DocSpot: Seamless Appointment Booking for Health

1. Introduction

• **Project Title:** DocSpot: Seamless Appointment Booking for Health

• **Team Members:**

- Gopika Devi Sundarapalli – Full Stack Developer
- Chita RaviKumar–Frontend Developer
- Cherukuri Meenakshi Devi – Full Stack Developer
- Bugatha Prasad–Backend Developer

• **Team ID:** LTVIP2025TMID52759

• **Assigned by:** SMART INTERNZ(#SmartBridge)

2. Project Overview

• **Purpose:** DocSpot aims to modernize and streamline the process of booking medical appointments using a responsive MERN-based web platform.

• **Advanced Features:** Real-time scheduling, slot management, appointment confirmation, PDF summaries, notifications, and admin analytics.

3. Architecture

• **Frontend:** Built with js using Bootstrap and Material UI for responsive UI. Axios is used for API calls.

• **Backend:** Built with Node.js and Express.js handling API routing and logic.

• **Database:** MongoDB stores user, doctor, appointment, and admin data. Mongoose is used for schema management.

4. Setup Instructions

• **Prerequisites:** js, MongoDB, Git, and VS Code.

• **Installation:**

1. Clone the repo
2. Run npm install in frontend and backend
3. Setup .env files
4. Run backend: npm run dev
5. Run frontend: npm start

5. Folder Structure

• **Client:**
React components and pages organized under /src.
• **Server:**
Express controllers, routes, and models under /backend.

6. Running the Application

• **Frontend:** Run `npm start` inside /frontend
• **Backend:** Run `npm run dev` inside /backend

7. API Documentation

• POST /api/users/register
• POST /api/users/login
• POST /api/appointments
• GET /api/doctors
• GET /api/appointments/user/:id

8. Authentication

JWT-based authentication. Tokens stored in HTTP-only cookies. Role-based access control for User, Doctor, and Admin.

9. Testing

Manual testing for backend APIs. Functional testing performed for frontend workflows.

10. Screenshots or Demo

Include here a link to the project demo.

- Demo video: [https://limewire.com/d/ZKwqD#5oYq7v4lYA]

- Code repository: [https://github.com/Health-Appointment-booking-app/SmartBridge-Project.
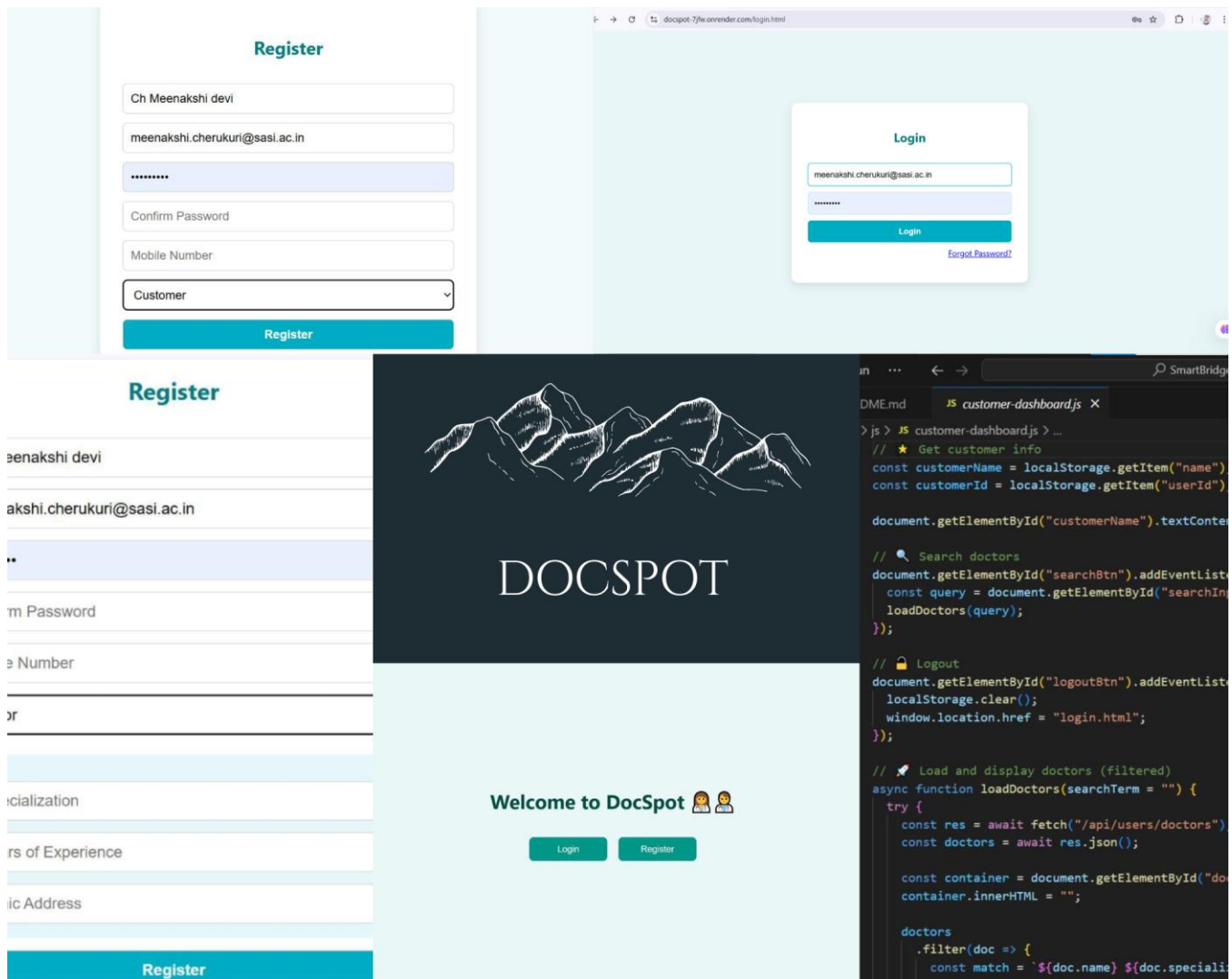
11. Known Issues

• Timezone handling needs improvement
• Email delivery may be delayed in some environments

12. Future Enhancements

- Real-time chat
- React Native mobile app
- AI-based doctor recommendations
- Google Calendar sync
- Voice-enabled appointment booking using NLP

13. User Interface

Screenshots should be added here show casing login, dashboard, doctor filtering, and booking page.

14. Conclusion

DocSpot revolutionizes the healthcare appointment process by combining the power of intelligent automation, a seamless user experience, and robust real-time capabilities. It empowers patients to book and manage medical consultations with ease, while enabling doctors and administrators to efficiently handle scheduling and communications. With a scalable full-stack architecture and intuitive design, DocSpot stands as a comprehensive solution for modern healthcare delivery—bridging the gap between technology and patient care. This project not only enhances accessibility and convenience but also lays the foundation for future innovations in digital health services.