

A Project Report On

BizBook

Submitted in partial fulfillment of the requirement for the
award of the degree

Master of Computer Applications
(MCA)

Academic Year 2025 – 26

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Faculty of Computer Applications (FoCA)

Certificate

This is to certify that the project work entitled

BizBook

**submitted in partial fulfillment of the requirement for
the award of the degree of**

**Master of Computer Applications (MCA)
of the**

Marwadi University

is a result of the bonafide work carried out by

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during the academic year 2025-26

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Faculty Guide

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DECLARATION

We hereby declare that this project work entitled **BizBook** is a record done by us.

We also declare that the matter embodied in this project is genuine work done by us and has not been submitted whether to this University or to any other University / Institute for the fulfillment of the requirement of any course of study.

Place:

Date:

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ACKNOWLEDGEMENT

It is indeed a great pleasure to express our thanks and gratitude to all those who helped us. No serious and lasting achievement or success one can ever achieve without the help of friendly guidance and co-operation of so many people involved in the work.

We are very thankful to our guide **Dr.Jaypalsinh Gohil** the person who makes us to follow the right steps during our project work. We express our deep sense of gratitude to for his /her guidance, suggestions and expertise at every stage. A part from that his/her valuable and expertise suggestion during documentation of our report indeed help us a lot.

Thanks to our friend and colleague who have been a source of inspiration and motivation that helped to us during our project work.

We are heartily thankful to the Dean of our department **Dr. R. Sridaran** sir and HoD **Dr. Sunil Bajeja** sir for giving us an opportunity to work over this project and for their end-less and great support to all other people who directly or indirectly supported and help us to fulfil our task.

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Divyesh Gondaliya (92400584068)	Signature: _____

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1. BizBook

Introduction:

- **Project Title:** BizBook (Vocal for Local)
- **Technology Stack:** MERN (MongoDB, Express.js, React.js, Node.js)
- **Type:** Web-based Appointment & Order Booking Platform
- **Client:** Public users (customers) + Admin Panel (for business management)
- **Domain:** Local Business Service Platform

Synopsis:

BizBook (also called **Local for Vocal**) is a full-stack web application built using the **MERN stack** that helps local businesses connect with users digitally. The platform allows users to discover nearby businesses like salons, restaurants, cafes, or retail stores and make **appointments, table bookings, or product orders** directly through the app.

Admins can manage businesses, products/services, and categories through a secure backend panel. The system smartly handles different types of businesses based on category logic – such as appointments for salons, table bookings for restaurants, and product orders for retail shops.

Project Description:

In today's digital age, many local businesses still rely on walk-in customers or phone calls. BizBook helps modernize that by creating a **smart online presence** for these businesses. It acts like a mini local version of Google Maps + UrbanClap + Zomato, where users can:

- Browse verified businesses
- View their services or products
- Make appointments or place orders
- Track their bookings

Each business belongs to a category such as:

- **Salon / Doctor** – takes **Appointments**
- **Restaurant / Café** – supports **Table Bookings**
- **Retail / Grocery** – handles **Product Orders** (without delivery for now)

2. PREAMBLE

2.1 Module Description:

1. User Module

- **Register/Login** with JWT-based session
- View all businesses
- View business details (services/products)
- Book appointment, table, or order based on category
- View all their bookings
- Frontend built in React with axios, routing, and session logic

2. Admin Module

- Secure login for admin (handled on EJS panel)
- Dashboard view: total businesses, services, appointments
- Add/manage businesses
- Add/manage products or services for each business
- View and manage user appointments
- Admin routes protected and organized using Express.js

3. Business Module

- Add new business (via Admin)
- Each business has:
 - Name, Description, Category
 - Address, Phone, Map link, Social Media
- Category determines how booking works (appointment/order/table)
- Businesses are shown with clean cards on frontend

4. Product/Service Module

- Each product/service is **linked to a business**
- Added via admin panel
- Shown in detail on business page
- Used during appointment or product order flow
- Supports price, description, and image fields

5. Booking/Appointment Module

- Users can make appointments/orders/bookings
- Logic based on business category:
 - **Salon** = time-based appointment
 - **Restaurant** = date + time + number of people (table booking)
 - **Retail** = simple product order (no delivery)
- Stored in MongoDB with relation to User & Business
- Admin can view all bookings in panel

6. Category Module

- Predefined business types:
 - Salon, Restaurant, Café, Grocery, Doctor, etc.
- Each category has a **booking type**:
 - Appointment, Table, or Order
- Used to drive logic in both backend & frontend
- Admin can fetch categories for dropdowns

3. REVIEW OF LITERATURE

To better understand and position BizBook, a study was conducted on similar platforms that allow users to discover and book local services or products. The following systems were reviewed:

3.1 UrbanClap

Functionality: Offers appointment-based services such as salon, repair, cleaning, and more.

Technology: Uses a mobile-first approach with robust backend services.

Learning: Emphasis on category-specific booking flows and service provider profiles.

3.2 Justdial

Functionality: Directory-style listing of businesses with user reviews, contact info, and basic inquiry features.

Learning: Strong search engine and categorization helped understand listing dynamics.

3.3 Zomato

Functionality: Focused on restaurants with menu display, booking table or ordering food.

Learning: Product-based and table booking logic were well implemented, influencing BizBook's dual booking types.

3.4 Booksy

Functionality: Salon and wellness booking app with time slots and user profiles.

Learning: Gave insights into appointment scheduling UX and availability logic.

Major Findings

A successful system integrates category-wise logic for booking: appointment, table, or product order.

Admin control over business listings and services is essential for data integrity.

Real-time appointment availability, feedback, and booking confirmation mechanisms are essential features.

4. TECHNICAL DESCRIPTION

4.1 Hardware Requirements:

Component	Specification
Processor	Intel Core i5 or above
RAM	Minimum 8 GB
Hard Disk	Minimum 256 GB SSD or 500 GB HDD
Display	14" or higher, 1366x768 resolution or more
Network	Internet connection (for API/database)

Table 4.1 Hardware Requirements

4.2 Software Requirements:

Frontend	React.js, Axios, Tailwind CSS
Backend	Node.js, Express.js
Database	MongoDB
Admin Panel	EJS Templates with Express.js
Authentication	JWT
Operating System	Windows 10 / 11 or Linux (Ubuntu)
Version Control	Git & GitHub
Development Tools	VS Code, Postman, MongoDB Compass
Hosting	Render / Vercel / Netlify (Frontend), Render

Table 4.2 Software Requirements

5. SYSTEM DESIGN AND DEVELOPMENT

Diagrams:

Flow Chart Diagram: Client

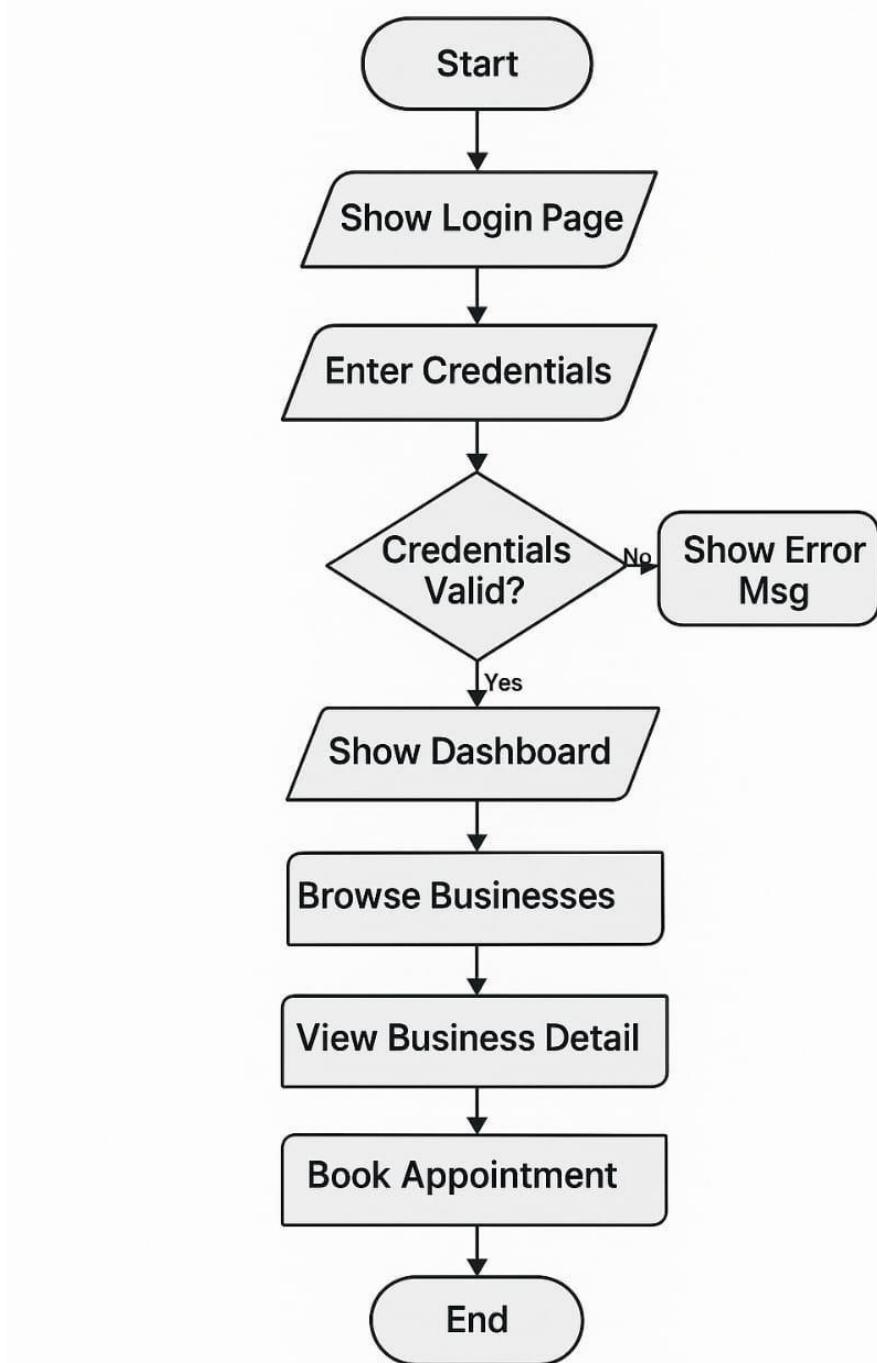
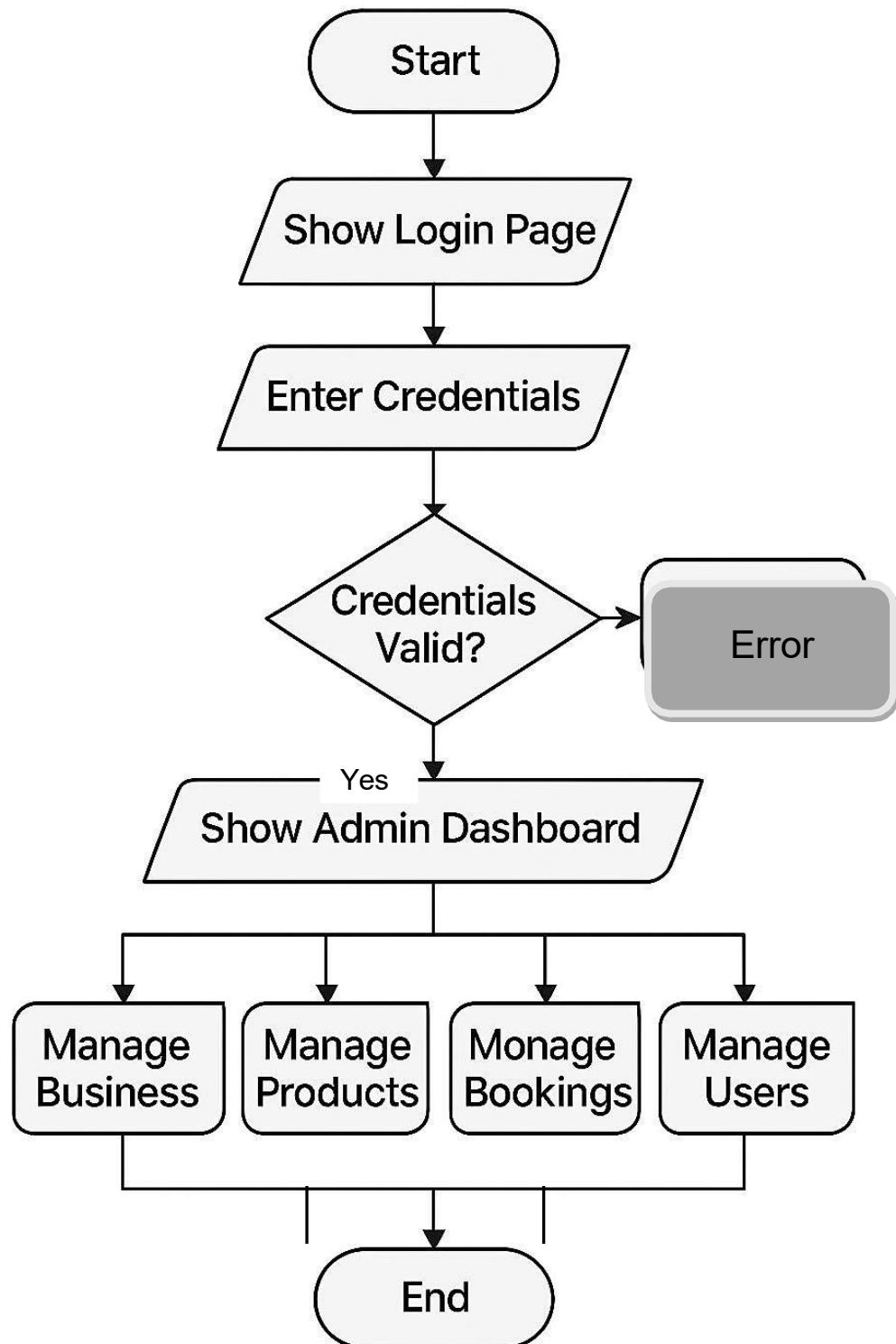


Figure 5.1 Flow Chart Diagram-Client

Flow Chart : Admin



Admin Side of BizBook

Figure 5.2 Flow Chart Diagram-Admin

DFD :
Level 0:

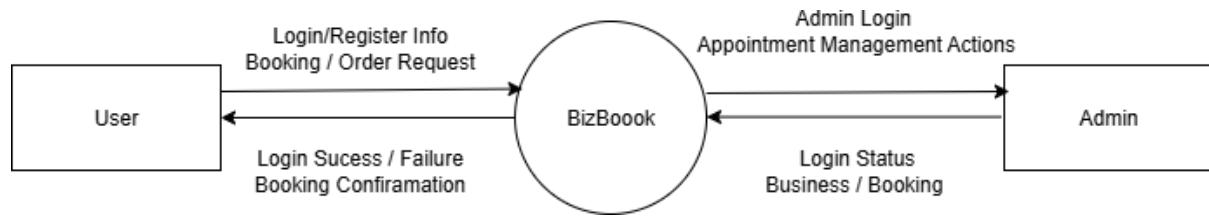


Figure 5.3 Data Flow Diagram – Level 0

Level 1 :

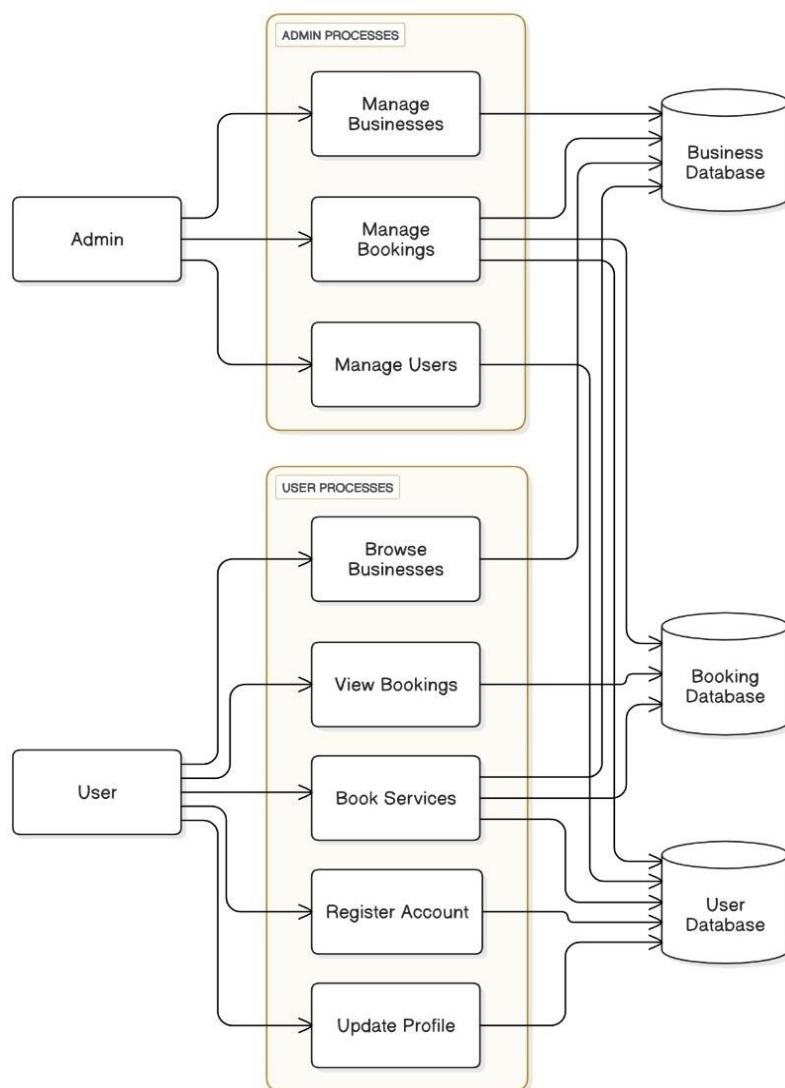
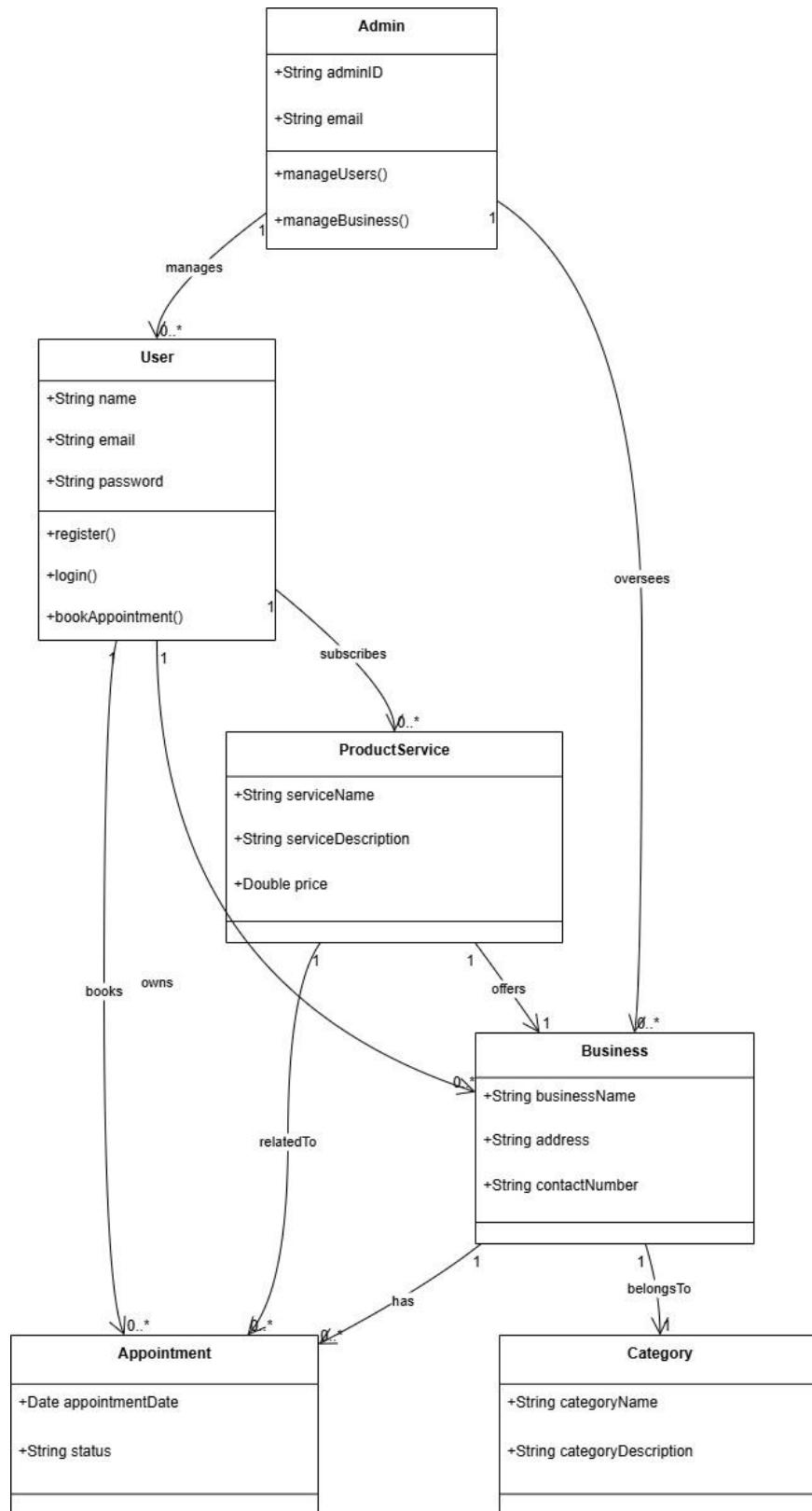


Figure 5.4 Data Flow Diagram – Level 1

Class Diagram:**Figure 5.5 Class Diagram**

Use Case Diagram:

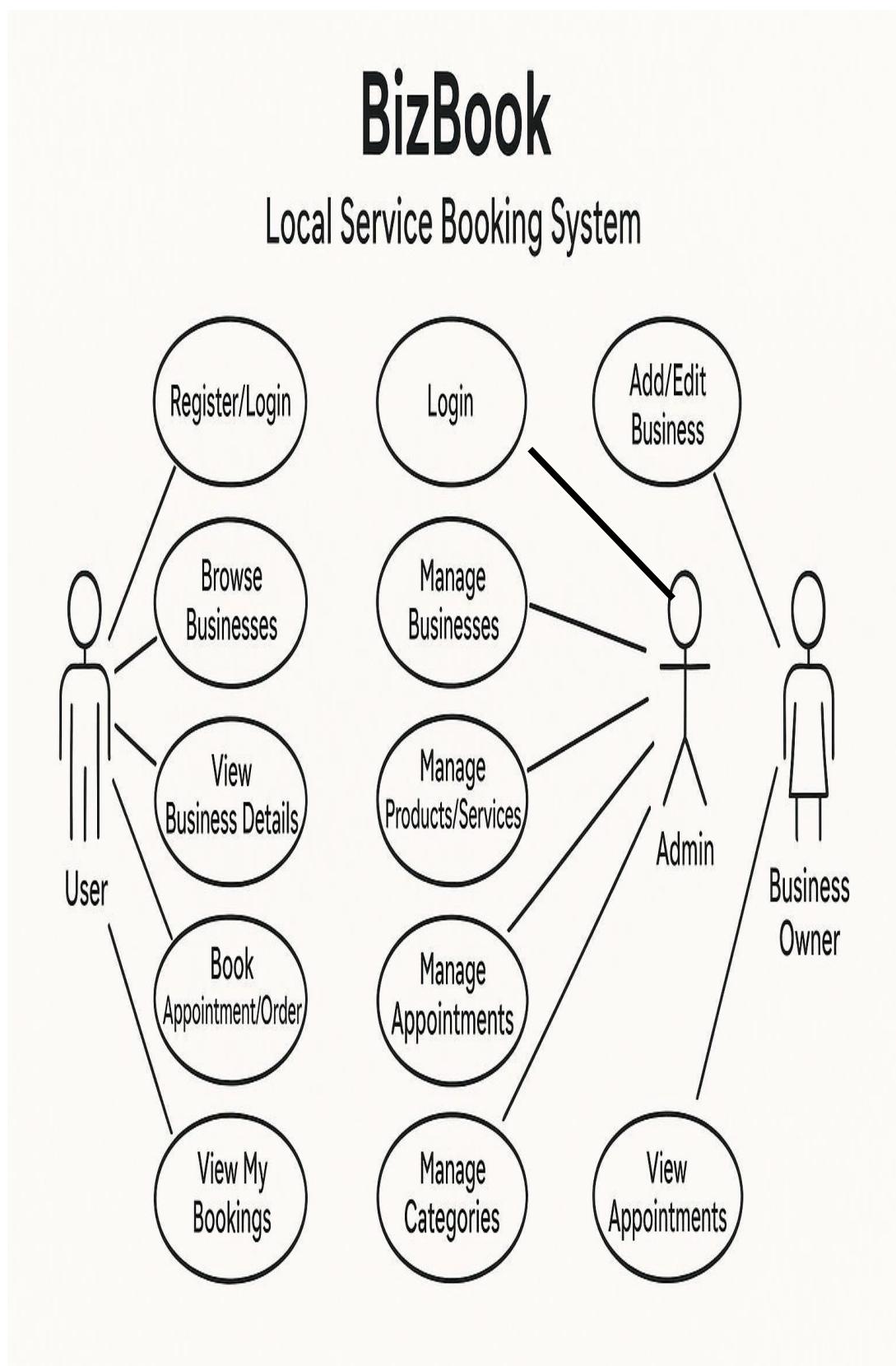
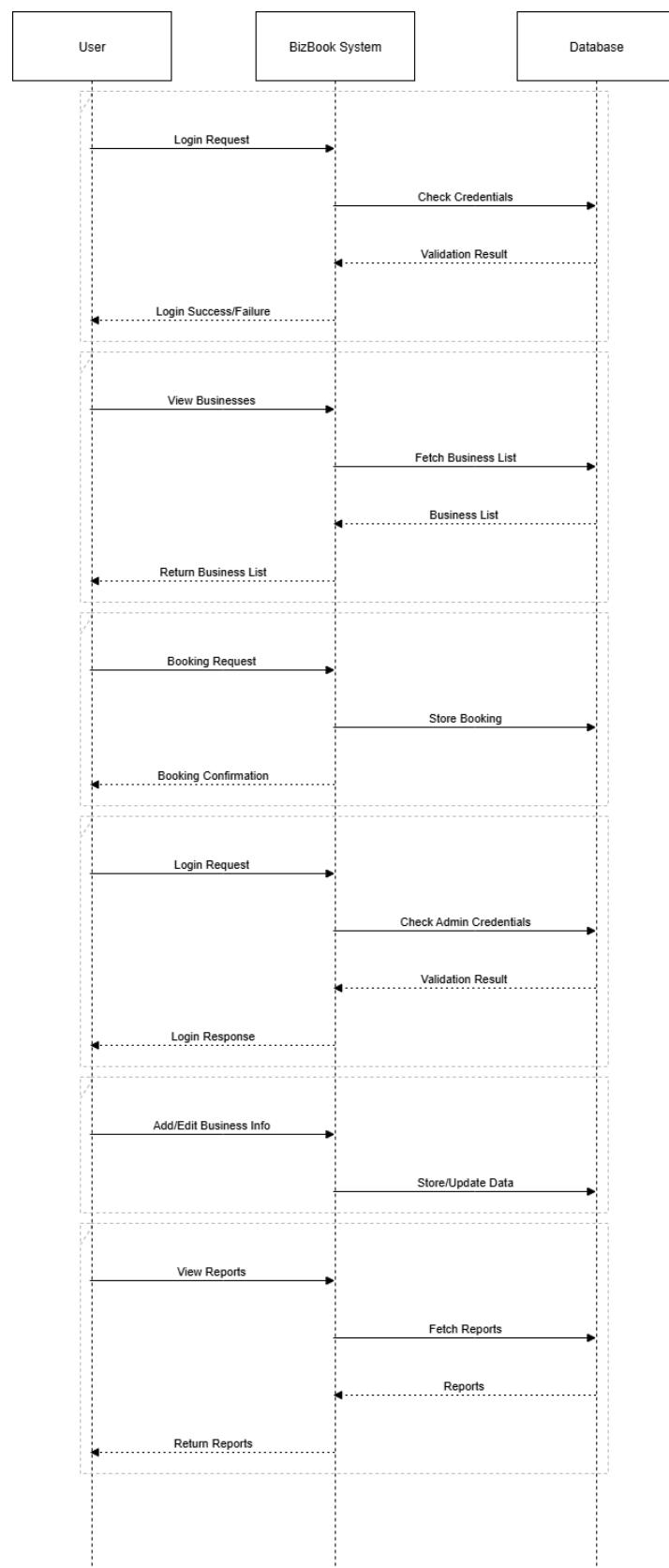
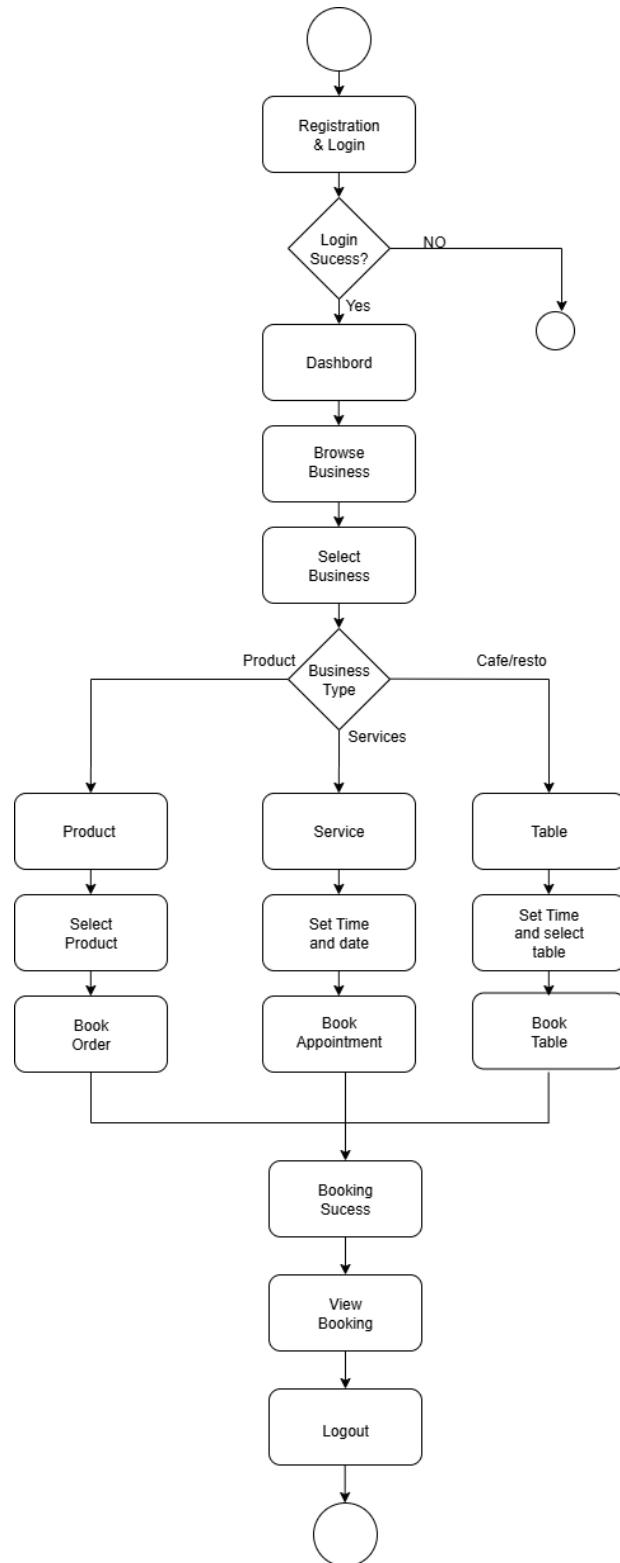
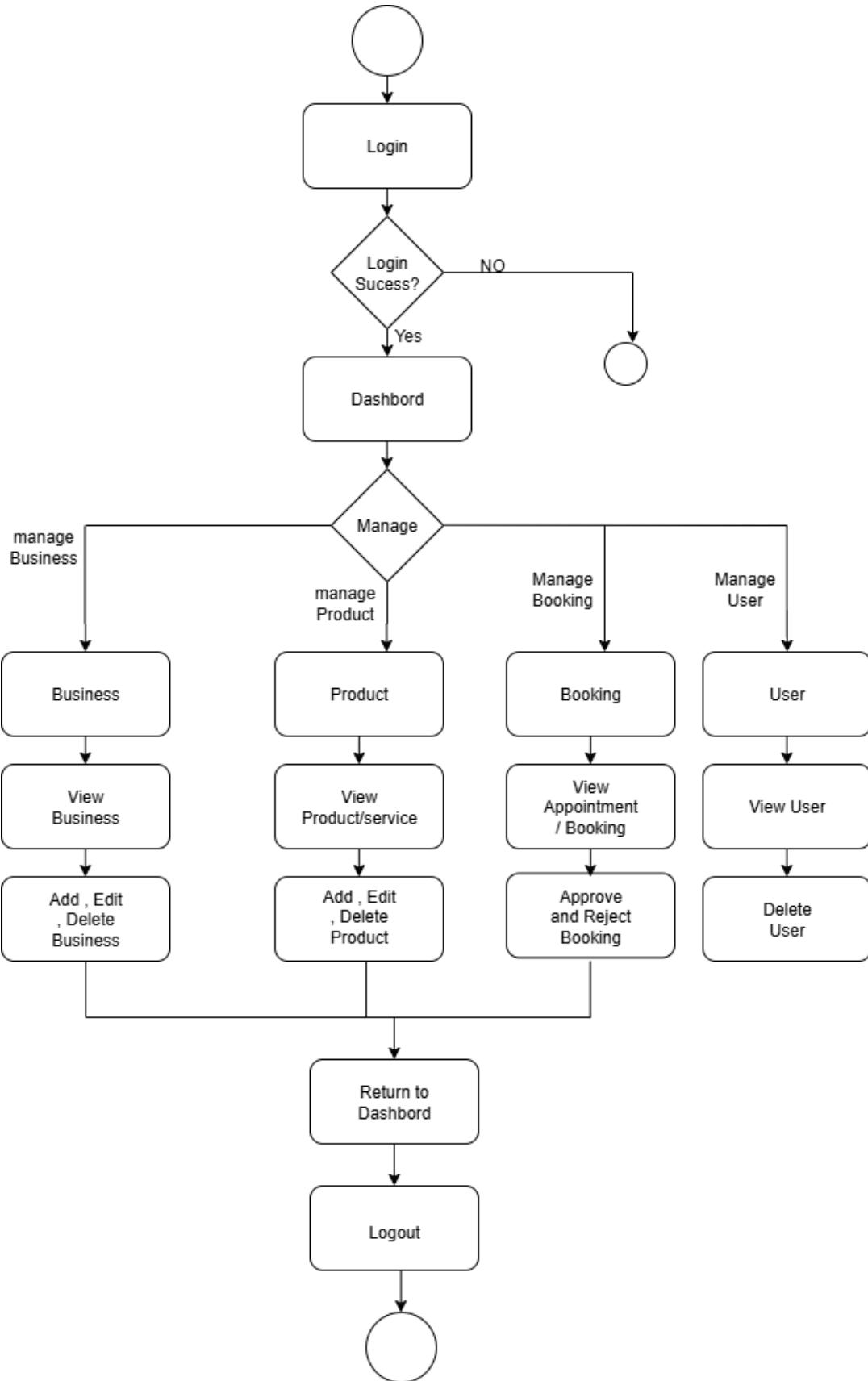


Figure 5.6 Use Case Diagram

Sequential Diagram:**Figure 5.7 Sequential Diagram**

Activity Diagram:**Client side:****Figure 5.8 Activity Diagram-Client**

Admin Side:**Figure 5.9 Activity Diagram-Admin**

Database Design:

1. User Collection

Stores all user details including registered clients and role-based access.

Field	Type	Description
_id	ObjectId	Unique identifier (automatically generated)
name	String	Full name of the user
email	String	User's email (must be unique)
password	String	Hashed password
phone	String	Contact number
role	String	user or admin
createdAt	Date	Registration date

Table 5.1 User Collection

2. Business Collection

Represents businesses listed on the platform (e.g., salons, restaurants)

Field	Type	Description
_id	ObjectId	Unique identifier
name	String	Business name
email	String	Business contact email
phone	String	Business phone number
address	String	Full address
description	String	Short description or about section
category	ObjectId	FK reference to Category collection
createdAt	Date	Timestamp of addition

Table 5.2 Business Collection

3. Category Collection

Predefined categories with booking logic (appointment/order/table).

Field	Type	Description
_id	ObjectId	Unique identifier
name	String	e.g., Salon, Restaurant, Retail Store
type	String	appointment, table, or order

Table 5.3 Category Collection

4. Product/Service Collection

Stores services or products offered by businesses.

Field	Type	Description
<code>_id</code>	ObjectId	Unique identifier
<code>name</code>	String	Name of product/service
<code>description</code>	String	Details about the product/service
<code>price</code>	Number	Price in INR or other local currency
<code>businessId</code>	ObjectId	FK reference to Business collection
<code>createdAt</code>	Date	Timestamp of creation

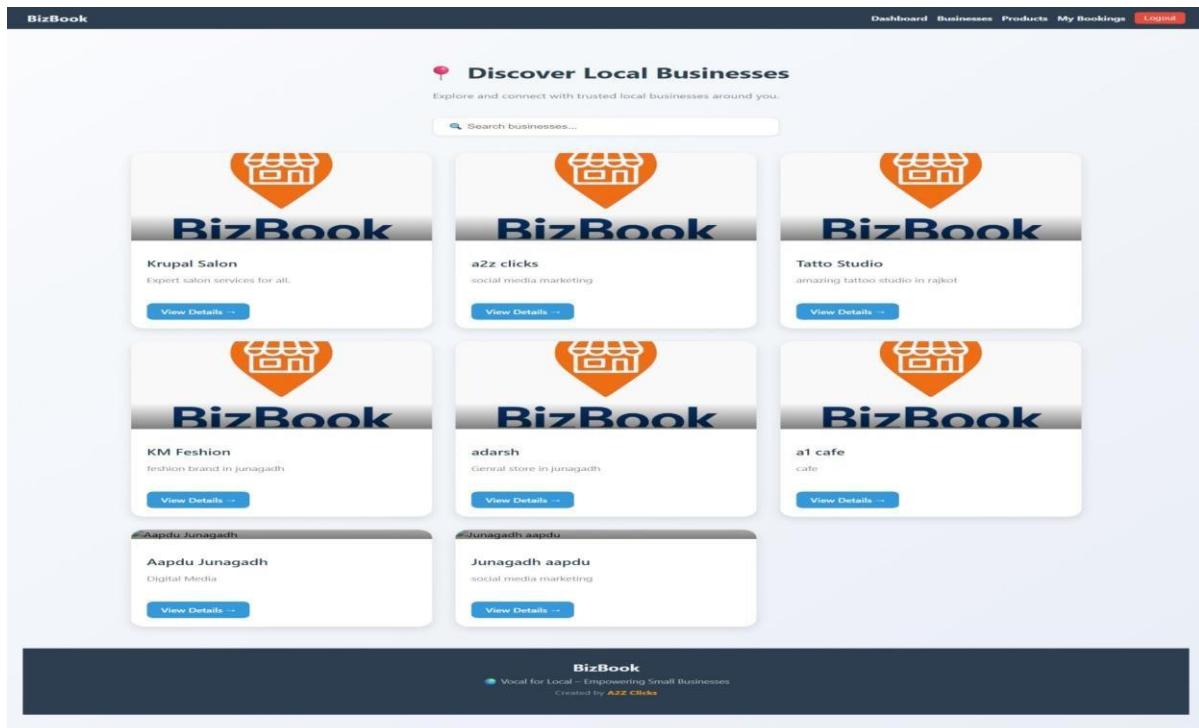
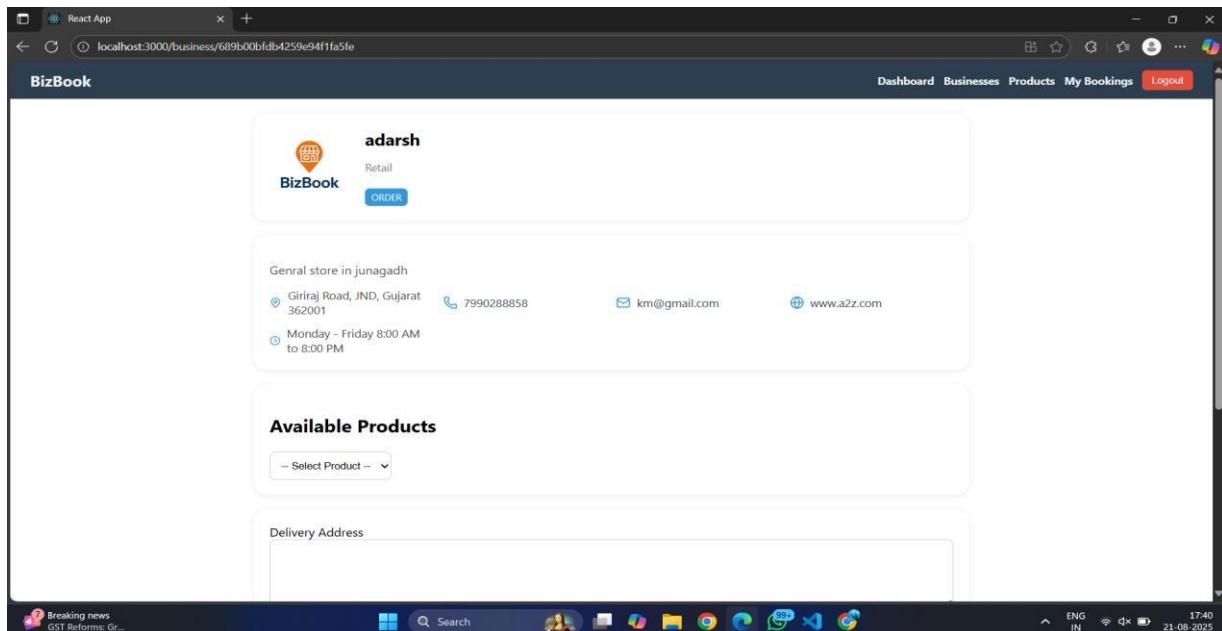
Table 5.4 Product/Service Collection

5. Booking Collection

Captures user bookings or product orders based on category type.

Field	Type	Description
<code>_id</code>	ObjectId	Unique identifier
<code>userId</code>	ObjectId	FK to User collection
<code>businessId</code>	ObjectId	FK to Business collection
<code>productId</code>	ObjectId	FK to Product/Service (optional)
<code>date</code>	String	Date of booking (YYYY-MM-DD format)
<code>time</code>	String	Time of appointment (if applicable)
<code>type</code>	String	appointment, table, or order
<code>status</code>	String	pending, confirmed, completed
<code>createdAt</code>	Date	Timestamp of booking

Table 5.5 Booking Collection

Menu Design:**1. Business List****Figure 5.10.1 Business List****2. Business Product****Figure 5.10.2 Business Product**

3. Business Details and Book Service

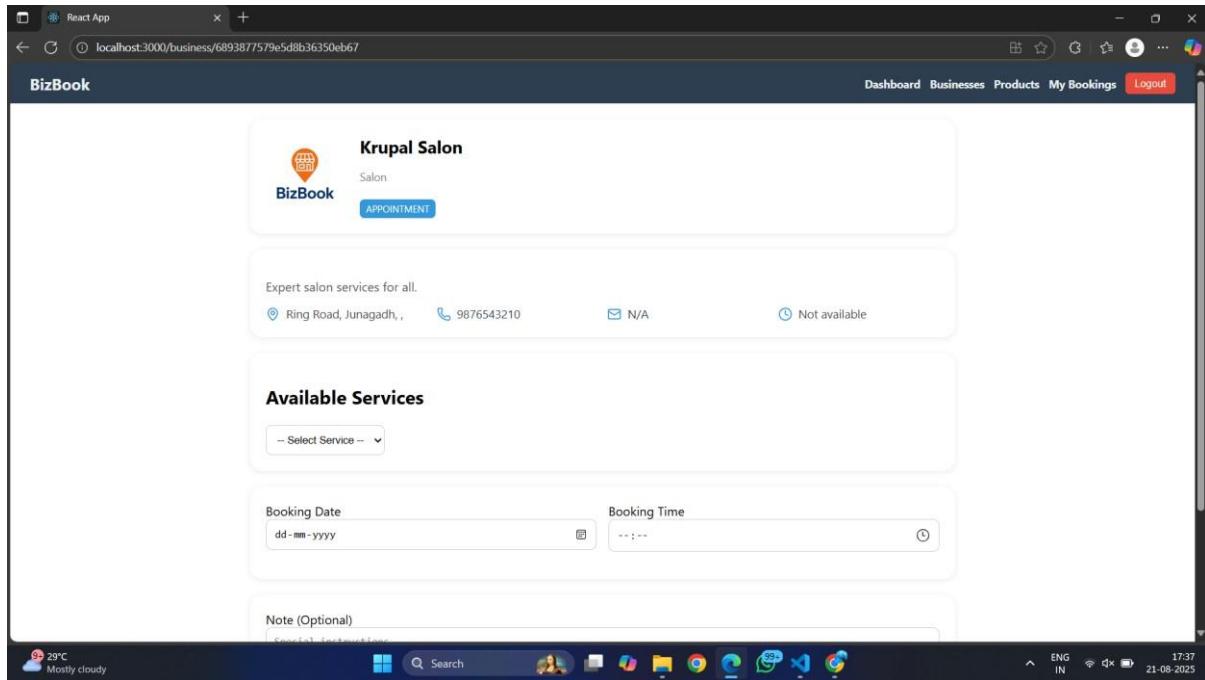


Figure 5.10.3 Business List

4. My Bookings

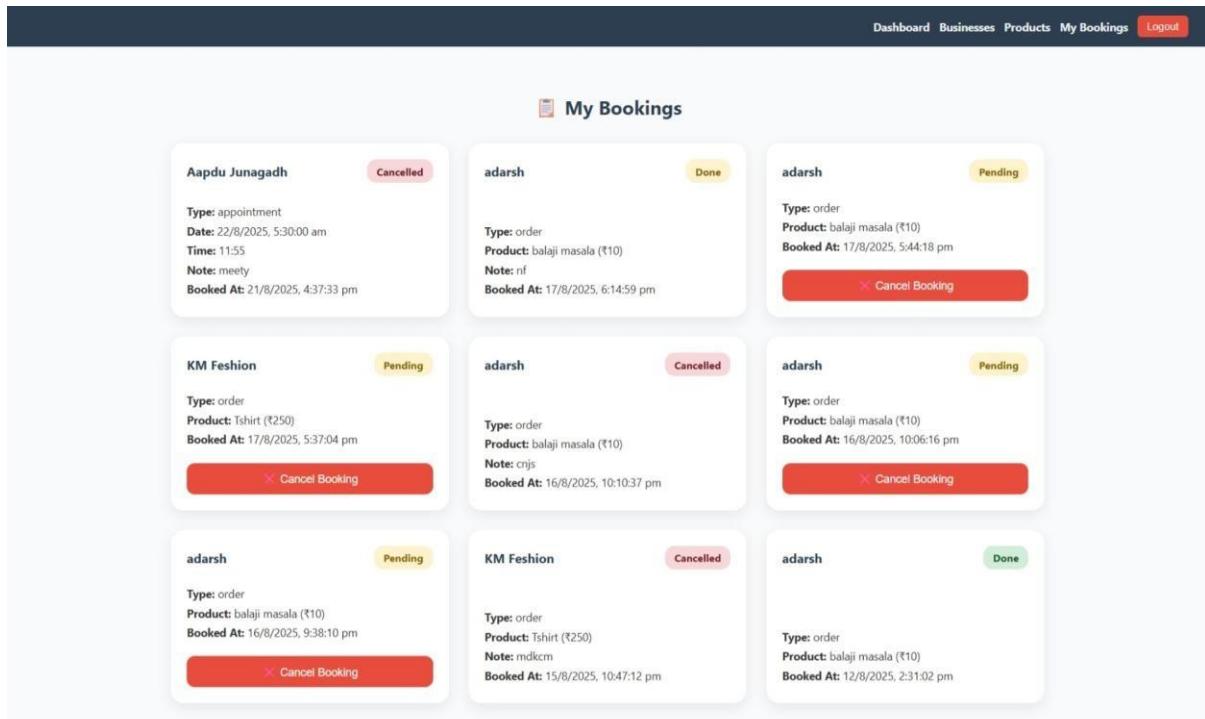


Figure 5.10.4 My Bookings

5. BizBook Dashboard

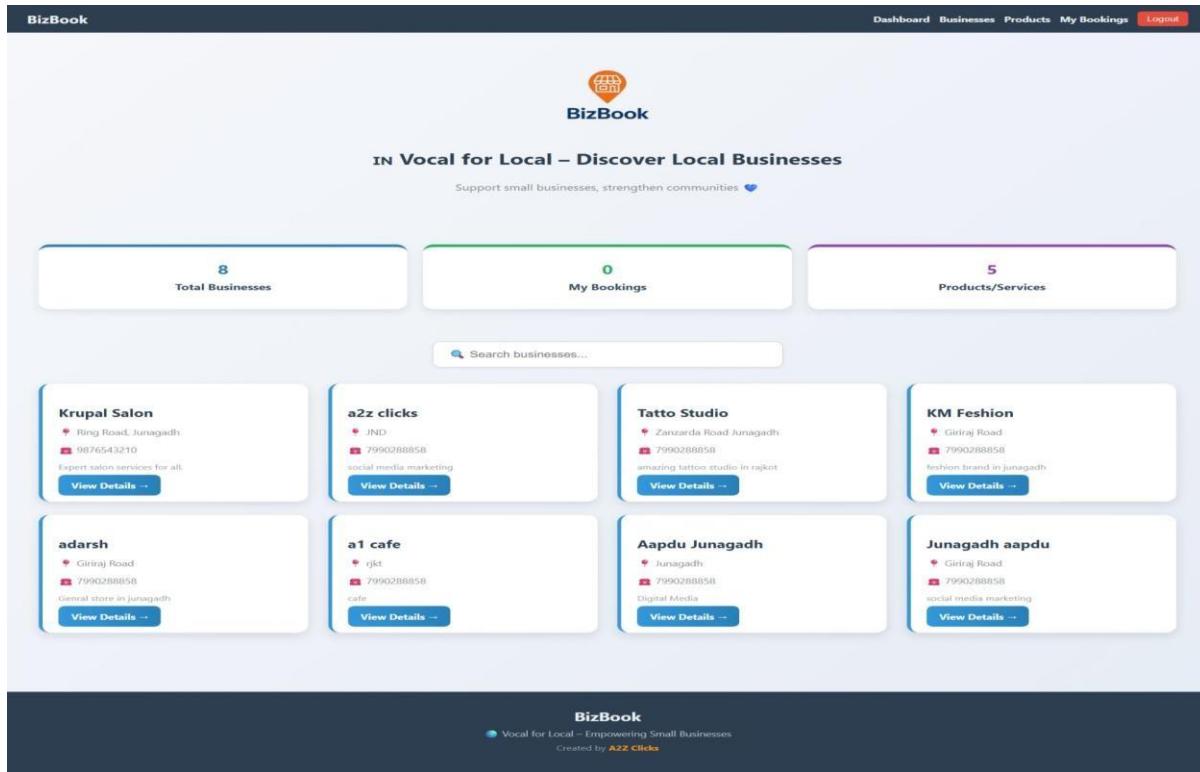


Figure 5.10.5 BizBook Dashboard

6. Business Table

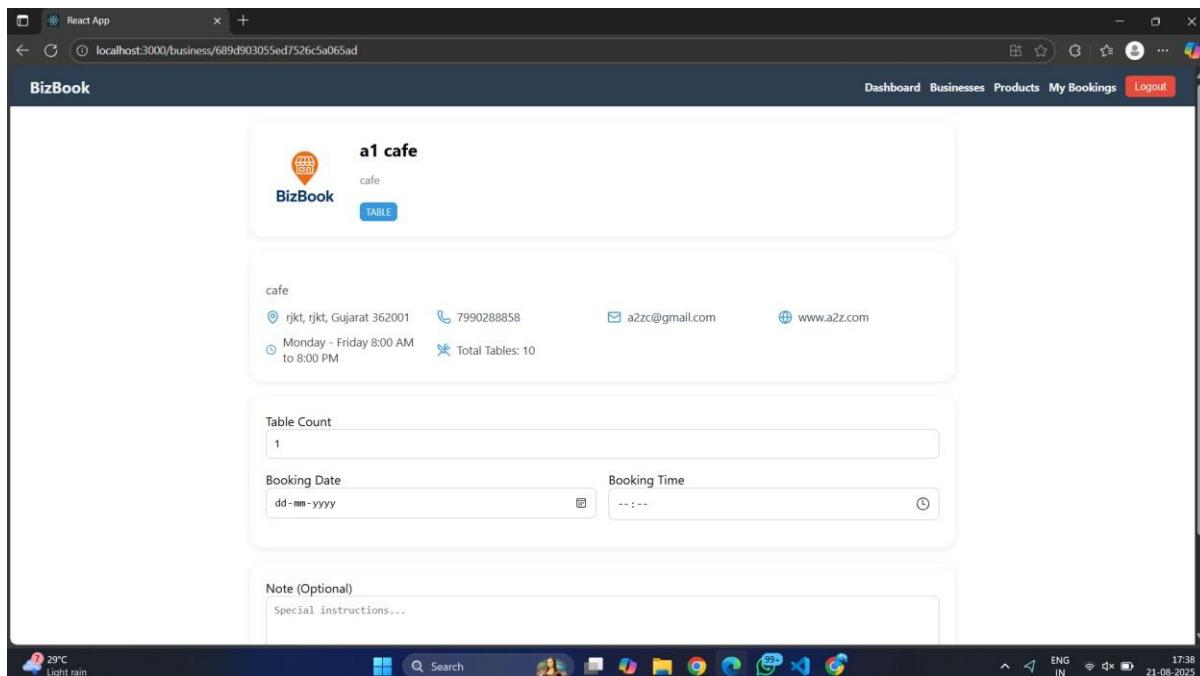
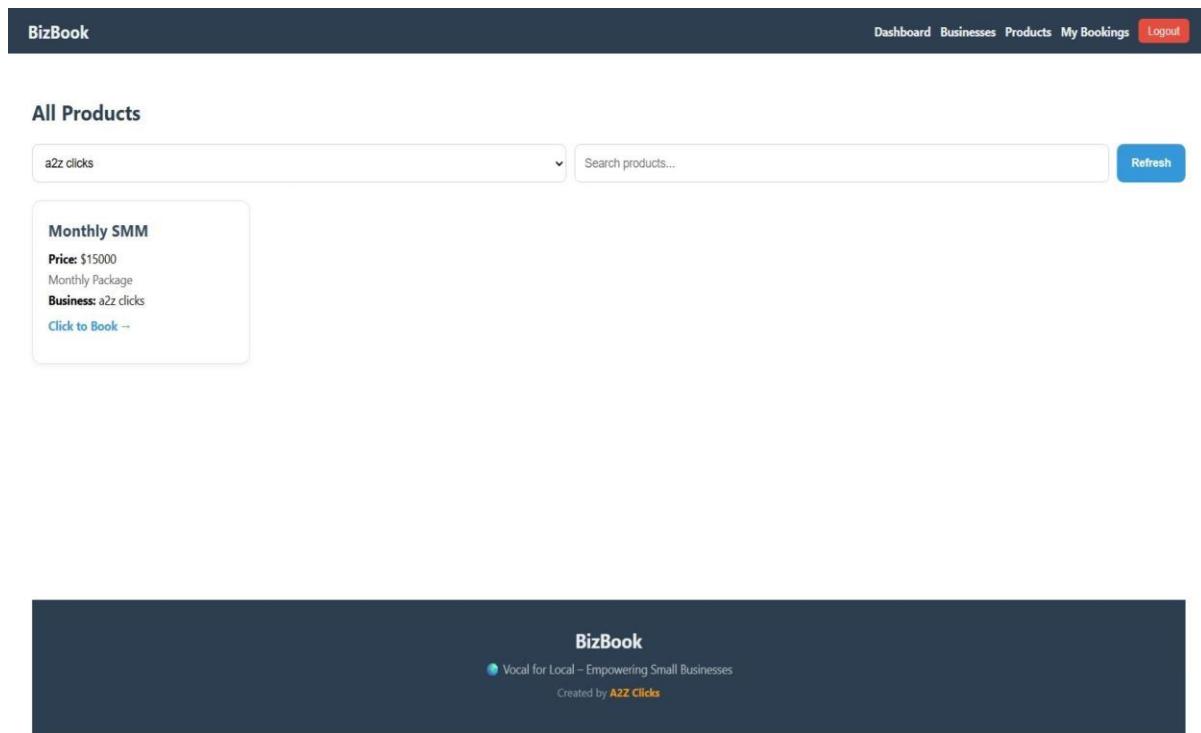


Figure 5.10.6 Business Table

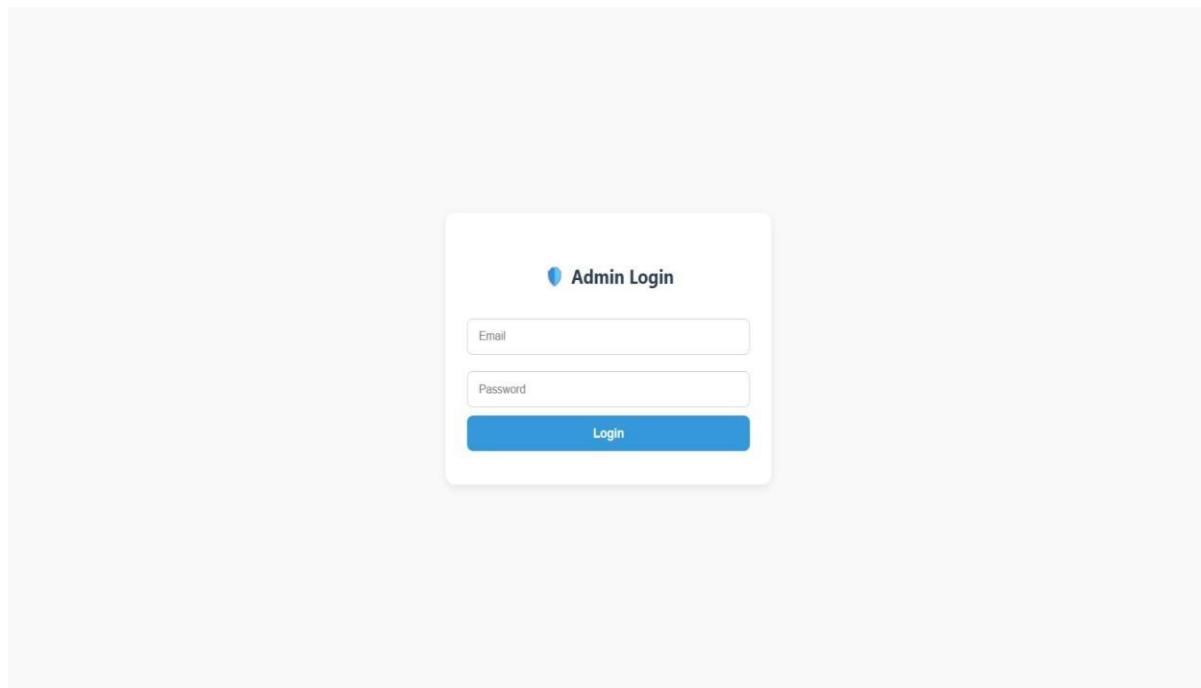
7. Select Product by business



The screenshot shows the 'All Products' section of the BizBook application. At the top, there is a navigation bar with links for Dashboard, Businesses, Products, My Bookings, and Logout. Below the navigation, a search bar contains the placeholder 'Search products...' and a 'Refresh' button. A dropdown menu is open, showing the selected option 'a2z clicks'. The main content area displays a single product listing for 'Monthly SMM'. The listing includes the product name, price (\$1500), category (Monthly Package), and assigned business (a2z clicks). A blue 'Click to Book --' button is present at the bottom of the listing.

Figure 5.10.7 Select Product by business

8. Admin Login



The screenshot shows the 'Admin Login' page of the BizBook application. The page has a light gray background with a central white login form. The form features a logo icon (blue circle with a white dot) followed by the text 'Admin Login'. It contains two input fields: one for 'Email' and one for 'Password', both with placeholder text. Below the password field is a 'Login' button with a blue gradient background.

Figure 5.10.8 Admin Login

9. Admin Home page

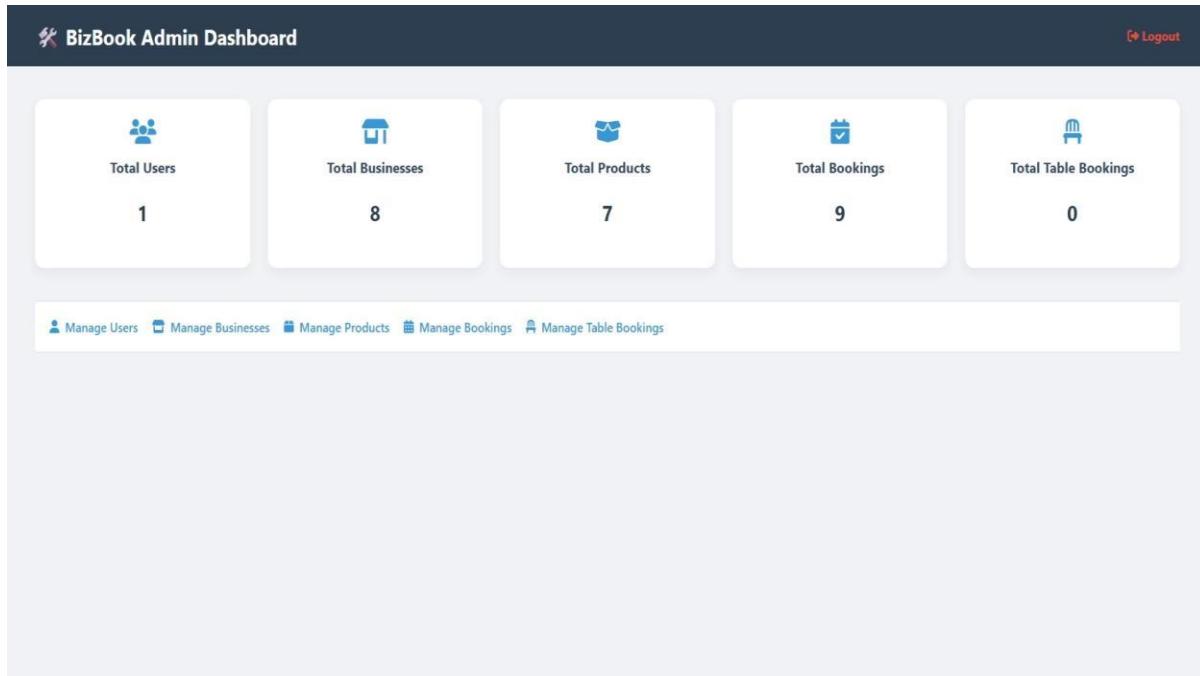


Figure 5.10.9 Admin Home Page

10. Admin Manage User

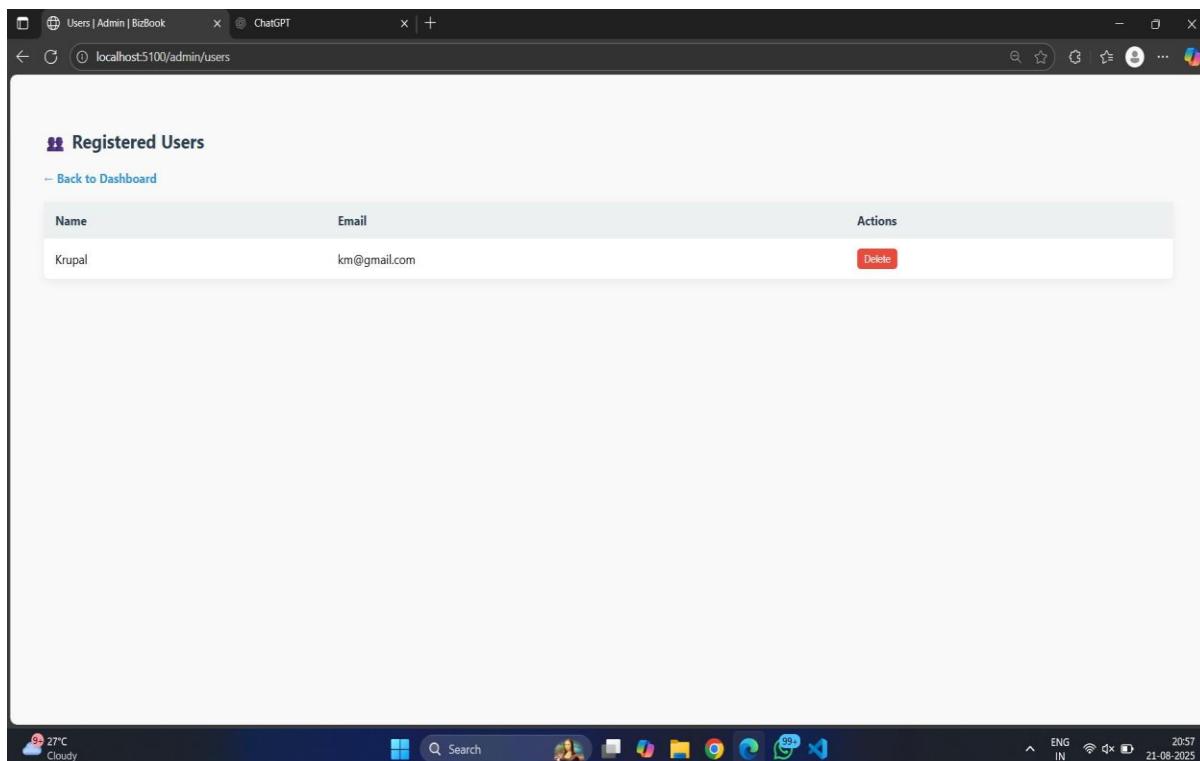


Figure 5.10.10 Admin Manage User

11. Manage Business List

Name	Category	Type	Contact	Address	Actions
Junagadh aapdu	SM	appointment	7990288858	Giriraj Road	
Aapdu Junagadh	Media	appointment	7990288858	Junagadh	
a1 cafe	cafe	table	7990288858	rjkt	
adarsh	Retail	order	7990288858	Giriraj Road	
KM Feshion	Clothing / fesion	order	7990288858	Giriraj Road	
Tatto Studio	Art Store	appointment	7990288858	Zanzarda Road Junagadh	
a2z clicks	SSM	appointment	7990288858	JND	
Krupal Salon	Salon	appointment	9876543210	Ring Road, Junagadh	

Figure 5.10.11 Manage Business List

12. Edit Business

Figure 5.10.12 Edit Business

13. Product List

Products					
← Back	+ Add New Product				
Name	Description	Price (₹)	Business	Type	Actions
Hair Gel	Strong hold hair gel	150	N/A	N/A	Delete
Beard Oil	Softening beard oil with natural ingredients	180	N/A	N/A	Delete
Monthly SMM	Monthly Package	15000	a2z clicks	N/A	Delete
Hair cut	hair cut	250	Krupal Salon	service	Delete
Tshirt	white black	250	KM Feshion	product	Delete
balaji masala	masala crunchy	10	adarsh	product	Delete
Promotion	Ready Made Reel Collabration	25000	Aapdu Junagadh	service	Delete

Figure 5.10.13 Product List

14. Add New Product

Add New Product

[← Back to Products](#)

Product Name

Description

Price (₹)

Business

Type

[Add Product](#)

Figure 5.10.14 Add New Product

15. Manage Booking

All Bookings										
User	Business	Type	Product	Date	Time	Table No.	Guests	Note	Status	Actions
Krupal	Aapdu Junagadh	Appointment	-	22 Aug 2025	11:55	-	-	meety	Pending	<button>Delete</button> <button>Done</button> <button>Cancel</button>
Krupal	adarsh	Order	balaji masala	-	-	-	-	-	Pending	<button>Delete</button> <button>Done</button> <button>Cancel</button>
Krupal	KM Feshion	Order	Tshirt	-	-	-	-	mdkcm	Pending	<button>Delete</button> <button>Done</button> <button>Cancel</button>
Krupal	adarsh	Order	balaji masala	-	-	-	-	-	Pending	<button>Delete</button> <button>Done</button> <button>Cancel</button>
Krupal	adarsh	Order	balaji masala	-	-	-	-	-	Pending	<button>Delete</button> <button>Done</button> <button>Cancel</button>
Krupal	adarsh	Order	balaji masala	-	-	-	-	cnjs	Pending	<button>Delete</button> <button>Done</button> <button>Cancel</button>
Krupal	KM Feshion	Order	Tshirt	-	-	-	-	-	Pending	<button>Delete</button> <button>Done</button> <button>Cancel</button>
Krupal	adarsh	Order	balaji masala	-	-	-	-	-	Pending	<button>Delete</button> <button>Done</button> <button>Cancel</button>
Krupal	adarsh	Order	balaji masala	-	-	-	-	nf	Done	<button>Delete</button> <button>Done</button> <button>Cancel</button>

Figure 5.10.15 Manage Booking

Screen Design :

1. Landing Page (Public Home)

- **Purpose:** Showcase all businesses with basic filters.
- **Elements:**
 - Top navbar with login/register
 - Business cards (name, category, location, CTA: "View Details")
 - Search bar (by name/category)

2. User Authentication Pages

► Login Page

- Fields: Email, Password
- Button: Login
- Link: "New user? Register now"

► Register Page

- Fields: Name, Email, Phone, Password
- Button: Register
- Link: "Already have an account? Login"

3. Business Details Page

- **Purpose:** Show business info + products/services + booking options
- **Elements:**
 - Business name, address, contact
 - Category badge (e.g., "Salon" / "Retail")
 - Products/Services list (name, price, description)
 - Booking form:
 - For appointment/table: date & time picker
 - For order: one-click confirm

4. Book Appointment Page

- **Fields:**
 - Auto-filled: Business, Product
 - Input: Date, Time
 - Button: Confirm Booking

5. My Bookings Page

- **List of user's bookings**
- **Shows:**
 - Business name
 - Product/service
 - Date, Time, Type
 - Status (Pending/Confirmed)

6. Admin Panel (EJS UI)

- **Admin Login Page**
- **Dashboard**
 - Total Users, Bookings, Businesses, Products
- **Business Management**
 - List, Add, Edit, Delete
- **Product Management**
 - Linked to businesses
- **User Management**
 - View all registered users
- **Booking Management**
 - View bookings with filters

6. SYSTEM TESTING

Authentication (User & Admin) :

Test Case ID	Test Case Description	Test Steps	Input Data	Expected Result	Actual Result	Pass/Fail	Comment
C-001	Register new user with valid credentials	Go to register → Enter valid details → Submit	Name, Email, Password	User registered successfully	User registered successfully	Pass	—
C-002	Prevent duplicate registration	Go to register → Enter already registered email	Existing Email	Error shown: "Email already registered"	Error shown: "Email already registered"	Pass	—
C-003	Login with valid credentials	Go to login → Enter valid email & password	Registered Email, Password	Login successful	Login successful	Pass	—
C-004	Login with invalid password	Go to login → Enter correct email but wrong password	Email, Wrong Password	Error: "Invalid password"	Login successful	Fail	Password validation not working
C-005	Unauthorized access	Try to access protected route without login	—	Access denied	Data accessed without login	Fail	Authorization middleware missing

Table 6.1 Authentication (User & Admin)

Business Management :

Test Case ID	Test Case Description	Test Steps	Input Data	Expected Result	Actual Result	Pass/Fail	Comment
C-006	View all businesses	Login → Navigate to "All Businesses"	—	All businesses displayed	All businesses displayed	Pass	—
C-007	View single business by ID	Login → Select business ID	Business ID	Business details displayed	Error: "Business details not loading"	Fail	API response delay
C-008	Invalid business ID	Login → Enter invalid business ID	Invalid ID	Error: "Business not found"	Error: "Business not found"	Pass	—
C-009	Unauthorized add attempt	Try to add a business as user (non-admin)	Business Data	Error: "Unauthorized action"	Business added successfully	Fail	Access control not implemented

Table 6.2 Business Management**Product/Service Management :**

Test Case ID	Test Case Description	Test Steps	Input Data	Expected Result	Actual Result	Pass/Fail	Comment
C-009	View products for a business	Login → Open products under a business	Business ID	List of products displayed	List of products displayed	Pass	—
C-010	View products with invalid business ID	Login → Enter wrong business ID	Invalid Business ID	Error message shown	Error message shown	Pass	—
C-011	Product without business FK	Try to add product without linking to business	Product Data (No FK)	Error: "Business ID required"	Product added without validation	Fail	Missing FK validation
C-012	Incomplete product submission	Try to add product with missing fields	Product Data (Incomplete)	Error: "All fields required"	Error not shown, product partially saved	Fail	Field validation missing

Table 6.3 Product/Service Management

Booking System :

Test Case ID	Test Case Description	Test Steps	Input Data	Expected Result	Actual Result	Pass/Fail	Comment
C-011	Book appointment (Salon)	Login → Choose salon → Book slot	Salon ID, Date/Time	Appointment booked	Appointment booked	Pass	—
C-012	Book table (Restaurant)	Login → Choose restaurant → Select table	Restaurant ID, Date/Time	Table booked	Table booked	Pass	—
C-013	Order product (Retail)	Login → Choose retail shop → Order item	Product ID, Qty	Order placed successfully	Payment gateway error	Fail	Payment integration issue
C-014	Double booking attempt	Try booking already reserved slot	Existing Slot	Error: "Slot not available"	Booking confirmed for same slot	Fail	Double booking not prevented
C-015	Invalid booking type	Submit invalid booking type	Invalid Type	Error message shown	Error message shown	Pass	—

Table 6.4 Booking System

User Booking History :

Test Case ID	Test Case Description	Test Steps	Input Data	Expected Result	Actual Result	Pass/Fail	Comment
C-016	View all user bookings	Login → Open "My Bookings"	User ID	List of bookings displayed	No bookings shown even though user has past bookings	Fail	Booking history fetch not working
C-017	View booking confirmation	Login → Book → Check confirmation	Booking ID	Confirmation shown	Confirmation shown	Pass	—
C-018	Unauthorized booking history access	Open "My Bookings" without login	—	Access denied	Bookings displayed without login	Fail	Missing authentication check

Table 6.5 User Booking History**Admin Dashboard Testing :**

Test Case ID	Test Case Description	Test Steps	Input Data	Expected Result	Actual Result	Pass/Fail	Comment
A-001	Admin login	Go to admin login → Enter valid credentials	Admin Email, Password	Login successful	Login successful	Pass	—
A-002	Unauthorized admin action	Login as normal user → Try admin route	User Token	Access denied	Admin features accessible	Fail	Role-based access control missing
A-003	View all businesses	Login as admin → Open "All Businesses"	—	All businesses displayed	No businesses loaded (blank page)	Fail	API response issue
A-004	Delete business with cascade	Login as admin → Delete a business	Business ID	Business and related data deleted	Only business deleted, related products remain	Fail	Cascade delete not working
A-005	Add business category	Login as admin → Add new category	Category Data	Category added successfully	Category added successfully	Pass	—
A-006	View all bookings	Login as admin → Open "All Bookings"	—	All user bookings displayed	All user bookings displayed	Pass	—

Table 6.6 Admin Dashboard Testing

Business Management (Admin):

Test Case ID	Test Case Description	Test Steps	Input Data	Expected Result	Actual Result	Pass/Fail	Comment
A-003	Add new business	Login as admin → Enter valid details	Business Data	Business added successfully	Business added successfully	Pass	—
A-004	Add business with missing fields	Login as admin → Submit incomplete data	Incomplete Data	Error shown	Business added without validation	Fail	Field validation missing
A-005	Get all businesses (Admin)	Login as admin → Fetch all businesses	—	All businesses displayed	No businesses shown	Fail	API not returning data
A-006	Get single business (Admin)	Login as admin → Enter valid business ID	Business ID	Business details displayed	Business details displayed	Pass	—

Table 6.7 Business Management (Admin)

Product/Service Management (Admin)

Test Case ID	Test Case Description	Test Steps	Input Data	Expected Result	Actual Result	Pass/Fail	Comment
A-005	Add product/service linked to business	Login as admin → Submit valid product with business FK	Product Data	Product added successfully	Product added successfully	Pass	—
A-006	Add product without business FK	Login as admin → Submit product without linking	Product Data (No FK)	Error: "Business required"	Product added without validation	Fail	FK validation missing
A-007	Incomplete product submission	Login as admin → Submit missing fields	Incomplete Data	Error shown	Error shown	Pass	—
A-008	Get products for a business (Admin)	Login as admin → Fetch products by Business ID	Business ID	List of products displayed	No products shown despite entries	Fail	API not fetching products

Table 6.8 Product/Service Management (Admin)

Admin Dashboard:

Test Case ID	Test Case Description	Test Steps	Input Data	Expected Result	Actual Result	Pass/Fail	Comment
A-008	View all businesses	Login as admin → Open "All Businesses"	–	List displayed	Blank list shown (data not loading)	Fail	API fetch issue
A-009	View all bookings	Login as admin → Open "All Bookings"	–	All bookings displayed	All bookings displayed	Pass	–
A-010	Add business category	Login as admin → Add new category	Category Data	Category added successfully	Category added successfully	Pass	–
A-011	Delete business with cascade	Login as admin → Delete business	Business ID	Business + related data deleted	Only business deleted (products remain)	Fail	Cascade delete not working
A-012	Unauthorized admin action	Try admin action with user token	User Token	Access denied	Admin actions accessible with user token	Fail	Role-based access missing

Table 6.9 Admin Dashboard

7. CONCLUSION

The **BizBook Project** successfully integrates a complete business booking and management system using **Node.js, Express, MongoDB, and EJS**. It provides a **role-based platform** where:

- **Users** can register, log in, and easily make **table bookings, product orders, or appointments**.
- **Business Owners** can manage their own business profiles, products, and bookings through a secure dashboard.
- **Admins** can oversee the entire system, update booking statuses, and manage businesses through an **EJS-based admin panel**.

The project uses a **hybrid authentication system**:

- **JWT tokens** secure API routes for mobile apps and external clients.
- **Session-based authentication** secures the web dashboards for admin, owners, and users.

With its modular design (separate models, controllers, and middleware), the system is **scalable, secure, and easy to extend**.

In the future, features like **payment integration, notifications, and analytics** can be added without major changes.

In short, this project demonstrates how a **single system** can serve both **API consumers** and **web dashboard users**, making it flexible and practical for real-world business solutions.

8. LEARNING DURING PROJECT WORK

- ❖ **Backend Development:** Learned how to use **Node.js and Express** for creating REST APIs and handling different routes.
- ❖ **Database Handling:** Understood how to design and manage collections in **MongoDB**, including relationships between users, businesses, and bookings.
- ❖ **Authentication:** Implemented both **JWT-based authentication** for APIs and **session-based authentication** for web dashboards, which gave hands-on experience with security.
- ❖ **Role Management:** Learned how to separate features for **Admin, Business Owner, and User**, ensuring that each role gets the right access.
- ❖ **Error Handling:** Understood the importance of validating data and handling errors properly so the system works smoothly.
- ❖ **Teamwork & Documentation:** Improved communication, documentation skills, and ability to work on a large project step by step.

8.1. Future Enhancement:

- **Payment Gateway Integration:** Allow users to pay for bookings/orders online using UPI, cards, or wallets.
- **Notification System:** Add email/SMS/WhatsApp alerts to inform users about booking confirmations or updates.
- **Analytics Dashboard:** Provide owners and admins with reports about sales, bookings, and customer trends.
- **Mobile Application:** Extend the system with a mobile app for Android/iOS using the same APIs.
- **Reviews & Ratings:** Allow customers to give feedback on businesses and services.
- **Multi-language Support:** Make the platform usable by people from different regions.

These enhancements will make the system more **user-friendly, scalable, and practical** for real business use.

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