ONLINE HAIR SALON

Mini Project Report

Submitted by

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In Partial fulfillment for the Award of the Degree of

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AMAL JYOTHI COLLEGE OF ENGINEERING AUTONOMOUS

KANJIRAPPALLY

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2024-2025

DEPARTMENT OF COMPUTER APPLICATIONS

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CERTIFICATE

This is to certify that the Project report, "**ONLINE HAIR SALON"** is the bonafide work of **GAYATHRY G NAIR (Regno: AJC23MCA-2028)** in partial fulfillment of the requirements for the award of the Degree of Integrated Master of Computer Applications under **Amal Jyothi College of Engineering Autonomous, Kanjirappally** during the year 2024-25.

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DECLARATION

I hereby declare that the project report **"ONLINE HAIR SALON"** is a bona fide work done at Amal Jyothi College of Engineering, towards the partial fulfilment of the requirements for the award of the Integrated Master of Computer Applications (MCA) from Amal Jyothi College of Engineering Autonomous during the academic year 2024-2025.

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GAYATHRY G NAIR

ABSTRACT

The "Online Hair Salon" project is a web-based application built using Django to streamline salon operations. It has three main modules: User, Staff, and Admin. The User Module allows customers to manage profiles, browse services, book appointments, and make online payments. Users can view their appointment history, receive notifications, rate services, and cancel or reschedule appointments as needed. The system also sends email and SMS notifications for booking confirmations.

The Admin Module enables administrators to manage staff, services, and business performance through reports. Admins handle staff schedules and update service details. The Staff Module helps salon employees manage their profiles, view schedules, and handle appointments. Staff can update their availability and manage the services they offer. This system ensures smooth operations and a seamless experience for both customers and salon staff.

CONTENT

List of Abbreviations

• UML - Unified Modelling Language

• ORM - Object-Relational Mapping

• MVT - Model-View-Template

• MVC - Model-View-Controller

• RDBMS - Relational Database Management System

• 1NF - First Normal Form

• 2NF - Second Normal Form

• 3NF - Third Normal Form

• IDE - Integrated Development Environment

• HTML - HyperText Markup Language

• JS - JavaScript

• CSS - Cascading Style Sheets

• API - Application Programming Interface

• UI - User Interface

• HTTP - Hypertext Transfer Protocol

• URL - Uniform Resource Locator

• PK - Primary Key

• FK - Foreign Key

• SQL - Structured Query Language

• CRUD - Create, Read, Update, Delete

CHAPTER 1

INTRODUCTION

1.1 PROJECT OVERVIEW

The "Online Hair Salon" project is designed to simplify salon management through a user-friendly web application. It offers three main sections for Customers, Staff, and Administrators. Customers can manage their profiles, browse salon services, book appointments, and make online payments. They can also view appointment history, receive notifications, and rate or reschedule services if needed, making their salon experience smooth and convenient.

For Administrators, the project provides tools to manage staff and services, update service details, and organize staff schedules, while tracking business performance through reports. Staff members can manage their profiles, update availability, and handle their appointments efficiently. Overall, the system ensures efficient operations and an enhanced experience for both salon customers and staff.

1.2 PROJECT SPECIFICATION

User Roles:

- **Customer (User Module):**
  - Registration, login, and profile management.
  - Browse services with detailed descriptions and rates.
  - Book and manage appointments (schedule, reschedule, or cancel).
  - Online payments via integrated payment gateway.
  - View appointment history and receive email/SMS notifications.
  - Rate and review services.
- **Staff (Staff Module):**
  - Profile management including personal information and work schedule.
  - View and update appointment calendar.
  - Manage service availability and preferences.
  - Update availability for bookings.
- **Administrator (Admin Module):**
  - Manage staff profiles, schedules, and roles.
  - Update and manage service offerings (descriptions, rates).
  - Generate reports on booking statistics, revenue, and performance.
  - Manage user access and security settings.

CHAPTER 2

SYSTEM STUDY

2.1 INTRODUCTION

The "Online Hair Salon" project is a web-based system developed using Django to enhance and streamline the operational processes of a salon. The system is designed to meet the needs of three key user groups: customers, staff, and administrators. By providing an online platform for booking appointments, managing profiles, and handling payments, the system aims to offer a convenient, user-friendly experience for salon clients while ensuring efficient salon management.

The system study focuses on understanding the requirements and functionalities needed to meet the specific needs of each user group. For customers, the system provides features like service browsing, appointment scheduling, notifications, and feedback options. Administrators are equipped with tools to manage staff, services, and monitor business performance through reports. Staff members are able to handle their schedules, appointments, and service availability through their personalized dashboards. This study analyzes the system's design and functionality to ensure a seamless experience across all user roles, contributing to the salon's operational efficiency and improved customer satisfaction.

2.2 EXISTING SYSTEM

2.2.1 NATURAL SYSTEM STUDIED

The natural system studied for the "Online Hair Salon" project focuses on the traditional operations of a salon, where customers physically visit to book appointments, inquire about services, and make payments. Salon staff manually manage schedules and customer bookings, while administrators handle day-to-day operations like service management, staff coordination, and business performance monitoring. By studying this natural system, the project aims to automate and enhance these processes through a web-based platform, providing a more efficient and accessible solution for both customers and salon staff.

2.2.2 DESIGNED SYSTEM STUDIED

The designed system for the "Online Hair Salon" project automates and enhances the traditional salon operations by introducing a web-based platform with three main modules: User, Staff, and Admin. The User Module allows customers to manage profiles, browse services, book appointments, and make payments online. It also sends notifications and enables customers to rate services and manage their bookings. The Admin Module helps administrators manage staff, services, and track business performance, while the Staff Module enables employees to manage their profiles, schedules, and appointments. This system ensures smoother operations, greater convenience for customers, and better administrative control for salon management.

2.3 DRAWBACKS OF EXISTING SYSTEM

- **Time-Consuming Processes:** Customers need to visit or call the salon to book appointments, which can lead to delays and inefficiencies, especially during busy hours.
- **Limited Accessibility:** There is no online platform for customers to view services, book appointments, or make payments at their convenience. Everything must be handled in person or over the phone.
- **Manual Record Keeping:** Staff and administrators rely on paper records or basic spreadsheets to manage appointments, customer information, and staff schedules, which increases the chances of human error and data mismanagement.
- **No Automated Notifications:** Customers don't receive automatic reminders or updates about their appointments, leading to missed or forgotten appointments.
- **Lack of Real-Time Updates:** Scheduling conflicts can arise since there's no real-time system to track staff availability or appointment changes.
- **Limited Customer Feedback:** Gathering customer feedback, reviews, or ratings is often overlooked or done manually, making it difficult to assess service quality.
- **Inefficient Service Management:** Admins have to manually adjust staff schedules, service details, and pricing, which can be tedious and prone to mistakes.

2.4 PROPOSED SYSTEM

The proposed "Online Hair Salon" system is a web-based solution designed to overcome the inefficiencies of traditional salon operations. By automating processes, the system offers a more streamlined experience for customers, staff, and administrators. Through the **User Module**, customers can easily manage their profiles, browse services, book appointments, and make online payments. They receive automated notifications for booking confirmations and reminders, and can also rate services, view their appointment history, and reschedule or cancel bookings if needed. The **Staff Module** enables salon employees to manage their profiles, view schedules, and handle appointments, allowing them to better control their availability and service offerings. The **Admin Module** provides administrators with tools to manage staff profiles, update service details, and track business performance through comprehensive reports. This system eliminates manual processes, reduces errors, and enhances overall efficiency, leading to a better experience for both customers and salon management.

2.5 ADVANTAGES OF PROPOSED SYSTEM

- Efficiency and Automation: The proposed system automates appointment bookings, notifications, and payments, reducing the need for manual processes and minimizing human error.
- 24/7 Accessibility: Customers can browse services, book appointments, and make payments online at any time, providing greater convenience and flexibility compared to traditional methods.
- Real-Time Updates: Staff availability, appointment schedules, and service details are updated in real time, ensuring that customers and staff always have accurate and up-to-date information.
- Improved Customer Experience: Customers receive automated email and SMS notifications for appointment confirmations and reminders, allowing them to easily manage their bookings, providing a seamless and convenient experience.
- Enhanced Service Management: Administrators can efficiently manage staff schedules, update service offerings, and generate reports on business performance, allowing for better decision-making and optimized operations.
- Feedback and Ratings: The system allows customers to provide feedback and rate services, enabling the salon to assess customer satisfaction and improve service quality.
- Reduced Scheduling Conflicts: The system provides real-time tracking of staff availability and appointments, helping avoid double bookings and scheduling conflicts.
- Secure Online Payments: Integrated payment gateways enable customers to make secure online payments, improving convenience and reducing payment-related delays.
- Data Management: All customer, staff, and service data is stored in a centralized database, ensuring organized and efficient record-keeping and easy access to relevant information.
- Scalability: The system can easily scale with growing customer demand, staff expansion, or additional services, making it adaptable for future growth.

CHAPTER 3
REQUIREMENT ANALYSIS

3.1 FEASIBILITY STUDY

The feasibility study for the "Online Hair Salon" project indicates strong economic viability, leveraging open-source technologies such as Python Django for the backend and HTML/CSS for the frontend, significantly reducing development costs and ensuring low operational expenses. Technically, the project is well-equipped with a reliable technology stack, including MySQL for efficient data management and payment gateway integration for secure online transactions, fulfilling all necessary requirements for seamless operation. Furthermore, operational feasibility is enhanced by a user-friendly interface designed to minimize resistance among customers, staff, and administrators. The system facilitates easy profile management, appointment scheduling, and service tracking, while automated notifications for appointments and payments streamline salon operations. Overall, the project demonstrates solid economic, technical, and operational feasibility, positioning it for successful implementation.

3.1.1 Economical Feasibility

The economic feasibility of the "Online Hair Salon" project is favorable due to its reliance on open-source technologies, which significantly reduce development costs. The backend is built using Python Django, while the frontend is developed with HTML/CSS, both of which are free to use. This approach minimizes initial investment, and ongoing operational costs are expected to remain low. Additionally, the system's potential to increase customer engagement and streamline salon operations could lead to enhanced revenue generation, making the project economically viable.

3.1.2 Technical Feasibility

The technical feasibility of the project is robust, as it employs a well-established technology stack. Python Django is chosen for backend development due to its scalability, security, and ease of use. The frontend, built with HTML/CSS, ensures compatibility across various devices and browsers. The use of MySQL as the database supports efficient data management for customer profiles, appointment bookings, and staff information. Integration with payment gateways for secure online transactions is also planned, fulfilling all technical requirements necessary for the successful operation of the salon management system.

3.1.3 Behavioral Feasibility

Behavioral feasibility assesses how well the "Online Hair Salon" project aligns with the needs, expectations, and behaviors of its users, including customers, staff, and administrators. The system is designed with a user-friendly interface that simplifies navigation and encourages engagement, making it accessible to individuals with varying levels of technical expertise. Customers can easily manage their profiles, book appointments, and make payments, which enhances their overall experience and satisfaction. Staff members benefit from streamlined appointment management and scheduling features, fostering better communication and collaboration within the salon. Additionally, administrators can efficiently oversee operations, manage staff, and analyze performance metrics. By focusing on user experience and facilitating smooth interactions, the project promotes a positive adoption rate among all users, thereby increasing the likelihood of successful implementation and sustained usage.

3.1.4 Feasibility Study Questionnaire

1)Project-Overview:

The "Online Hair Salon" project is a web-based application developed using the Django framework. It aims to streamline salon operations by offering a comprehensive system for customers, staff, and administrators. The main objectives are to enhance customer convenience through online appointment management and payments, improve salon efficiency with robust staff and service management, and provide administrators with tools for analyzing performance and managing staff.

2)System-Scope:

The system is proposed as a full-scale implementation designed for practical use in operational salons. It is not a research prototype but a complete solution intended for day-to-day use in managing salon services, appointments, and staff.

3)Target-Audience:

The primary users of the system include:

- **Customers:** Who will use the system to manage their profiles, book appointments, make payments, and provide feedback.
- **Salon Staff:** Who will manage their schedules, handle appointments, and track performance.
- **Administrators:** Who will oversee staff management, service offerings, promotions, and business analytics.

4) Modules:

1. **User Module:** Manages customer profiles, service browsing, payments, appointment history, notifications, reviews, and cancellations.
2. **Admin Module:** Handles staff management, service management, promotions, analytics, and security settings.
3. **Staff Module:** Includes profile management, schedule management, service management, appointment management, and performance tracking.

5) User Roles:

1. **Customer:** Can manage personal information, book and manage appointments, make payments, and provide feedback.
2. **Staff:** Can manage their own profiles, view and update schedules, manage services offered, and track performance.
3. **Administrator:** Can manage staff, services, promotions, analyze reports, and set security permissions.

6)System-Ownership:

The system ownership will be with [Owner's Name or Entity], which could be an individual, an organization, or a salon chain.

7)Industry/Domain:

The system is related to the beauty and personal care industry, specifically focusing on hair salons.

8) Data Collection Contacts:

- **Name:** Akshay S
- **Role:** Staff
- **Contact Information:** 8943290272

9) Questionnaire for Data Collection:

1. What are your primary needs for managing salon appointments online?
    - To streamline the booking process, reduce no-shows through automated reminders, and allow customers to easily manage their appointments.
2. How do you currently handle appointment bookings and payments?
    - Currently, appointments are booked over the phone or in person, and payments are made in cash or through card transactions at the salon.
3. What features do you find most important in a salon management system?
    - Online booking, payment processing, appointment reminders, staff scheduling, customer feedback management, and performance analytics.
4. How do you track and manage customer feedback and reviews?

- Customer feedback is collected through paper forms at the salon and manually reviewed by the staff.

5. What kind of promotions or discounts do you regularly offer?
    - We offer seasonal discounts, loyalty rewards, and occasional promotional packages for special events.
6. How do you manage and schedule staff shifts and availability?
    - Staff schedules are managed manually using a calendar and communicated via group messages or calls.
7. What types of reports or analytics would be most useful for your salon?
    - Booking statistics, revenue reports, staff performance metrics, and customer satisfaction ratings.
8. Are there any specific security concerns you have for managing staff and customer data?
    - Ensuring that customer payment information is secure, protecting customer and staff personal data, and controlling access to sensitive information within the system.
9. How do you currently handle cancellations and rescheduling of appointments?
    - Cancellations and rescheduling are handled manually over the phone or in person, often resulting in scheduling conflicts and errors.
10. What additional features or functionalities would you like to see in an online salon management system?
    - Integration with social media for marketing, automated follow-ups with customers, mobile app access for easier management, and a loyalty program system.

3.2 SYSTEM SPECIFICATION

3.2.1 Hardware Specification

Processor: Intel Core i5
RAM: 16 GB
Hard Disk: 1 TB

3.2.2 Software Specification

Front End: HTML, CSS

Back End: Python - Django

Database: MySQL

Client on PC: Windows 7 and above

Technologies Used: JavaScript, HTML5, AJAX, jQuery, PHP, CSS

3.3 SOFTWARE DESCRIPTION

3.3.1 Django

Django is a popular and powerful open-source web framework written in Python, designed to facilitate rapid development and maintainable web applications. It follows the Model-View-Template (MVT) architectural pattern, which is similar to the Model-View-Controller (MVC) pattern. Django provides a structured and efficient way to build web applications, offering several key components and features. At its core, Django includes a robust Object-Relational Mapping (ORM) system that simplifies database interactions, allowing developers to work with Python objects instead of raw SQL queries. It also includes a URL dispatcher for mapping URLs to view functions, an automatic admin interface for managing application data, and a templating engine

for creating dynamic and reusable user interfaces. Django places a strong emphasis on security, with built-in features to protect against common web vulnerabilities, including authentication and authorization systems, middleware support for global request and response processing, and compatibility with various databases.

3.3.2 MySQL

MySQL is an open-source relational database management system (RDBMS) that utilizes structured query language (SQL) for managing and manipulating data. It is known for its reliability, scalability, and ease of use, making it one of the most popular databases for web applications. MySQL supports a wide range of data types and provides powerful features such as transactions, indexing, and stored procedures. It integrates seamlessly with Django through its ORM, allowing developers to create, read, update, and delete records effortlessly while maintaining data integrity and security. MySQL's performance and robust transaction support make it an excellent choice for handling the data needs of web applications, including those developed with Django.

CHAPTER 4
SYSTEM DESIGN

4.1 INTRODUCTION

The initial stage of developing any engineered product or system is the design phase, which involves a creative approach. A well-crafted design plays a critical role in ensuring the successful functioning of a system. Design is defined as the process of employing various techniques and principles to define a process or system in enough detail to enable its physical realization. This involves using different methods to describe a machine or system, explaining how it operates, in sufficient detail for its creation. In software development, design is a crucial step that is always present, regardless of the development approach. System design involves creating a blueprint for building a machine or product. Careful software design is essential to ensure optimal performance and accuracy. During the design phase, the focus shifts from the user to the programmers or those working with the database. The process of creating a system typically involves two key steps: Logical Design and Physical Design.

4.2 UML DIAGRAM

Unified Modeling Language (UML) is a standardized language used for specifying, visualizing, constructing, and documenting the elements of software systems. Developed by the Object Management Group (OMG), the first draft of the UML 1.0 specification was presented in January 1997. Unlike programming languages such as C++, Java, or COBOL, UML is not a programming language but rather a graphical language that serves as a tool for creating software blueprints.

UML is a versatile visual modeling language that facilitates the representation and understanding of both software and non-software systems. While its primary application lies in modeling software systems, it can also represent processes in various contexts, such as manufacturing. UML is not directly a programming language but can be integrated with tools that generate code in different programming languages based on UML diagrams. It encompasses nine core diagrams that aid in representing various aspects of a system, including:

- Class Diagram
- Object Diagram
- Use Case Diagram
- Sequence Diagram
- Activity Diagram
- State Chart Diagram
- Deployment Diagram
- Component Diagram

4.2.1 USE CASE DIAGRAM

A use case is a crucial tool for understanding and organizing a system's requirements, particularly in contexts such as developing a product delivery website. Use cases are visually represented using "use case" diagrams in the Unified Modeling Language (UML), which provides a standardized method for modeling real-world systems and processes.

A use case diagram consists of several main elements:

- **Boundary:** This element defines the system's scope, distinguishing it from external entities.
- **Actors:** These represent individuals or entities that play specific roles within the system.
- **Interactions:** This illustrates the relationships and interactions between different actors and the system in various scenarios.

The primary purpose of use case diagrams is to document a system's functional specifications. To create an effective use case diagram, certain guidelines should be followed:

- Use clear and meaningful names for use cases and actors.
- Ensure that relationships and dependencies are well-defined.
- Include only necessary relationships to maintain the diagram's clarity.
- Utilize explanatory notes as needed to clarify essential details.

4.2.1 SEQUENCE DIAGRAM

Explanation, Diagram

4.2.2 State Chart Diagram

Explanation, Diagram

4.2.2 Activity Diagram

Explanation, Diagram

4.2.3 Class Diagram

Explanation, Diagram

4.2.4 Object Diagram

Explanation, Diagram

4.2.5 Component Diagram

Explanation, Diagram

4.2.8 Deployment Diagram

Explanation, Diagram

4.2.9 Collaboration Diagram

Explanation, Diagram

4.3 USER INTERFACE DESIGN USING FIGMA

Form Name: abcc

Screenshot

Form Name: abcc

Screenshot

All Forms

4.4 DATABASE DESIGN

4.4.1 Relational Database Management System (RDBMS)

4.4.2 Normalization

4.4.3 Sanitization

4.4.4 Indexing

4.5 TABLE DESIGN

1.Tbl_users_login

Eg.Primary key: **loginid**

Eg.Foreign key: **loginid** references table **Tbl_users_login**

No:	Field name	Datatype (Size)	Key Constraints	Description of the field

CHAPTER 5
SYSTEM TESTING

5.1 INTRODUCTION

Explanation

5.2 TEST PLAN

Explanation

5.2.1 Unit Testing

explanation

5.2.2 Integration Testing

Explanation

5.2.3 Validation Testing or System Testing

Explanation

5.2.4 Output Testing or User Acceptance Testing

explanation.

5.2.5 Automation Testing

explanation.

5.2.6 Selenium Testing

explanation.

Example:

Test Case 1

Code

```
package test1;
import org.openqa.selenium.By;
public class login {
    public static void main(String[] args) {
        System.setProperty("webdriver.chrome.driver","C:\\Users\\Sangeetha\\Down
      WebDriver driver=new ChromeDriver();
      driver.get("http://localhost/Crime-Reporting-System_user/userlogin.php");
      driver.findElement(By.id("exampleInputEmail1")).sendKeys("chithra@gmail.com
      driver.findElement(By.id("exampleInputPassword1")).sendKeys("Chithra@12");
      driver.findElement(By.id("login")).click();
      String actualUrl="http://localhost/Crime-Reporting-System_user/userhome.php
      String expectedUrl= driver.getCurrentUrl();
      if(actualUrl.equalsIgnoreCase(expectedUrl)) {
          System.out.println("Test passed");
          } else {
          System.out.println("Test failed");
          }
    }
}
```

Eg.Screenshot

```
Starting ChromeDriver 103.0.5060.53 (a1711811edd74ff1cf2150f36ffa3b0dae40b17f-refs/branch-heads/5060@{#8
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDr
ChromeDriver was started successfully.
Jul 21, 2022 3:08:40 PM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected upstream dialect: W3C
Jul 21, 2022 3:08:40 PM org.openqa.selenium.devtools.CdpVersionFinder findNearestMatch
INFO: Found exact CDP implementation for version 103
Test passed
```

Eg.Test Report

Test Case 1

Project Name:					
Login Test Case					
Test Case ID: Test_1			**Test Designed By:**		
Test Priority(Low/Medium/High):			**Test Designed Date:**		
Module Name:			**Test Executed By :**		
Test Title :			**Test Execution Date:**		
Description:					
Pre-Condition : User has valid username and password					
Step	**Test Step**	**Test Data**	**Expected Result**	**Actual Result**	**Status(Pass/ Fail)**
1					
2					
3					
4					
5					
6					
7					
Post-Condition:					

Test Case 2:

Code

Screenshot

Test report

Minimum 4 test cases (1 login 3 functionalities)

CHAPTER 6

IMPLEMENTATION

6.1INTRODUCTION

Explanation

6.2 IMPLEMENTATION PROCEDURES

Explanation

6.2.1 User Training

Explanation

6.2.2 Training on the Application Software

Explanation

6.2.3 System Maintenance

Explanation

6.2.4 Hosting

Explanation

Eg.000Webhost

Explanation

Procedure for hosting a website on 000Webhost:

Step 1: explanation

Step 2: explanation

Step 3: explanation

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.

Hosted Website:

Hosted Link: https://abc.000webhostapp.com

Screenshot

CHAPTER 7

CONCLUSION AND FUTURE SCOPE

7.1 CONCLUSION

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7.2 FUTURE SCOPE

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CHAPTER 8
BIBLIOGRAPHY

REFERENCES:

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WEBSITES:

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CHAPTER 9

APPENDIX

9.1 Sample Code

Main functionalities

9.2 Screen Shots