

Universiti Teknologi MARA

**Ordering Of Image Processing Techniques to Enhance Wood Grain
Images**

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Thesis submitted in fulfillment of the request for
Bachelor of Computer Science (Hons)
Faculty of Information Technology and Quantitative Science

November 2008

ACKNOWLEDGEMENT

Alhamdulillah, praise to Allah for His Almighty and Graciousness. With His greatest blessings, I was able to finish this written report within the time duration given.

I would like to express a very special gratitude and thankfulness to my supervisor Prof. Dr Hajah Zainab Abu Bakar who is giving me reliance and shrewd guidance that have profited me very much. She also gave lots of support to me in my hard time to journey through this knowledge quest

My special appreciation and thanks for my subject lecturer, Tuan Syed Ahmad Aljunid for his encouragement and guidelines through this semester and the rest of my previous lecturers at faculty of information technology and quantitative science.

To my friends in the faculty, who are simply too numerous to indicate, thanks for your time, understanding, buttress and always give me motivation and support. May Allah will reciprocate you for all those kindness.

Last but not least, to my parents and my siblings, I would like to forward my obliged to them for their continuous support during my study period, their patience and benevolence.

Thank you.

ABSTRACT

Wood is the most God's precious gift to mankind, remains to this day a necessity to the comfort life, and for many livelihood itself. The complexity of wood grain is the main reason why is it so hard to do wood classification. Therefore, the images of wood grain needed to be enhancing for further process. In order to enhance the image, some image processing techniques be used. Good ordering of image processing techniques will ensure the end result is benefit to be used for classification or others. The objective of this study is to study the three image processing techniques which are blurring technique, brighten technique and sharpen technique as well as the best ordering of those techniques.

Keyword:, Blur Technique, Brighten Technique, Sharpen Technique.

TABLE OF CONTENTS

CONTENT	PAGE
DECLARATION	iii
APPROVAL	iv
ACKNOWLEDGEMET	v
ABSTRACT	vi
LIST OF TABLE.....	x
LIST OF ABBREVIATION	xii
LIST OF FIGURES.....	xiii
CHAPTER 1.....	1
1.0 Introduction	1
1.1 Problem Statement.....	3
1.2 Research purpose	3
1.3 Objective.....	3
1.4 Scope or limitation	3
1.5 Technique(s) employed	4
1.6 Significance Study.....	4
1.7 Hardware and Software Requirements.....	4

CHAPTER 1

INTRODUCTION

1.0 Introduction

Wood is God's precious gift to mankind, remains to this day a necessity to the comfort of life, and for many livelihood itself. It became the primary material from which many high-demand products are made. It is used as a structural building material; as a finishing building material as in doors, flooring and windows; as a packaging material; and as a material for making finished products like household furniture and cabinets. Since wood is a popular and useful material, it is important that enthusiasts and professionals be able to distinguish the wood of one species from another.

In Malaysia, there are on record at least 3000 species of trees in the forest. The timbers that are known in the international market, totaling 408 species, have been introduced through the Malaysian Grading Rule (MGR). In 1984 edition of the MGR, the timbers are divided into 100 timber groups comprising the commercial timbers in Malaysia and they are classified into four categories which is Heavy Hardwoods (HHW), Medium Hardwoods (MHW), Light Hardwoods (LHW), and Softwood.

In order to be able to distinguish the wood of one species from another, the structural of wood provide basis for classification and identification of wood. However, there are some certain physical features of wood, can be used for identification of both hardwood and softwood. Some examples for the features are color, weight or density, hardness, texture, grain, figure and smell.

Many of researches have done their study to identify the type of wood. Several techniques or algorithm have been proposed to detect the type of wood using