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**AUTOMATIC CLEANING SYSTEM
FOR CEILING FAN BLADE**

**MUHAMMAD HAFIZ HAKIMI
BIN
ZAIDI**

**DIPLOMA OF ELECTRICAL
ENGINEERING (ELECTRONIC)**

FEBRUARY 2024

ABSTRACT

Ceiling fans are a popular choice for comfort in everyday living areas, but their blades frequently attract dust and debris, resulting in inefficiency and the trouble of manual cleaning. This activity takes up time and spreads dust around the area. It is an issue for anyone who wants to keep their living areas clean and their fans working properly. There is an obvious need for a practical solution that streamlines the fan maintenance process, addresses these concerns in a simple-to-use way, and seamlessly fits into users' daily routines. As a result, the solution provides an innovative automatic cleaning system that uses a clever combination that includes an ultrasonic sensor, DC motor, Arduino Uno, LED lights, and a buzzer. Consider a system in which the ultrasonic sensor detects the level of dust and any obstacles on the fan blades, allowing the DC motor to start the cleaning operation. The Arduino Uno controls the movement of spinning brushes or other cleaning mechanisms. The LED lights give visual feedback on the cleaning process, while the buzzer signals the end of the cleaning cycle. This technology not only simplifies fan maintenance but also improves the user experience with real-time feedback and a hassle-free automatic cleaning process. It is a practical, modern approach that promises to transform how to maintain ceiling fans. The primary objectives of this project are to build a system that successfully removes dust and debris from ceiling fan blades, assuring optimal performance and energy efficiency, and to ensure practical deployment by considering factors such as durability, costs, and component accessibility. To summarise, the invention of an autonomous ceiling fan cleaning system offers a viable solution to the ongoing problem of maintaining fan blades. The project is more than just automating a work; it is about improving places and making them aesthetically pleasing locations by taking an efficient and practical approach to fan maintenance.

ACKNOWLEDGEMENT

I want to take a moment to express my deep appreciation to Allah SWT, whose guidance and blessings have been my constant companions throughout this Final Year Project. This faith has provided me with strength and knowledge, which have served as an anchor.

A sincere thank you to my supervisor, Madam Norbaiti binti Sidik, for her constant support and advice. Her guidance has been helpful, guiding me through difficulties and influencing the direction of this project.

I am grateful to my family. Your constant support, understanding, and encouragement pushed my career. Your tolerance through all of it has meant everything to me. And thank you, friends, for being the pillars of my mental health. Your friendship shared fun, and even shared stress have made this journey not only bearable but also lovely.

This project is more than just the result of individual efforts; it is a collaborative achievement. Each had an important role in making this journey possible and fulfilling. I am very thankful to every one of you for being such an important part of this important chapter in my journey through life.

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

In the modern world, a need for effective solutions to everyday problems has led to the invention of innovative technology. For instance, the automated cleaning system has changed the way people maintain a healthy environment in lots of situations. This automated process not only saves time but also ensures that cleaning operations are precise and consistent.

Cleaning technology plays a role in maintaining an efficient and clean environment in homes, factories, and everywhere else. These technologies were designed to perform a wide range of tasks, from basic cleaning and mopping to more complicated activities. This not only allows people from hard labor but also allows them to concentrate on more innovative and strategic projects.

The application of new technologies greatly improves the potential of cleaning systems. The use of machine learning, artificial intelligence, and robotics technologies enables these systems to adapt to different surfaces, move on their own, and optimize cleaning techniques for optimal efficiency. The relationship between technology and cleaning systems fulfils the changing needs of modern life.

An autonomous cleaning system is built around a complex combination of both software and hardware. The system is meant to perform tasks, assuring complete coverage of the area of focus. Its ability to understand the information in real time allows dynamic improvements to meet all the difficulties and problems encountered throughout the cleaning process.