TABLE OF CONTENTS

Chapter	Title	Page no
	ABSTRACT	V
	LIST OF FIGURES	VIII
	LIST OF TABLES	IX
	LIST OF ABBREVIATION	X
1	INTRODUCTION	1
	1.1 Introduction	1
	1.2 Semi automation	2
	1.3 Cleanliness	3
	1.4 Types of floors	4
	1.4.1 Wooden floor	4
	1.4.2 Stone floor	5
	1.5 Motor	6
	1.6 Types of motor	6
	1.6.1 Stepper motor	6
	1.6.2 High speed motor	7
	1.7 Sweeper brush	8
	1.8 Bearings	9
	1.8.1 Characteristics of bearings	10
	1.9 Arduino micro controller	11
	1.10 Motor driver	13
2	LITERATURE SURVEY	14
	2.1 Literature review	14
	2.2 Literature Summary	20
3	METHODOLOGY	22
	3.1 Flow Chart	22
	3.2 Problem Identification	23
	3.3 Objectives	23

Chapter	Title	Page no
	3.4 General Arrangement	23
	3.4.1 Sweeper Brush	24
	3.4.2 High Speed DC motor	25
	3.4.3 Frame	26
	3.4.4 Dust pan	27
	3.4.5 Long brush	28
	3.4.6 Limit Switch	29
	3.4.7 Rubber Tyre	30
	3.4.8 Fiber Frame	31
	3.4.9 Gear Motor	32
	3.5 Fabrication Process	33
4	DESIGN CALCULATION	37
	4.1 Design Calculation	37
	4.1.1 High Speed Motor Specification	37
	4.1.2 Gear Motor Specification	37
	4.1.3 Design of shaft	38
	4.2 Detailed Engineering	40
5	BILL OF MATERIALS	41
6	CONCLUSION	43
	REFERENCES	44
	PHOTOGRAPHY	46
	PATENT DOCUMENT	47

LIST OF FIGURES

Figure no	Description	Page no
1.1	Cleaning	2
1.2	Wooden floor	5
1.3	Stone floor	5
1.4	Stepper motor	7
1.5	High speed motor	8
1.6	Sweeper Brush	9
1.7	Bearing	11
1.8	Arduino microcontroller	12
1.9	Motor Driver	13
3.1	Flow chart	22
3.2	Sweeper brush	24
3.3	High speed motor	25
3.4	Frame	26
3.5	Dust pan	27
3.6	Long brush	28
3.7	Limit Switches	29
3.8	Rubber Tyre	31
3.9	Gear motor	32
3.10	Fabrication Process	33

LIST OF TABLES

Table no	Description	Page no
3.1	Bill of materials	41

LIST OF ABBREVIATION

S.no	Description	Abbreviation
1	DC	Direct current
2	Kg-mm	Kilogram millimeter
3	N-mm	Newton millimeter
4	N/mm	Newton per millimeter