Abstract

The objective of this paper is to design a dynamic store system consist of several boxes that arranged in several columns according to the N-ary tree algorithm. Each box is designed to store and return small object using the differential drive mobile robot according to a secret code that entered from a user interface unit. In a dynamic store system the robot has changeable trajectories according to the selected store box. The chosen trajectory is highlight by a group of LEDs connected a long this path. The mobile robot is equipped by photocells to work as line follower sensors. The Bezier curve algorithms are used in this method to reduce the rabble occurs when the mobile robot moves on the line follower system. The dynamic method is simulated and implemented practically to compare with the best static method for choosing the one with the best performance in the time of arrival and the average length of the paths.

References


Index Terms

Computer Science
Algorithms
Keywords

Dynamic store system, N-ary tree algorithm, Bezier curve algorithm, line follower robot.