

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION	PAGE NO.
1.1. Motivation	1
1.2. Problem Definition	2
1.3. Challenge	2
1.4. Overview of CBIR technique	3
1.5. Field of Application	3
1.6. Organization of Thesis	4
CHAPTER 2: CONTENT BASED IMAGE RETRIEVAL	6
2.1 Literature survey	6
2.1.1 Supervised Learning Techniques	8
2.1.2 Unsupervised Learning Techniques	8
2.1.3 Relevance Feedback Approaches	8
2.2 Content comparison techniques	10
2.2.1 Color retrieval	10
2.2.2 Texture retrieval	10
2.3 Similarity/Distance measures	11
2.3.1 Minkowski form distance	11
2.3.2 Mahalanobis distance	12
2.3.3 K-mean classifier	13
2.4 Query techniques	13
CHAPTER 3: COLOR REPRESENTATION	15
3.1 Color Space	15
3.2 Color Conversion	17
3.3 Color Quantization	17
3.4 Image Representation	18
3.4.1 Intensity Image	18
3.4.2 Binary Image	19

3.4.3 Index Image	19
3.4.4 RGB image	19
CHAPTER 4: TEXTURE REPRESENTATION	20
4.1 Texture Feature	20
4.1.1 Tamura Feature	21
4.1.2 Wavelet Transform	21
4.1.3 Local Binary Pattern	22
4.2 image descriptor	28
4.3 matching	28
4.3.1 Minimum distance classifiers	28
CHAPTER 5: EXPERIMENT AND RESULTS	30
5.1 Database	30
5.2 Quadratic Distance Metric	
5.2.1 Color Extraction & Matching	31
5.3 Texture Features extraction	32
5.3.1 Pre-processing	32
5.3.2 LBP Algorithm	33
5.3.3 Similarity measurement for texture	33
5.3.4 K-Means Clustering algorithm	34
5.4 Evaluation metric	34
5.5 Results	35
CHAPTER 6: CONCLUSION AND FUTURE WORK	37
REFERENCES	38
APPENDIX	43