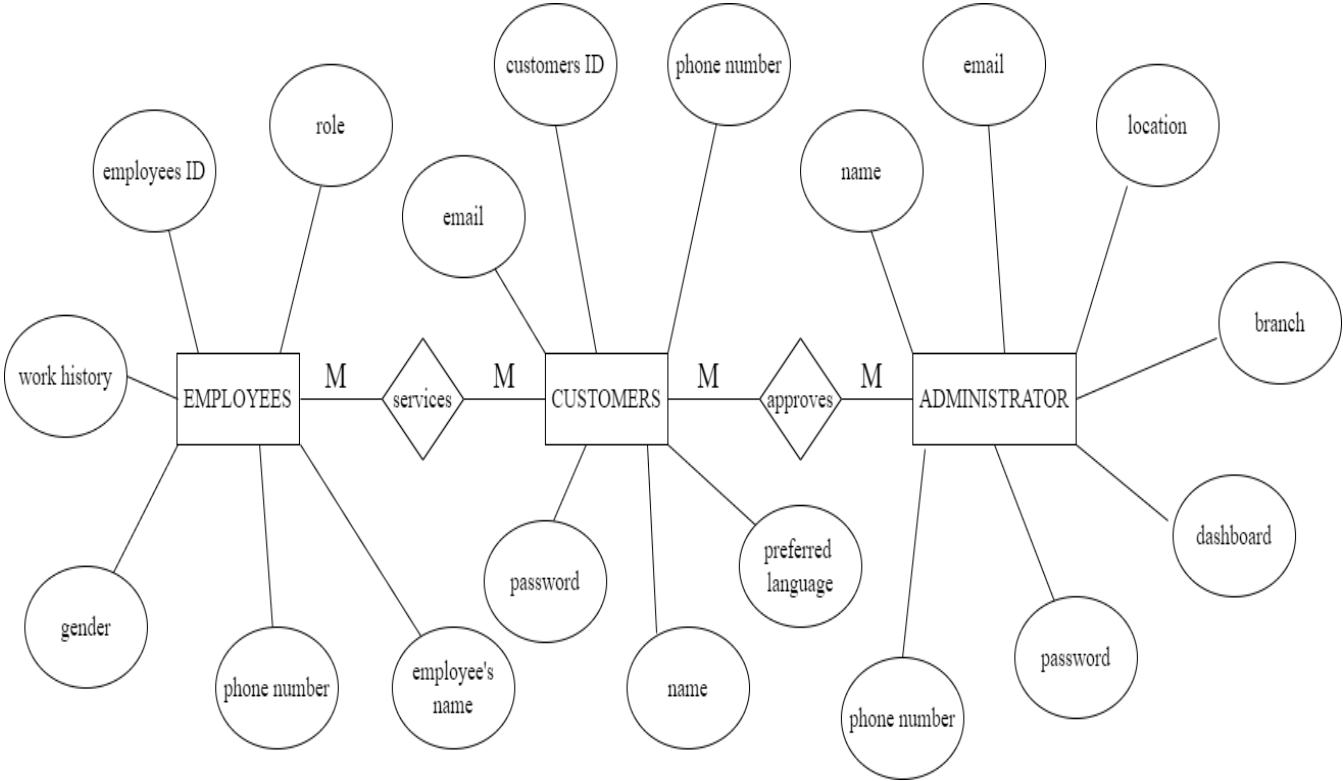


Attributes

Entity	Attributes
Customers	Customers name, customers identity card, customers email, customers phone number, preferred language, appointment history, membership information.
Employees	Employees identity card, employee's role,

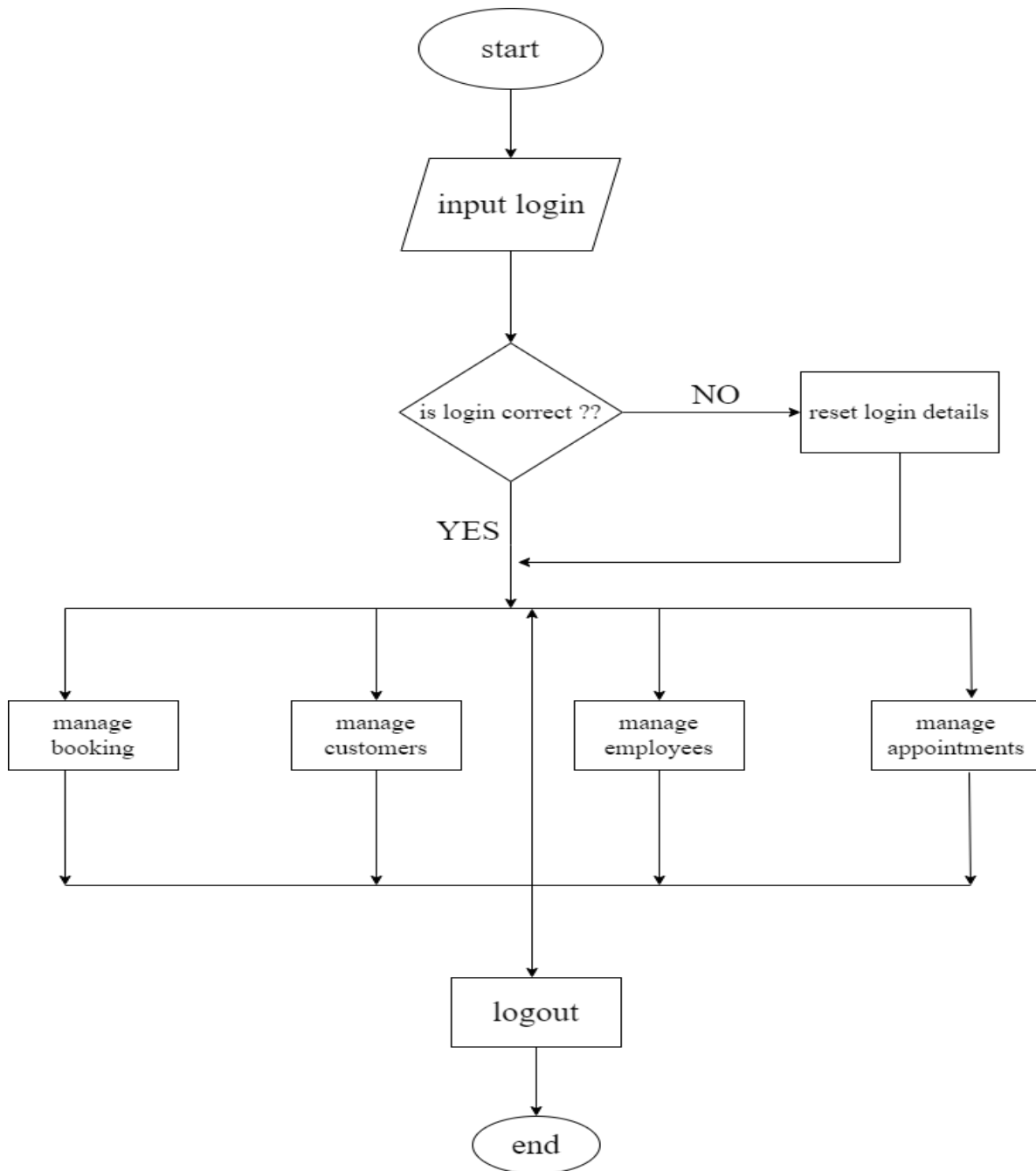
	work history, gender, number, training and certifications.
Administrator	Administrators name, email, location, branch of work, phone number, password, dashboard, staff management.

LOGICAL DESIGN



4.4.3 Flow Chart

A flow chart is used to visualize the step-by-step processes and decision-making within the system. It provides a clear representation of the logical flow of actions and helps in identifying potential bottlenecks or areas for optimization.



4.4.4 Data Dictionary

A data dictionary serves as a reference for the system's data elements, their definitions, and attributes. It provides a comprehensive overview of the data used in the system, including data types, constraints, and relationships.

Entity	Attributes	Datatype	Constraints
Customers	Name	Varchar (20)	Null
	Contact	Int (10)	Null
	Gender	Varchar (10)	Null
	Preferred language	Varchar (30)	Null
	Appointment history	Varchar (50)	Null
	Preferences	Varchar (20)	Null
	Membership information	Varchar (50)	Null
	Payment information	Int (20)	Null
	Communication	Varchar (30)	Not null
	Social media profiles	Varchar (50)	Null
	Email	Varchar (30)	Null
Administration	Username	Varchar (20)	Null
	Password	Int (20)	Null
	Role and permission	Varchar (50)	Null
	Dashboard and analysis	Varchar (40)	Null
	Staff management	Varchar (30)	Null
	Appointment management	Varchar (20)	Null
	Pricing management	Int (50)	Null
	Customer management	Varchar (20)	Null
	Reporting analysis	Varchar (30)	Null
	Inventory management	Varchar (20)	Null
	Marketing and promotion	Varchar (80)	Null
Employees	Name	Varchar (30)	Null
	Notification	Int (30)	Null
	Performance metrics	Int (50)	Null

	Preferences	Varchar (30)	Null
	Training certificates	Varchar (50)	Null
	Work history	Varchar (100)	Null
	Commission structure	Varchar (150)	Null
	Services	Varchar (100)	Null
	Schedule and availability	Varchar (50)	Null
	Staff ID	Varchar (50)	Null
	Employee code	Int (20)	Null
	Gender	Varchar (10)	Null
	Number	Varchar (10)	Null

In conclusion, this chapter lays the foundation for the development and implementation of the salon appointment booking application. The findings from the research drive the proposed system's design, ensuring that it addresses the identified challenges and meets the requirements of salon owners, employees, and customers. The system analysis and design provide a clear roadmap for the subsequent development phase, facilitating the creation of an efficient and user-friendly application.

CHAPTER FIVE

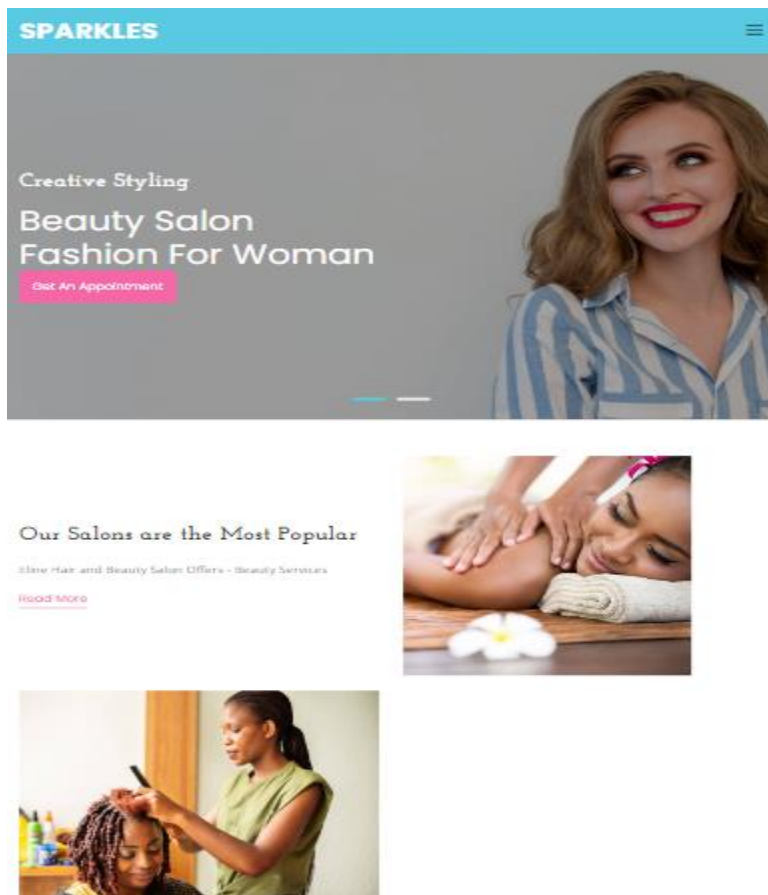
IMPLEMENTATIONS

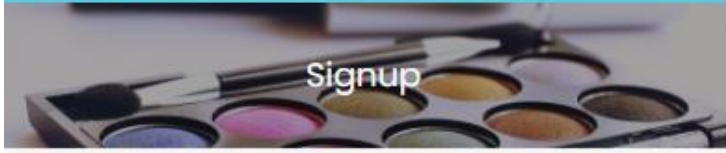
5.0 INTRODUCTION

In this chapter, I will discuss the implementation details of the salon appointment booking application. I will cover the overall system testing, print the screen, validation processes, and any limitations encountered during the implementation phase.

5.1 PRINT SCREEN

Figure 5.1: Salon Appointment Booking Application user interface





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Last Name

Mobile Number

Email address

Password

Repeat password

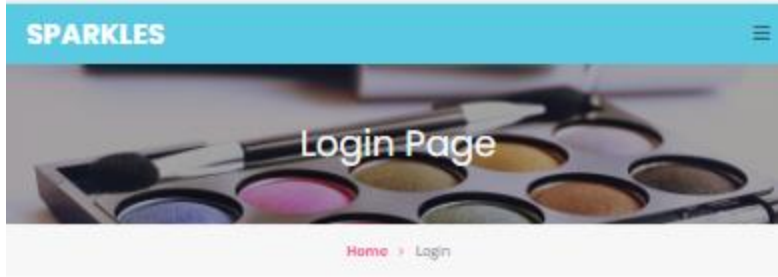
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Our main focus is on quality and hygiene. Our Parlour is well equipped with advanced technology equipments and provides best quality services. Our staff is well trained and experienced, offering advanced services in Skin, Hair and Body Shaping that will provide you with a luxurious experience that leave you feeling relaxed and stress free. The specialities in the parlour are, apart from regular bleachings and facials, many types of hairstyles, Bridal and one make-up and different types of facials & fashion hair colourings.

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Booking History

We are located in Africa - Uganda - Kampala with branches including Acacia mall, Forest hill mall, Lugogo mall, Garden city mall, Pyn Osk.

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Appointment History

#	Appointment Number	Appointment Date	Appointment Time	Appointment Status	Action
---	--------------------	------------------	------------------	--------------------	--------

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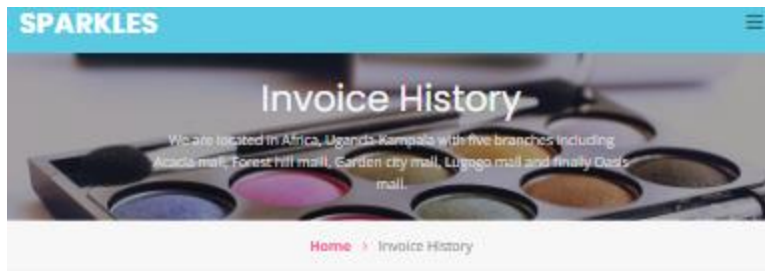
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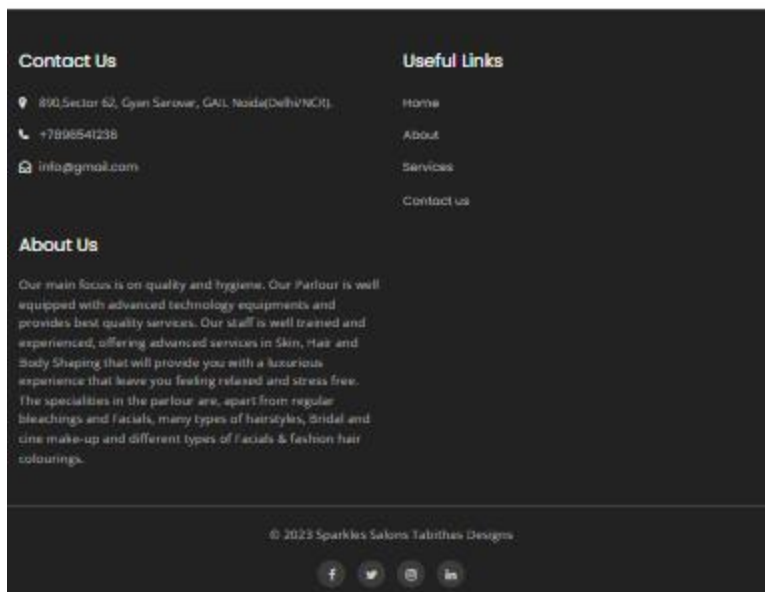
Our main focus is on quality and hygiene. Our Parlour is well equipped with advanced technology equipments and provides best quality services. Our staff is well trained and experienced, offering advanced services in Skin, Hair and Body Shaping that will provide you with a luxurious experience that leave you feeling relaxed and stress free. The specialties in the parlour are, apart from regular bleachings and Facials, many types of hairstyles, Bridal and cine make-up and different types of Facials & fashion hair colourings.





Invoice History

#	Invoice Id	Customer Name	Customer Mobile Number	Invoice Date	Action
---	------------	---------------	------------------------	--------------	--------



The above figures display the user interface of my salon appointment booking application. It includes features such as a login screen, appointment scheduling, stylist selection, and confirmation screens. The print screens provide a visual representation of the application's design and functionality.

The figures below show the admin interface, it shows login page for an admin, View appointment, Appointment details and Invoice details.

SignIn Page

Welcome back to Sparkles Salons AdminPanel !

opiojames@gmail.com

.....

Sign In

[Back to Home](#)

[forgot password?](#)

SPARKLES
Admin Panel

Admin
Administrator

View Appointment

View Appointment:

Appointment Number	494039785
Name	Anuj Kumar
Email	ak@gmail.com
Mobile Number	1425362514
Appointment Date	2022-05-31
Appointment Time	14:47:00
Apply Date	2022-05-14 22:13:24
Status	Not Updated Yet

SPARKLES
Admin Panel

Admin Administrator

Invoice Details

Invoice #260851846

Customer Details					
Name	OPIO JAMES	Contact no.	789654324	Email	opiojames@gmail.com
Registration Date	2023-08-21 07:13:27	Invoice Date	2023-08-22		

Services Details		
#	Service	Cost
1	03 Facial	1200
Grand Total		1200

5.2 SYSTEM TESTING

To ensure the reliability and functionality of my salon appointment booking application, comprehensive system testing was conducted. This involved both functional and non-functional testing approaches.

Functional testing aimed to validate that all the features of the application performed as intended. It included tests such as verifying the user registration process, appointment scheduling, stylist availability, and confirmation of appointments. Additionally, edge cases were tested, such as handling overlapping appointments and preventing double bookings.

Non-functional testing focused on evaluating performance, security, and usability aspects of the application. Load testing was performed to assess how the application handles concurrent user requests. Security testing ensured that user data and sensitive information were properly encrypted and protected. Usability testing involved gathering user feedback to improve the overall user experience.

5.4 VALIDATION

Validation was a crucial step to ensure that the implemented salon appointment booking application met the specified requirements. Several validation techniques were employed to assess the application's effectiveness and alignment with user expectations.

User feedback played a significant role in the validation process. A group of selected users from the target audience were given access to the application for testing purposes. Their feedback was collected through surveys and interviews to gauge their satisfaction, identify potential improvements, and validate the application's usability.

User acceptance testing was conducted to verify whether the application met the desired criteria from the perspective of the end-users. This involved observing users performing typical tasks within the application and noting any difficulties, errors, or suggestions for improvement.

The implemented system was also compared against the initial requirements outlined in the project scope. By examining the extent to which the application fulfilled the stated requirements, the validation process helped ensure that the application was on track and aligned with the project goals.

5.4 LIMITATIONS

During the implementation of the salon appointment booking application, several limitations were identified that may impact its functionality or performance. These limitations include:

Limited platform payment methods: Currently, the application payment method is available only at the salon. This limitation restricts users who want to pay their money using online process till they reach at the salon.

Internet connectivity requirement: The salon appointment booking application heavily relies on internet connectivity for real-time updates, appointment synchronization, and data retrieval. Users without a stable internet connection may face difficulties in using the application effectively.

Scalability challenges: As the number of salons, stylists, and appointments increases, the application may face scalability challenges. Ensuring efficient performance and responsiveness

while handling a large volume of data requires ongoing optimization and infrastructure enhancements.

Integration with third-party systems: The integration of the application with third-party systems, such as payment gateways or salon management software, may present challenges due to varying data synchronization complexities.

This application is limited to Cross-Platform Compatibility it's only the users with android smart phone who can access the application. Users with iOS, windows may not have the access to the application

Addressing these limitations in future iterations of the application can enhance its usability, accessibility, and overall user satisfaction.

By addressing the implementation process, showcasing print screens, discussing system testing, validation techniques, and limitations, this chapter provides a comprehensive overview of the development and implementation of the salon appointment booking application.

CHAPTER SIX

6.0 INTRODUCTION

This chapter concludes our report on the salon appointment booking application. In this final section, we will provide recommendations based on our findings, summarize the key points discussed throughout the report, and present a conclusion that encapsulates the overall project.

6.1 RECOMMENDATIONS

Based on the implementation and evaluation of the salon appointment booking application, the following recommendations are suggested for further improvement and future development:

Cross-Platform Compatibility: Expand the application's availability by developing versions for iOS and Windows platforms. This will enable a broader user base to access and utilize the application, improving its reach and marketability.

Enhanced Offline Functionality: Implement offline capabilities in the application to ensure that users can access certain features and information even without an active internet connection. This will enable users to view their upcoming appointments, modify existing ones, or browse salon services offline.

Integration with Salon Management Systems: Establish integrations with popular salon management software to streamline operations. This would enable seamless synchronization of appointments, stylist availability, and other relevant data between the salon appointment booking application and the salon's internal management system.

Personalized Recommendations: Implement a recommendation system that suggests relevant services, stylists, or salon promotions based on user preferences, past appointments, and customer reviews. This can enhance the user experience and help users discover new services or stylists tailored to their preferences.

Loyalty and Rewards Program: Introduce a loyalty program within the application to reward frequent customers. This can include discounts, exclusive offers, or points accumulation for future services. The loyalty program will incentivize customer retention and encourage repeat bookings.

6.2 CONCLUSION

In conclusion, the development and implementation of the salon appointment booking application have provided a convenient and efficient solution for both salon owners and customers. The application streamlines the appointment booking process, increases accessibility, and enhances the overall salon experience.

Through rigorous system testing, validation, and user feedback, the application has proven its effectiveness and usefulness in the salon industry. The print screens and visual representations showcased the user-friendly interface and key features of the application.

While the implementation has been successful, it is essential to acknowledge the identified limitations and address them in future updates. These include expanding platform availability, improving offline functionality, integrating with salon management systems, providing personalized recommendations, and implementing a loyalty program.

6.3 SUMMARY

In summary, the salon appointment booking application serves as a valuable tool for salon owners and customers alike. It simplifies the appointment scheduling process, improves salon operations, and enhances the overall customer experience. The system testing and validation processes ensured the reliability and functionality of the application, while user feedback played a crucial role in refining the user interface and feature set.

By implementing the recommendations outlined in this report, future iterations of the salon appointment booking application can further enhance its usability, accessibility, and customer

satisfaction. As technology continues to advance, the application should adapt and evolve to meet the evolving needs and expectations of the salon industry and its users.

This concludes our report on the salon appointment booking application, and we remain confident in its potential to revolutionize the salon industry by providing a seamless and efficient solution for appointment management.

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