

# TABLE OF CONTENTS

Title	Page No
<b>ACKNOWLEDGEMENT</b>	<b>i</b>
<b>ABSTRACT</b>	<b>ii</b>
<b>COMPANY PROFILE</b>	<b>iii</b>
<b>LIST OF FIGURES</b>	<b>vi</b>
<b>LIST OF TABLES</b>	<b>vii</b>
<b>CHAPTERS</b>	
1.0 Introduction	1
1.1 Project Details	1
1.2 Purpose	2
1.3 Scope	2
1.4 Objective	2
1.5 Technology and Literature Review	3
1.5.1 Technology	3
1.5.2 Literature	3
2.0 Project Management	5
2.1 Feasibility Study	5
2.1.1 Technical feasibility	5
2.1.2 Operational feasibility	5
2.1.3 Economic feasibility	6
2.1.4 Time schedule feasibility	6
2.2 Project Planning	6
2.2.1 Project Development Approach and Justification	6
2.2.2 Project Plan	6
2.2.3 Milestones and Deliverables	8
2.2.4 Roles and Responsibilities	8
2.2.5 Group Dependencies	9
2.3 Project Scheduling	10
Project Scheduling chart	10
3.0 System Requirements Study	11
3.1 Study of Current System	11
3.2 Problems and Weaknesses of Current System	11
3.3 User Characteristics	12
3.4 Hardware and Software Requirements	12
3.4.1 Hardware Requirements	12
3.4.2 Software Requirements	12
3.5 Constraints	12
3.5.1 Hardware Limitations	12
3.5.2 Interfaces to Other Applications	12

3.5.3	Higher Order Language Requirements	13
3.5.4	Reliability Requirements	13
3.5.5	Criticality of the Application	13
3.5.6	Safety and Security Consideration	13
3.6	Assumptions and Dependencies	13
4.0	System Analysis	14
4.1	Requirements of New System (SRS)	14
4.1.1	System Requirements	14
4.2	Features Of New System	16
5.0	System Architecture	17
5.1	System Architecture Design	17
5.1.1	Type of components required and used	17
5.1.2	System Architecture	19
5.1.3	Control Theory	30
6.0	Implementation Planning	31
6.1	Implementation Environment	31
6.1.1	Microcontroller	31
6.1.2	Distributed CPU v/s Single CPU architecture	31
6.1.3	Language Used and Why?	32
6.1.4	Sensors	32
6.1.5	Motors	32
6.1.6	Battery	32
6.2	Program/Modules Specification	36
6.3	Coding Standards	38
7.0	Testing	40
7.1	Testing Plan	40
7.2	Testing Strategy	41
7.3	Testing Methods	42
7.4	Test Cases	43
8.0	User Manual	47
9.0	Limitation and Future Enhancement	52
9.1	Limitations	52
9.2	Enhancements	53
10.0	Conclusion and Discussion	57
10.1	Conclusions	57
10.2	Discussion	57
10.2.1	Self Analysis of Project Viabilities	57
10.2.2	Problem Encountered and Possible Solutions	57
10.2.3	Summary of Project work	58

<b>APPENDIX C</b>	<b>59</b>
<b>REFERENCES</b>	<b>60</b>
<b>EXPERIENCE</b>	<b>61</b>