An Algorithm for Navigation of Mobile Robots in Cluttered Environments

Abstract

Service robots have brought convenience to the disabled. Housekeeping robots, e.g., floor cleaners, must be able to handle obstacles while moving toward designated targets. In real life, yet robots face difficulty in maze-like and in very cluttered environment of crammed indoor spaces. This article introduces a new decision mechanism for path planning in indoors e.g., home, and office. A method is presented for implementing sub-goal network together with wall following. Various subroutines are used to direct the robot towards the target while each subroutine has its own sub-goal. Trajectory results are included to evaluate the performance of the algorithm.

Keyword: Robot Navigation; Path Planning