

# CHANAKYA UNIVERSITY

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**REG NO :** 24UG00311

**COURSE:** CSE & AI

## WEEK 2 (SYSTEM DESIGN & ARCHITECTURE )

### SYSTEM DIAGRAM:

User → UI → Input → Chatbot → Pathfinding →  
Output(shortest path)

### Methodology:-

*The project begins with collecting data on important locations across Chanakya University, such as classrooms, libraries, labs, hostels, and canteen areas, along with the connecting paths between them. These locations are represented as nodes and paths as edges in a graph structure. A user interacts with the web-based UI by selecting a starting point and destination. The request is sent to the backend, where shortest path algorithms are applied to calculate the optimal route. Finally, the calculated path and distance are sent back to the UI and displayed, helping users navigate the Chanakya University campus more easily.*

### PEAS:-

**Performance measure (P):** Accuracy of shortest path calculation, correct distance estimation, and quick response to user queries.

**Environment (E):** Campus map data (locations and connecting paths), user interface, and backend system.

**Actuators (A):** Display on the UI (showing distance and route output to the user).

**Sensors (S):** User input through the UI (selecting source and destination).