



**BUSITEMA
UNIVERSITY**
Pursuing Excellence

FACULTY OF ENGINEERING

DEPARTMENT OF TEXTILE AND GINNING ENGINEERING

**FABRIC SHADE IDENTIFICATION SYSTEM USING A RULE
BASED APPROACH**

BY

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**A FINAL YEAR PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE AWARD OF A BACHELOR OF SCIENCE IN
TEXTILE ENGINEERING DEGREE OF BUSITEMA UNIVERSITY**

MAY, 2017

DECLARATION

I BWESIGYE EDWARD Reg. No BU/UG/2013/87 hereby declare that this project report is my original work and that the information contained in this report is out of my hard work and research, except where explicit citation has been made and it has not been presented to any Institution of higher learning for any academic award.

Signature 

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APPROVAL

This is to certify that the project under the title “*dyed fabric shade identification system*” has been done under careful supervision and is now ready for examination.

Supervisors;

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Date:

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Date:

ACKNOWLEDGEMENT

I would love to extend my gratitude to a number of people who have managed to contribute towards my education.

I would like to thank the almighty God for giving me the strength to do this final year project.

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I also acknowledge the love and care of my family and loved ones, for all the financial, moral, Spiritual, and physical support.

Lastly, to all my course mates with whom I study with at Busitema University, thank you for your team cooperation.

DEDICATION

I dedicate this report to my family members who have been there for me in the times when I needed them most especially my mother NUWABIINE PASIKAZIA and my father TIBENDERANA DEMENTI.

I also dedicate it to my well-wishers for your support morally, materially and academically and all my classmates for the unity and togetherness in this period we have spent together here at campus.

ABSTRACT

According to specific objective one, the user friendly graphical user interface was developed which is simple to use and understand.

In line with the specific objective two, I have been able to develop a system that identifies the fabric shades in the shortest time possible with this ever increasing technology level. So far I can say that my system can stand an acceptance level since it has been able to do exactly what I wanted it to do.

My system should be embraced by every stake holder who is looking forward to producing the shade required by the customer in the shortest time with minimal waste.

A rule based approach method for identification of color shades has been able to develop a system that identifies different fabric shades in the RGB model.

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LIST OF ACRONYMS

| | |
|-------------|---|
| GUI..... | graphical user interface |
| SRNL..... | Southern Range Nyanza Limited |
| CCD..... | charged computer device |
| COSMOS..... | complementary metal oxide semiconductor |

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CHAPTER ONE

INTRODUCTION

This chapter consists of the background of the study, problem statement, and objectives of the study, justification, significance and scope of the study.

1.0. BACK GROUND.

Dyeing is the process of adding color to textile products like fibers, yarns, and fabrics. Dyeing is normally done in a special solution containing dyes and particular chemical material. After dyeing, dye molecules have uncut chemical bond with fiber molecules. The temperature and time controlling are two key factors in dyeing.

There is a general consensus among the researchers that dyeing is as old as textile industry itself. According to the *Greek mythology* "Ariadne" the goddess for spinning and weaving is daughter of "Idon" the dyer of wool. Commercial dyeing is known to be one of the most ancient technical arts (*Neuberger 1930, p. 186*). The word 'baptein' (*one of the sources from which the modern word 'baptism' is derived, Gr. baptismos*) was used by the Greeks for the immersion of fibers or cloth in the dye solution (*Brill 1956, p. 131*). Dyeing is an ancient art which predates written records. It was practiced during the Bronze Age in Europe. Primitive dyeing techniques included sticking plants to fabric or rubbing crushed pigments into cloth. The methods became more sophisticated with time and techniques using natural dyes from crushed fruits, berries and other plants, which were boiled into the fabric and gave light and water fastness (resistance), were developed.

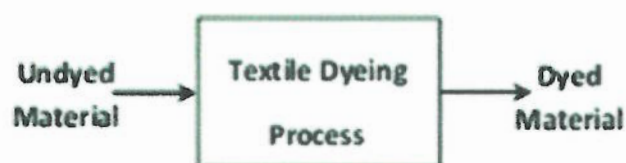


Figure 1: Representation of the dyeing process.

Today, dyeing is a complex, specialised science. Nearly all dyestuffs are now produced from synthetic compounds. This means that costs have been greatly reduced and certain application and wear characteristics have been greatly enhanced. But many practitioners of the craft of natural

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