



**De La Salle University – Dasmariñas**  
College of Science and Computer Studies  
**COMPUTER STUDIES DEPARTMENT**  
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## **“Leaf Classifier”**

### **A Leaf Identification System**

Presented to

The Faculty of the Computer Studies Department  
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**BACHELOR OF SCIENCE IN COMPUTER SCIENCE**

by

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## **ABSTRACT**

The Leaf Classifier is a Mobile Leaf Identification System that can identify genus and species of 15 selected leaves found within the university. Pre-processing, Kmeans Clustering, Image Segmentation, and Feature Extraction are the four main processes applied to develop the system. Minimum Distance Classifier is used to compute the distance between the unknown pattern vector and each prototype. The unknown is then classified to the class whose prototype it is closest to. Leaf Classifier is designed to help non-botanists to recognize leaves using its image. The system processes an image and calculates its features and matches it to the closest prototype in the dataset. The system will display closest matches.

The evaluation of accuracy shows that 57.33% of the time the correct identification lies on top while 86.6% percent of the time the correct identification lies within top five. The false identification rate is 13.4%.

**Key Terms:** Leaf Identification System, Kmeans Clustering, Image Segmentation, Feature Extraction, Minimum Distance Classifier

## TABLE OF CONTENTS

### Preliminaries

Abstract	i
Certificate of Revision	ii
Approval Sheet	iii
Acknowledgment	iv

### CHAPTER 1 INRODUCTION

1.1 Background of the Study	1
1.2 Purpose and Description	4
1.3 Objectives	5
1.3.1 General Objective	5
1.3.2 Specific Objectives	5
1.1 Scope and Limitations	5
1.1 Significance of the Study	6

## **CHAPTER 2 RELATED LITERATURE AND STUDIES**

2.1 Leafsnap	8
2.2 TreeBook	9
2.3 Data Mining	9
2.4 Botany Buddy	10
2.5 License Plate Recognition System Designed for Parking Lot Access Control	11
2.6 Image Processing: Some Applications in Underwater Imagery	12
2.7 Pest Detection and Extraction Using Image Processing	13
2.8 Tree Leaf Identification athrough Digital Image Processing	14

## **CHAPTER 3 THEORETICAL FRAMEWORK**

3.1 Research Paradigm	15
3.2 Concept of the Study	18
3.3 Conceptual Operation	24
3.4 Conceptual Process	25

3.4.1 Installation Plan	25
3.4.2 Software and Hardware Installation	25
3.5 Operational Definition of Terms	26
<b>CHAPTER 4 DEVELOPMENT OF THE PROJECT</b>	
4.1 Project Development	28
4.1.1 Screenshots	29
4.2 Development Planning	34
4.2.1 Software Suited for the Development	34
4.2.2 Analysis Requirement Needed	35
4.2.3 Language Used	35
4.2.4 Library Used	36
4.3 Evaluation of the Study	37
4.3.1 Respondents of the study	37
4.3.2 Research Instruments and Techniques	37

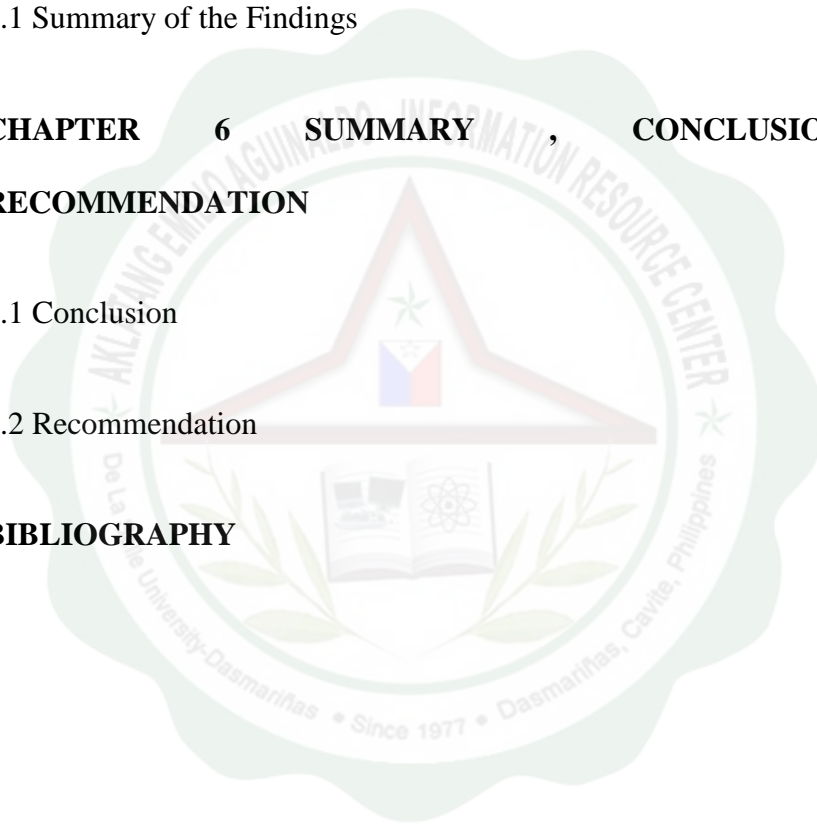
4.3.3 Data gathering procedure	38
4.3.4 Statistical treatment of data	38

## **CHAPTER 5 FINDINGS OF THE STUDY**

5.1 Summary of the Findings	40
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## **CHAPTER 6 SUMMARY , CONCLUSION AND RECOMMENDATION**

6.1 Conclusion	52
6.2 Recommendation	52
<b>BIBLIOGRAPHY</b>	56



## LIST OF FIGURES

Figure 1.1 Hierarchical Chart	3
Figure 3.1 Rapid Application Development Model	15
Figure 3.2.1 IPO Diagram	18
Figure 3.2.2 Original Image	19
Figure 3.2.3 Converted to LAB Image	19
Figure 3.2.4 Kmeans Clustered LAB Image	20
Figure 3.2.5 Image Segmentation	21
Figure 3.3 HIPO Diagrams	24
Figure 4.1.1 Main Menu	28
Figure 4.1.2 Selection Image	29
Figure 4.1.3 Image Preview	30

Figure 4.1.4 Results	31
Figure 4.1.5 Gallery	32
Figure 4.1.6 Leaf Gallery Section	33

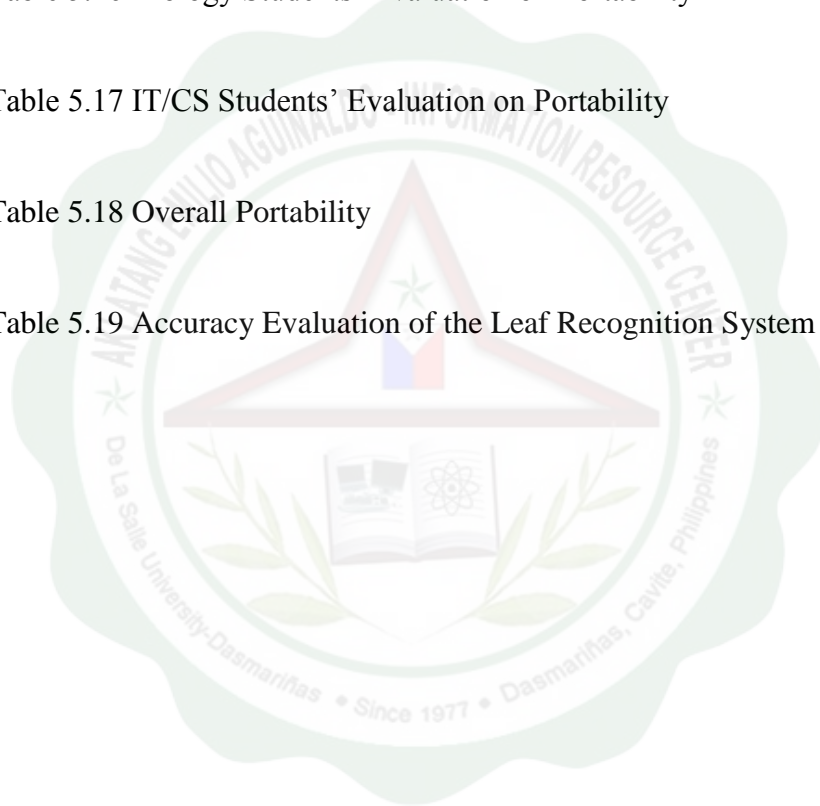




## LIST OF TABLES

Table 3.4.2 Software and Hardware Requirements	25
Table 5.1 Biology Students' Evaluation on Functionality	40
Table 5.2 IT/CS Students' Evaluation on Functionality	41
Table 5.3 Overall Functionality	41
Table 5.4 Biology Students' Evaluation on Reliability	42
Table 5.5 IT/CS Students' Evaluation on Reliability	43
Table 5.6 Overall Reliability	43
Table 5.7 Biology Students' Evaluation on Usability	44
Table 5.8 IT/CS Students' Evaluation on Usability	45
Table 5.9 Overall Usability	46
Table 5.10 Biology Students' Evaluation on Efficiency	47
Table 5.11 IT/CS Students' Evaluation on Efficiency	47
Table 5.12 Overall Efficiency	48

Table 5.13 Biology Students' Evaluation on Maintainability	48
Table 5.14 IT/CS Students' Evaluation on Maintainability	49
Table 5.15 Overall Maintainability	49
Table 5.16 Biology Students' Evaluation on Portability	49
Table 5.17 IT/CS Students' Evaluation on Portability	50
Table 5.18 Overall Portability	50
Table 5.19 Accuracy Evaluation of the Leaf Recognition System	51



## LIST OF APPENDICES

APPENDIX A Questionnaire for Software Evaluation

54

