UNIVERSITI TEKNOLOGI MARA

MEC300

FINAL YEAR PROJECT

DESIGN AND FABRICATE A ROBOTIC VACUUM CLEANER

BY

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Abstract

People have been increasingly career-oriented in recent years and keeping both home and office together has become difficult, especially for women, due to their erratic working schedules. They employ cleaners to clean their homes, offices, and other places in most circumstances, yet they have little faith in cleaners. Smart Vacuum Cleaner has come up with the most advanced technology to solve the problem and is meant to automate the cleaning process. The robot is started using this application. The robot navigates using S-curve planning and recognises and avoids obstacles with the assistance of sensors. The smart vacuum cleaner helps users save time by cleaning the surface of the floor without the need for human interaction.

In the conclusion, previously designed of a robot vacuum cleaner is created using Solidworks 2018. Then started by creating the chassis, tyres, motors, vacuum cleaner, and body one by one. After completed constructing the robot's pieces, the project began putting them together. Finally, the design is complete, as illustrated in the figure below.

The project is continued which is to fabricate the design of a robot vacuum cleaner. To make the design, the project began by measuring the plastic cardboard, cutting it, combining it, and painting it. Finally, the design of robot vacuum cleaner is completed.

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INTRODUCTION

1.1 BACKROUND OF STUDY

A vacuum cleaner is an electromechanical device that uses suction to clean floors, furniture, rugs, and carpets. A fan within the appliance is turned by an electric motor, which generates a partial vacuum and allows outside air to rush into the evacuated chamber. The wheel, cleaning, electrical, and control systems all work together to ensure effective cleaning in the vacuum cleaner. Aesthetics, total weight, and electrical connection were all taken into consideration while creating these systems.

The result is provide in research on the user experience of robot vacuum cleaner behavior in this article. Based on research, International Journal of Social Robotics 3 (2), 187-195, 2011. What are people's expectations for this new sort of cleaning device? Interviews were performed to obtain the required personality of a robot vacuum cleaner. The behavior of a future robot vacuum cleaner was built with this understanding in mind. A video prototype was utilized to see how people reacted to the robot vacuum cleaner's behavior. People identified the intended personality in the robot conduct, according to the findings. As a technique for designing robot behavior, and advocate employing a personality model.