# Geographic Data Analysis and Pathfinding System

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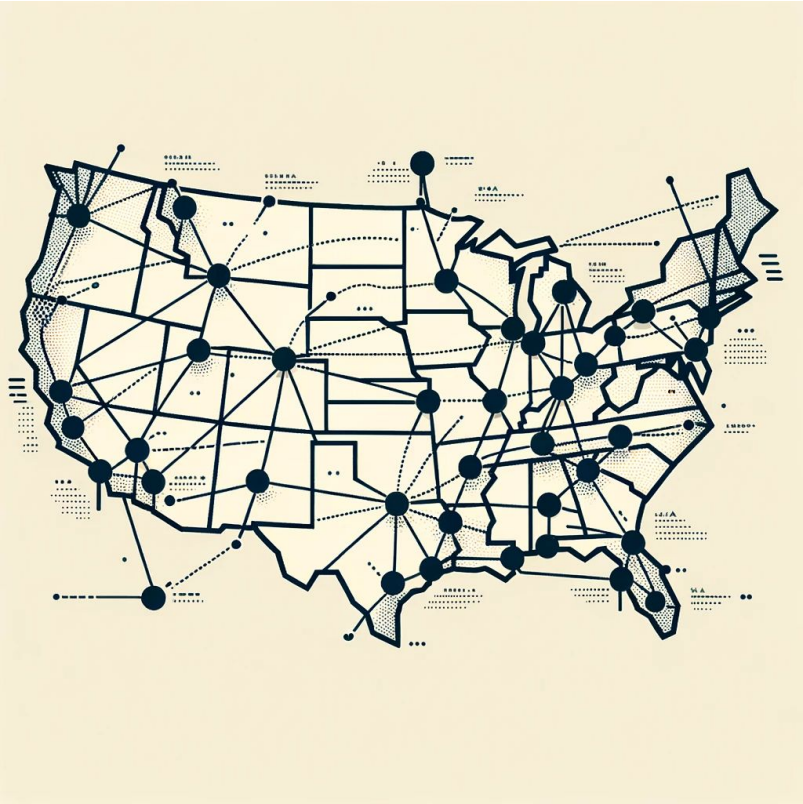
# Proposal

- Develop a system for efficient pathfinding between cities
- Import and manage dataset of cities with names and coordinates
- Allow input of city coordinates, calculate shortest distance
- Construct graph representing cities and distances
- Implement pathfinding algorithms to find shortest paths considering distances



# Implementation Strategy

- Data structure loading and management
  - Import and parse city dataset including names, latitude and longitude coordinates
  - Utilize relevant data structures for quick access
- Distance calculation between cities
  - Calculate the shortest distance using methods like the great-circle distance or coordinate conversion
- Graph creation with weighted edges
  - Construct a graph with cities as nodes and distances as weighted edges
- Pathfinding algorithm
  - Implement graph searching algorithms (e.g., Dijkstra's, A*) for shortest path calculation
  - Take distance between cities into account for calculating shortest path

Thank you!