UML Activity Flow Diagram

Assumptions: *1) image size is 500x500 pixels.*
2) Robot size is 10x10 pixells.

Get the map image

Get Robot and destination co-ordinates

Random Node generation

Display random nodes, start node and end node

Check for neighbour of a node

Go to next node

Draw paths between neighbours

Is it last node?

No

Yes

Find optimum path using A* Algorithm

Display end result on the map

Check if both of them have different co-ordinates

Ask for new co-ordinates

Check if destination is in free space.

Check if Robot is in free space.

No

Are all 3 conditions satisfied?

Yes

Store start and destination in node container.

Check if the path to the neighbour is not intersecting obstacle

Move to next node

Check if the path is less than a maximum allowed path distance

Are both conditions satisfied?

No

Yes

Add node and the path length to the neighbour list