Online Appointment Booking System

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Full Stack Development

BCA261-2

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1.Introduction

1.1 Purpose

The Online Appointment Booking System web-based software allows users to easily schedule their appointments by booking, changing, or cancelling the appointment at his or her own convenience. It is designed for firms and organizations which render services on appointment basis only.

1.2 Scope

This system will allow a service owner to outline their availability and a customer to schedule appointments in a timely manner. It will provide for alerts, reminders, and payment system. The target users include medical clinics, salons, as well as professional firms providing consultations.

1.3 Stack Description

- Frontend: HTML, CSS, JavaScript, React.js
- Backend: Nodes, Express.js
- Database: MongoDB
- Hosting: AWS / Google cloud

1.4 Definitions, Acronyms, and Abbreviations

- API: Application Programming Interface
- CRUD: Create, Read, Update, Delete
- UI/UX: User Interface / User Experience

2. Overall Description

2.1 Requirement of this Web Application

- Business and clients' efficient appointment management.
- Notifications for reminders and confirmations.
- Secure payment processing for paid appointments.

2.2 Module Description

- User Module: Registration, login, profile management.
- Admin Module: Dashboard for managing services, availability, and user activities.
- Appointment Module: Booking, rescheduling, and cancellation.

2.3 Sub-Modules Description

- **User Module:**
- User registration with email verification.
- Login/Logout functionality with password recovery.

- **Admin Module:**
- Add/edit/delete services and availability slots.
- View and manage all appointments.

- **Appointment Module:**
- Real-time slot availability.
- Confirmation email/SMS notifications.
- Payment processing integration (Stripe/PayPal).

3. Functional Requirements

3.1 User Requirements

- Registration, login, and profile update.
- Search and view available services and slots.
- Book, reschedule, or cancel appointments.

3.2 Admin Requirements

- Manage service offerings and available slots.
- View and manage user appointments.
- Generate and view reports for analysis.

3.3 Software and Hardware Requirements

Software:

- Operating System: Windows 10 or macOS.
- Browser: Chrome, Firefox, or Edge.

Hardware:

- Minimum: 4GB RAM, 1GHz Processor.
- Recommended: 8GB RAM, 2GHz Processor.

4. Non-Functional Requirements

- **Performance:** System should handle 100 concurrent users.

- **Security:** Implement HTTPS and user authentication.

- **Scalability:** Support for future user growth and added services.

- **Usability:** Intuitive UI design for diverse user demographics.

5. Table Description and Data Flow Diagram

5.1 Table Description

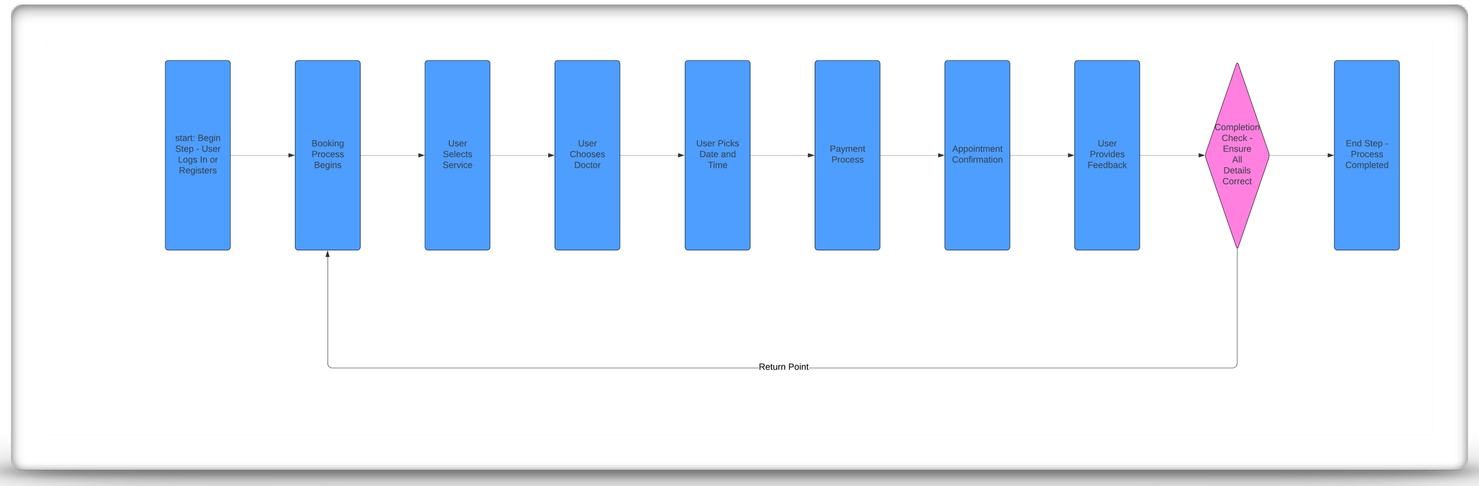
- Users Table: Contains user details, for example, name, email, and contact details.

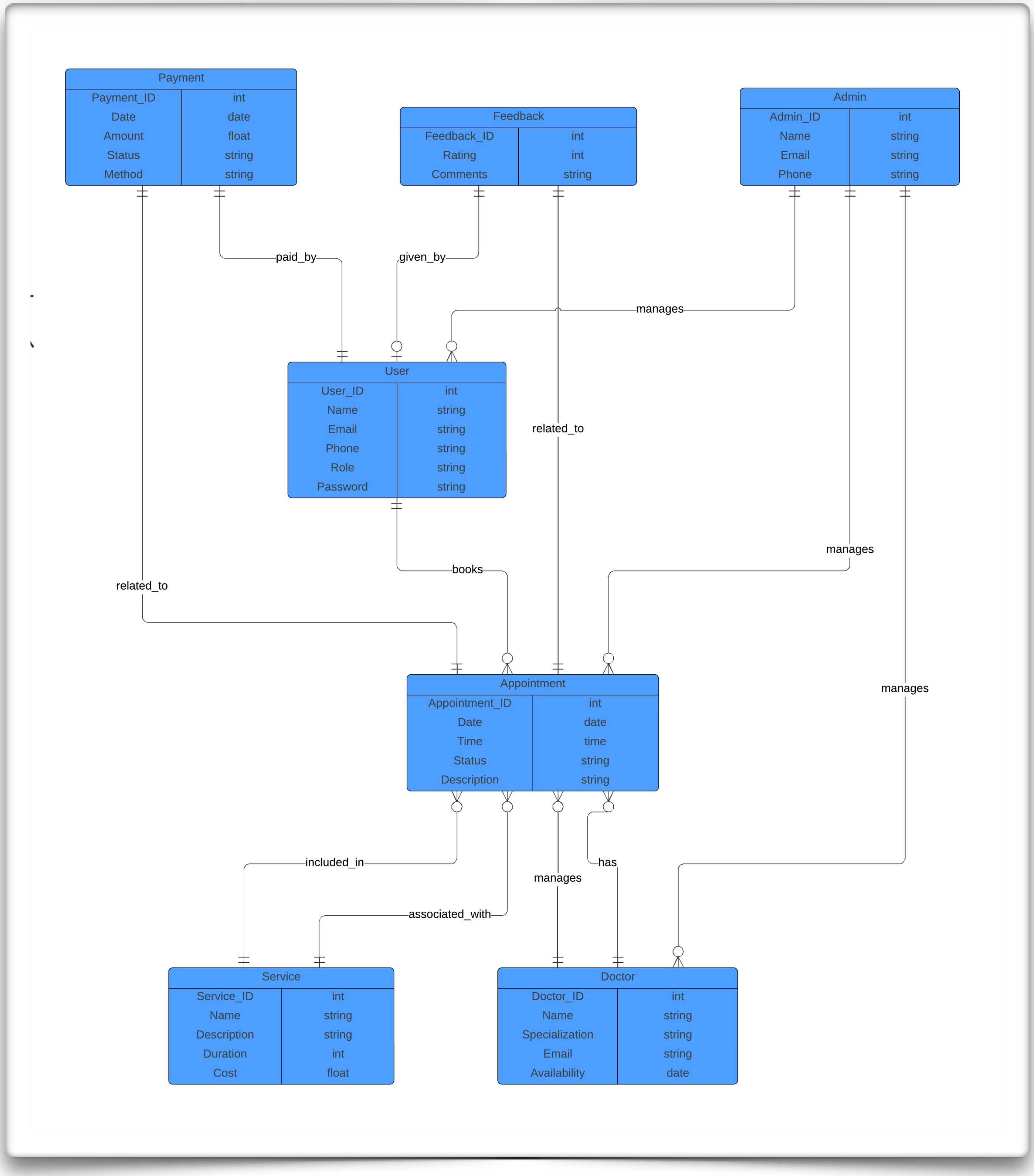
- Appointments Table: Contains appointment details, such as date, time, user ID, and service ID.

- Services Table: This contains all available services with descriptions and costs associated with them.

5.2 Data Flow Diagram

Diagram for data flow between modules such as User, Admin, Appointment, and Database.





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Amount	float
Status	string
Method	string

Feedback	
Feedback_ID	int
Rating	int
Comments	string

Admin	
Admin_ID	int
Name	string
Email	string
Phone	string

User	
User_ID	int
Name	string
Email	string
Phone	string
Role	string
Password	string

Appointment	
Appointment_ID	int
Date	date
Time	time
Status	string
Description	string

Service	
Service_ID	int
Name	string
Description	string
Duration	int
Cost	float

Doctor	
Doctor_ID	int
Name	string
Specialization	string
Email	string
Availability	date

6. Technical Requirements

- **Frontend Technologies:** React.js for responsive UI.
- **Backend Technologies:** Node.js and Express.js for API and business logic.
- **Database:** MongoDB for storing user and appointment data.
- **Hosting:** AWS / Google Cloud for scalability and reliability.
- **APIs:** Payment Gateway API, Notification API (Twilio/SendGrid).

- Thank you …