WEBSITE FOR BARBERSHOP MANAGEMENT SYSTEM

A PROJECT REPORT

Submitted in partial fulfilment of the
Requirements of the award of the Degree of

BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)

BY

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CERTIFICATE

This is to certify that Mr. Pawan Sukhulal Gupta Seat No. **2143012** has completed practicals in the subject of **Project Dissertation** in partial fulfilment of B.Sc(Information Technology) SEM-V.

It is further certified that he/she has completed all required practical of the subject successfully.

Signature of Practical In-charge

Signature of H.O.D./ Co-ordinator

Date: 18/10/2021

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CHAPTER 1: INTRODUCTION

1.1 Background

- A Barbershop Management System is a website that will be used by a Barbershop to give a ease to admin and Customers to manage and booking their appointments respectively.
- A Barbershop Management System consists of a Customer login, Stylist login and an Admin login.
- The project is beneficial for all Customers and even the Owner of the Barbershop.
- The software system allows the Customers to create their profiles and upload all their details onto the system.
- The admin can check each Customer details and can add, remove and edit the accounts.
- The admin has overall rights over the system and can moderate and delete any details of the Customer and Stylist.
- The system also consists of a Stylist login where it can show case his style in the form of photos.
- Admin handles Customer as well as Stylists data and efficiently displays all this data to respective sides.
- The application is reduced as much as possible to avoid errors while entering data.
- It also provides error message while entering invalid data.
- No formal knowledge is needed for the user to use this system.
- Thus, by this it proves it is user-friendly.
- This system can lead to error-free, secure, reliable and fast management system.
- It can assist the user to concentrate on the record keeping.
- Hence it will help organization in better utilization of resources.

1.2 Objectives

- Helps in fast access appointments and choosing a stylist of their choice.
- The details of Customers and Stylists are maintained.
- Customers can choose their stylist online.
- This system is quiet time-saving.
- Can easily find out the list of eligible Stylist for Customers.

1.3 Purpose

- To help Barbershop owner to manage data digitally and easily.
- No need to physically store and manage documents.
- Data management is done efficiently and automatically.
- Customer don’t need to personally come to the shop each time and be there in queue.
- It saves Customer’s as well as Owner’s time.
- Manual processing makes the process slow and other problems such as inconsistency and ambiguity on operations.

1.4 Scope

- It may help collecting perfect management details.
- It will help in all the current work.
- It will also reduce cost.
- It will also reduce time.
- It satisfies the user requirement.
- It is easy to understand by the user and operator.
- Customers can select their stylist as well as the timing they prefer.
- We can store the information of all Customers.

1.5 Applicability

- This project is applicable for Barbershop.
- The admin is the Owner or the Manager of the shop who views the Customer details and Stylist details and post the selected Services.
- Admin also has the functionality add or remove different posts.

1.6 Achievements

- Delivering the best service.
- Providing the service according to the Customers need.
- Saving Time.
- How should we communicate.
- How the data is managed.
- How to set the criteria for each Service.

CHAPTER 2: SURVEY OF TECHNOLOGIES

The project is developed using ASP.NET and SQL.

ASP.NET:

- ASP stands for Active Server Pages.
- ASP.NET is a web application framework developed and marketed by Microsoft to allow programmers to build dynamic web sites.
- It provides a programming model, a comprehensive software infrastructure and various services required to build up robust web applications for PC, as well as mobile devices.
- ASP.NET pages have the extension .aspx and are normally written in C# (C sharp).
- It allows you to use a full featured programming language such as C# or VB.NET to build web applications easily.
- ASP.NET works on top of the HTTP protocol, and uses the HTTP commands and policies to set a browser-to-server bilateral communication and cooperation.
- ASP.NET is a part of Microsoft .Net platform. ASP.NET applications are compiled codes, written using the extensible and reusable components or objects present in .Net framework. These codes can use the entire hierarchy of classes in .Net framework.
- The ASP.NET application codes can be written in any of the following languages:
    - C#
    - Visual Basic.Net
    - Jscript
    - J#
- ASP.NET is used to produce interactive, data-driven web applications over the internet.
- It consists of a large number of controls such as text boxes, buttons, and labels for assembling, configuring, and manipulating code to create HTML pages.

SQL:

- SQL stands for Structured Query Language.
- SQL lets you access and manipulate databases.
- SQL became a standard of the American National Standards Institute (ANSI) in 1986, and of the International Organization for Standardization (ISO) in 1987.
- SQL can execute queries against a database.
- SQL is the standard language for Relational Database System (RDBMS).
- All the Relational Database Management Systems (RDMS) like MySQL, MS Access, Oracle, Sybase, Informix, Postgres and SQL Server use SQL as their standard database language.

CHAPTER 3: REQUIREMENTS AND ANALYSIS

3.1 Problem Definition

- Customers can submit their details as well as personal details in the website itself.
- If this work would have done manually, there might be chance of wastage of time.
- This issue is solved when the work is done online.
- They can apply for the appointments they want as per the criteria.
- They can also check previous customers hairstyles.

3.2 Requirement Specification

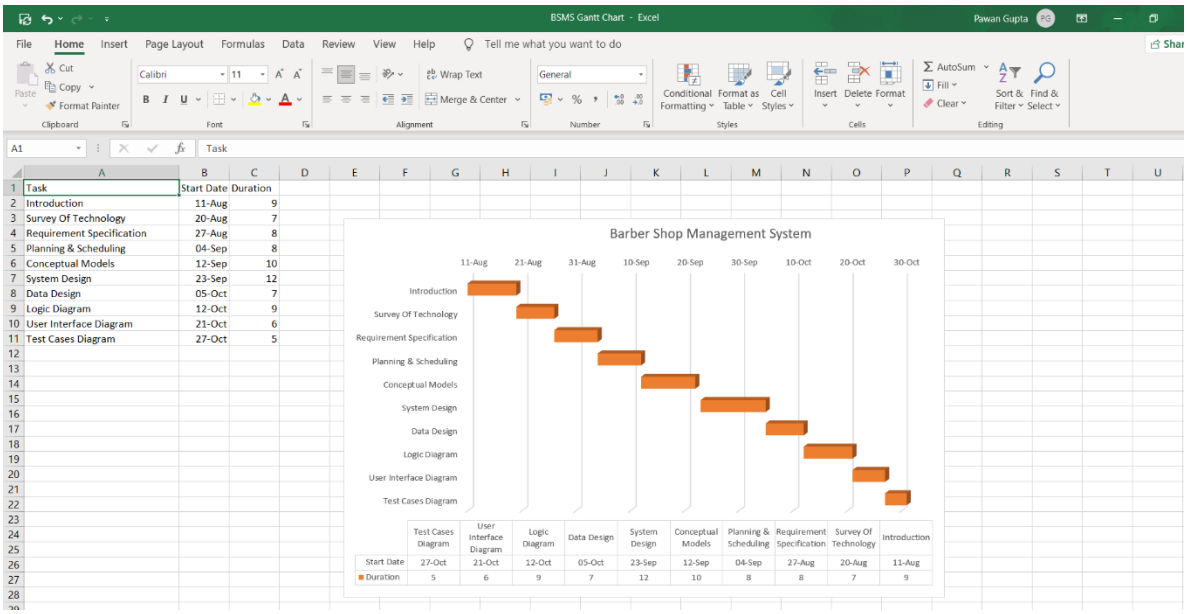
1. **Convenience:** The system shall allow the Customers to apply online as per their convenience as they don't need to visit the shop for the appointment.
2. **User-Interface:** The system shall provide an easy-to-use user-interface. It is easily understood by everyone as it is not complex.
3. **Transparency**: Customers details are not shown to any other customer.
4. **Accuracy:** The system records all the customer's request.

3.3 Planning and Scheduling

3.3.1 GANTT CHART:

- A Gantt chart is a type of bar chart that illustrates a project schedule.
- This chart lists the tasks to be performed on the vertical axis, and time intervals on the horizontal axis.
- The width of the horizontal bars in the graph shows the duration of each activity.
- Gantt charts illustrate the start and finish dates of the terminal elements and summary elements of a project.
- Terminal elements and summary elements constitute the work breakdown structure of the project. Modern Gantt charts also show the dependency (i.e., precedence network) relationships between activities.

Diagram:



Task	Start Date	Duration
Introduction	11-Aug	9
Survey Of Technology	20-Aug	7
Requirement Specification	27-Aug	8
Planning & Scheduling	04-Sep	8
Conceptual Models	12-Sep	10
System Design	23-Sep	12
Data Design	05-Oct	7
Logic Diagram	12-Oct	9
User Interface Diagram	21-Oct	6
Test Cases Diagram	27-Oct	5

	Test Cases Diagram	User Interface Diagram	Logic Diagram	Data Design	System Design	Conceptual Models	Planning & Scheduling	Requirement Specification	Survey Of Technology	Introduction
Start Date	27-Oct	21-Oct	12-Oct	05-Oct	23-Sep	12-Sep	04-Sep	27-Aug	20-Aug	11-Aug
Duration	5	6	9	7	12	10	8	8	7	9

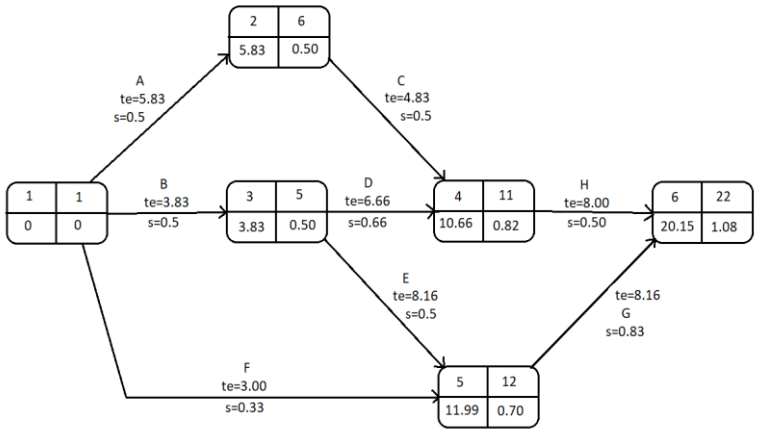
3.3.2 PERT CHART:

- PERT stands for Program Evaluation and Review technique.
- PERT is a method of analyzing the tasks involved in completing a given project, especially the time needed to complete each task, and to identify the minimum time needed to complete the total project.
- It incorporates uncertainty by making it possible to schedule a project while not knowing precisely the details and durations of all the activities.
- It is more of an event-oriented technique rather than start- and completion-oriented, and is used more in those projects where time is the major factor rather than cost.
- It is applied on very large-scale, one-time, complex, non-routine infrastructure and on Research and Development projects.
- PERT offers a management tool, which relies "on arrow and node diagrams of activities and events: arrows represent the activities or work necessary to reach the events or nodes that indicate each completed phase of the total project.

Diagram:

Activities	Preceding Activity	Optimistic Time (a)	Pessimistic Time (b)	Most Likely Time (m)	Expected Time (Te)	Standard Deviation (S.D.)
Project Selection (A)	-	4	7	6	5.83	0.5
Survey Of Technology/ Introduction (B)	-	2	5	4	3.83	0.5
Requirement Analysis (C)	A	3	6	5	4.83	0.5
Conceptual Model (D)	B	4	8	7	6.66	0.66
System Design (E)	B	7	10	8	8.16	0.5
Logic Diagram (F)	-	2	4	3	3.00	0.33
UI (G)	E,F	6	11	8	8.16	0.83
Test Case Design (H)	C,D	5	8	7	8.00	0.50

PERT CHART



3.3 Hardware Requirements

- Intel Core Processor
- RAM 4GB and above
- Hard Disk – 5 GB

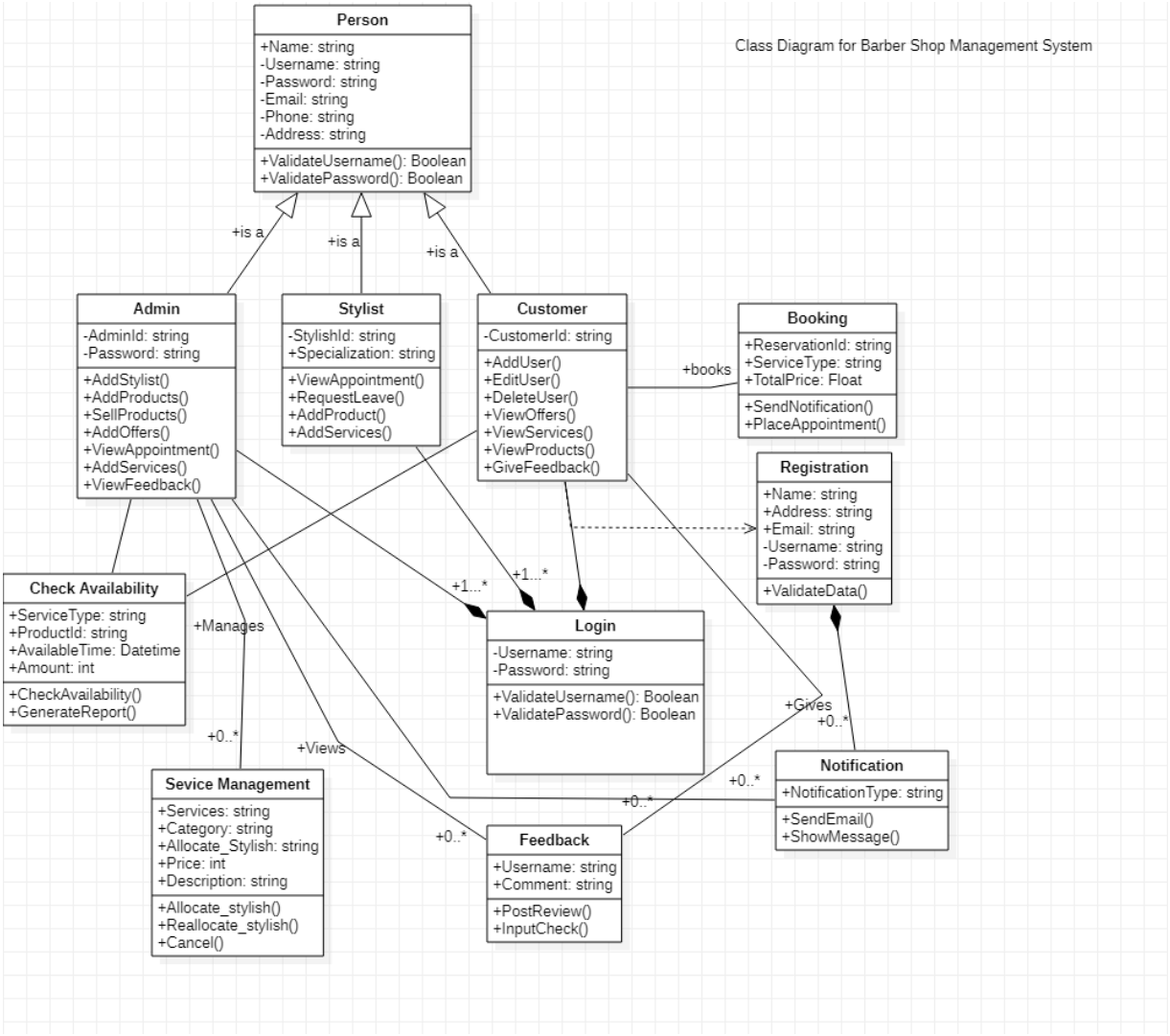
3.4 Software Requirements

- Language: Microsoft C#, Microsoft ASP.Net
- Runtime: Microsoft Framework
- Environment: Microsoft Visual Studio IDE
- Web server: Chrome, Mozilla, etc.
- Database: SQL Server
- Operating system: Microsoft Windows

3.6 Conceptual Models

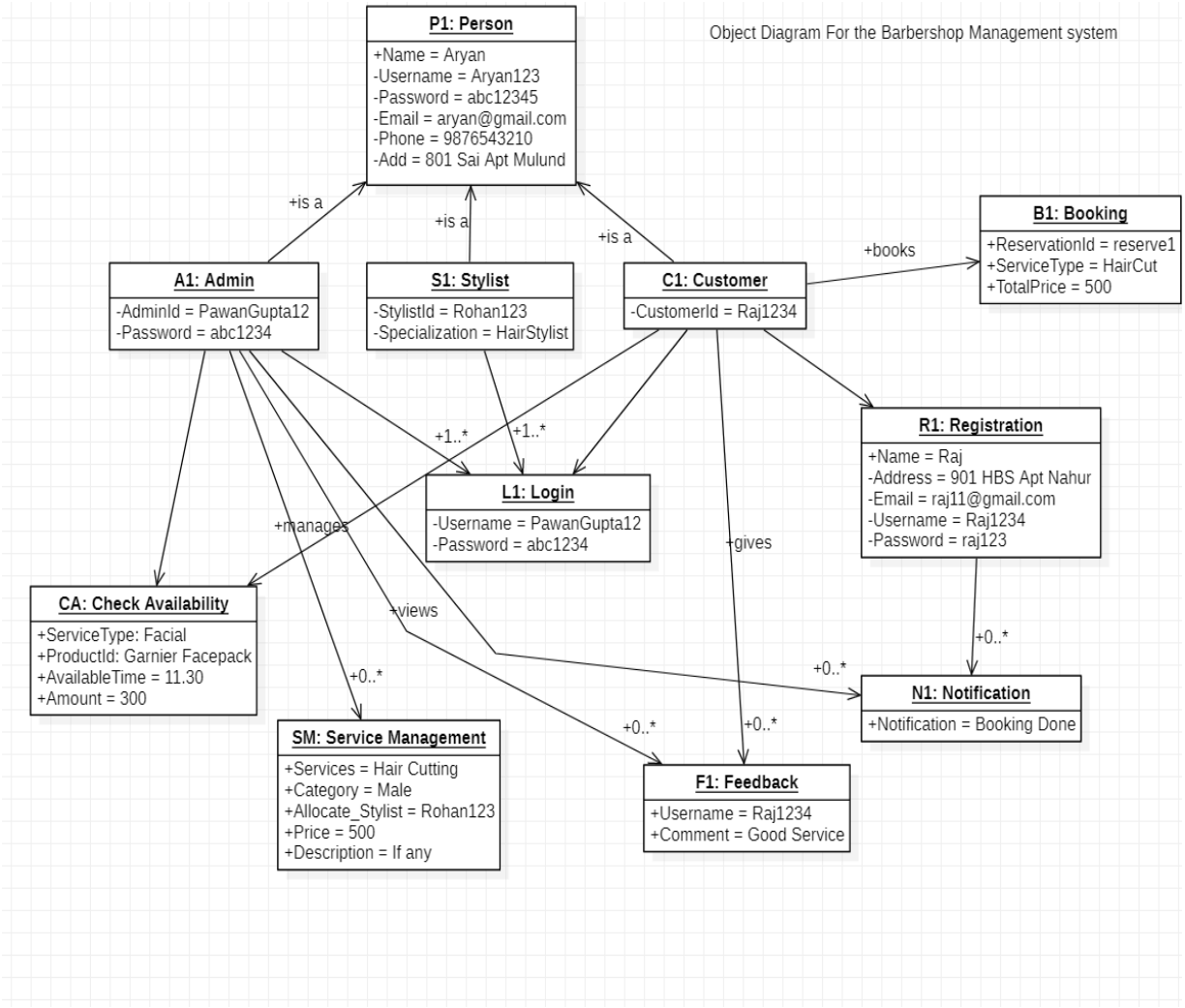
3.6.1 Class Diagram

Class diagram is a static diagram. It represents the static view of an application. Class diagram is not only used for visualizing, describing, and documenting different aspects of a system but also for constructing executable code of the software application. Class diagram describes the attributes and operations of a class and also the constraints imposed on the system. The class diagrams are widely used in the modeling of object-oriented systems because they are the only UML diagrams, which can be mapped directly with object-oriented languages. Class diagram shows a collection of classes, interfaces, associations, collaborations, and constraints. It is also known as a structural diagram.



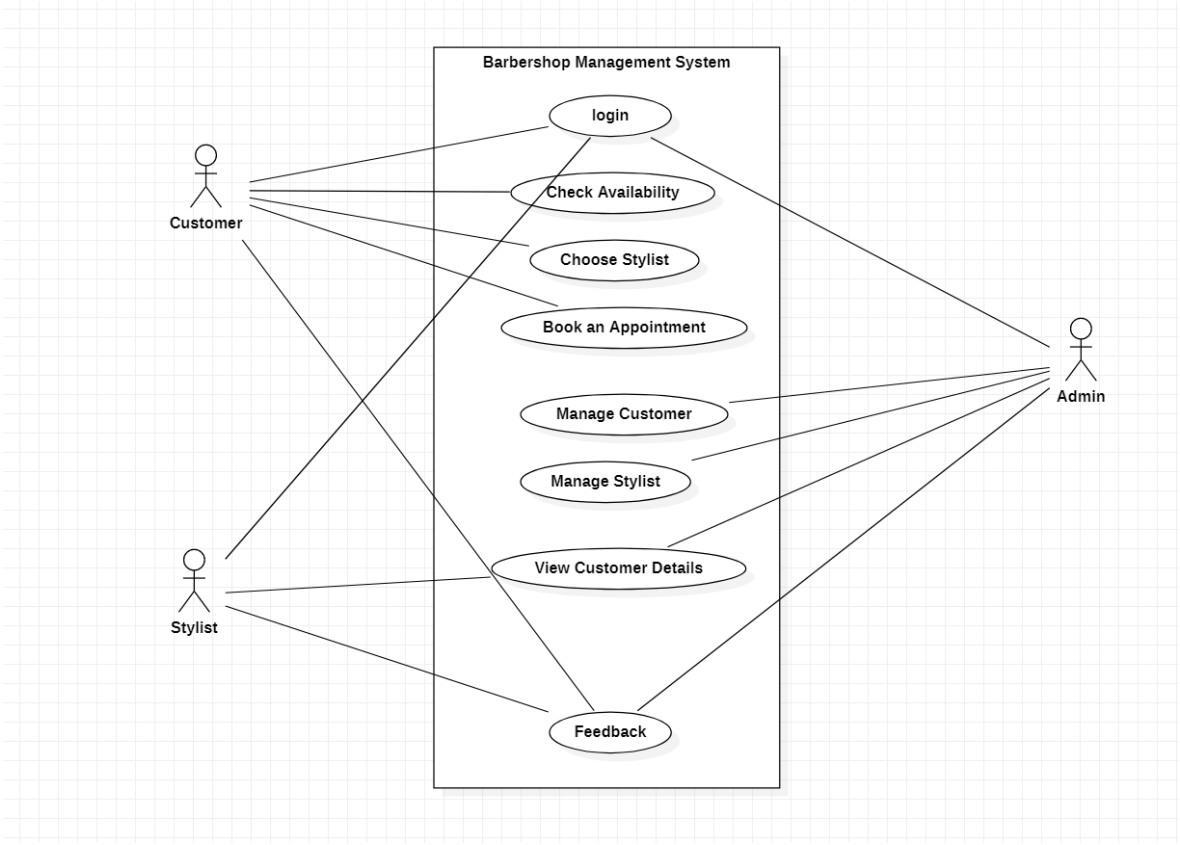
3.6.2 Object Diagram

Object diagrams are derived from class diagrams so object diagrams are dependent upon class diagrams. Object diagrams represent an instance of a class diagram. The basic concepts are similar for class diagrams and object diagrams. Object diagrams also represent the static view of a system but this static view is a snapshot of the system at a particular moment. Object diagrams are used to render a set of objects and their relationships as an instance.



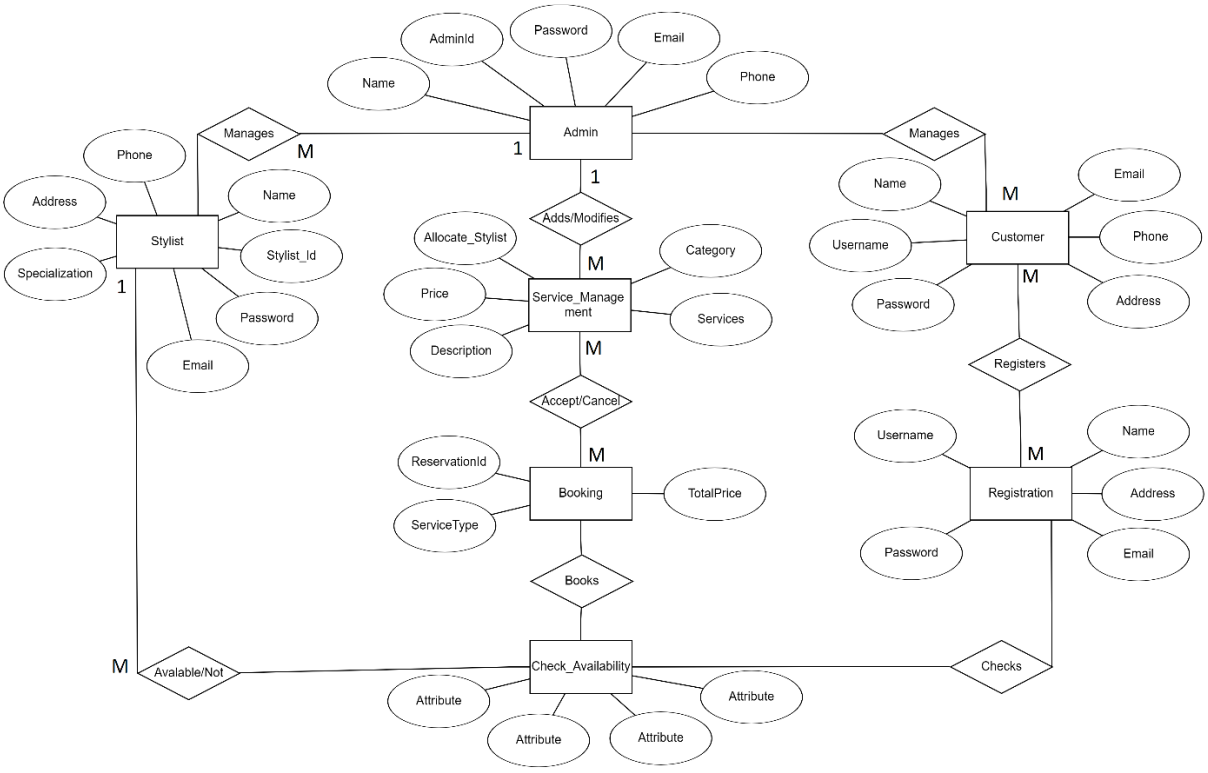
3.6.3 Use Case Design

Use case diagrams consists of actors, use cases and their relationships. The diagram is used to model the system/subsystem of an application. A single use case diagram captures a particular functionality of a system. Hence to model the entire system, a number of use case diagrams are used.



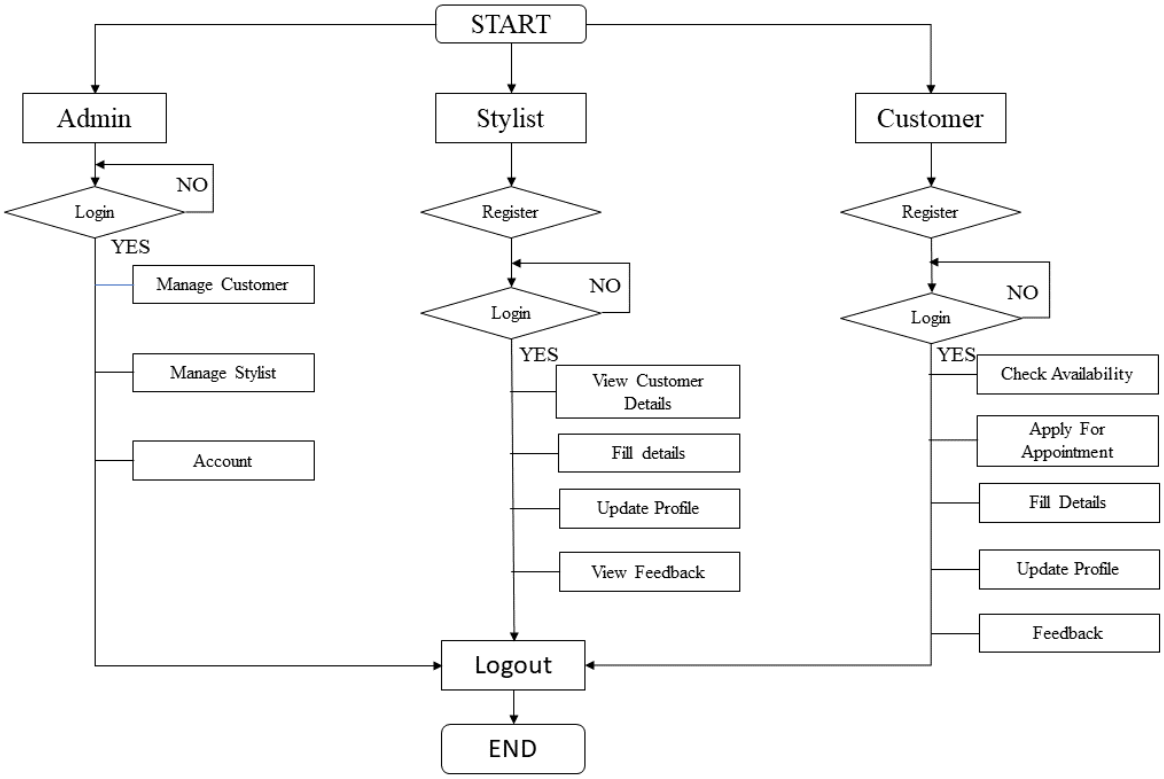
3.6.4 Entity Relationship Diagram

An entity–relationship model describes interrelated things of interest in a specific domain of knowledge. A basic ER model is composed of entity types and specifies relationships that can exist between entities. In terms of DBMS, an entity is a table or attribute of a table in database, so by showing relationship among tables and their attributes, ER diagram shows the complete logical structure of a database.



3.6.5 System Flowchart

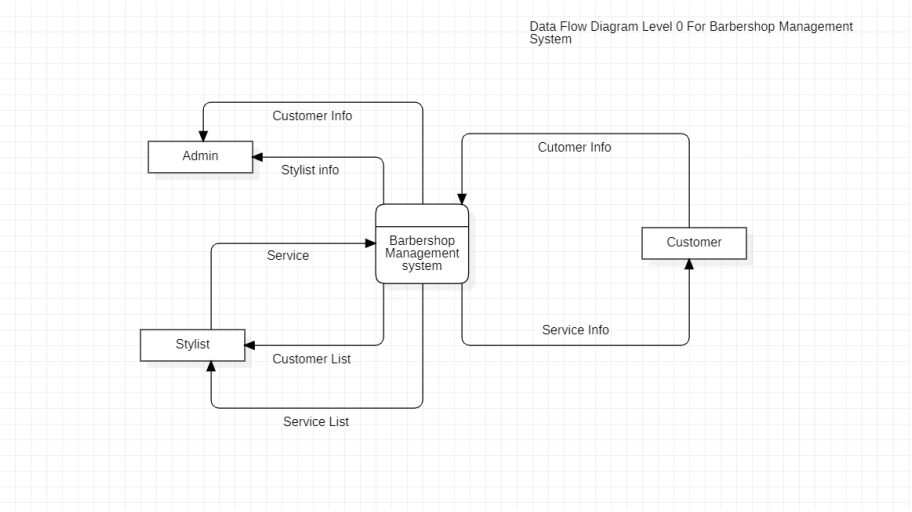
A flowchart is a type of diagram that represents a workflow or process. A flowchart can also be defined as a diagrammatic representation of an algorithm, a step-by-step approach to solving a task. The flowchart shows the steps as boxes of various kinds, and their order by connecting the boxes with arrows. This diagrammatic representation illustrates a solution model to a given problem. Flowcharts are used in analyzing, designing, documenting or managing a process or program in various fields.



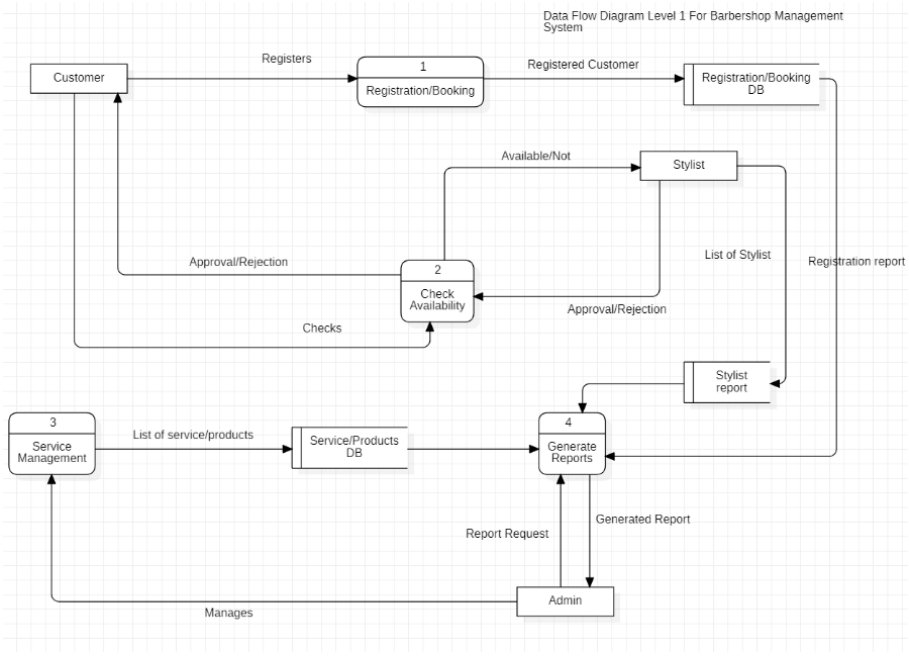
3.6.6 Data Flow Diagram

Also known as DFD, Data flow diagrams are used to graphically represent the flow of data in a business information system. DFD describes the processes that are involved in a system to transfer data from the input to the file storage and reports generation. Data flow diagrams can be divided into logical and physical. A data-flow diagram has no control flow, there are no decision rules and no loops.

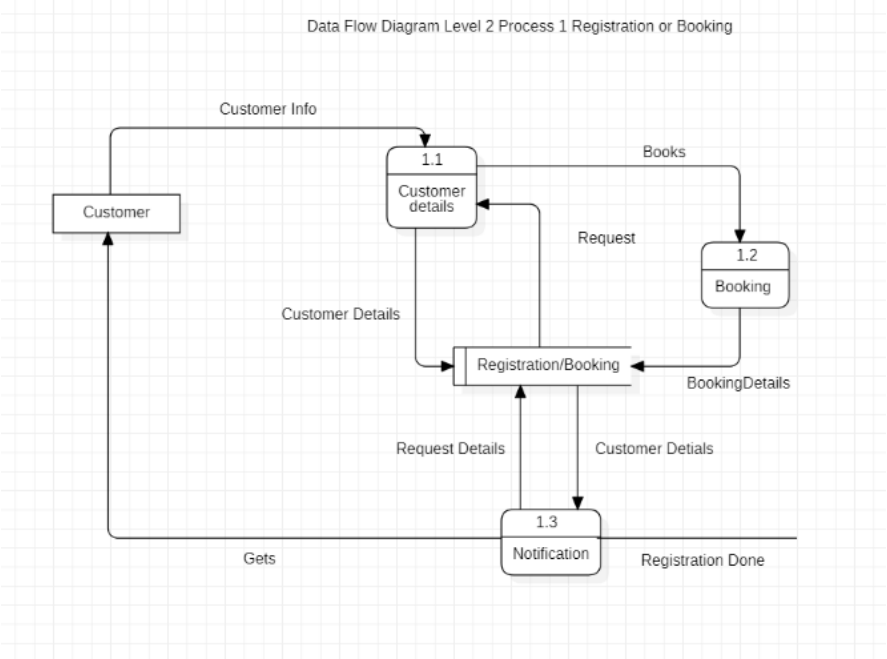
Level 0



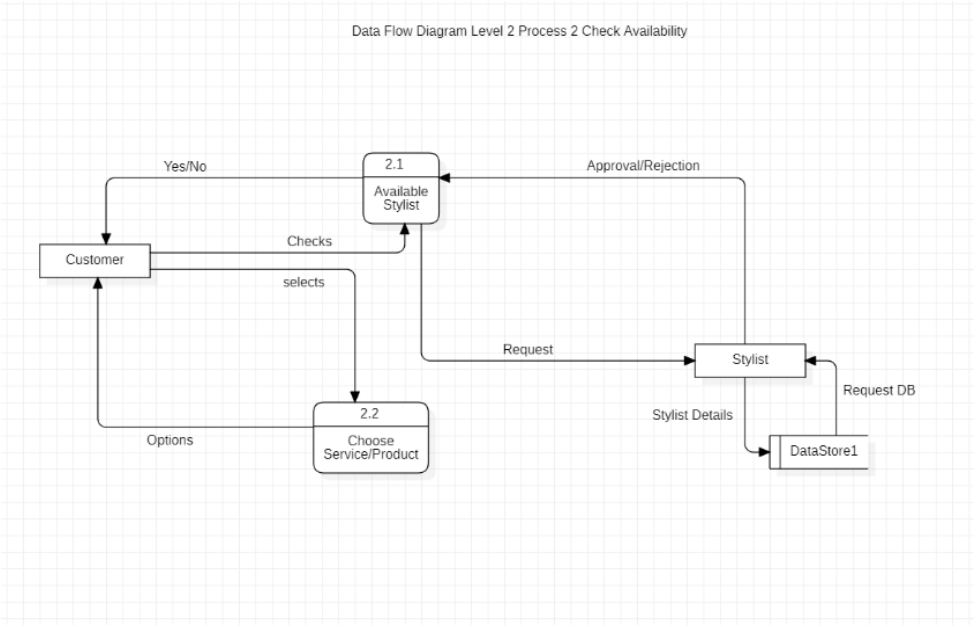
Level 1



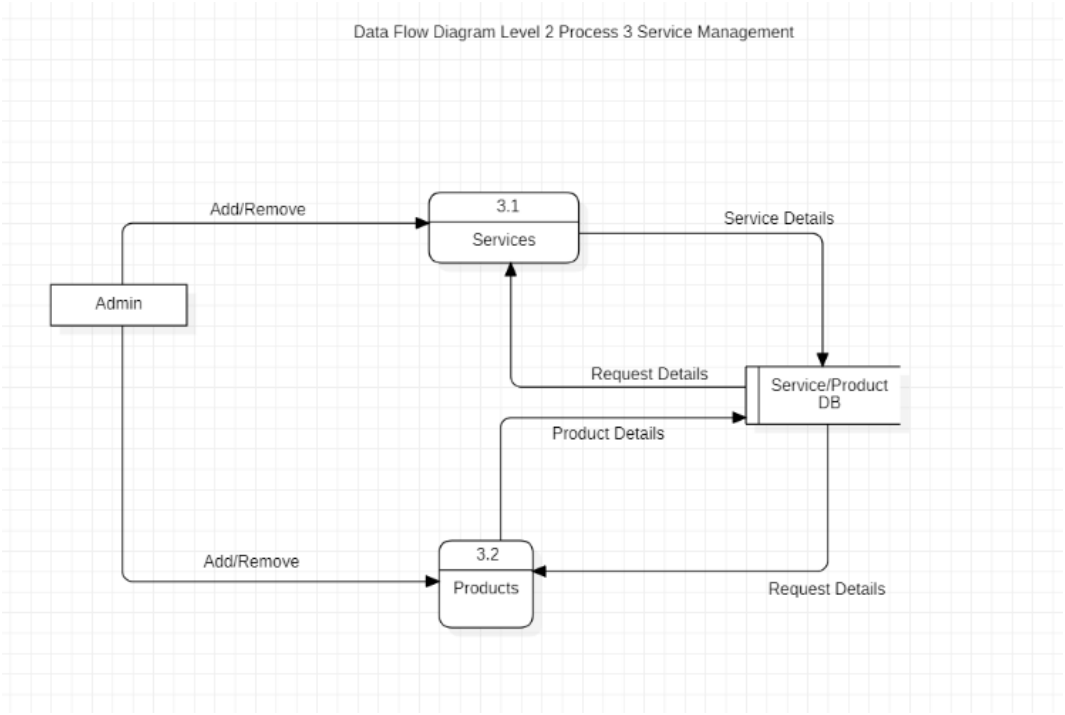
Level 2 Process 1



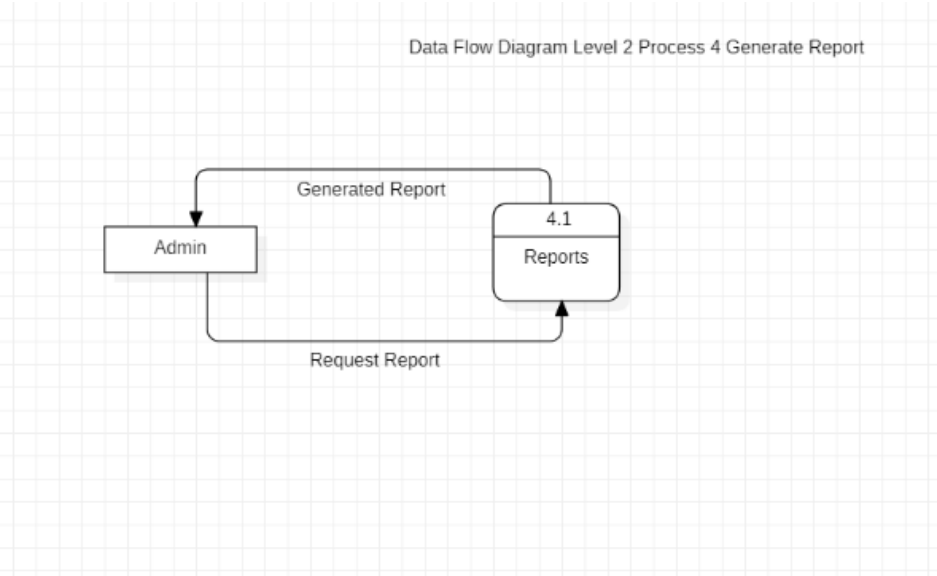
Level 2 Process 2



Level 2 Process 3



Level 2 Process 4



3.7 Feasibility Study

- The purpose of the feasibility study is not to solve the problem, but to determine if the problem is worth solving.
- This helps to decide whether to proceed with the problem or not.
- It involves the analysis of the problem & collection of all relevant information relating to the product such as items that would be input to the system, processing required to carried those data, the output data required to be produced by the system as well the various constraints on the behavior of the system.
- "Barbershop Management System" had undergone the feasibility study.
- The feasibility study concentrates on the following, such as Operational Feasibility, Technical Feasibility, Economic Feasibility.

3.7.1 Operational Feasibility:

- Operational feasibility study tests the operational scope of the software to be developed.
- The proposed software must have high operational feasibility.
- The usability will be high.

3.7.2 Technical Feasibility:

- Technical feasibility study compares the level of technology available in the software development firm and the level of technology required for the development of the product.
- The level of technology consists of the programming language, the hardware resources, other software tools etc.

3.7.3 Economic Feasibility:

- The economic feasibility study evaluates the cost software development against the ultimate income or benefits get from the developed system.
- There must be scope for profit after the success completion of the project.

CHAPTER 4: SYSTEM DESIGN

4.1 BASIC MODULES

a) Admin

- Admin manages Stylist and Customer details.
- Admin manages posts.
- Admin can view and update Customer data.

b) Stylist

- Stylist can select Customer.
- Stylist can view Customer.
- Stylist can view Feedback

c) Customer

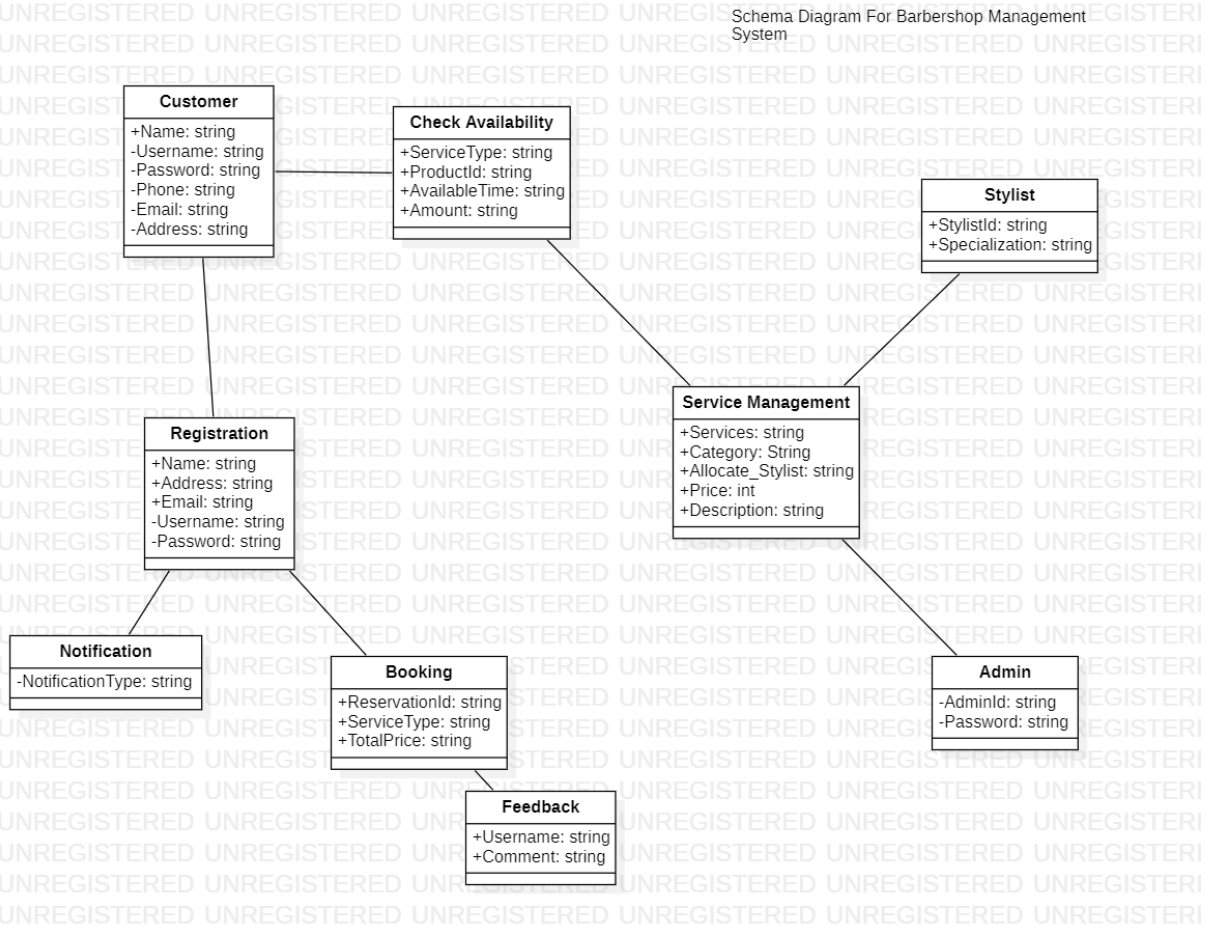
- Customer has to login/register.
- They can select the Stylist and Time for which they want to apply.
- They must give Proper description about the service they want.

4.2 Data Design

4.2.1 Schema Diagram

A schema diagram is a diagram which contains entities and the attributes that will define that schema. A schema diagram only shows us the database design. It does not show the actual data of the database. Schema can be a single table or it can have more than one table which is related.

Diagram:



4.2.2 Data Integrity and Constraints

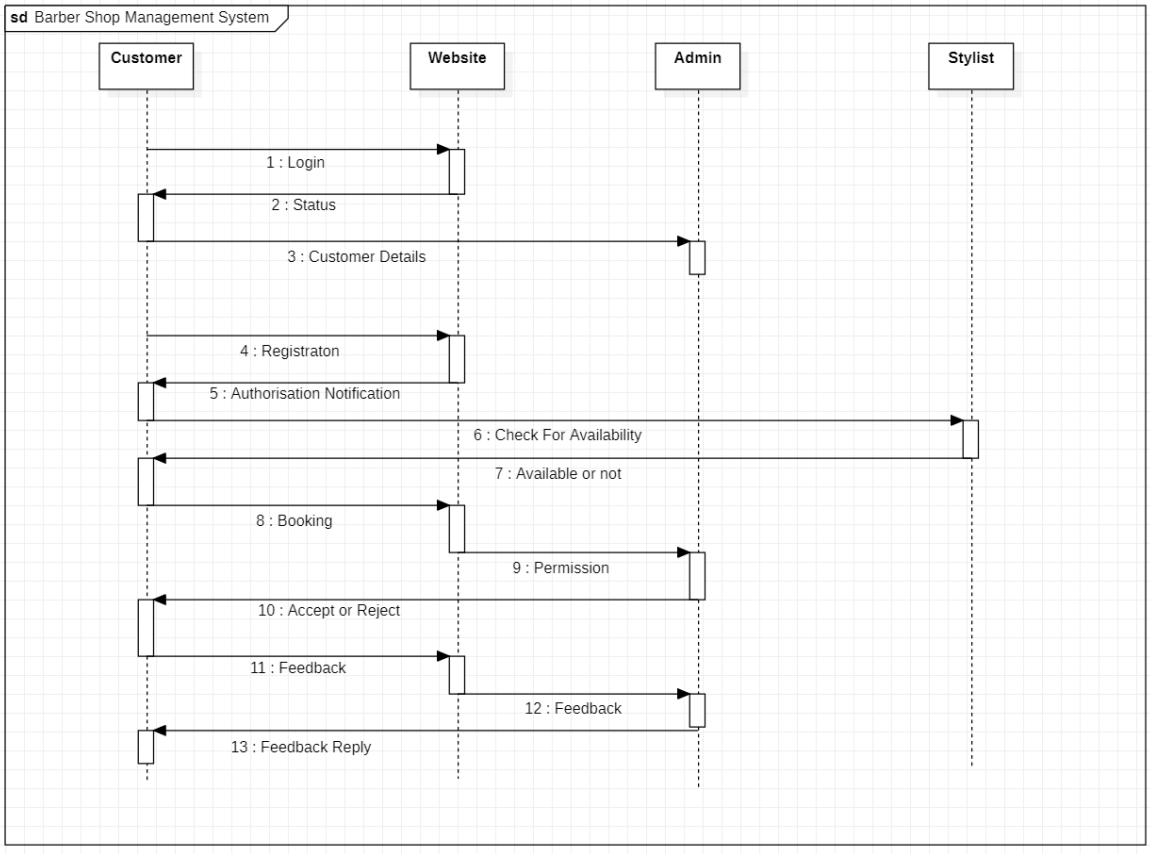
- **NOT NULL** - Ensures that a column cannot have a NULL value
- **UNIQUE** - Ensures that all values in a column are different
- **PRIMARY KEY** - A combination of a NOT NULL and UNIQUE. Uniquely identifies each row in a table
- **FOREIGN KEY** - Uniquely identifies a row/record in another table
- **CHECK** - Ensures that all values in a column satisfies a specific condition
- **DEFAULT** - Sets a default value for a column when no value is specified
- **INDEX** - Used to create and retrieve data from the database very quickly

4.3 Logic Diagrams

4.3.1 Sequence Diagram

A sequence diagram shows object interactions arranged in time sequence. It depicts the objects involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the scenario.

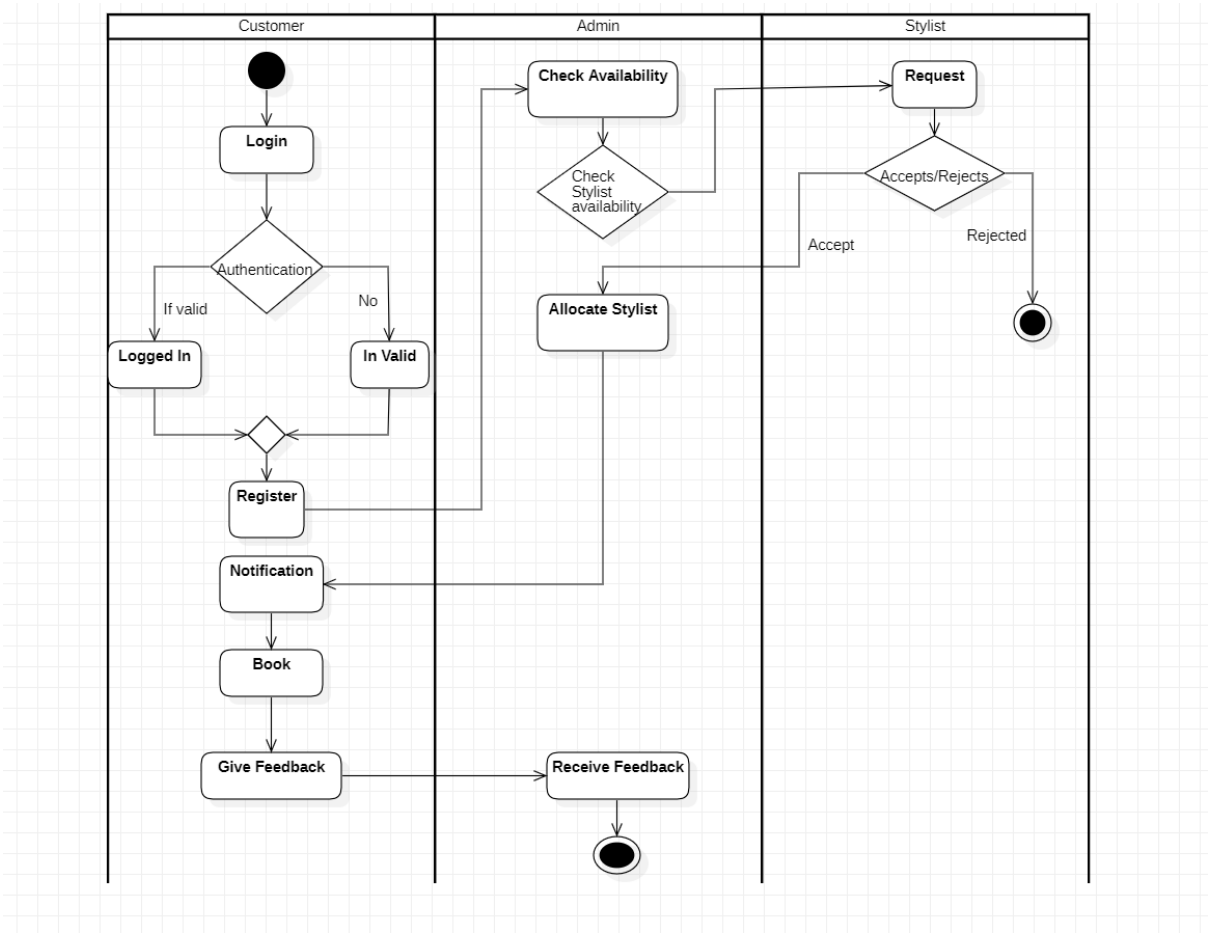
Diagram:



4.3.2 Activity Diagram

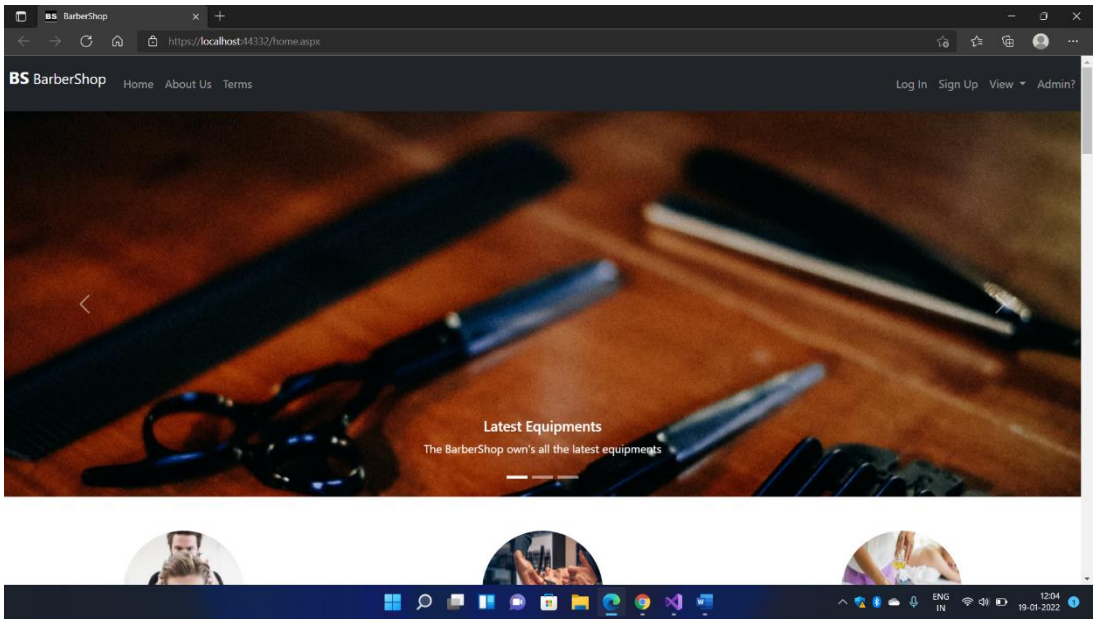
Activity diagram is basically a flowchart to represent the flow from one activity to another activity. The activity can be described as an operation of the system. The control flow is drawn from one operation to another. This flow can be sequential, branched, or concurrent. Activity diagrams deal with all type of flow control by using different elements such as fork, join, etc

Diagram:

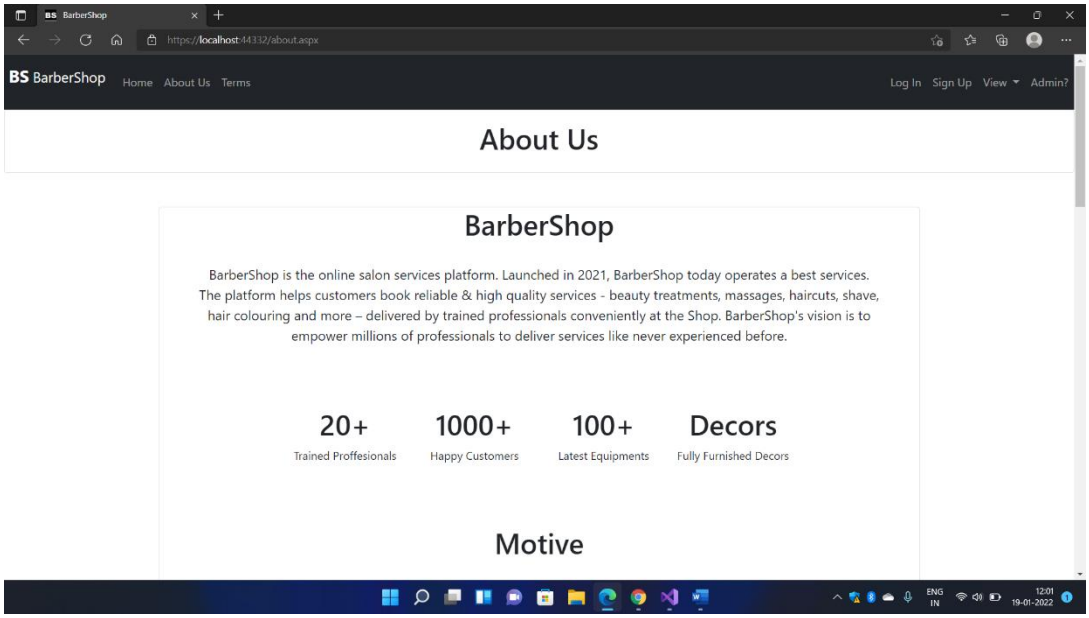


4.4 User Interface Design

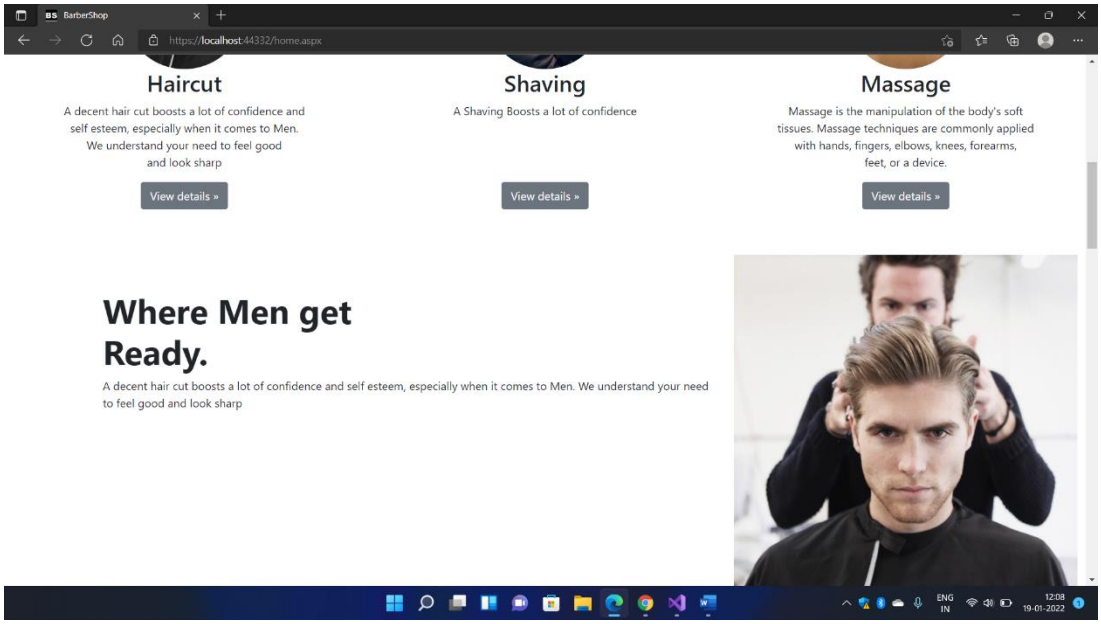
1. Home Page



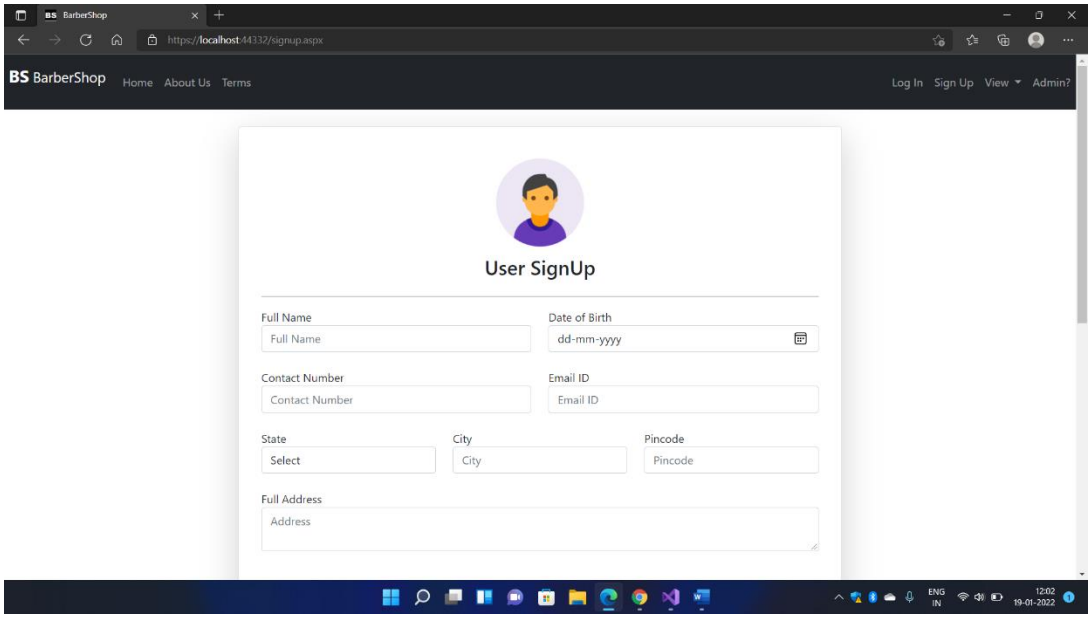
2. About Page



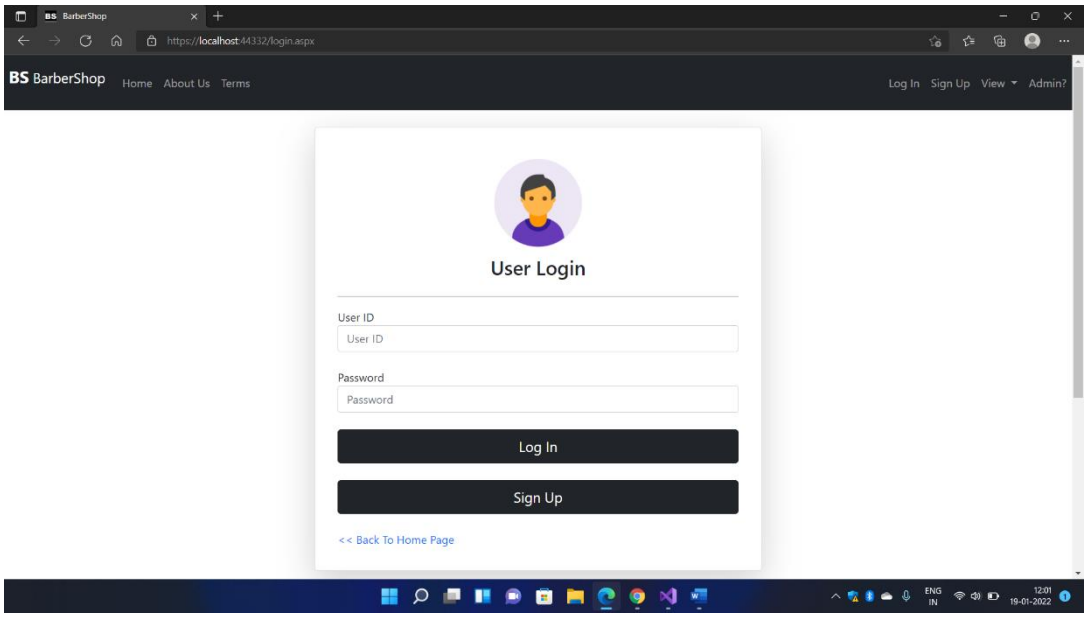
3. Services Page



4. SignUp Page



5. Login Page


BS BarberShop
https://localhost:44332/login.aspx
BS BarberShop
Home
About Us
Terms
Log In
Sign Up
View
Admin?
User Login
User ID
User ID
Password
Password
Log In
Sign Up
<< Back To Home Page
ENG
IN
12:01
19-01-2022

4.5 Security issues

- If the data is handled manually, then there is chance of loss of data.
- This issue is overcome by online management.
- Each Customer's data is stored and management efficiently.
- No Customer can view any other Customer's data.
- Privacy of data is maintained and there is no chance of data leakage.

4.6 Test Cases Design

- A Test Case is a set of actions executed to verify a particular feature or functionality of your software application.
- A Test Case contains test steps, test data, precondition, postcondition developed for specific test scenario to verify any requirement.
- The Test Case includes specific variables or conditions, using which a testing engineer can compare expected and actual results to determine whether a software product is functioning as per the requirements of customer.

TestsID	Test Scenario/Action	Perquisite	Input	Steps	Expected output	Actual output	Status
LG1001	Verify if Customer will be able to login with a valid username and valid password.	Enter correct URL	Username: Pawan Password: *****	1)Enter correct URL 2)Enter valid email-id, password	Login successfully	Login successfully	pass
AD1002	Verify if admin will be able to add/ delete/edit Services	Admin should be logged in	Click on promotional material menu.	1)Enter correct URL 2)Enter valid email-id, password 3) Select Customer and stylist	Service gets added/ removed/ edited	Service can't be added/ removed/ edited	fail
ST1003	Verify if Stylist will be able to view Customer details	Stylist should be logged in.	View Customer details	1)Enter correct URL 2)Enter valid email-id, password	View Customer details	Viewed successfully	pass
CS1004	Verify if Customer will be able to apply for an appointment	Customer should be logged in and select stylist/ service/ time/date	Click on appointment option	1)Enter correct URL 2)Enter valid email-id, password 3) select stylist/ service/ time/date 4)proceed to apply	Applied successfully	Applied unsuccessful	fail