

Title: Maze Solver with Heuristic Search (A* and Beam Search)

Summary:

This project aims to develop a maze solver application using Heuristic Search Algorithm such as A* and Beam Search. The application will represent the maze as a grid, with the goal of finding the shortest path from starting point to destination while considering obstacles. The A* algorithm will ensure efficient path finding using heuristic, whereas Beam Search will provide a faster but potentially less optimal solution. The project will also feature the implementation of multiple mazes types, including randomly-generated, static and dynamic mazes.

Modules & their functionality:

1. Maze:

Functionality: Generates mazes of different types (randomly generated, static, dynamic).

2. A*:

Functionality: implement the A* algorithm for solving the maze. Handles heuristic calculations and obstacle considerations.

3. Beam Search:

Functionality: Implement the beam search algorithm for solving the maze. It helps in providing faster solution.

4. Interface:

Functionality: Display the maze, starting and destination points, and the computed solution path in text-based format.