

UNIVERSITI TEKNOLOGI MARA

**DEVELOPMENT OF INNOVATIVE
PORTABLE WASHING MACHINE**

**ANNA JASMINE BINTI
HARIULNIZAM**

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ABSTRACT

Washing machines have become a staple household item for decades but as for the average college student, they are not able to bring their own washing machines, so problems arise from doing their laundry by hand such as dripping clothes and feeling exhausted. Hence, the aim of this project is to develop a portable washing machine that students can own and operate in their own time. This will be achieved through manufacturing processes such as welding, sheet metal bending and other methods which will be explored throughout this report. This will hopefully result in a better quality of life for college students and potentially others that might find this prototype useful. To conclude, this project aims to encapsulate the meaning of convenience, mobility, and cost-effective in the prototype which will also be referred to as ALENTA.

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TABLE OF CONTENTS

	Page
CONFIRMATION BY SUPERVISOR	ii
AUTHOR'S DECLARATION	iii
ABSTRACT	iv
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	xi
CHAPTER ONE : INTRODUCTION	1
1.1 Background of Study	1
1.2 Problem Statement	1
1.3 Objectives	3
1.4 Scope of Study	3
1.5 Significance of Study	4
CHAPTER TWO : LITERATURE REVIEW	6
2.1 Benchmarking/Comparison with Available Products	6
2.2 Related Manufacturing Process	8
2.3 Sustainability/Ergonomic Related Items	10
2.4 Patent and Intellectual Properties	10
2.5 Summary of Literature	13
CHAPTER THREE : METHODOLOGY	15
3.1 Overall Process Flow	15
3.2 Detail Drawing	17
3.3 Engineering Calculation and Analysis	19
3.4 Bill of Materials	26

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Before the 1800s, washing machines to put into simple words were unheard of [1]. However, this piece of machinery has made its way into being the most used household appliance [2]. Back in the late 18th century, washing machines have already been put into existence but most people were still able to live on without it. Although the washing machine's existence persevered, by 1937, a subsidiary of Avco, Bendix Home Appliances promoted its first automatic washing machine [3]. With washing machines being automated, it became an appliance that people sought to keep innovating. However, there is an ongoing trend where people are downsizing as living expenses are becoming higher for the average person on minimum wage to cover [4]. The most common solution is to go to a doobby and use its services but those might not be so hygienic especially after the world has gone through a pandemic. All washing machines, even a personal one can become breeding grounds for harmful bacteria although it is exposed to water and detergent, two cleaning substances [5]. Therefore, the goal for this project is to introduce a portable washing machine that consumers will also be able to maintain by themselves with a manual. This prototype will be referred to as ALENTA.

1.2 Problem Statement

Around most college dormitories, wet clothes from the upper floors could sometimes be seen dripping on the lower floors' clothes, making them damp and taking longer to dry than usual. This statement can be backed by the statistics based off a survey that was done for this project.