## **Project Definition and Scope**

### **Description**

### **Infomate is a web-based chatbot created for the college's ICT department. With prompt and precise answers to department-related questions about faculty, labs, placements, and other academic or administrative information, it acts as an information assistant for students, new admissions, and outside visitors.**

### **Project Proposal**

### Infomate, a chatbot built into a web application and powered by React (frontend) and Node.js (backend), is what the project suggests developing. By utilizing the Gemini API for document parsing, the system allows the chatbot to retrieve and present pertinent data from departmental PDF documents that have been uploaded. By only updating the original PDF file, this guarantees that the chatbot stays current.

### **The Objective**

* To provide a **centralized, accessible, and interactive platform** for department-related information.
* To assist **new admissions** in easily understanding facilities, faculty, labs, and placement opportunities.
* To reduce the workload on faculty and administrative staff by automating frequently asked questions.
* To establish a **digital-first communication channel** for students, staff, and visitors.

### **Feasibility Analysis**

#### **Technical Feasibility**

* **Frontend:** Built using **React**, ensuring responsive and interactive user experience.
* **Backend:** Developed with **Node.js**, providing scalability and efficient request handling.
* **AI Integration:** Gemini API enables document-based knowledge extraction and natural language responses.
* **Data Source:** Static data from departmental PDFs, easily updatable without modifying the system.
* **Deployment:** Can be hosted on platforms like Vercel/Render for accessibility.

#### **Economical Feasibility**

* Development cost is minimal since open-source technologies (React, Node.js) are used.
* Maintenance requires only updating the PDF file, reducing long-term operational expenses.
* No major hardware requirements; runs efficiently on cloud hosting with limited resources.

#### **Ethical Considerations**

* Ensures **data privacy** by restricting chatbot responses only to authorized departmental documents.
* Provides **accurate and unbiased information** without manipulation.
* Avoids misinformation by strictly relying on verified departmental PDFs.
* Accessibility for all students, including new admissions and guests.

### **Market/User Needs Analysis**

* **Students:** Quick access to academic and administrative information without dependency on staff.
* **New Admissions:** Hassle-free understanding of department offerings, faculty, labs, and placements.
* **Guests/Parents:** Easy interaction to know about facilities and opportunities in the department.
* **Department Staff:** Reduced repetitive queries, enabling them to focus on core tasks.

### **Novelty Review**

* **First chatbot dedicated to the ICT Department** of the college.
* Unlike traditional notice boards or static websites, it offers **real-time, interactive responses**.
* Minimizes human effort by using **automated PDF-based updates**, ensuring up-to-date information.
* Sets a **precedent for other departments** to adopt chatbot-driven communication systems.

**Conclusion**

Infomate is a solution that connects students, staff, and visitors by giving the ICT Department an interactive and reliable information assistant. It makes sure that everything is correct, easy to keep up with, and easy to get to by using modern web technologies and AI-driven document parsing. It is useful not only for the ICT Department but also as a model that can be scaled up to other departments at the college because it can cut down on repetitive administrative tasks while still providing a smooth user experience. In the end, Infomate lays the groundwork for a digital-first, student-friendly school environment.