



**DEVELOPMENT OF CLEAN-UP TAGGING
SYSTEM FOR CHILDREN**

**SYADIYATUL QISTINA BINTI ABDUL MUTALIB
(2016666004)**

**BACHELOR OF MECHANICAL ENGINEERING
(MANUFACTURING) (HONS)**

UNIVERSITI TEKNOLOGI MARA (UiTM)

JULY 2020

“I declared that this thesis is the result of my own work except for the ideas and summaries which I have clarified their sources. The thesis has not been accepted for any degree and is not concurrently submitted in the candidature of any degree.”

Signed :

Date :

Syadiyahatul Qistina Binti Abdul Mutalib

UiTM No: 2016666004

“I declared that I read this thesis and in my point of view this thesis is qualified in term of scope and quality for the purpose of awarding the Bachelor of Engineering Mechanical (Manufacturing) (Honours).”

A handwritten signature in black ink, appearing to be 'Ir. Sheikh Mohd Firdaus Bin Sheikh Abdul Nasir', written over a light blue rectangular background.

Supervisor or Project Advisor

Ir. Sheikh Mohd Firdaus Bin Sheikh Abdul Nasir

Faculty of Mechanical Engineering

Universiti Teknologi MARA (UiTM)

13500 Permatang Pauh

Pulau Pinang

ACKNOWLEDGEMENT

Alhamdulillah I got to finish my Final Year Project with His blessings in a year. On this opportunity, I would like to express my sincere gratitude to my supervisor, Ir. Sheikh Mohd Firdaus Bin Sheikh Abdul Nasir for guiding me throughout this project. Other than that, thank you to both panels, Dr Mohd Rozaiman bin Aziz and also Madam Muthmainah binti Mohd Noor for their comments in improving my project. Next, thank you to my super mother, Bibi Aisah bt Jamada Ali for her endless support; emotionally, mentally, and also financially. Without her, I am no one. Also, special thanks to my friend, Nurul Atikah bt Abd Halim, for helping me with this project and for always having my back. I would also like to thank my family and friends; my sisters (Najwa and Nazurah), brothers(Ashraf and Akmal), cousins, Umaira, Adilah, Antasha, Nasywa, Ayra, Athira, Dyana, and anyone I have not mentioned, for their support and encouragement for me to complete this project. You know who you are. You all are amazing. And to my father, Abdul Mutalib bin Ali, this degree is for you.

ABSTRACT

This project focus on developing a clean-up tagging system using RFID technology as an assistive technology for children age 3 years old to teach children the concept of recycling in order to reduce the waste manegement problems. A few processes are done to develop the RFID system using Arduino Uno to be installed to the recycle bins, which uses three RFID readers to be paired with passive RFID tags. The detection range of the RFID reader used in this project has been proven to be 4.0 cm, while the most suitable position of the RFID reader in the recycle bin is Position 1 (top). Since the limitation of this project is time constraint, only three children are been tested in order to test the effectiveness. At the end of the project, it is shown that the clean-up tagging system do help children understand recycling system better.