Title:

Smart Campus Bot Brain and Navigation Assistant

Abstract:  
This project aims to develop a campus-based chatbot integrated with navigation features to assist students, staff, and visitors. The system will provide quick answers to FAQs, departmental details, and directions within the campus using Google Maps API and a structured database. By leveraging Natural Language Processing (NLP) through Rasa/Dialogflow, the chatbot ensures user-friendly interaction and efficient access to information. The solution enhances campus experience by offering real-time support, reducing manual effort, and improving accessibility.

2. Introduction

Universities often have large campuses where students and visitors face difficulties in finding classrooms, offices, or facilities. Additionally, repetitive queries regarding admissions, courses, or departments increase the workload of administrative staff. To address this, a chatbot integrated with navigation support can serve as a digital guide, answering FAQs and providing location-based assistance.

3. Problem Statement

Students, staff, and visitors face challenges in:  
- Locating departments, classrooms, and facilities within campus.  
- Getting timely responses to frequently asked questions.  
- Accessing information efficiently without depending on manual help.  
  
This creates delays, confusion, and reduces the overall campus experience.

4. Objectives

- To design a chatbot capable of answering FAQs related to the university.  
- To integrate navigation support for guiding users across the campus.  
- To build a structured database storing department, staff, and facility details.  
- To improve accessibility and reduce manual dependency for routine queries.

5. Scope

- The chatbot will handle FAQs, directions, and department details.  
- Navigation will be limited to the Chanakya University campus.  
- System will be accessible via web and mobile platforms.  
- Advanced AI features like sentiment analysis or multilingual support may be added in future phases.

6. Requirement Collection

- Campus layout and maps.  
- Department details and staff directory.  
- Frequently Asked Questions (FAQs) from admissions, academics, facilities.

7. Tools & Technology Finalization

- Programming Language: Python  
- Chatbot Framework: Rasa / Dialogflow  
- Database: MySQL / Firebase  
- Navigation: Google Maps API  
- Platform: Web + Mobile