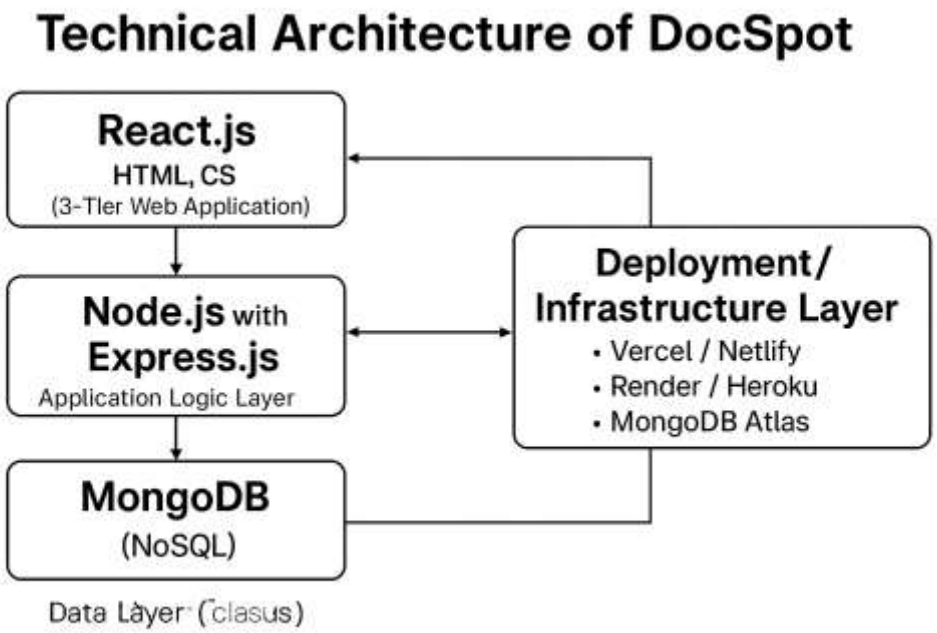
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	25 JUNE 2035
Team ID	LTVIP2025TMID54908
Project Name	DocSpot – Seamless Appointment Booking for Health
Maximum Marks	4 Marks

Technical Architecture:



COMPONENT OVERVIEW:

S.No	Component	Description	Technology
1.	User Interface	Web-based user interface for patients, doctors, and admin	HTML, CSS, JavaScript, React.js
2.	Application Logic-1	Backend logic for registration, login, appointment flow	Node.js with Express
3.	Application Logic-2	Sending email notifications for appointment reminders	Nodemailer / EmailJS
4.	Application Logic-3	Admin logic for doctor approvals and dashboard operations	Node.js + Role-based Access Control (RBAC)
5.	Database	Stores user data, appointments, doctor profiles	MongoDB (NoSQL)
6.	Cloud Database	Optional deployment of MongoDB on cloud (for production)	MongoDB Atlas
7.	File Storage	Profile image uploads or doctor documents (if any)	Local Filesystem or Cloudinary
8.	External API-1	Used to send email reminders	EmailJS / SMTP
9.	External API-2	(Optional) Location-based search integration	Google Maps API (if used)
10.	Machine Learning Model	(Not used in this version, can be future scope)	*N/A*
11.	Infrastructure	App hosted on cloud/local with scalable configuration	Render / Vercel (Frontend)Node.js Server (Backend)MongoDB Atlas (Cloud DB)

2)APPLICATIONS CHARACTERISTICS

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Frontend and backend built using open-source libraries/frameworks	React.js, Node.js, Express.js, MongoDB
2.	Security Implementations	Role-based access control, login authentication, secure password hashing	JWT (for auth), bcrypt (for hashing)
3.	Scalable Architecture	Designed as a 3-tier architecture (Frontend – Backend – Database)	MERN Stack, REST APIs
4.	Availability	Cloud deployment with potential load balancer and server scaling options	Vercel / Render, MongoDB Atlas
5.	Performance	Fast response with API optimization, proper form validations, caching (if used)	RESTful APIs, React state optimization