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# RBEI AI HACKATHON

Participate & Get Prizes



# <Hugs\_for\_bugs>

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# Model description

- *The model of automated home cleaning robot is used for domestic purpose to find out the obstacles in the room like sofa, chairs tables wires etc.*
- *A domestic robot is a type of service robot, an autonomous robot that is primarily used for cleaning the unwanted things from the floor and clean the room by using it in faster manner.*
- *This robot will help to check the path and find out the best path and algorithm which is used to Clean the dirt spaces and without affecting by any obstacles .This is which we described in this model.*

# Features of your Model

## ***1) Firstly robot identifies:-***

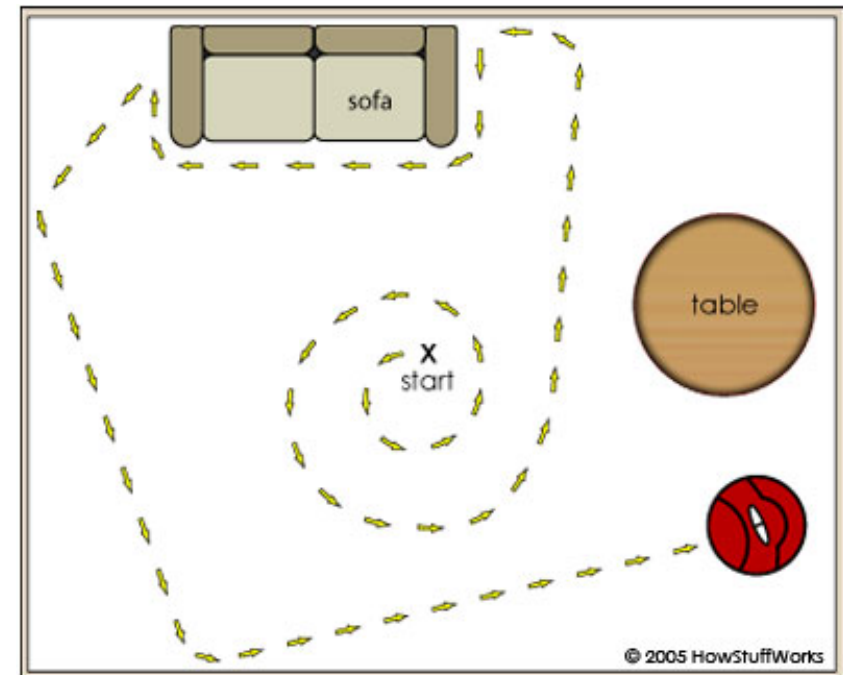
- The size and shape of the room
- The location of the robot
- The presence of any obstacles

## ***2) Next steps to find out the path by:-***

- Dijkstra algorithm
- Robotic online coverage algorithm
- A\* search algorithm

# Tech Stack

- *We are obtain a path with Dijkstra's, but not necessarily coverage. For example, how can you tell Dijkstra's that instead of visiting one point as rapidly as feasible, you must visit each point in the graph.*
- *This type of online algorithm is often referred to as a "bug" algorithm since it resembles a wandering insect.*



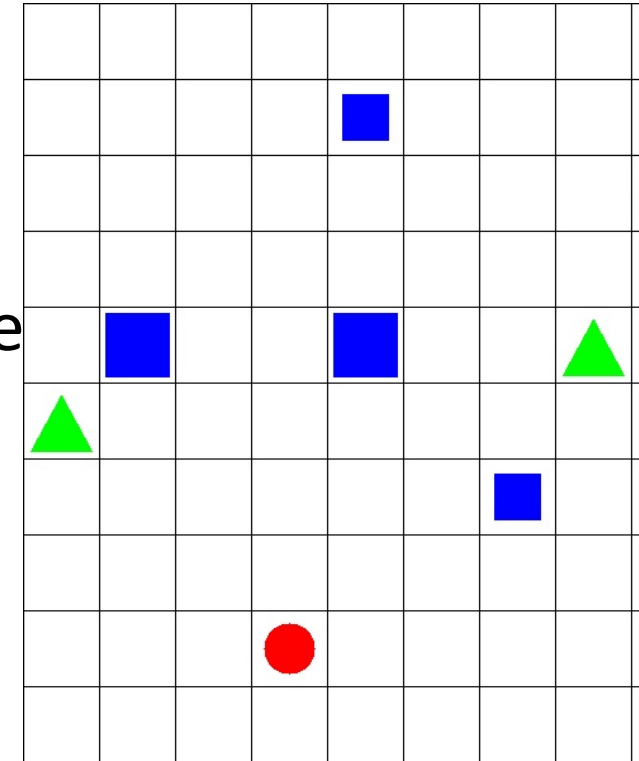
# Why your model is the best?

- *Our model is best is because we are finding out the best solution using this because in this model we are cover both things like we are cover the best way to which the robot is used to find out the best path or fastest path for cleaning the whole floor.*
- *And Secondly by using this model all the obstacles are find out but also find out the way that which obstacle we are finding also gives that information by using model.*

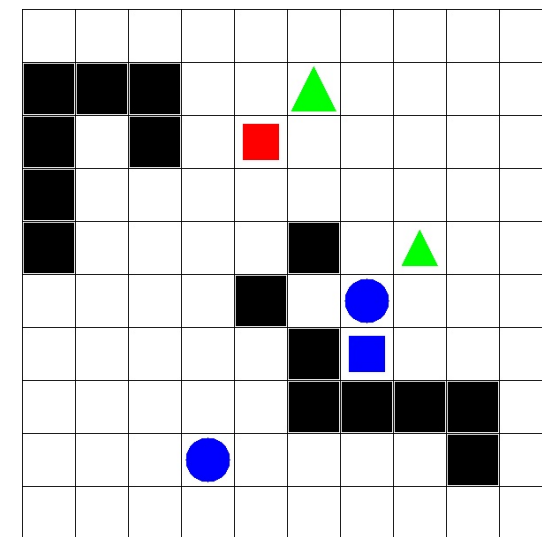
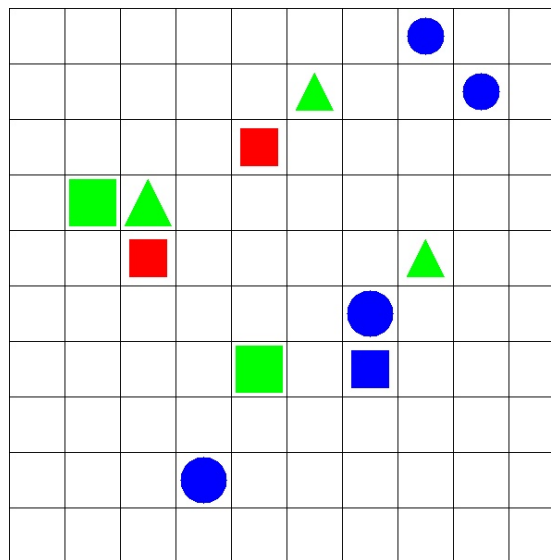
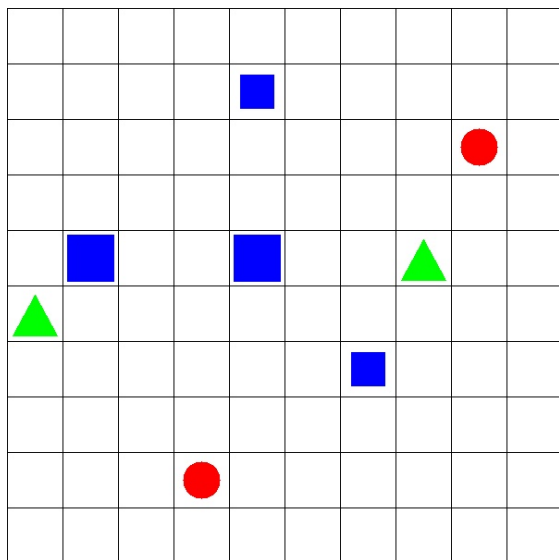
# Labelled Images used for Training Model

Here we take the example of sofas tables chairs etc in the form of triangles circles like:-

- 10x10 grid, making 100 squares
- objects defined by three features, viz. Shape Size and Color



# Images used in the Testing Model





# Working Model

GITHUB:- [https://github.com/amanj7820/Techgig\\_Aman.git](https://github.com/amanj7820/Techgig_Aman.git)

Thank you