
BUSITEMA UNIVERSITY

FACULTY OF ENGINEERING

DEPARTMENT OF COMPUTER ENGINEERING

FINAL YEAR PROJECT PROPOSAL REPORT

AUTOMATIC ROBOTIC SEED SOWER

BY

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**A PROJECT REPORT SUBMITTED TO THE DEPARTMENT OF COMPUTER
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DECLARATION

I **MUJUZI RAMUZY** do hereby declare that this project report is original and not been submitted for any other degree award to any other University before.

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APPROVAL

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LIST OF ACRONYMS

RF	Radio Frequency.
ARSS	Automatic Robotic Seed Sower.
IR	Infra-Red.
TX	Transmitter.
RX	Receiver.
DC	Direct Current
MCU	Microcontroller Unit
IDE	Integrated development Environment
LED	Lighting Emitting Diode
LCD	Liquid Crystal Display

LIST OF FIGURES

Figure 1 Hand held seeder	19
Figure 2 Block diagram 1	24
Figure 3 Dataflow diagram	30
Figure 4 Main circuit diagram	31
Figure 5 Block diagram 2	33
Figure 6 Atmega 328p-pu microcontroller.	34
Figure 7 DC motors	35
Figure 8 servo motor	35
Figure 9 Relay switch	36
Figure 10 voltage regulator	36
Figure 11 LCD	37
Figure 12 Resistors	38
Figure 13 capacitors	38
Figure 14 Transistor	39
Figure 15 Solar panel	40
Figure 16 LED	41
Figure 17 Diode	42
Figure 18 Top view of ARSS.....	42
Figure 19 Side view of ARSS.....	43
Figure 20 Top view of ARSS before fully mounted.....	43
Figure 21 ARSS when mounting the solar panel.....	43
Figure 22 Top view of the digger	44
Figure 23 Seed bin holding servo motor.....	45
Figure 24 Top view of right hand wheel motor	46
Figure 25 Side view of the digger motor	46
Figure 26 Appendix 1- Power supply circuit diagram.....	58
Figure 27 Appendix 2- Motor circuit diagram.....	59

ABSTRACT

An automatic robotic seed sower is the subject system. This system creates furrows, sows seeds into these furrows at evenly spaced intervals and covers these holes/furrows. This system improves the technology of the existing metering systems in the attempt to reduce or completely curb down the high labour expenses spent on achieving fast seed sowing.

In gathering information, consultations and document reviews concerning the existing seed sowing systems were carried out. It was from the analysis of this gathered information that the developing of the Automatic Robotic Seed Sower.

I programmed this system using Arduino IDE software.

The components of the system were designed prior to system testing using a bread board after which they were soldered on a copper board. The functionality of the system was under the control of the code that was written on the microcontroller.

The system was finally subjected to system testing to validate and verify its working by me and some of my classmates before presenting to the Busitema University Computer engineering panel.

TABLE OF CONTENTS

DECLARATION	2
APPROVAL	3
LIST OF ACRONYMS	4
LIST OF FIGURES	5
ABSTRACT.....	6
TABLE OF CONTENTS.....	7
CHAPTER ONE.....	10
INTRODUCTION	10
1.1 BACKGROUND	10
1.2 PROBLEM STATEMENT.....	12
1.3 OBJECTIVES.....	12
1.3.1 MAIN OBJECTIVE.....	12
1.3.2 SPECIFIC OBJECTIVES.....	12
1.4 JUSTIFICATION/SIGNIFICANCE	13
1.5 SCOPE.....	13
1.5.1 TECHNICAL SCOPE	13
1.5.2 TIME SCOPE	13
1.5.3 GEOGRAPHICAL SCOPE.....	13
CHAPTER TWO	14
LITERATURE REVIEW	14
2.0 INTRODUCTION	14
2.1 Key Terms and concepts.....	14
2.1.1 CROP FARMING.....	14
2.1.2 SEEDS	14
2.1.3 SEED SOWING.....	15
2.2 RELATED SYSTEMS	17
2.2.1 SEEDER FOR PLANTING SEEDS AT PRECISE INTERVALS.....	17
2.2.2 AUTOMATICALLY CONTROLLED SEED PLANTER.....	17
2.2.3 ELECTRONICALLY CONTROLLED PNEUMATIC SEEDER.....	18
2.2.4 HAND GARDEN SEEDER	18

2.2.5 HAND HELD SEEDER	19
2.3 DRAWBACKS OF EXISTING SYSTEMS	20
CHAPTER THREE	21
METHODOLOGY	21
3.0 Introduction.....	21
3.1 Requirements Elicitation.....	21
3.2 Data Collection	21
3.3 Data Analysis	22
3.4 System Design	22
3.4.1 Hardware.....	22
3.4.2 Software	23
3.4.3 Block diagram of the system.....	24
3.4.4 System Development Tools	25
3.5 System Development	25
3.6 Testing and Validation.....	26
3.6.1 Unit testing.....	26
3.6.2 Integration testing	26
3.6.3 System/Front-end testing	26
CHAPTER FOUR.....	27
SYSTEM ANALYSIS AND DESIGN.....	27
4.0 Introduction.....	27
4.1 Functional analysis.....	27
4.2 Requirement analysis	27
4.3 System Design	28
CHAPTER FIVE	48
IMPLEMENTATION AND TESTING	48
5.0 INTRODUCTION	48
5.1 DEVELOPMENT PLATFORMS	48
5.2 CODE DESIGNS.....	48
5.3 SYSTEM TESTING.....	51
5.4 Validation and Verification.....	52

5.5 System evaluation	53
CHAPTER SIX.....	53
DISCUSSION AND RECOMMENDATION	53
6.0 INTRODUCTION	53
6.1 SUMMARY OF WORK DONE	54
6.2 CRITICAL ANALYSIS/APPRAISAL OF THE WORK	54
6.3 RECOMMENDATIONS.....	54
6.4 CONCLUSION.....	55
References.....	55
APPENDICES	58
Circuit diagrams.....	58

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

In the past, agriculture in India has played and will continue to play a dominant role in the growth of Indian economy in the foreseeable future. It represents the largest sector producing to around 28 percent of the GDP, is the largest employer providing more than 60 percent of the jobs and is the prime arbiter of living standards for seventy percent of India's population in the rural areas. These factors together with a strong determination to achieve self-sufficiency in food grains production have ensured a high priority for agriculture sector in the successive development plans of the country. [1]. The combined factors of increased international competition in the agricultural sector, advances in computer technology, and the rapidly decreasing costs of new technology have now brought us to a time when the widespread of intelligent machines in agriculture is imminent. [2]

Agriculture is the backbone of Uganda's economy mostly. Agriculture contributes highly to Uganda's economy since it employs about 80% of the labor force and also accounts for over 90% of export earnings. Food crops (plantains, cassava, sweet potatoes, millet, sorghum, maize, beans, groundnuts and sesame) represent 60% of agricultural GDP, livestock 19% and export crops 12%. Uganda's agriculture is characterized by the predominance of small-scale traditional mode of farming. Economical crop farming in Uganda involves the exporting of crops like coffee, maize, beans etc. and all start from sowing of the seeds into the ground and ensuring that they grow till they are harvested at the right time. Crop farming in Uganda is done on both small and large scale depending on what the farmer wants to grow. The first step to cropping is planting the seeds into the desired land of fertile soils and this activity usually takes long depending on the size of the field.

To keep agriculture on the cutting edge, many farmers now implement a variety of technologies e.g. precision agriculture, remote sensing, computers, the internet, specialized software, global positioning, drip irrigation and bio-tech. Agricultural advancements also appear in much smaller form's such as seeds. For farmers to optimize agricultural production they must plant high quality,

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