

**FACULTY OF ENGINEERING**

**DEPARTMENT OF COMPUTER ENGINEERING**

**FINAL YEAR PROJECT REPORT**

**TITLE: REMOTELY CONTROLLED MONKEY REPELLENT SYSTEM.**

By

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## DECLARATION

I, OJARA SYRUS, do hereby declare that this Project report is my original work and has never been published and/or submitted for any other degree award to any other University or institution of higher learning.

Signed ..... 

Date 26<sup>th</sup>/ 01/2022

## APPROVAL

This is to certify that the project report under title “**Remotely Controlled Monkey Repellent System**” has been written under my supervision and is now ready for examination.

Signature.....

Date...27/01/2023

**PROFESSOR SEMWOGERERE TWAIBU**

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## **DEDICATION**

I dedicate this report to my beloved dad Mr. Ojambo Gabriel, my siblings; Peter, Philly, Passy, Nelly and Peace and my course mates.

Thank you all!

## **ACKNOWLEDGEMENTS**

I thank the almighty God for his care and providence and for guiding me throughout my education journey.

I extend my sincere and heartfelt thanks to my esteemed **Supervisor, Professor Twaibu Semwogerere** for providing me with the right guidance and advice at the crucial time and for showing me the right way of handling things. I would like to thank the other faculty and department members for their guidance.

Last but not the least, I would like to thank my family and friends for the support and encouragement they have given me during the course of this work.

## **ABSTRACT**

In may 2020, Uganda Bureau of Statics (UBOS) estimated that about 70% of Uganda's population is employed in agriculture. Monkeys however, are a big threat to most of these farmers.

This report therefore, presents a remotely controlled system that will solve the vice.

The system detects motion of bodies that emit infrared radiations in field, captures images and send them with a **notification** to a remote device, the **in-charge** (person) can see what triggered motion from the images received and he/she then turn **ON** button that switches on sound (that scare monkeys) through the blynk application. If motion is detected and its **night**, the **bulb** first turns **ON**. The system continuously checks for any motion around the field.

The system consists of both hardware and software. The hardware part is designed and programmed using the Arduino technology. It detects motion and light, and it send a notification to remote device, it plays audio if turned on by the in-charge.

I recommend further improvement by using strong cameras that can captures distant objects and computer vision technology to minimize human intervention.

## **LIST OF ACRONYMS**

ICT	Information and communications technology
UBOS	Uganda Bureau of Statics
IDE	Integrated Development Environment
PCB	Printed Circuit Board
OS	Operating system.
IOT	Internet of things
Wi-Fi	Wireless Fidelity.
LDR	Light Dependent Resistor
HMI	human machine interface
Esp	Espressif Systems
SD	Secure Digital
Mp3	MPEG Audio Layer 3
IR	Infrared Radiation sensor

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## CHAPTER ONE: INTRODUCTION

### 1.0 Introduction

This chapter includes the background, the problem statement, the objectives, the justification and the scope.

### 1.1 Background

The Uganda Bureau of Statics (UBOS) estimated that about 70% of Uganda's working population is employed in agriculture. Uganda produces a wide range of agricultural products including: sugar, cotton, tobacco, corn, beans, cassava, sweet potatoes, cassava, millet, sorghum, groundnuts and fruits [1]

Monkeys however are a big threat to most of these farmers in Uganda [2] [3], they can damage crops by eating the crops, fruits etc. Various types of devices and installations have been used in the past in an attempt to scare monkeys away from crops.

It has been proposed, for example, to scare monkeys from a field through the use of stationary devices, such as scarecrows. It has also been proposed to scare monkeys from a field through the use of an **electric fence** in extreme circumstances and this however deadly.

Many other methods have been proposed and used such as; Fencing the shamba with nets but it is expensive [4]. **Loud noise** can be produced by acoustic systems such as recordings of distress and warning calls, tying of a **dog** in the protected premises so that it **barks** the whole day, Scattering **toy snakes** around the garden, **Water-pistols** [5] etc.

The effectiveness of these devices, however, decreases after a short period of time because the monkeys become accustomed to the presence of the devices and lose their fear thereof.

Therefore, this report presents a system that repels monkeys and overcomes the disadvantages of the prior art.

The water proof aspect should be handled so that the device can, it is not recommended to use in a heavy downpour. The component with the highest risk of damage from moisture is the circuit board that controls the sound system. However, the entire device can handle light rain, foggy, hot and windy conditions.

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