DC MOTOR TO WORK BASED ON OBSTACLE DETECTOR AND USER COMMANDS:

ABSTRACT

The obstacle detection field is a very broad one and a lot of obstacle detection systems have been developed in the last years. Accidents can be unintentional and sometimes can be random but are generally found to occur due to the unexpected obstacles on the moving path. We describe the design of the obstacle detector irrespective of their movements. It detects the discontinuities in terrain and alerts users of potential hazards like open manholes, potholes, protrusions, etc. which are common on Indian roads. Hence, automobile safety can be improved by anticipating a crash before it occurs and thereby providing additional time to deploy safety technologies. Warnings can be like alarms and beeps, if the vehicle is approaching a pothole, or any moving obstacle, driver can be warned in advance regarding what the road entails.

The distance calculation is used to control the movement of the robot either by one of these 4 commands (forward, backward, left or right turn and stop) through the DC motor. The motive of the project is to avoid any obstacles in travelling path. In this project, Arduino UNO has been taken with the view that, it has an in-buillt ATmega 328p. The arduino send signal to the DC. The movement of the robot is ensured by the sending and receiving signals through HC-SR04(Ultrasonic) sensor based on the varying of distance.

The ultrasonic sensor design on the obstacle robot placed at the front of the robot with the obstacle position in front. From the data analysis, the obstacle robot can determine the accuracy level of the detected distance and can stop according to the detected obstacle distance.

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