

UNIVERSITI TEKNOLOGI MARA

**DEVELOPMENT OF A PROTOTYPE
OF MINI ROBOT VACUUM
CLEANER**

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ABSTRACT

A recent study by Hospitality GEM highlighted unclean tables as the fourth most common grievance among diners. Customers typically avoid visibly dirty tables, but they might unknowingly choose seemingly clean yet still dirty ones. In Malaysia, several restaurants were recently shut down due to rat and cockroach infestations, and a viral video exposed maggots in fried chicken at another establishment. While online reviews help gauge cleanliness, the most trustworthy ratings are the grades displayed in restaurants. Dirty tables, leftover food and a shortage of cleaners contribute to uncleanliness, but hiring more workers is often financially challenging for restaurants. Therefore, there is a need to develop a manpower-free solution, such as portable robot vacuum cleaner, which can assist restaurants in maintaining cleanliness. This innovative project aims to benefit various restaurants and simplify table cleaning for workers by using advanced technology for automated cleaning.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

A robot vacuum cleaner, often referred to simply as a robot vacuum or robovac, is a household appliance designed to autonomously clean floors, primarily carpets and hard surfaces, without direct human intervention. It's a type of domestic robot that has become increasingly popular due to its convenience and time-saving benefits.

In Malaysia, seven restaurants in Selayang and Kepong were ordered to close as recently as last month due to rat and cockroach infestations as well as generally dirty conditions. Another video that went viral on social media in July showed a man in Port Dickson discovering maggots in his fried chicken. Following the event, a temporary closure order was issued for the restaurant. Consumers may rely heavily on recommendations found on Google or other review sites, such as TripAdvisor, to tell others about how clean a restaurant is. But in the end, the grades emblazoned on their walls are the only ratings they can genuinely rely on to tell others about a F&B establishment's cleanliness.

These outcomes resulted from a messy table with food scraps left behind by previous patrons. Moreover, one of the reasons for an untidy restaurant is a lack of cleaners to wipe the tables. In the past, the restaurant had to employ a large number of staff to resolve issues. It will be challenging, though, as not all restaurants would be unable to pay salaries and struggle to maintain a large staff at their eatery.

Robot vacuum cleaners can overcome these consequences. It assists individuals by minimizing user intervention, saving time, requiring less physical exertion, and guaranteeing cleaner and healthier living environments.