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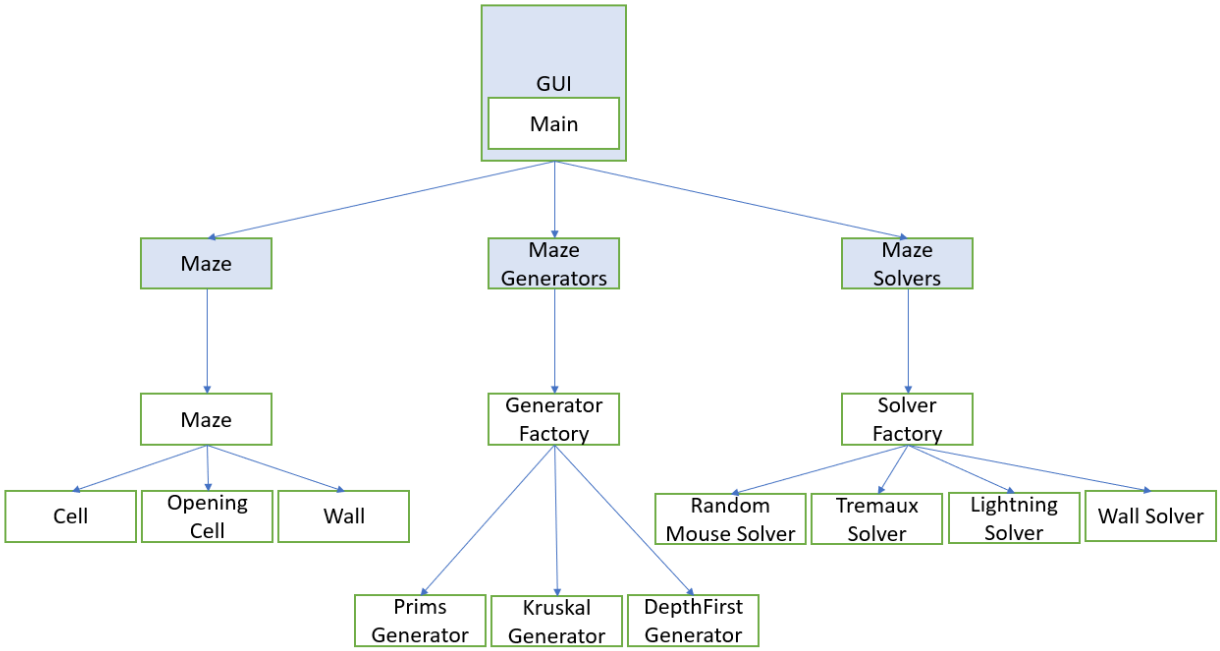
CS351. 004

Project 4: Mazes

DESIGN DOCUMENT



GUI:

Main: Builds the scene, read in input file, create maze generators and solvers to generate and solve the maze, and get images to display of scene.

MAZE:

Maze: Constructs and displays maze with random opening.

Cell: Constructs each cell in the maze with their getters and setters.

OpeningCell: Constructs starting and ending cell of mazes.

Wall: Creates wall for the maze.

MAZE GENERATORS:

PrimsGenerator: Construct maze generator using Prim's algorithm.

KruskalGenerator: Construct maze generator using Kruskal's algorithm.

DepthFirstGenerator: Construct maze generator using Depth First Search algorithm.

MAZE SOLVERS:

RandomMouseSolver: Construct maze solver using Random Mouse algorithm.

TremauxSolver: Construct maze solver using Tremaux's algorithm.

WallSolver: Construct maze solver using Breadth First Search algorithm. This class allows user to run the algorithm using both single thread option and two thread option.

LightningSolver: Construct maze solver using Depth First Search algorithm.