**Assignment WEEK-1 Report**

**Project Understanding & Planning**

**Introduction**

Navigating a university campus can be confusing, especially for first-year students, visitors, or even staff. Finding the right classroom, building, hostel, or café often takes more time than expected. To solve this problem, Bot Brain is designed as a smart campus navigation assistant for Chanakya University.

This project combines a user-friendly chatbot interface with graph-based search algorithms and detailed campus data. The system helps users quickly locate buildings and find the shortest, most efficient paths across campus. By acting as a virtual guide, Bot Brain simplifies navigation and saves valuable time—making life easier for everyone on campus.

**Problem Statement**

Students, staff, and visitors at Chanakya University often face challenges such as:

* Difficulty locating departments, classrooms, and other facilities on campus.
* Delays in getting answers to common questions.
* Reliance on manual help for basic information, leading to inefficiency.

These issues result in confusion, wasted time, and a less-than-ideal campus experience, particularly for newcomers.

**Objectives**

The key goals of this project are to:

* Develop a chatbot that can answer frequently asked questions related to the university.
* Integrate campus navigation features to guide users to various locations.
* Create a structured database with information about departments, staff, and facilities.
* Improve accessibility to information and reduce the need for manual support for routine queries.

**Scope**

The project will include:

* A chatbot that provides answers to FAQs, directions, and department-related queries.
* Navigation support limited to the boundaries of Chanakya University campus.
* Accessibility via both web and mobile platforms.
* Possibility of future enhancements such as sentiment analysis or multilingual support.

**Requirement Collection**

To build the system effectively, the following data will be collected:

* Detailed campus layout and maps.
* Information about university departments and a staff directory.
* A collection of frequently asked questions from various departments (admissions, academics, facilities, etc.).

**Tools & Technologies**

The project will use the following technologies:

* Programming Language: Python
* Chatbot Framework: Dialogflow
* Database: Graph-based data structures implemented in Python
* Navigation Support: Google Maps API