

A Project Report on
“Salon Management System”
At



“Bhagwan Mahavir College of Computer Application”,
Bharthana-Vesu, Surat
As A Partial Fulfilment for The Degree Of
Bachelor of Computer Application
2023-2024

Guided By:

Asst.Prof. Kruti Patel

Submitted By:

Mr. Darsh Manharbhai Sonani

Mr. Sujal Bharatbhai Mavani

Mr. Jeel Ashokbhai Savani

Mr. Tej D Sojitra

Bhagwan Mahavir College of Computer Application
Bharthana-Vesu, Surat
Affiliated With



Bhagwan Mahavir University, Surat, Gujarat, India



BHAGWAN MAHAVIR COLLEGE OF COMPUTER APPLICATION

Constituent College of Bhagwan Mahavir University



dean.bmcca@bmusurat.ac.in



0261-6770125/23, +91-7575803091



www.bmusurat.ac.in



VIP Road, Surat, Gujarat-395007

Certificate

This is to certify that the summer project entitled “**Salon Management System**” has been submitted by **Sonani Darsh Manharbhai Exam No. 2102020101802** at **Bhagwan Mahavir College of Computer Application** as a partial fulfilment of the requirement for the degree of **Bachelor of Computer Application** for the academic Year **2023-24**.

Place: Surat

Date: 22/04/2024

Asst.Prof. Kruti Patel
(Project Guide, BMCCA)

Dr. Hetal Modi
(Program Head)



BHAGWAN MAHAVIR COLLEGE OF COMPUTER APPLICATION

Constituent College of Bhagwan Mahavir University



dean.bmcca@bmusurat.ac.in



0261-6770125/23, +91-7575803091



www.bmusurat.ac.in



VIP Road, Surat, Gujarat-395007

Certificate

This is to certify that the summer project entitled “**Salon Management System**” has been submitted by **Mavani Sujal Bharatbhai Exam No. 2102020101508** at **Bhagwan Mahavir College of Computer Application** as a partial fulfilment of the requirement for the degree of **Bachelor of Computer Application** for the academic Year **2023-24**.

Place: Surat

Date: 22/04/2024

Asst.Prof. Kruti Patel
(Project Guide, BMCCA)

Dr. Hetal Modi
(Program Head)



BHAGWAN MAHAVIR COLLEGE OF COMPUTER APPLICATION

Constituent College of Bhagwan Mahavir University



dean.bmcca@bmusurat.ac.in



0261-6770125/23, +91-7575803091



www.bmusurat.ac.in



VIP Road, Surat, Gujarat-395007

Certificate

This is to certify that the summer project entitled “**Salon Management System**” has been submitted by **Savani Jeel Ashokbhai Exam No. 2102020101738** at **Bhagwan Mahavir College of Computer Application** as a partial fulfilment of the requirement for the degree of **Bachelor of Computer Application** for the academic Year **2023-24**.

Place: Surat

Date: 22/04/2024

Asst.Prof. Kruti Patel
(Project Guide, BMCCA)

Dr. Hetal Modi
(Program Head)



BHAGWAN MAHAVIR COLLEGE OF COMPUTER APPLICATION

Constituent College of Bhagwan Mahavir University



dean.bmcca@bmusurat.ac.in



0261-6770125/23, +91-7575803091



www.bmusurat.ac.in



VIP Road, Surat, Gujarat-395007

Certificate

This is to certify that the summer project entitled “**Salon Management System**” has been submitted by **Sojitra Tej D Exam No. 2102020101798** at **Bhagwan Mahavir College of Computer Application** as a partial fulfilment of the requirement for the degree of **Bachelor of Computer Application** for the academic Year **2023-24**.

Place: Surat

Date: 22/04/2024

Asst.Prof. Kruti Patel
(Project Guide, BMCCA)

Dr. Hetal Modi
(Program Head)



BHAGWAN MAHAVIR COLLEGE OF COMPUTER APPLICATION

Constituent College of Bhagwan Mahavir University



dean.bmcca@bmusurat.ac.in



0261-6770125/23, +91-7575803091



www.bmusurat.ac.in



VIP Road, Surat, Gujarat-395007

Date: - 10/02/2024

PROJECT PROGRESS REPORT

PROJECT TITLE	Salon Management System		
PROJECT GROUP NO	115	SUPERVISOR NAME	Kruti D Patel
PROGRAMMING LANGUAGE	Html,Css,Js,Node.js	PROGRESS REPORT NO.	1
FRONT-END TOOLS	Html,Css,JS	BACK-END TOOLS	Node.js
PROGRESS REPORT DURATION:	From 16/01/2024 to 09/ 02 /2024		

Project Members Detail

Sr. No.	MEMBER NAME	Sr. No.	MEMBER NAME
1.	Sonani Darsh M.	4.	Savani Jeel A.
2.	Mavani Sujal B.	5.	
3.	Sojitra Tej D.	6.	

Task Details

Sr. No.	MEMBER NAME	TASK COMPLETED
1.	Sonani Darsh M.	Create A Node.js Server And Set Data Base Table.
2.	Mavani Sujal B.	Create Home Page.
3.	Sojitra Tej D.	Create A Home Page.
4.	Savani Jeel A.	Create A Price Page
5.		
6.		

Comment By Supervisor

Next Progress Report Date: 11 /03/2024

Is Progress of Project Approved? ☐

Project Supervisor:
Name & Sign



BHAGWAN MAHAVIR COLLEGE OF COMPUTER APPLICATION

Constituent College of Bhagwan Mahavir University



dean.bmcca@bmusurat.ac.in



0261-6770125/23, +91-7575803091



www.bmusurat.ac.in



VIP Road, Surat, Gujarat-395007

Date: - 11/03/2024

PROJECT PROGRESS REPORT

PROJECT TITLE	Salon Management System		
PROJECT GROUP NO	115	SUPERVISOR NAME	Kruti D Patel
PROGRAMMING LANGUAGE	Html,Css,Js,Node.js	PROGRESS REPORT NO.	2
FRONT-END TOOLS	Html,Css,JS	BACK-END TOOLS	Node.js
PROGRESS REPORT DURATION:	From 11/02/2024 to 10/ 03/2024		

Project Members Detail

Sr. No.	MEMBER NAME	Sr. No.	MEMBER NAME
1.	Sonani Darsh M.	4.	Savani Jeel A.
2.	Mavani Sujal B.	5.	
3.	Sojitra Tej D.	6.	

Task Details

Sr. No.	MEMBER NAME	TASK COMPLETED
1.	Sonani Darsh M.	Set A Routes And Render The Html files.
2.	Mavani Sujal B.	Create Price Page.
3.	Sojitra Tej D.	Create Login And Register Page.
4.	Savani Jeel A.	Create A Appoitment Page. And Create A Admin Dashbord.
5.		
6.		

Comment By Supervisor

Next Progress Report Date: 11 /04/2024

Is Progress of Project Approved? ☐

Project Supervisor:
Name & Sign



BHAGWAN MAHAVIR COLLEGE OF COMPUTER APPLICATION

Constituent College of Bhagwan Mahavir University



dean.bmcca@bmusurat.ac.in



0261-6770125/23, +91-7575803091



www.bmusurat.ac.in



VIP Road, Surat, Gujarat-395007

Date: - 11/04/2024

PROJECT PROGRESS REPORT

PROJECT TITLE	Salon Management System		
PROJECT GROUP NO	115	SUPERVISOR NAME	Kruti D Patel
PROGRAMMING LANGUAGE	Html,Css,Js,Node.js	PROGRESS REPORT NO.	3
FRONT-END TOOLS	Html,Css,JS	BACK-END TOOLS	Node.js
PROGRESS REPORT DURATION:	From 11/03/2024 to 10/04/2024		

Project Members Detail

Sr. No.	MEMBER NAME	Sr. No.	MEMBER NAME
1.	Sonani Darsh M.	4.	Savani Jeel A.
2.	Mavani Sujal B.	5.	
3.	Sojitra Tej D.	6.	

Task Details

Sr. No.	MEMBER NAME	TASK COMPLETED
1.	Sonani Darsh M.	Insert Data In to data base And Other crud operation.
2.	Mavani Sujal B.	Create Review Page And Team Page.
3.	Sojitra Tej D.	Create All Admin Pages.
4.	Savani Jeel A.	Help in create an admin pages.
5.		
6.		

Comment By Supervisor

Next Progress Report Date: //2024

Is Progress of Project Approved? ☐

Project Supervisor:
Name & Sign

Acknowledgement

Our self Darsh Sonani , Jeel Savani, Sujal Mavani And Tej Sojitra. We Have opportunity to express our knowledge. We would like to express our gratitude to all those who gave us the possibility to complete our project. We want to thanks to Bhagwan Mahavir College Of Computer Applicatio for giving us permission to do project work in their organization.

Success is such a comprehensive project cannot achieved singlehanded. It is team effort that sails the Ship to the coast. So we would like to express our sincere thanks to all the dignitaries who were involved in making this project the great joy and turning it our in to successful piece of work.

We would like to thanks the Campus Dean of Bhagwan Mahavir College Of Computer Appliction for B.C.A Mr Sunjay Bhuch and Acadmic Head Dr. Hetal Modi for helping attitude and encouraging us to excel in studies. Now we also thankfully to our guide Asst.Prof.Kruti Patel. She always responded us with smile for discussing the problem come during the project work. They are the person who has giving this direction to our work and the shape to our imagination.

We also like to Thanks our all the Faculty who are always ready to give best guide. They are the person who give solution whenever needed.We would also like to acknowledge all the friends and colleagues, team member for the help and encouragement by them for time to time. It was the great experience of exposing and learning new things in this field. Thank You...

Sonani Darsh.

Sojitra Tej.

Mavani Sukal

Savani Jeel



Preface

Before tasking the project work for foundation, it is quite necessary to have an exact idea the work “**project**”. The project consists of seven letters each letter has its own significance as follow.

‘P’ For Planning

‘R’ For Resource

‘O’ For Operation

‘J’ For Joints Efforts

‘E’ For Engineering Function

‘C’ Communication

‘T’ Task of Working

We happy to hand over this project to the Bhagwan Mahavir College Of Computer Application. This project is on Salon Management System & it will useful to provide online Book Appoitment And All Salon Details.

In a computer application studies, the partial training is very important. We can improve theoretical knowledge by reading and attempt class but it is Imperfect without getting partial knowledge. Begin an it student, we should see every side of technical unit. It performs vital role in developing software and situation opportunities and problem.

Here, we are presenting a project on the different concept which we saw, fall & experience while the training in the organization. We have tried our level best to do proper justification with our in this project.

Index

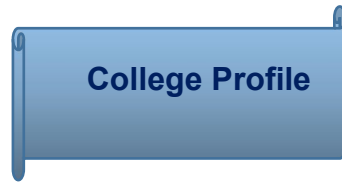
Sr. No.	Topic	Page No.
01.	Introduction	
	1.1 College Profile 1.2 Project Profile	13
02.	Proposed System	
	2.1 Scope & Objective	20
	2.2 Advantages	22
	2.3 Feasibility Study	24
	2.3.1 Technical Feasibility	24
	2.3.2 Economical Feasibility	24
	2.3.3 Operational Feasibility	25
03.	System Analysis	
	3.1 Existing System * (If Available)	26
	3.2 Need for New System	28
	3.3 Detailed SRS (Software Requirement Specification)	29
04.	System Planning	
	4.1 Requirement Analysis & Data Gathering	31
	4.2 Time-line Chart	33
05.	Tools & Environment Used	
	5.1 Hardware and Software Requirement	36
	5.1.1 Software Requirement	36
	5.1.2 Hardware Requirement	37
	5.1.3 Technology to be used	38
	5.2 Server-Side and Client-side Tools	43
06.	System Design	

	6.1 Unified Modeling Language (UML) -> Activity, Usecase, Class, Sequence Diagram OR 6.1 DFD	46
	6.2 Database Design 7.1.1 Data Dictionary 7.1.2 Database Relationship Diagram	52
	6.3 E-R Diagram	72
	6.4 User Interface Design (System Layout)	75
07.	System Testing (Any Testing According to Project)	
	7.1 Unit Testing	96
	7.2 Integration Testing	97
	7.3 System Testing	102
08.	Limitations	109
09.	Future Enhancement	110
10.	References	111
	10.1 Webliography 10.2 Bibliography	

1.1 College Profile

1.2 Project Profile





1.1. College Profile

- Bhagwan Mahavir College of Computer Application, Surat a highly commendable private institute, occupies a place amongst the technical institutes of the southern region of Gujarat. It is established in year 2008, financed and run by the Bhagwan Mahavir College Foundation, Surat. It is affiliated to Bhagwan Mahavir University. The college is controlled by the executive board formed from the representatives of the Trust under constitution & by laws of the college. The college campus is located at the open green field areas with a beautiful location, situated at New city light Road, Bharthana – Vesu, Surat.
- The College has excelled itself in many fields. It has occupied a prominent place in the education sphere of South Gujarat. The building surrounded by green fields and contains spacious classrooms, well documented library, a multipurpose hall, modern computer lab. It has at present around 850 students.

➤ Vision

- In 21st century, IT technology has been growing in every area of business & society, while in competitive environment it is our vision to make the students more efficient in the field of Information Technology, which will help students to become more efficient skill oriented professional and ready to grab opportunities in the said field.

➤ Mission

- Our mission is to provide learning experience through renowned educational institution which shall expose the students in computer application in day to day life. Imparting quality undergraduate education in the arena of Computer Application through well designed curriculum and train students to apply this education for life- long high-quality careers and give them competitive benefit in the ever-changing and challenging global work environment of 21st century.

➤ Objectives

The College of Computer Application share University's overall mission of being a center of academic excellence by providing qualitative education and integrating training. The progressive and innovative faculty, through their

Salon Management System

teaching, scholarship and publication, leadership and service are fully committed to the provision of an educational environment which prepares individuals to become successful professionals.

Salon Management System

A blue banner with a slight 3D effect and rounded corners, featuring the text "Project Profile" in bold black font.

Project Profile

Project Title	Salon Management System.
Project Type	Online Electronics gadgets Shopping System
Organization Name	Bhagwan Mahavir College Of Computer Appication
Team Members	4
Technology	Html, Css, Js, Bootstrap, Node.js
Front End Tools	Html,Css, Js
Back End	Node.js, Sequelize, Express,Ejs
Project Guide	Asst.Prof. Kruti Patel.

Salon Management System

Submitted By	Sonani Darsh Savani Jeel Mavani Sujal Sojitra Tej
--------------	--

2.1 Scope & objective

2.2 Advantages

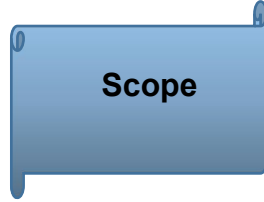
2.3 Feasibility Study

2.3.1 Technical Feasibility

2.3.2 Economical Feasibility

2.3.3 Operational Feasibility

Salon Management System



➤ Scope of System

✚ Our main aim is to provide best Service at low price as per the requirements of the customer.

✚ Customer can book and get service.

✚ Customer can book Appoitment online and get parcel within short time.

✚ The computerized system names – Maruti X System has solved problem for Salon management, reduce paper work done by existing system, reduce some entry work in system.

✚ Website is also good at the security level means that the web-user or other unauthorized web user will not be able to get all details of the members.

✚ Website gives the best way for the registration of new members and join the Online System.

Salon Management System



Main Aim Of The System

Our main aim is to provide best Online Service as per the requirements of the customer. Customer can Apply Online and get Best Service in town. Customer can make Appointment online and get that within short amount of time.

Objective of The System

Consumers desire a variety of models of a service because they look for the right service that will fully satisfy their needs. There is variety of Salon available online because online Salon shop allows consumers to browse through Services that are made all around the world without geographical boundaries. The system allows the owner to manage all kind of categories and maintain supplier for each Service.

With the online Salon store it enable product comparison, consumers can compare product price and models to make a better decision with less effort.



Advantage

High Security

There is high security mechanism provided by the proposed system. No unauthorized person can make change in the data those are stored in website. Only authorized person can change & also can make login.

Less Time Required

In our website, all the processes are carried out by computer so obviously it will require time than traditional inventory system and in that sense; it will require less time to complete transactions and can process data very fast.

High Amount of Accuracy

In our web system there are less amount of human activities are involved in that case it will have less effect in our accounts. The websites will perform all calculation and manipulation automatically; in that case the data that we receive will be accurate and much more reliable than the data that generated previously.

Easy To Use

Online Salon store System accessible round the clock. You can Book whatever you want even at 7 a.m. In the morning you can choose from a wider variety of thing available for. When you Book Appoitment from online Salon system you have the comfort to take your time while checking for the things for the things of your choice, this will lead you to



- **Feasibility Study**

- When we are developing the system (software), we must know the proposed system will be feasible or i.e. practically implemented or not it may possible the proposed system may not implemented due to many reasons like it may take long time in development than the specified time limit ,cost may increase than proposed one, etc. Therefore, we must analysis the feasibility of the system.
- There are several types of feasibility depending on the aspect they covers. Some important feasibility is as follows:-

- ✚ Technical Feasibility
- ✚ Operational Feasibility
- ✚ Economic Feasibility

2.3.1. Technical Feasibility

- The technically feasibility study basically centers on alternatives for hardware, software and design approach to determine the functional aspects of system.
- The web-application has been developed with Angular and SQL server as backend tools.
- SQL Server will be used for storing data. Hardware requirements used are compatible with all O.S.
- Only authorized person would be able to use the website so it would be secure.
The system can also be expanded as per the needs of requirement specification.

2.3.2. Economical Feasibility

- Economic analysis is the most frequently used evaluating the effectiveness of proposed system, more commonly known as Benefit analysis.The Benefit analysis is to determine benefits and savings which are expected from candidate system and compare them with cost.

Salon Management System

- If the benefits are more than the cost, then decision is made to design and implement the system. The cost and benefits may be direct or indirect and tangible or intangible.

2.3.2. Operational Feasibility

- Operational Feasibility is a measure of how people can work with system. This type of feasibility demands if the system will work when developed and installed. Since website is very user friendly so users will find it comfortable to work on this site.

3.1 Existing System * (If Available)

3.2 Need for New System

3.3 Detailed SRS (Software Requirement Specification)

Salon Management System



System Analysis

- System Analysis is an investigation into a problem and how a new system will solve it. It is the most essential part of the development of a project of a system analysis. System analysis consists of system element, process and technology.
- To analysis a system, has to study the systems in details. The analyst has to understand the functioning and concept of the system in detail, before design the appropriate computer based system that will meet all the requirements of the existing system. The system analyst has to carry out a customary approach to use the computer for problem solving.
- System analysis includes the following basic concepts:
 - ✦ Preliminary investigation
 - ✦ Requirements specification
 - ✦ System design
 - ✦ Data modelling
 - ✦ Process modelling
 - ✦ Implementation
 - ✦ Maintenance

Salon Management System



Existing System

- As mentioned existing system is manual, the system holds Paper-Work. Faculty has to create paper manual and have to refer old question paper by hard copy. This procedure need more paper work, also takes time to review question paper and show it to principal.
- Moreover, it has all the disadvantage of being a manual system like,
 - ✦ Time Consuming.
 - ✦ Increased Paper Work.
 - ✦ Difficult To Maintain Record.
 - ✦ Require lots of Human Effort.
 - ✦ Chances to be leak.



Need For New System

- To solve the problems as they required a computerized system to handle all the works. They required a web based application that will provide a working environment that will
- be flexible and will provide ease of work and will reduce the time for report generation other paper works.

Salon Management System



Detailed SRS

3.3.

- Administrator can add, edit and delete Subject, Student, Teacher, college profile.
- Admin will provide other users password by sending them mail.
- Admin can give privileges to allocated faculty.

It should:

- ✚ Look professional / corporate.
- ✚ Maintain a clean look and feel throughout.
- ✚ Be easy for all user types to use and navigate.
- ✚ Users can use one or facilities like selecting college, looking to college staff, and to prospectus details.
- ✚ The primary goal is to allow users to have an interactive real time session without their browser constantly refreshing. At the same time, all contents and information need to be captured into a database.

Ideally this site should be completely database driven

System Planning

4

Chapter

4.1 Requirement Analysis & Data Gathering

4.2 Time-line Chart

Salon Management System



System Planning

- Before starting a software project, it is essential to determine the tasks to be performed and properly manage allocation of tasks among individuals involved in the software development. Hence, planning is important as it results in effective software development.
- Project planning is an organized and integrated management process, which focuses on activities required for successful completion of the project. It prevents obstacles that arise in the project such as changes in projects or organization's objectives, non-availability of resources, and so on. Project planning also helps in better utilization of resources and optimal usage of the allotted time for a project.
- The other objectives of project planning are listed below.
 - ✦ It defines the roles and responsibilities of the project management team members.
 - ✦ It ensures that the project management team works according to the system objectives.
 - ✦ It checks feasibility of the schedule and user requirements.
 - ✦ It determines project constraints.
- This project is for the system typically includes modules for student management, attendance tracking, grade book management, report card generation, messaging and communication, and data analytics.
- Success of any system depends mostly on how well data/Requirement gathering are done. It provides direction to system analyst and designers to design a system that is efficient.
- To gather requirement for online Paper Generation System, following steps were carried out:
 - ✦ We referred similar website to get an idea of how website should look alike.
 - ✦ We also took help from our classmate, faculty and principal to resolve some errors.
 - ✦ We also consult senior Project for technical problems.
 - ✦ We also visit to website for system.

Project Schedule

Task	Month 1				Month 2				Month 3				Month 4			
	W 1	W 2	W 3	W 4	W 1	W 2	W 3	W 4	W 1	W 2	W 3	W 4	W 1	W 2	W 3	W 4
1. Requirement Gathering																
Collected Details from developed sites																
Analyzed gathered information																
Determine the scope of the system																
Milestone: Request gathering completed																
2. Planning																
Basic flow and structure																
Determined different modules																
Milestone: Planning Completed																
3. Designing																
Basic interface design																
Database Design																
Design web forms and modules																
Milestone: designing Completed																
4. Risk Analysis																
Milestone: Risk Analysis Completed																
5. Coding and Integrating modules																
Implement logic for diff modules																
Integrating code with backend																
Integrating dependent modules																
Milestone: Coding completed																
6. Testing of developed system																
Milestone: Finalized																
7. Documentation																

Salon Management System

Mileston completed	:Documentation																		
-----------------------	----------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

5.1 Hardware and Software Requirement

5.1.1 Software Requirement

5.1.2 Hardware Requirement

5.1.3 Technology to be used

5.2 Server-Side and Client-side Tools

Salon Management System

Hardware Requirement

o Development Side :

Processor : i5 or Above

Ram : 8 GB or Above

Storage : 500 GB or Above

o Client Side :

Processor : i3 or Above

Ram : 4 GB or Above

Storage : 4 GB or Above

Salon Management System

Software Requirement

- Development Side :

Front End : Visual Studio Code

Back End : Visual Studio Code, Chrome

Operating System : Windows 10 & above

- Client Side :

Browser : any

Operating : Windows 7 & above

- Server Side :

Browser : any

Operating System : Windows 10 & above

Server-Side and Client-side Tools

➤ Overview of Html,CSS,Js



HTML (HyperText Markup Language) is the code that is used to structure a web page and its content According to MDN Web Docs, following is the definition –

HTML stands for **Hyper Text Markup Language**. HTML is the standard markup language for creating Web pages. HTML describes the structure of a Web page. HTML consists of a series of elements. HTML elements tell the browser how to display the content..

Salon Management System

CSS:



CSS is used to define styles for your web pages, including the design, layout and variations in display for different devices and screen sizes.

JS:



JavaScript (JS) is a cross-platform, object-oriented programming language used by developers to make web pages interactive. It allows developers to create dynamically updating content, use animations, pop-up menus, clickable buttons, control multimedia, etc

Bootstrap:



- Bootstrap is an open-source front-end development framework used for building responsive and mobile-first web applications. It was developed by Twitter and is now maintained by a community of developers.

.

Server Side:

Overview of Sequelize



Sequelize is a promise-based ORM for Node.js v4 and upwards. It supports the dialects PostgreSQL, MySQL, SQLite and MSSQL and features solid transaction support, relations, read replication and more.”

A promise in Nodejs is an event which will produce a result in the future. This result can either be a success(fulfilled) or failure(rejected). Sequelize being a promise-based ORM means that it supports NodeJS promises using the bluebirdJS library internally(which is a NodeJS promise library)..

Database

Database is a physical container for collections. Each database gets its own set of files on the file system. A single Sequelize server typically has multiple databases.

Salon Management System

Table:

Table is a Stor Data in Sequelize. table is defined as a model. A model represents a specific entity in your application's database, such as a user, a product, or any other type of data you need to store. Each model corresponds to a table in the database and defines its structure, including the fields (columns) and their data types.

Data

A "row" or an "instance" in Sequelize corresponds to a specific record or entry in a table. It represents a single data entity with defined attributes (fields/columns) and their values. Each row is an instance of a Sequelize model, which is defined to map to a specific table in the database.

Overview of Node.js



Node.js is a server-side platform built on Google Chrome's JavaScript Engine (V8 Engine). Node.js was developed by Ryan Dahl in 2009 and its latest version is v20.12.2.

Node.js is a platform built on Chrome's JavaScript runtime for easily building fast and scalable network applications. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient, perfect for data-intensive real-time applications that run across distributed devices.

Node.js is an open source, cross-platform runtime environment for developing server-side and networking applications. Node.js applications are written in JavaScript, and can be run within the Node.js runtime on OS X, Microsoft Windows, and Linux.

Node.js also provides a rich library of various JavaScript modules which simplifies the development of web applications using Node.js to a great extent.

Features of Node.js

Following are some of the important features that make Node.js the first choice of software architects.

- **Asynchronous and Event Driven**

All APIs of Node.js library are asynchronous, that is, nonblocking. It essentially means a Node.js based server never waits for an API to return data. The server moves to the next API after calling it and a notification mechanism of Events of Node.js helps the server to get a response from the previous API call.

Salon Management System

- **Very Fast**

Being built on Google Chrome's V8 JavaScript Engine, Node.js library is very fast in code execution.

- **Single Threaded but Highly Scalable**

Node.js uses a single threaded model with event looping. Event mechanism helps the server to respond in a non-blocking way and makes the server highly scalable as opposed to traditional servers which create limited threads to handle requests. Node.js uses a single threaded program and the same program can provide service to a much larger number of requests than traditional servers like Apache HTTP Server.

- **No Buffering**

Node.js applications never buffer any data. These applications simply output the data in chunks.

- **License**

Node.js is released under the MIT license.

6.1 Unified Modeling Language (UML)

6.2 Database Design

6.1.1 Data Dictionary

6.1.2 Database Relationship Diagram

6.3 E-R Diagram

6.4 User Interface Design (System Layout)



- System designing in terms of software engineering has its own value and importance in the system development process as a whole. To mention it may though seem as simple as anything or simply the design of systems, but in a broader sense it implies a systematic and rigorous approach to design such a system which full fills all the practical aspects including flexibility, efficiency and security.
- Systems design is the process of defining the architecture, components, modules, interfaces, and data for a system to satisfy specified requirements. Systems design could be seen as the application of systems theory to product development.

6.1. Unified Modelling Language(UML)

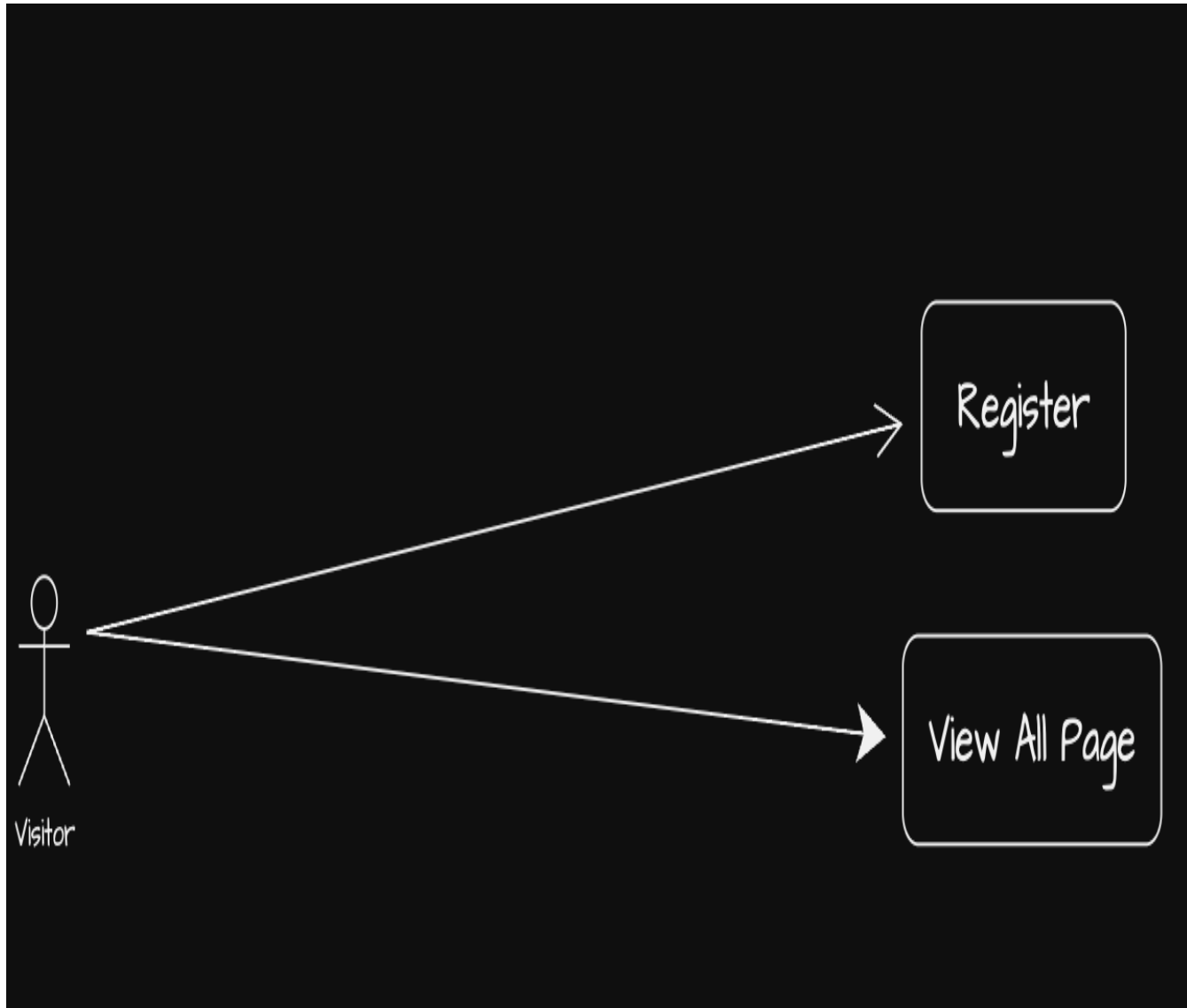
❖ What is UML?

- UML stands for Unified Modelling Language. The object oriented system of notation has evolved from the work of Grady Booch, James Rumbaugh, Invar Jacobson and the Rational Software Corporation.
- These renowned computer scientists fused their respective technologies into a single standardized model.
- Today, UML is accepted by the Object Management Group (OMG) as the standard for modelling object oriented programs.
- UML defines nine components of diagrams. They are as follows:

1. Class
2. Object

3. Method Case
4. Use case
5. Sequence
6. Collaboration
7. State chart
8. Activity
9. Component
- 10 Deployment

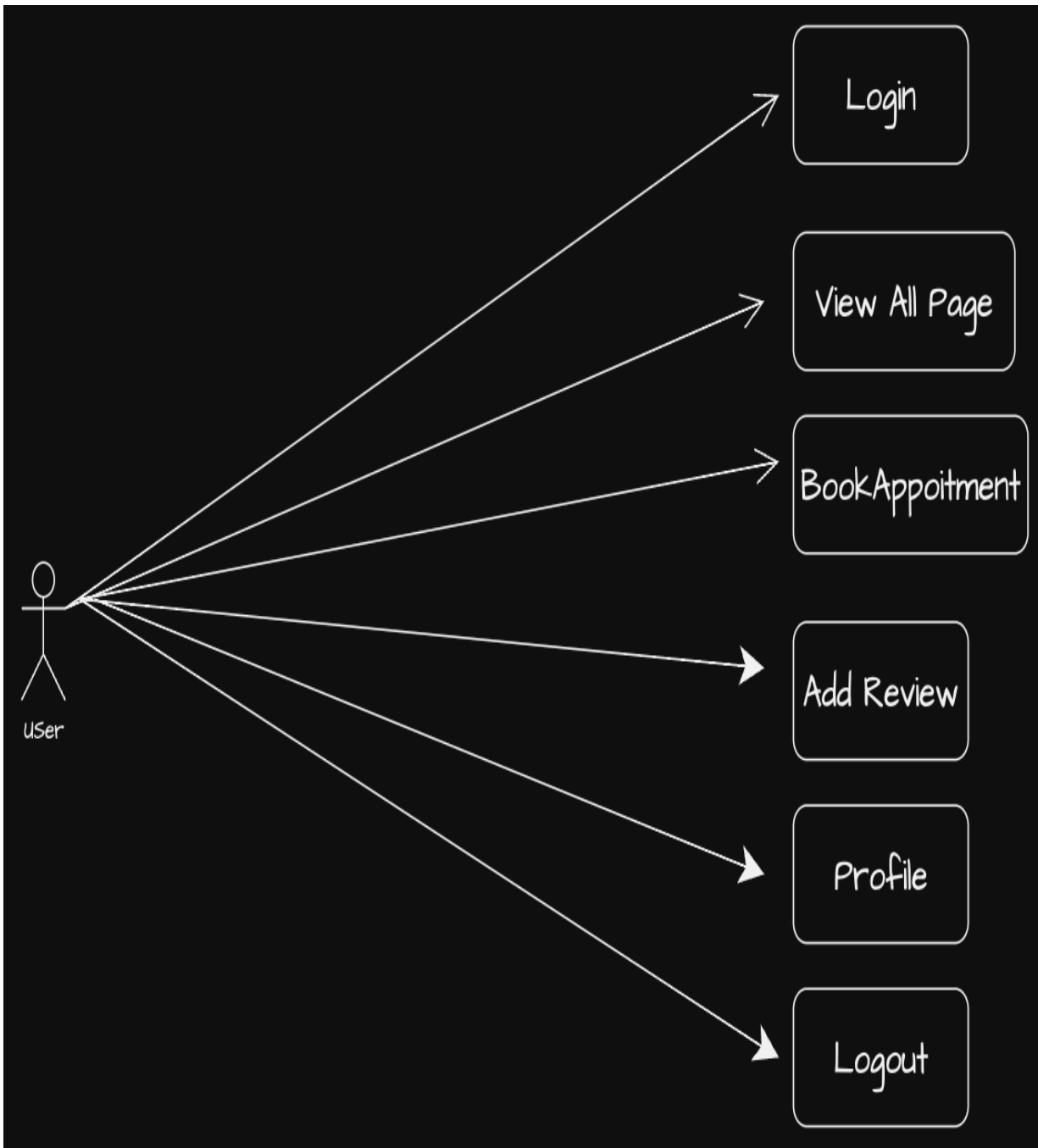
6.1.1 Visitor Diagram



6.1.2
User

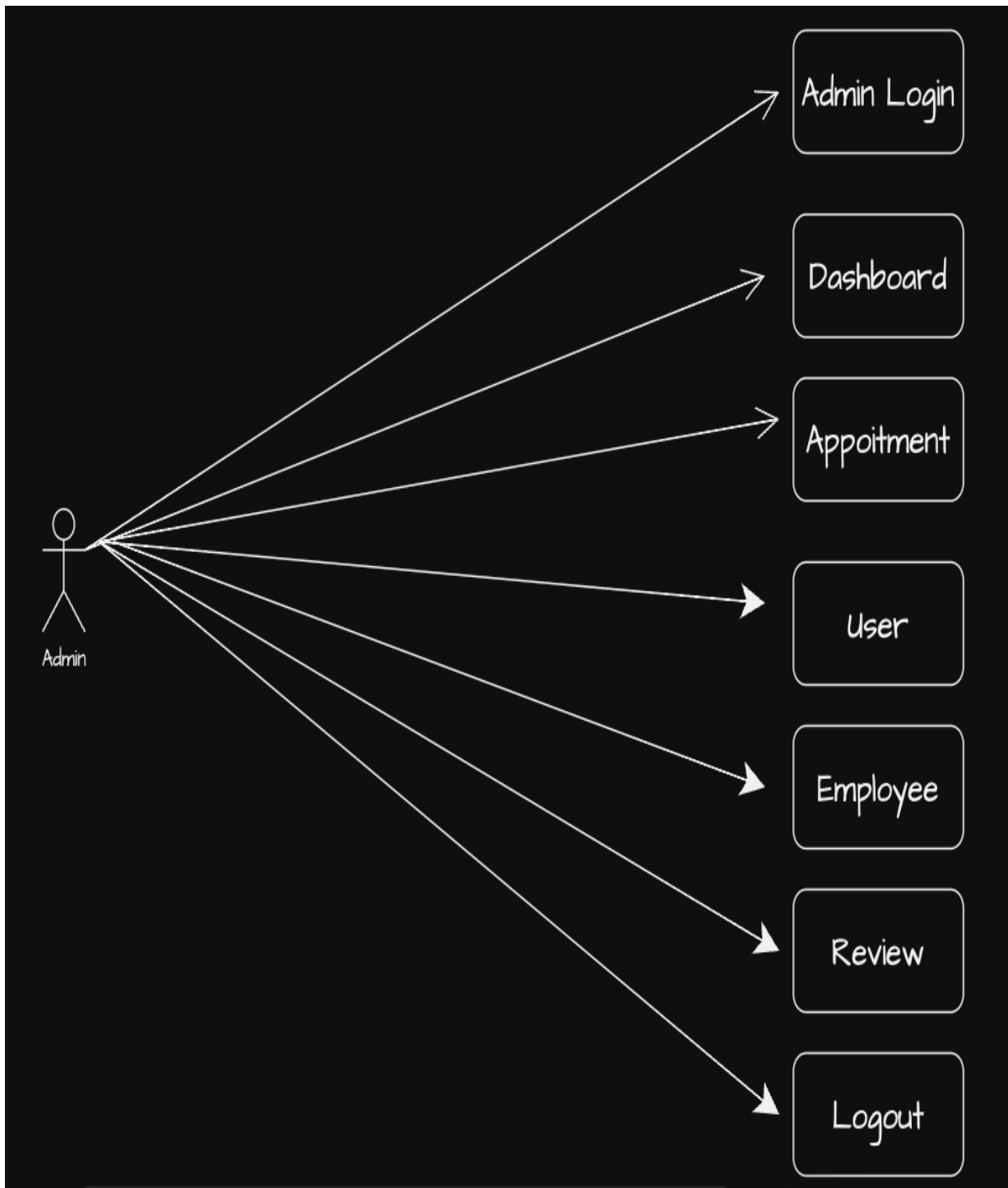
Diagram

Salon Management System



Salon Management System

Admin Diagram





Data Dictionary :

- User:

1. **Dataset Name:** User

2. **Description:**

- This dataset contains information about users of a system.

3. **Data Fields:**

- Name
- Email
- Password
- Role
- Created By

4. **Field Descriptions:**

- Name: The name of the user.
- Email: The email address of the user.
- Password: The password associated with the user's account.
- Role: The role or access level of the user (e.g., admin, user).
- Created By: The user or system account that created this user's account.

5. **Data Types:**

- Name: String
- Email: String
- Password: String (encrypted/hashed)
- Role: String
- Created By: String

6. **Example Values:**

- Name: John Doe, Jane Smith, Alice Johnson
- Email: john@example.com, jane@example.com, alice@example.com

Salon Management System

- Password: ***** (encrypted/hashed)
- Role: Admin, User, Moderator
- Created By: admin@example.com, system

7. Missing Values:

- None

8. Data Range:

- Name: Text
- Email: Text
- Password: Encrypted/hashed text
- Role: Text
- Created By: Text

9. Units:

- None

10. Data Integrity Constraints:

- Email addresses must be unique.
- Passwords are encrypted/hashed for security.
- Roles are predefined and limited to specific values.

User Session:

1. Dataset Name: User Session

2. Description:

- This dataset contains information about user sessions within the system.

3. Data Fields:

- User ID
- Token
- Role

4. Field Descriptions:

- User ID: The unique identifier of the user associated with the session.
- Token: The authentication token generated for the user session.
- Role: The role or access level associated with the user session.

5. Data Types:

- User ID: Integer
- Token: String
- Role: String

6. Example Values:

- User ID: 101, 102, 103

Salon Management System

- Token:
eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJzdWIiOiIxMjMONTY3ODkwIiwibmFtZSI6IkpvaG4gRG9IliwiaWF0IjoxNTE2MjM5MDIyfQ.SflKxwRJSMeKKF2QT4fwpMeJf36POk6yJV_adQssw5c
 - Role: Admin, User, Moderator
7. **Missing Values:**
 - None
 8. **Data Range:**
 - User ID: Positive integers
 - Token: Variable-length alphanumeric string
 - Role: Text
 9. **Units:**
 - None
 10. **Data Integrity Constraints:**
 - User ID must correspond to an existing user in the system.
 - Tokens are unique for each session.
 - Roles are predefined and limited to specific values.

Past User:

1. **Dataset Name:** Pastuser
2. **Description:**
 - This dataset contains information about past users in a system, including their user ID, name, email, password, role, and the user who created them.
3. **Data Fields:**
 - userId
 - name
 - email
 - password
 - role
 - createdBy
4. **Field Descriptions:**
 - userId: Unique identifier for each user.
 - name: Full name of the user.
 - email: Email address of the user.
 - password: Encrypted password of the user.

- role: Role or permission level of the user (e.g., admin, moderator, user).
- createdBy: User ID of the person who created this user account.

5. Data Types:

- userId: Integer
- name: String
- email: String
- password: String (encrypted)
- role: String
- createdBy: Integer

6. Example Values:

- userId: 101, 102, 103, ...
- name: John Doe, Jane Smith, ...
- email: john@example.com, jane@example.com, ...
- password: ***** (encrypted)
- role: Admin, User, Moderator, ...
- createdBy: 201, 202, 203, ...

7. Missing Values:

- None

8. Data Range:

- userId: Positive integers
- name: Variable length string
- email: Valid email addresses
- password: Encrypted strings
- role: Variable length string
- createdBy: Positive integers

9. Units:

- None

10. Data Integrity Constraints:

- userId is unique.
- createdBy must correspond to an existing user ID.

Salon Management System

Appointment:

1. **Dataset Name:** Appointment
2. **Description:**
 - This dataset contains information about appointments scheduled within the system.
3. **Data Fields:**
 - UserID
 - Username
 - People
 - PhoneNumber
 - Time
 - Date
 - Appointment Type
 - Price
 - Total Price
4. **Field Descriptions:**
 - UserID: The unique identifier of the user who scheduled the appointment.
 - Username: The name of the user who scheduled the appointment.
 - People: The number of people for the appointment.
 - PhoneNumber: The phone number associated with the appointment.
 - Time: The time of the appointment.
 - Date: The date of the appointment.
 - Appointment Type: The type of appointment (e.g., consultation, check-up).
 - Price: The price of the appointment.
 - Total Price: The total price including any additional charges.
5. **Data Types:**
 - UserID: Integer
 - Username: String
 - People: Integer
 - PhoneNumber: String
 - Time: String (formatted as HH:MM AM/PM)
 - Date: String (formatted as YYYY-MM-DD)
 - Appointment Type: String
 - Price: Float
 - Total Price: Float
6. **Example Values:**
 - UserID: 101, 102, 103
 - Username: John Doe, Jane Smith, Alice Johnson
 - People: 2, 3, 1
 - PhoneNumber: +1234567890, +1987654321
 - Time: 09:00 AM, 02:30 PM
 - Date: 2024-04-16, 2024-04-17
 - Appointment Type: Consultation, Check-up
 - Price: 50.00, 75.00
 - Total Price: 50.00, 100.00

7. **Missing Values:**

- None

8. **Data Range:**

- UserID: Positive integers
- Username: Text
- People: Positive integers
- PhoneNumber: Text
- Time: Time format (e.g., 09:00 AM, 02:30 PM)
- Date: Date format (e.g., YYYY-MM-DD)
- Appointment Type: Text
- Price: Non-negative float
- Total Price: Non-negative float

9. **Units:**

- None

10. **Data Integrity Constraints:**

- UserID must correspond to an existing user in the system.
- Price and Total Price must be non-negative.

Past Appoitment:

1. **Dataset Name:** Past Appointment

2. **Description:**

- This dataset contains information about past appointments that have been deleted.

3. **Data Fields:**

- Appointment ID
- User ID
- Username
- People
- Phone Number
- Time
- Date
- Appointment Type
- Price
- Total Price
- Deleted By
- When Deleted

4. **Field Descriptions:**

Salon Management System

- Appointment ID: Unique identifier for the appointment.
- User ID: Unique identifier of the user associated with the appointment.
- Username: Name of the user who made the appointment.
- People: Number of people for the appointment.
- Phone Number: Phone number associated with the appointment.
- Time: Time of the appointment.
- Date: Date of the appointment.
- Appointment Type: Type of appointment (e.g., consultation, service).
- Price: Price of the appointment.
- Total Price: Total price including any additional charges.
- Deleted By: User or system account that deleted the appointment.
- When Deleted: Date and time when the appointment was deleted.

5. Data Types:

- Appointment ID: Integer
- User ID: Integer
- Username: String
- People: Integer
- Phone Number: String
- Time: Time stamp
- Date: Date stamp
- Appointment Type: String
- Price: Float
- Total Price: Float
- Deleted By: String
- When Deleted: Date and time stamp

6. Example Values:

- Appointment ID: 1001, 1002, 1003
- User ID: 101, 102, 103
- Username: John Doe, Jane Smith, Alice Johnson
- People: 2, 3, 1
- Phone Number: +1234567890, +1987654321

Salon Management System

- Time: 14:00, 10:30
- Date: 2024-04-15, 2024-04-16
- Appointment Type: Consultation, Service
- Price: 50.00, 75.00
- Total Price: 50.00, 112.50
- Deleted By: admin@example.com, system
- When Deleted: 2024-04-16 09:30, 2024-04-16 15:45

7. Missing Values:

- None

8. Data Range:

- Appointment ID: Positive integers
- User ID: Positive integers
- People: Positive integers
- Phone Number: Text
- Time: HH:MM format
- Date: YYYY-MM-DD format
- Appointment Type: Text
- Price: Non-negative float
- Total Price: Non-negative float
- Deleted By: Text
- When Deleted: Date and time stamp

9. Units:

- None

10. Data Integrity Constraints:

- Appointment ID must be unique.
- User ID must correspond to an existing user in the system.
- Phone Number should follow a valid format.
- Price and total price should be non-negative.

Review:

1. Dataset Name: Review

2. **Description:**

- This dataset contains information about reviews submitted by users.

3. **Data Fields:**

- User ID
- Username
- Email
- Star
- Review

4. **Field Descriptions:**

- User ID: Unique identifier of the user who submitted the review.
- Username: Name of the user who submitted the review.
- Email: Email address of the user who submitted the review.
- Star: Rating given in the review (e.g., 1 star, 2 stars).
- Review: Text content of the review.

5. **Data Types:**

- User ID: Integer
- Username: String
- Email: String
- Star: Integer
- Review: String

6. **Example Values:**

- User ID: 101, 102, 103
- Username: John Doe, Jane Smith, Alice Johnson
- Email: john@example.com, jane@example.com
- Star: 5, 4, 3
- Review: "Great service!", "Could be improved.", "Disappointing experience."

7. **Missing Values:**

- None

8. **Data Range:**

- User ID: Positive integers
- Username: Text

Salon Management System

- Email: Text
- Star: Range from 1 to 5
- Review: Text

9. Units:

- None

10. Data Integrity Constraints:

- User ID must correspond to an existing user in the system.
- Email addresses should follow a valid format.
- Star ratings should be within the range of 1 to 5.

Past Review:

1. Dataset Name: Past Review

2. Description:

- This dataset contains information about reviews that have been deleted.

3. Data Fields:

- Review ID
- User ID
- Email
- Star
- Review
- Deleted By
- When Deleted

4. Field Descriptions:

- Review ID: Unique identifier for the deleted review.
- User ID: Unique identifier of the user who submitted the review.
- Email: Email address of the user who submitted the review.
- Star: Rating given in the review (e.g., 1 star, 2 stars).
- Review: Text content of the review.
- Deleted By: User or system account that deleted the review.
- When Deleted: Date and time when the review was deleted.

5. Data Types:

Salon Management System

- Review ID: Integer
- User ID: Integer
- Email: String
- Star: Integer
- Review: String
- Deleted By: String
- When Deleted: Date and time stamp

6. Example Values:

- Review ID: 201, 202, 203
- User ID: 101, 102, 103
- Email: john@example.com, jane@example.com
- Star: 3, 2, 4
- Review: "Deleted review.", "Review removed by user."
- Deleted By: admin@example.com, system
- When Deleted: 2024-04-16 09:30, 2024-04-16 15:45

7. Missing Values:

- None

8. Data Range:

- Review ID: Positive integers
- User ID: Positive integers
- Email: Text
- Star: Range from 1 to 5
- Review: Text
- Deleted By: Text
- When Deleted: Date and time stamp

9. Units:

- None

10. Data Integrity Constraints:

- Review ID must be unique.
- User ID must correspond to an existing user in the system.
- Email addresses should follow a valid format.

Salon Management System

- Star ratings should be within the range of 1 to 5.

Employee:

1. **Dataset Name:** Employee

2. **Description:**

- This dataset contains information about employees.

3. **Data Fields:**

- Name
- Email
- Password
- Image
- Category

4. **Field Descriptions:**

- Name: The name of the employee.
- Email: The email address of the employee.
- Password: The password associated with the employee's account.
- Image: The image or photo of the employee.
- Category: The category or role of the employee (e.g., manager, staff, executive).

5. **Data Types:**

- Name: String
- Email: String
- Password: String (encrypted/hashed)
- Image: String (file path or URL)
- Category: String

6. **Example Values:**

- Name: John Doe, Jane Smith, Alice Johnson
- Email: john@example.com, jane@example.com
- Password: ***** (encrypted/hashed)
- Image: /path/to/image.jpg, https://example.com/image.jpg
- Category: Manager, Staff, Executive

7. **Missing Values:**

Salon Management System

- None

8. **Data Range:**

- Name: Text
- Email: Text
- Password: Encrypted/hashed text
- Image: Text (file path or URL)
- Category: Text

9. **Units:**

- None

10. **Data Integrity Constraints:**

- Email addresses must be unique.
- Passwords are encrypted/hashed for security.
- Category should be predefined and limited to specific values.

Past Employee:

1. **Dataset Name:** Past Employee

2. **Description:**

- This dataset contains information about past employees who are no longer active in the system.

3. **Data Fields:**

- Employee ID
- Name
- Email
- Password
- Image
- Category

4. **Field Descriptions:**

- Employee ID: Unique identifier for the past employee.
- Name: Name of the past employee.
- Email: Email address of the past employee.
- Password: Password associated with the past employee's account.
- Image: Image or profile picture of the past employee.

Salon Management System

- Category: Category or role of the past employee (e.g., manager, staff, administrator).

5. Data Types:

- Employee ID: Integer
- Name: String
- Email: String
- Password: String (encrypted/hashed)
- Image: Image file or URL
- Category: String

6. Example Values:

- Employee ID: 1001, 1002, 1003
- Name: John Doe, Jane Smith, Alice Johnson
- Email: john@example.com, jane@example.com
- Password: ***** (encrypted/hashed)
- Image: [Link to image file or URL]
- Category: Manager, Staff, Administrator

7. Missing Values:

- None

8. Data Range:

- Employee ID: Positive integers
- Name: Text
- Email: Text
- Password: Encrypted/hashed text
- Image: Image file or URL
- Category: Text

9. Units:

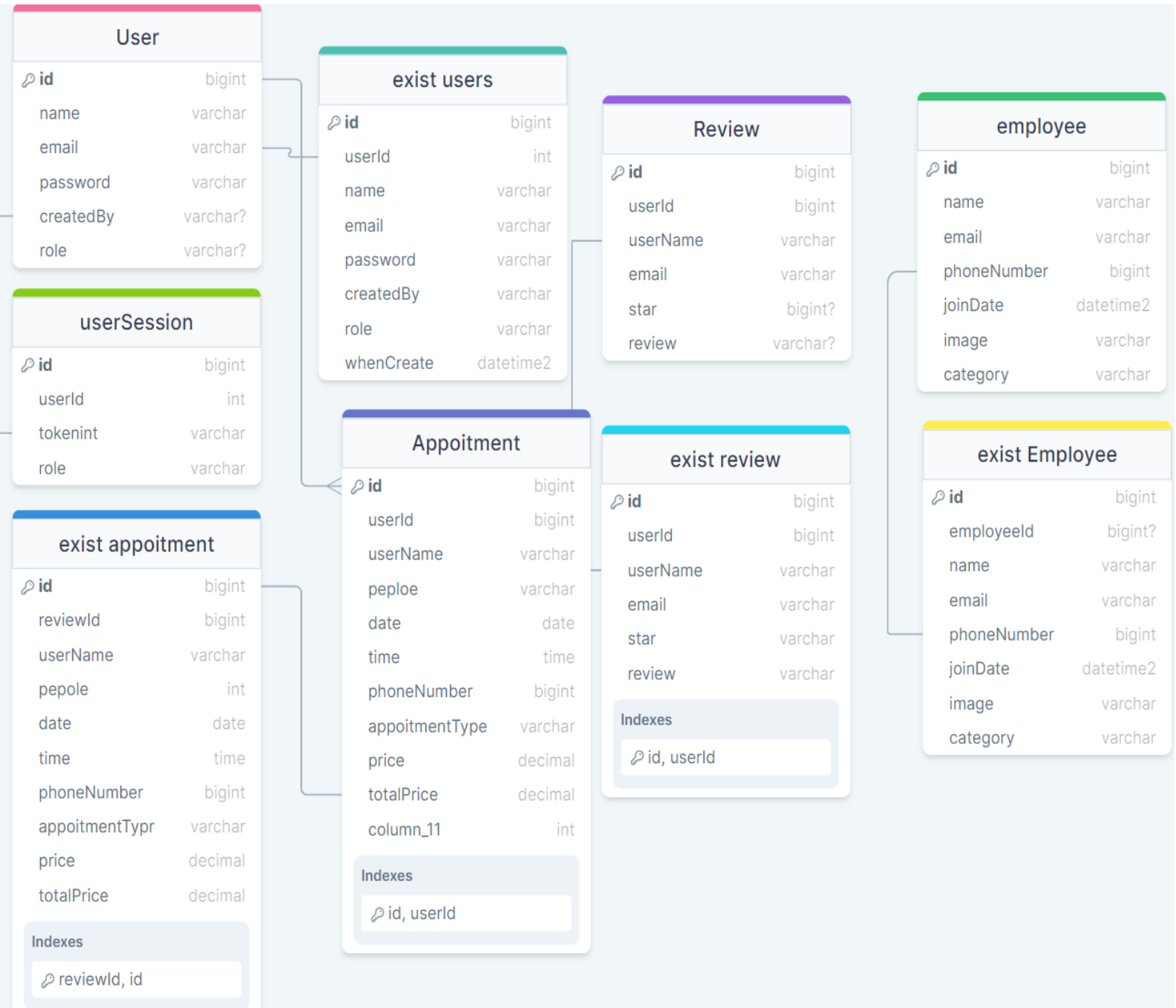
- None

10. Data Integrity Constraints:

- Employee ID must be unique.
- Email addresses should follow a valid format.
- Passwords are encrypted/hashed for security.
- Category should be predefined and limited to specific values.

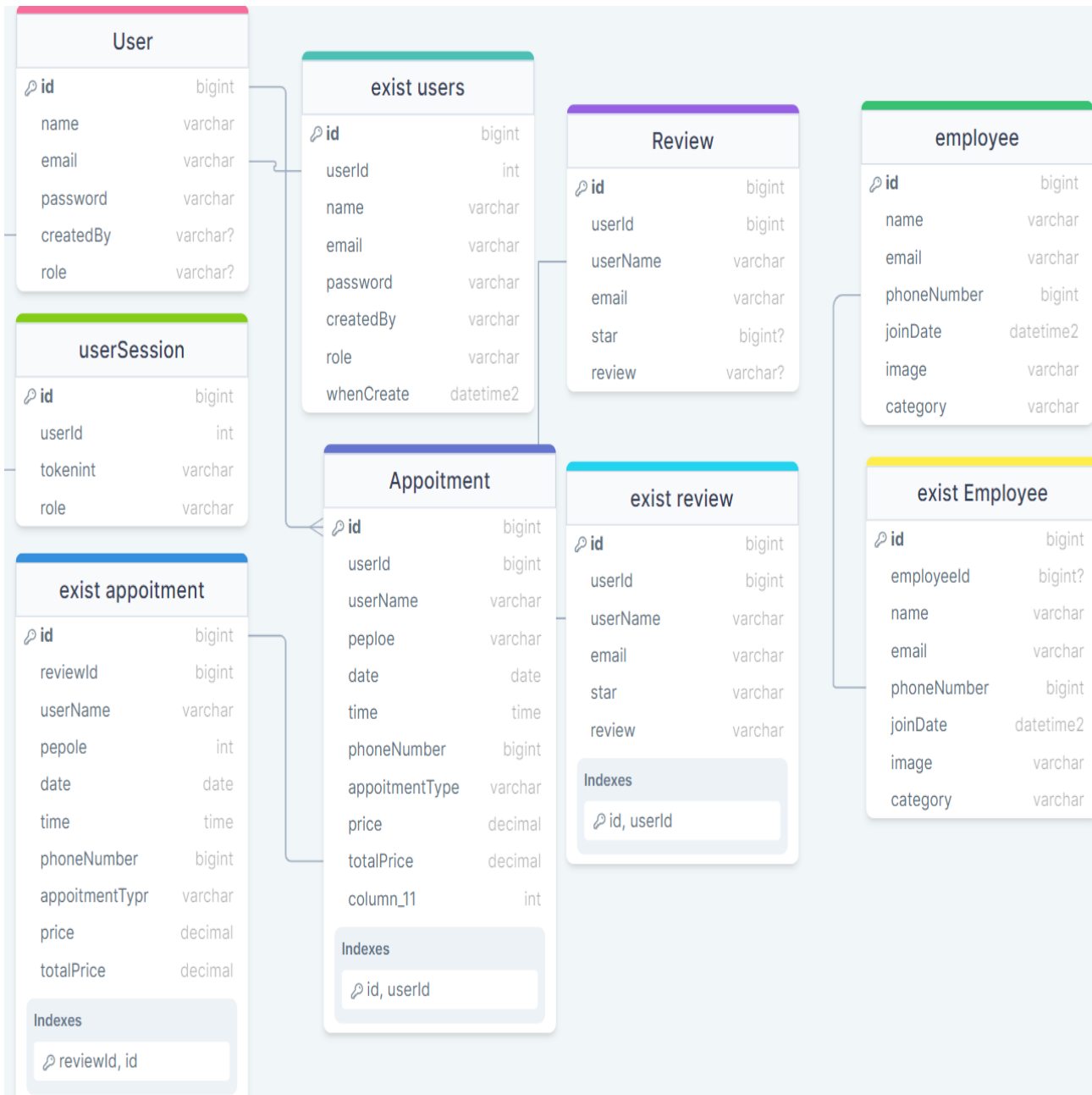
Salon Management System

Database Relationl Diagram



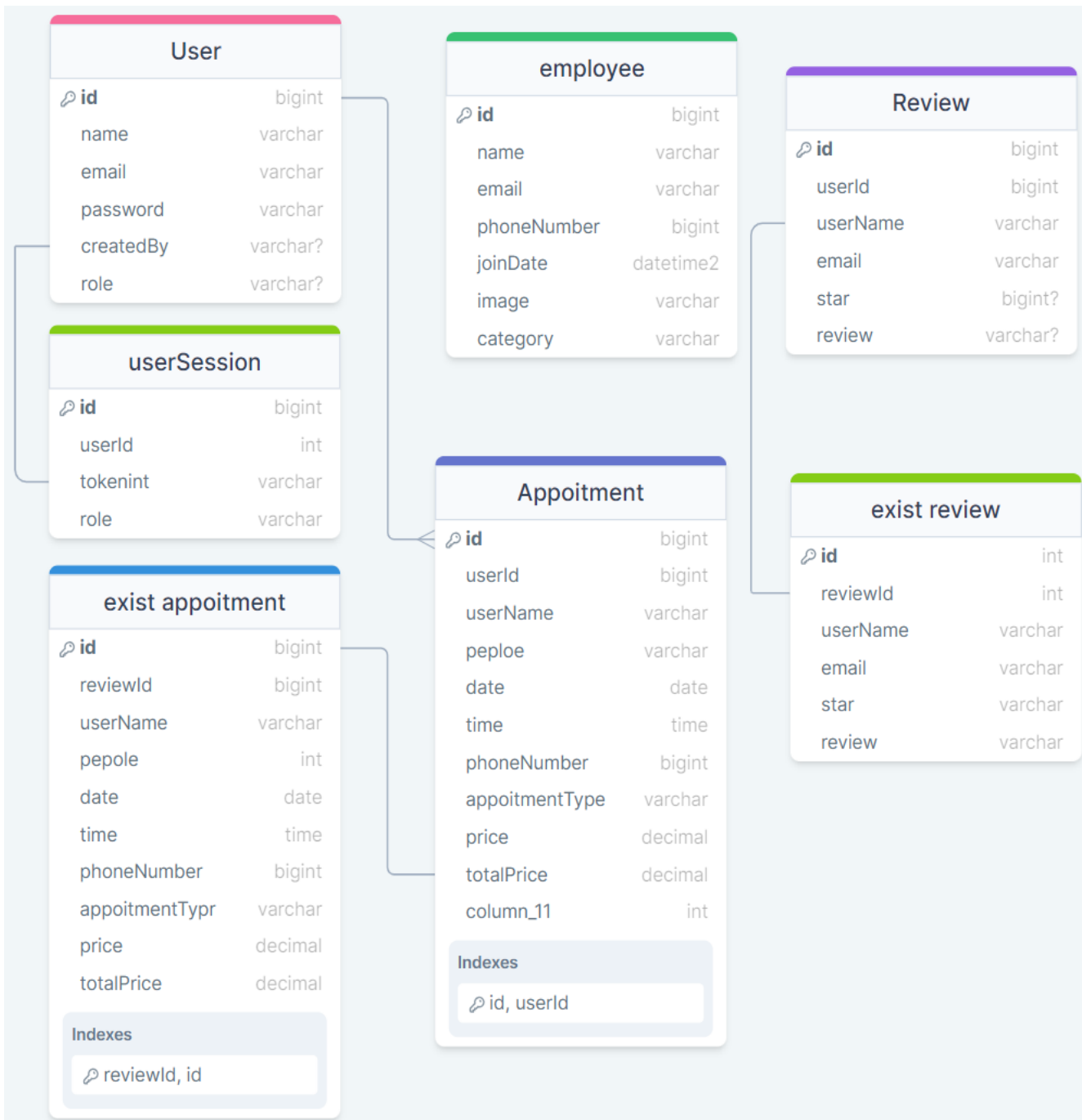
➤ admin

Salon Management System



Salon Management System

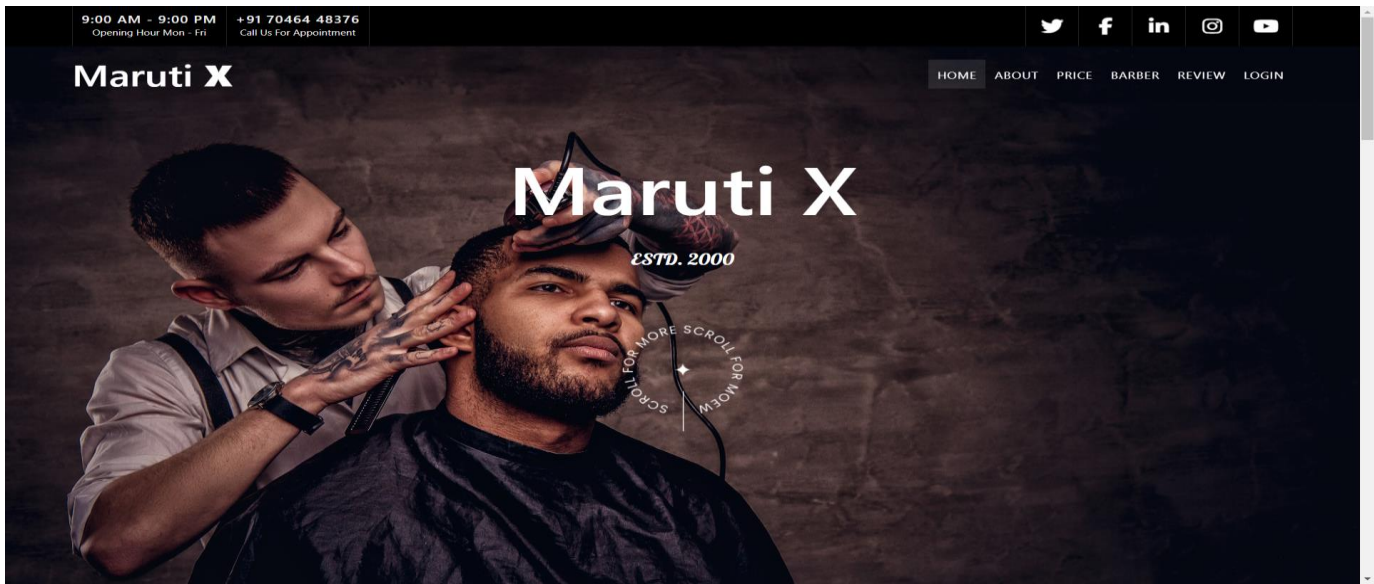
➤ User:



User Interface Design (System Layout)

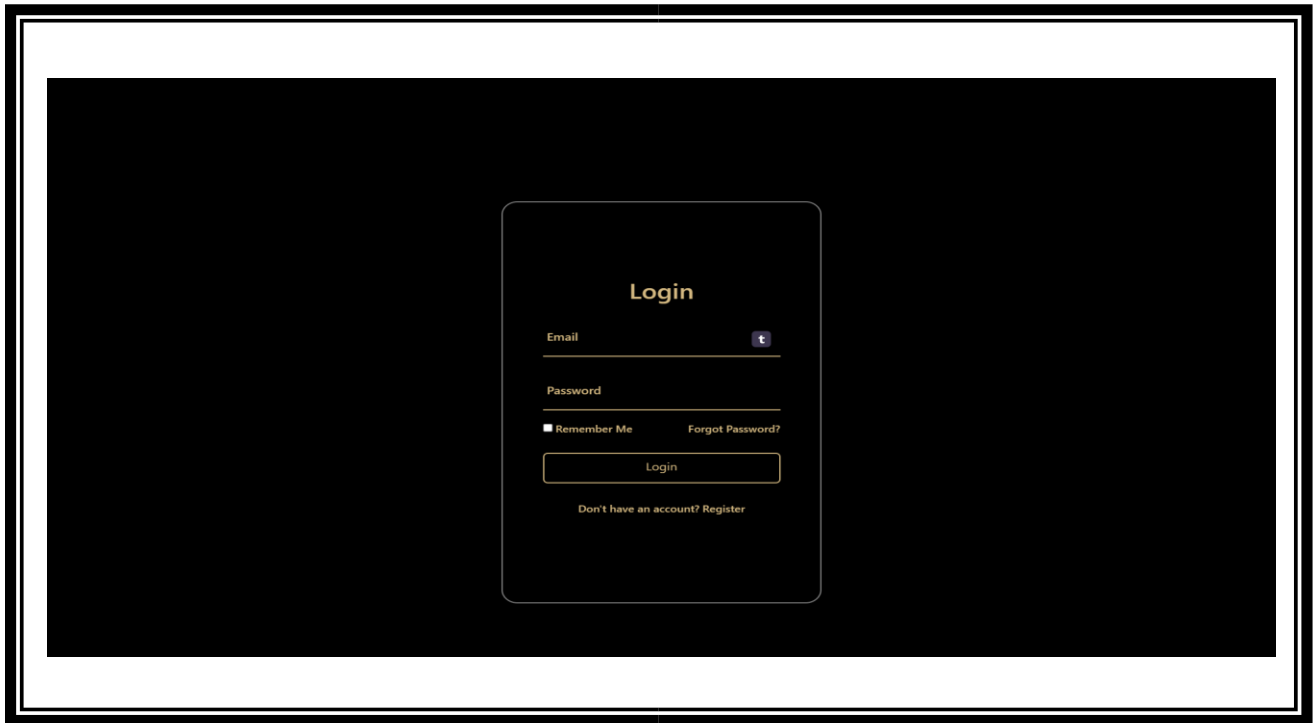
Salon Management System

Coman Page:




Salon Management System

Login Page :

A screenshot of a login page for a Salon Management System. The page has a dark blue background. In the center, there is a white rounded rectangle containing the login form. The form has a title "Login" in bold. Below the title, there are two input fields: "Email" and "Password". The "Email" field has a small blue icon with a white 't' on the right. Below the "Password" field, there is a checkbox labeled "Remember Me" and a link "Forgot Password?". Below these, there is a "Login" button. At the bottom of the form, there is a link "Don't have an account? Register".

Login

Email 

Password

☐ Remember Me [Forgot Password?](#)

Login

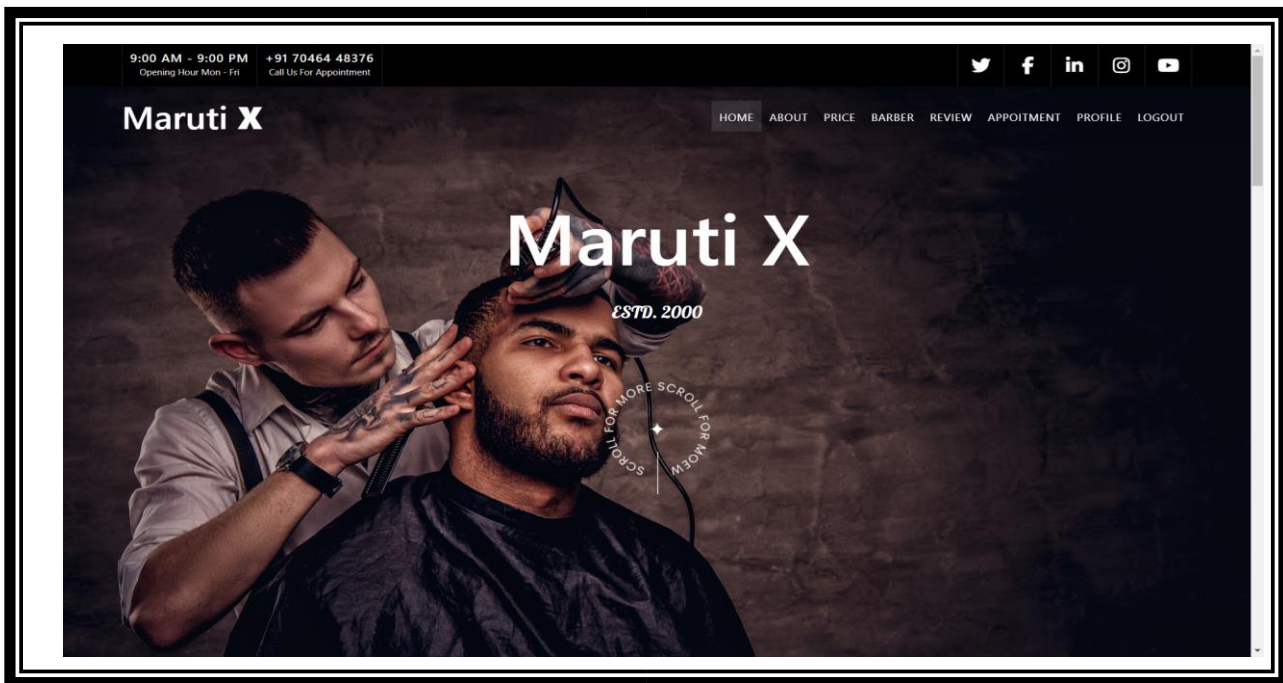
[Don't have an account? Register](#)

Salon Management System

Header Page :




Login Home Pages :



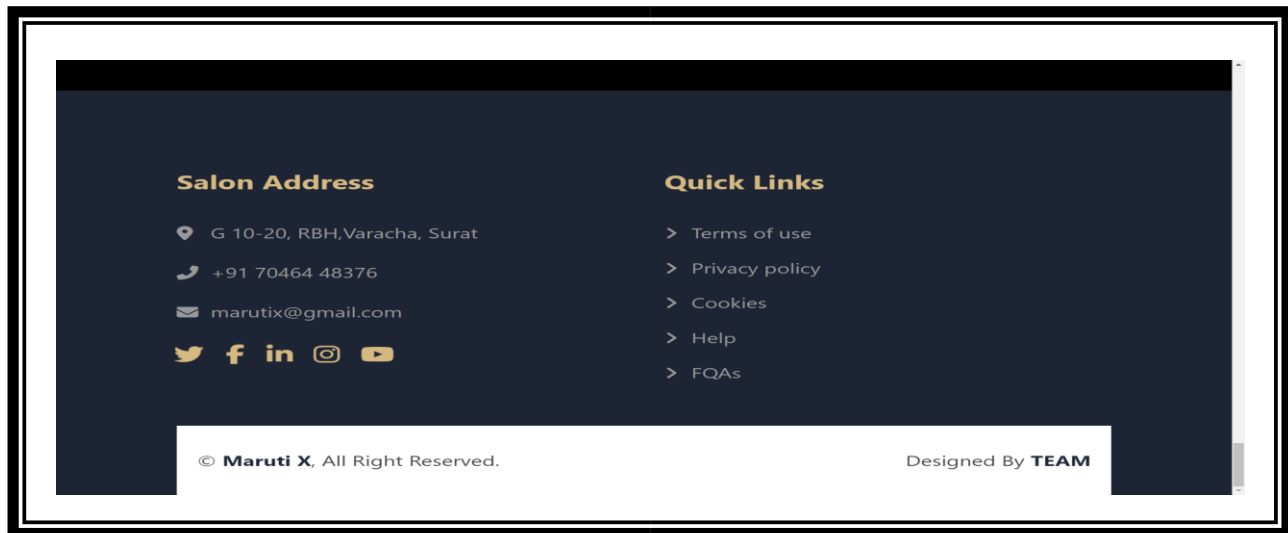
Price Page:

Our Best Pricing

We Provide Best Price in the City

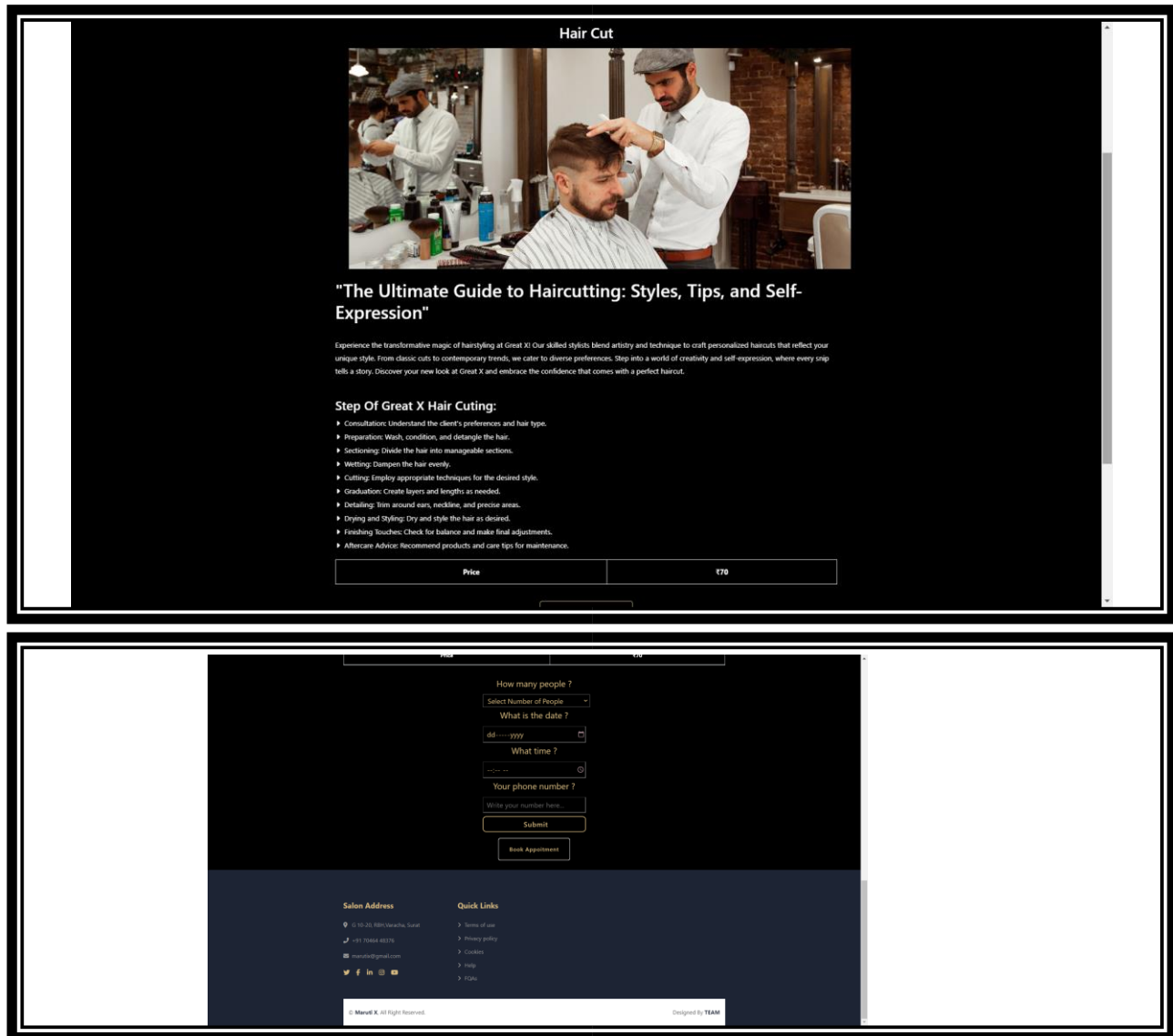
	Hair Cut ₹70		Hair Color ₹200		Hair Shave ₹70		Hair Straight ₹50
	Beard Trim ₹50		Beard Shave ₹60		Wedding Cut ₹250		Clean Up ₹100
	Massage ₹50						

Footer Page :



Salon Management System

Product Detail Pages :



Salon Management System

➤ User :

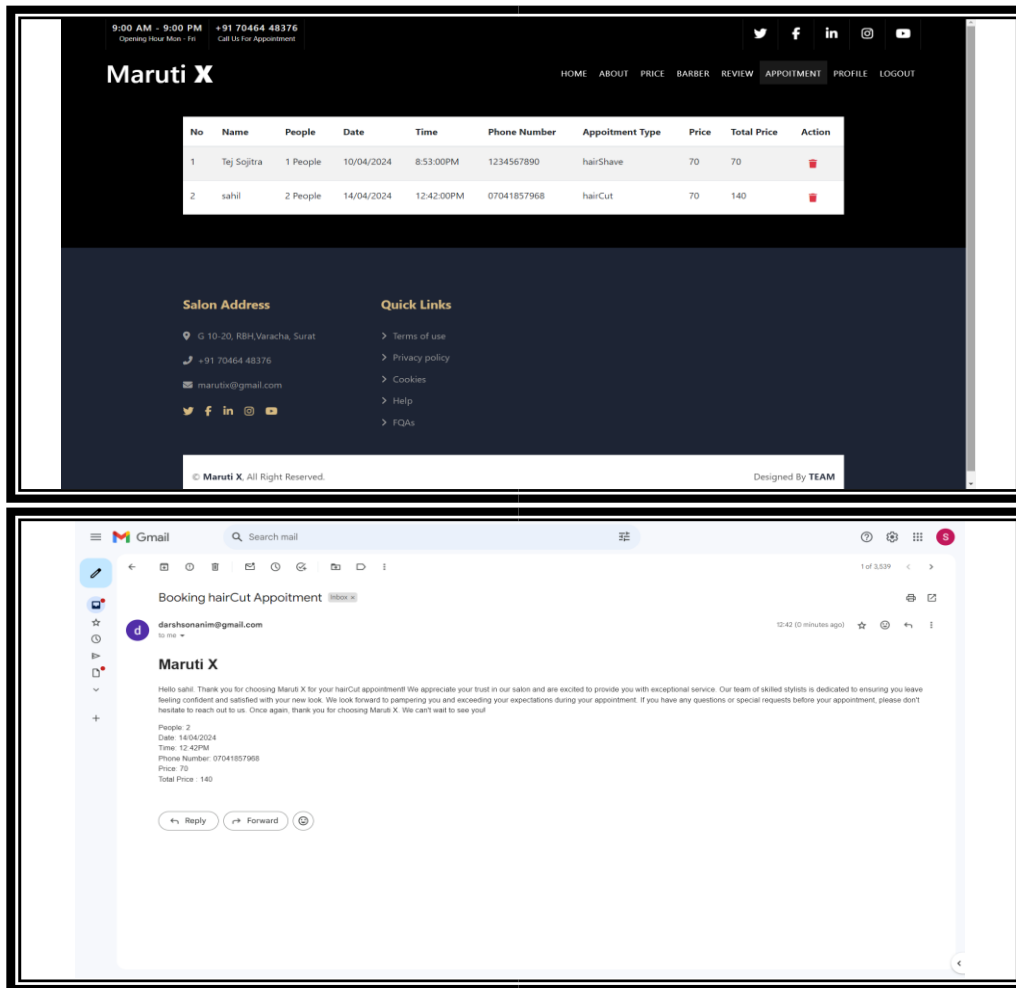
User Registration Pages :

The top screenshot displays a 'Register' form on a dark background. The form includes input fields for 'Name', 'Email', 'Password', and 'Confirm Password'. Below these fields are checkboxes for 'Remember Me' and a link for 'Forgot Password?'. A 'Register' button is positioned at the bottom of the form, and a link for 'have an account? Login' is located below the button.

The bottom screenshot shows a Gmail interface with a welcome email from Maruti X. The email is from 'darshonanim@gmail.com' and is titled 'Maruti X'. The body of the email welcomes the user to the Maruti X community and provides information about the platform's features and support. The email is dated '12:08 (0 minutes ago)' and includes a 'Reply' button.

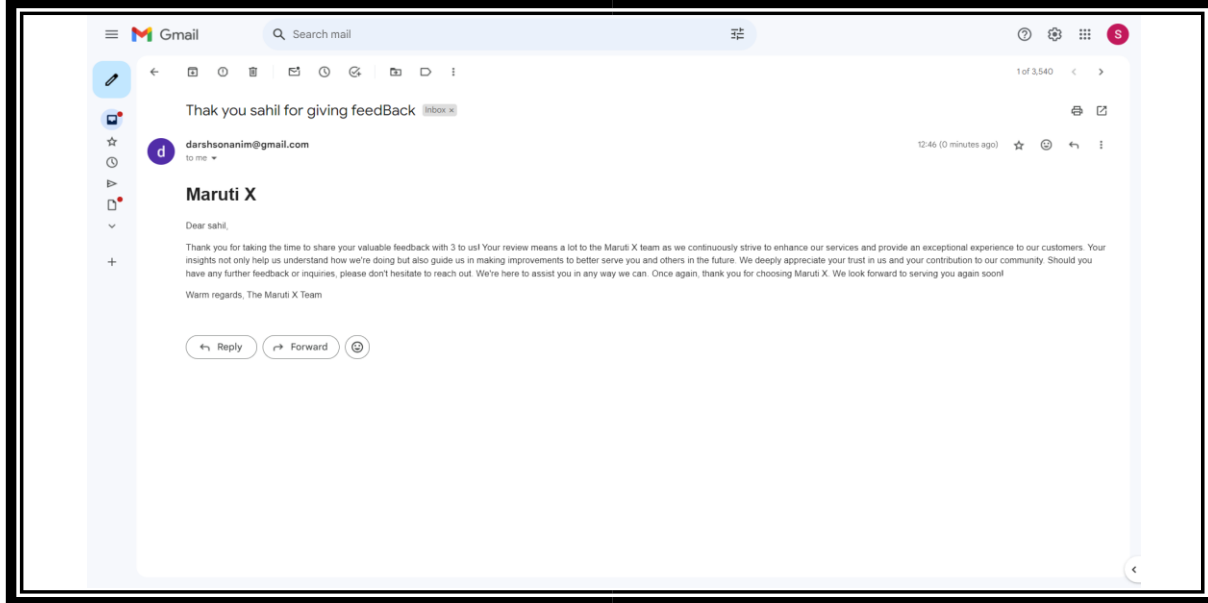
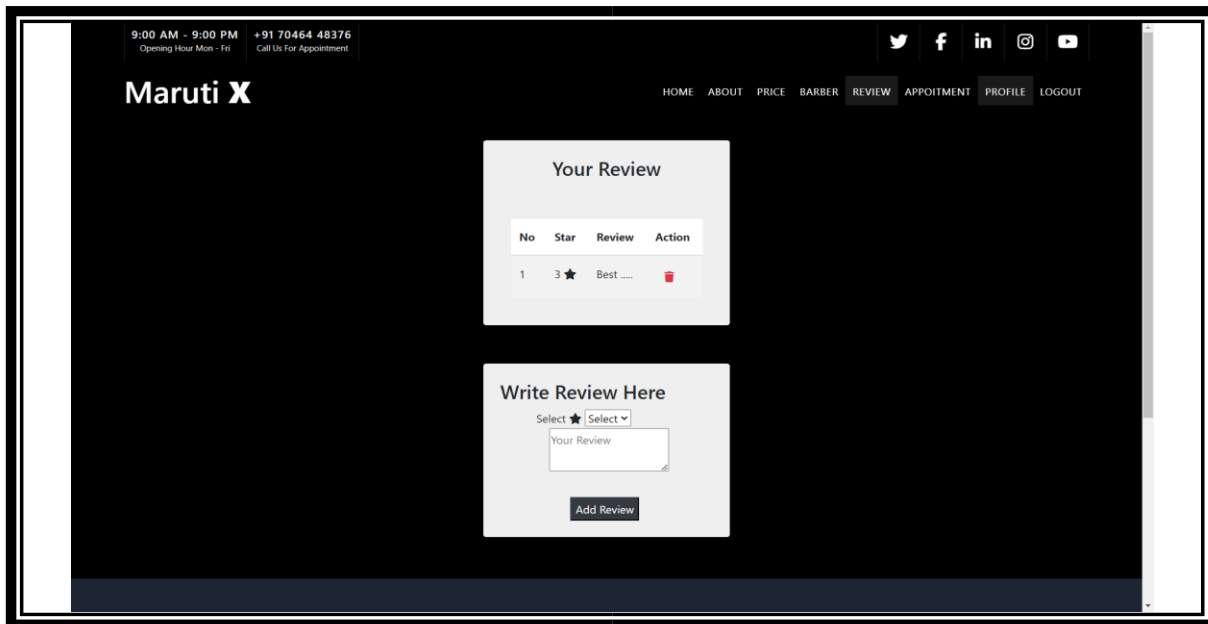
Book Appoitment Page:

Salon Management System



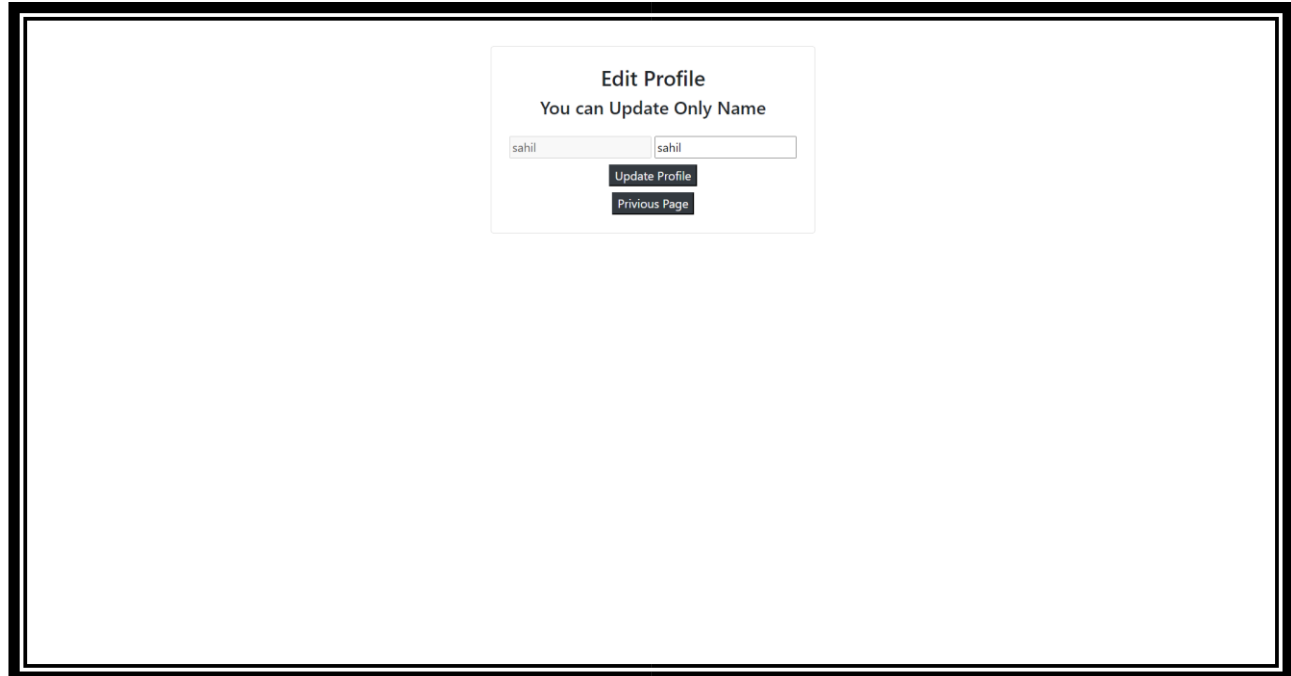
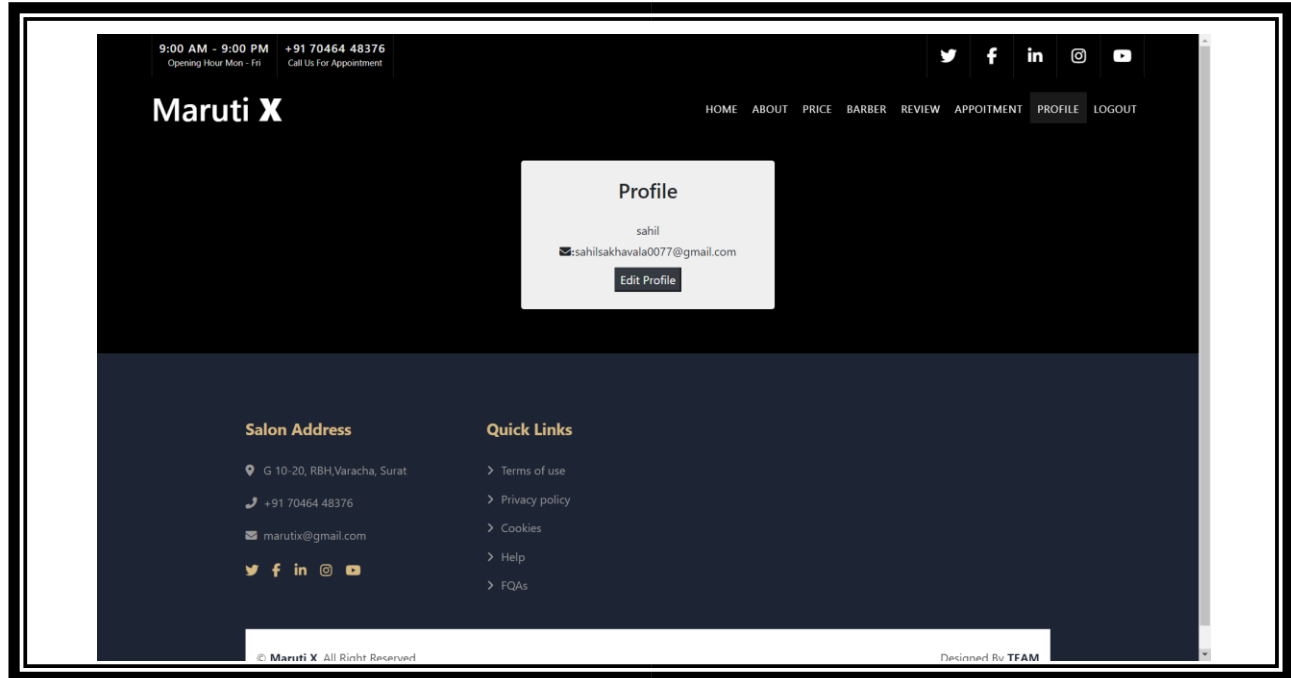
Add Review Pages :

Salon Management System



Salon Management System

Profile Page :



Salon Management System

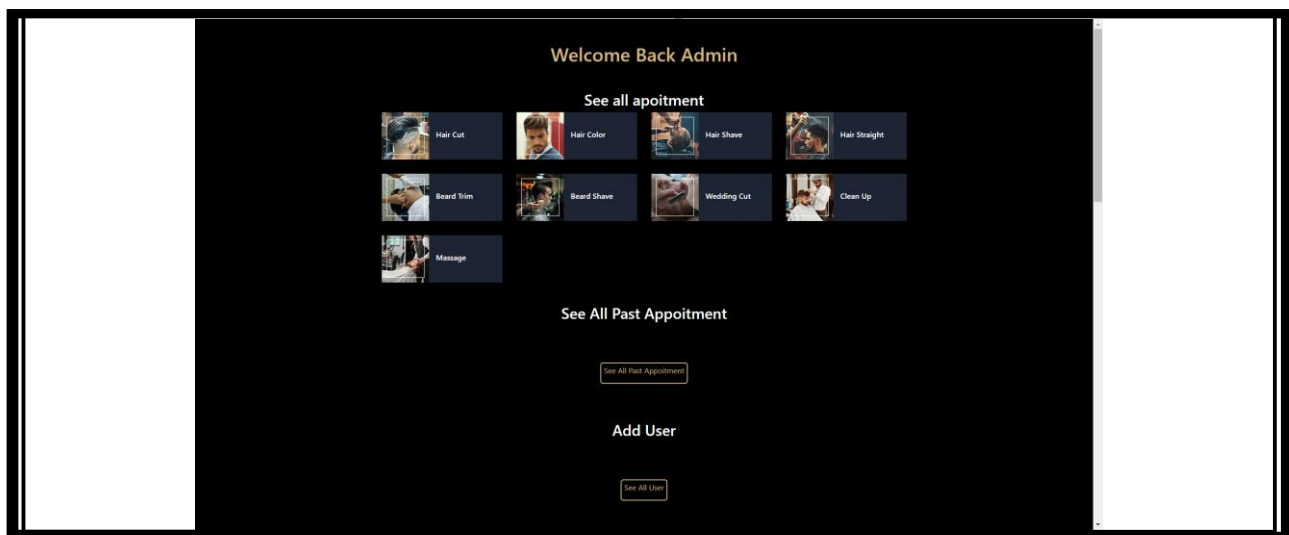
About Page :



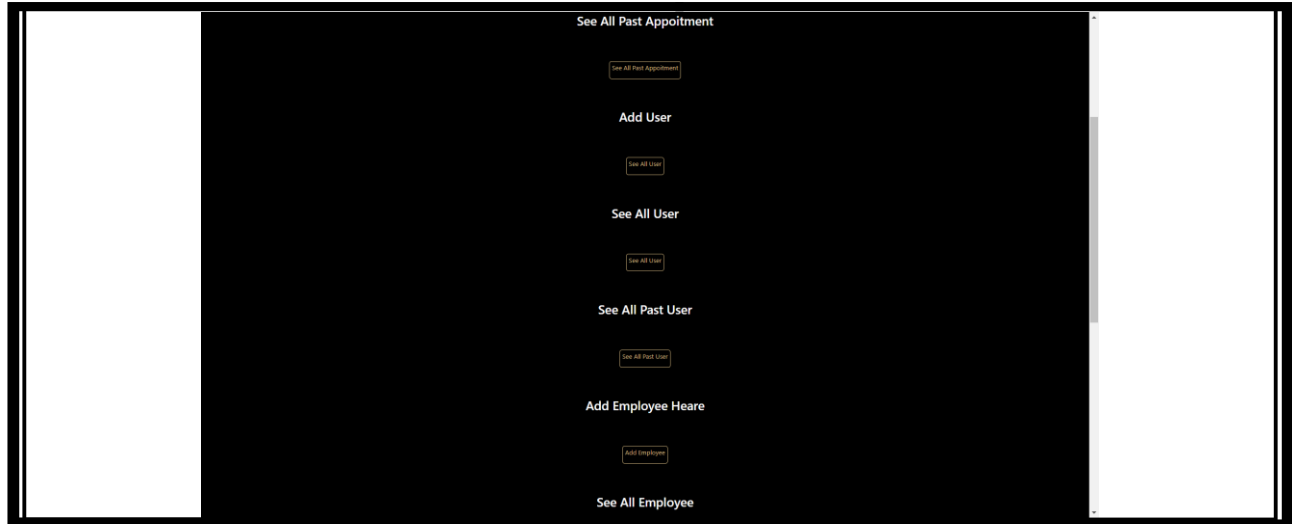
Salon Management System

➤ Admin :


Admin Dashbord Page:



Salon Management System


















Active User:


All User's				
No	Name	Email	Created By	Action
1	admin	admin@admin.com	self	
2	Sonani Darsh	sonanidarshm04@gmail.com	admin	

Employee:

Salon Management System


No	Name	Email	Phone Number	Join Date	Image	Category	Edit	Delete
1	Sahil	sahilsakhavala0077@gmail.com	07041857968	11/04/2024		hairStraight		
2	Sujal B	sujalmavani@icloud.com	07041857968	11/04/2024		massage		
3	Jeel	savanijeela@gmail.com	07041857968	11/04/2024		receptionist		
4	Headphone	sonanidarshm04@gmail.com	07041857968	11/04/2024		hairCut		
5	Headphone	user3@gmail.com	07041857968	12/04/2024		cleanUp		

Appoitment Page :


No	Name	People	Date	Time	Phone Number	Appoitment Type	Price	Total Price	Action
1	Sujal B	1 People	10/04/2024	1:40:00PM	1234567890	massage	50	50	

Salon Management System

Review Page :

No	Name	Star	Review	Action
1	Darsh Sonani	1 ★	5	

Past Employee Page :

No	Name	Email	Phone Number	Join Date	Image	category	When Created	When Deleted
1	Headphone	user3@gmail.com	07041857968	12/04/2024		cleanUp	"2024-04-12T04:51:11.000Z"	Sat Apr 13 2024 11:55:0

Salon Management System

Add Employee Page :

Name

Email

Mobile Number

Mobile Number

Choose File

No file chosen

Category

Select Category

Submit

Past Appoitment Page :

No	Name	People	Date	Time	Phone Number	Appoitment Type	Price	Total Price	Deleted By	When Created
1	Sujal B	1 People	10/04/2024	1:40:00PM	1234567890	massage	50	50	admin	"2024-04-11T12:14

Salon Management System

Add User Pages :

Name

Email

Password

Submit

Salon Management System

See All Past review :

No	Name	Email	Star	Review
1	Darsh Sonani	sonanidarshm04@gmail.com	5 ★	ddddd

Salon Management System

Past User Page :

No	Name	Email	Created By	role	When Deleted	When Created
1	sahil	sahilsakhavala0077@gmail.com	admin	user	Sat Apr 13 2024 12:04:00 GMT+0530 (India Standard Time)	*2024-04-13T06:33:

7.1 Unit Testing


7.2 Integration Testing


7.3 System Testing


Unit Testing

The presented system is tested first using unit testing. Unit testing is test of code written by a single programmer. A unit is a portion of a system implemented by a multi programmer. Unit testing is exercising a unit in isolation from the rest of the system. The system, then, is tested using integrating testing.

? Integration Testing

 **Top-Down:** Combine, test and debug top-leveled routines that become the integration test that harms for lower-level units.

 **Bottom-Up:** Combine, test low-level routines into progressively larger modules and subsystems.

 **Sandwich:** Mainly top-down with bottom-up integration and testing applied to certain widely used components.

? Failure and Recovery

The system is tested using sandwich testing so as it has integrated advantages of both the top-down integration as well as bottom-up integration testing.

Advantages Of Using Top –Down Integration

- ✚ The top levels of the system are tested the most.
- ✚ Distributes integration and testing throughout the coding phase.
- ✚ Tends to make bug location easier.
- ✚ Minimizes test harms creation.

? Advantages Of Using Bottom–Up Integration

Works well early in the integration process; thorough testing is possible and bugs are easy to be found.

? Test Completion


- ✚ White-box test coverage targets are met.
- ✚ Rate of error discovery reduced the target value.
- ✚ Measured reliability of the system achieves its target value.

Salon Management System


Unit	Result
Admin	
➤ Dashboard	
✓ View All Section	1
➤ User	
✓ Add /Delete/View User /View Deleted User/Retrive Deleted User	1
➤ Appoitment	
✓ View Appoitment /Delete/Retrive Deleted Appoitment/View Deleted Appoitment	1
➤ Employee	
✓ Add/Edit/Delete/View Employee/Retrive Deleted Employee/View Deleted Employee	1
➤ Review	
✓ View Review/Delete Review/Retrive Deleted Review/View All Deleted Review	1
User Site	
➤ Main Functions	
✓ Logins	1
✓ Book Appoitment / Delete	1
✓ Add Review /Delete	1
✓ Profile/Update	1
✓ Barber	1
Visitor Site	
➤ Main Functions	
✓ Register	1
✓ All Access	1
✓ View Review	1
✓ Barber	1

Integration Testing

Test Objective

 There is strong evidence that effective requirement management leads to overall project cost savings. The three primary reasons for this are:

- ² Requirement errors typically cost well over 10 times more to repair than other errors.
- ² Requirement errors typically comprise over 40% of all errors in a software project.
- ² Small reduction in the number of requirement errors pays big dividends in avoided rework costs and schedule delays.

 The testing procedure should care for all of these, as well as, in order to attain a flawless, error-free and efficient functioning system; too, software testing is an important phase of any software development life cycle. The system presented here is titled as --MarutiX.com. Various reports and data used for the same are the core of the system. The testing, therefore, becomes important in order to maintain the cost as well as improve performance and consistency. The testing procedure for the system has been divided in to various parts ranging for single unit testing to entire system testing.

Ç Test Planning

Test planning evolves the following steps:

- ² Estimate the size and cost of the testing efforts.
- ² May allocate test resources.
- ² Schedule test activities in accord with other development work.
- ² Generate test cases.

☞ Generating Test Case

A test case is a unit of testing activity. test cases have three parts:

- ² Goal- the aspect of the system being tested.
- ² Input and system state- data provided to the system under stated conditions.
- ² Expected Behavior- the output or action the system should take according to these requirements.



Test Case Selection

The presented system --MarutiX.com is tested using whitebox testing which is based on the internal structure of the system, may also called as testing to code, path-oriented testing, or logical-driven testing. A common goal of whitebox testing is to have a test case to exercise every path through a program. This may become exhaustive.




White Box Testing Case Selection


Because exhaustive white-box testing is infeasible, test or code coverage metrics are used to select test cases, which measure the fraction of code exercised by test cases. Test cases are selected to achieve target test coverage levels.



Test Coverage Metrics

 **Statement Coverage:** The fraction of statements executed at least once in running a collection of test cases.

 **Branch Coverage:** The fraction of total branch directions that have been taken at least once in running a collection of test cases.

 **Path Coverage:** The fraction of paths taken at least once in running a collection of test cases, where a Path is defined in some way to limit the totals of feasible collection.

➤ System Testing

System testing is a critical element of software quality assurance and represents the ultimate review of specification design and coding. Testing is an exposure of a system to trial input to see whether it produces correct output. Testing cannot be determined whether System meets user's needs, only whether it appears to confirm to requirements. Testing can show that a system is free of errors, only that it contains error. Testing finds errors, it does not correct errors. System success is a quality product, on time and within cost. Though testing can reveal critical (costly) mistakes. Testing should therefore,

- 1) Validate Performance.
- 2) Detects Errors.
- 3) Identify Inconsistencies

Testing Case

User

Sr No.	Name	value	Valid/ Invalid	Description
1.	id	Auto Increment		
2.	Email	Blank	Invalid	Not Allow Blank
		Abc	Invalid	Not Allow this format
		Admin@gmail.com	Valid	Only allow this format
3.	Password	Blank	Invalid	Not Allow Blank
		123@Abc	Valid	Only No., Special And Character Used

Review

Salon Management System

Sr No.	Name	value	Valid/ Invalid	Description
1.	star	1 - 5	Valid	Only Allow Number
2.	review	Blank	Invalid	Not Allow Blank
		Abc	Valid	Only Allow Char, number no

Appoitmnet

Sr No.	Name	value	Valid/ Invalid	Description
1.	Date	Date	Valid	Only allow date
2.	time	Time(9 am – 9 pm)	Valid	Only Time
3.	Peploe	1 - 10	Valid	Only Number

Salon Management System

Employee

Sr No.	Name	value	Valid/ Invalid	Description
1.	name	Only Character	Valid	Only name
2.	email	ad@gmail.com	Valid	Only email
3.	Phone Number	1234567890	Valid	Only number
4.	image	.webp	Invalid	Not Allow Character Or Special Character
		.jpg, .png, .jpeg	Valid	Only Allow Valid type

Past Review

Sr No.	Name	value	Valid/ Invalid	Description
1.	ReviewId	Auto Increment		
2.	Start	1 – 5	Valid	
3.	Review	Character's	Valid	Only Allow Char

Past Appoitmnet

Salon Management System

Sr No.	Name	value	Valid/ Invalid	Description
1.	appoitmentId	Integer	valid	
2.	Date	Date	Valid	Only Allow Date
3.	Time	Time	Valid	Only Allow Time
4.	Peploe	1 – 10	Valid	Only Allow Digit

Past User

Sr No.	Name	value	Valid/ Invalid	Description
1.	userId	Integer		
2.	Email	Blank	Invalid	Not Allow Blank
		Abc@gmail.com	Valid	Only Allow Email
4.	name	Mohan	valid	AllowCharacter
5.	Password	ad@123	Valid	Only allow in this fromat

Salon Management System

Past Employee

Sr No.	Name	value	Valid/ Invalid	Description
1.	employeeId	Integer	Valid	
2.	Name	Mohan	Valid	Only Allow Name
3.	phoneNumber	1234567890	Valid	Only allow Number
4.	email	Blank	Invalid	Not Allow Blank
		Abc@gmail.com	Valid	Only Allow Email

UserSession

Sr No.	Name	value	Valid/ Invalid	Description
1.	UserId	Integer	Valid	Only Integer
2.	Token	Character	Valid	Only String

Salon Management System

3.	Role	Admin,Seller	Valid	Not Allow Blank
----	------	--------------	-------	-----------------

Limitation

8 Chapter

➤ Limitation

✚ The online payment system is not implemented so that only offline payment is possible.

✚ System only manage Service and Book Appoitment.

Future Enhancement

9 Chapter

+ We are going to enhance the paypal system for online transaction. so that customer has no worried about the payment system he has just information about the credit card and electronic payment cards.



+ We are going to enhance/implement beauty product in our site.and create salon service page.

+ Fix some unknown bug.

Websites

-  <https://www.npmjs.com>
-  <http://www.stackoverflow.com>
-  <https://developer.mozilla.org/en-US/>
-  <https://www.freepik.com/>
-  <https://www.w3schools.com/html/>
-  <https://www.w3schools.com/css/>
-  <https://www.w3schools.com/js/>
-  <https://www.w3schools.com/nodejs/>
-  <https://ejs.co/>
-  <https://www.npmjs.com/package/multer>
-  <https://sequelize.org/>
-  <https://getbootstrap.com/>

Books

-  HTML And CSS
-  Begining Node.js by greg Lim