Universiti Teknologi MARA

Rabbit Disease Diagnosis Using Fuzzy Expert System

Wan Nur Kamalia Binti Tun Mohammad

Report submitted in fulfillment of the requirements
for Bachelor of Information Technology (Hons.)
Intelligent System Engineering
Faculty of Computer and Mathematical Sciences

AUGUST 2015

ACKNOWLEDGEMENT

In a name of ALLAH, the Most Gracious and Most Merciful.

Foremost, I thank Allah SWT - the Most Compassionate, the Most Merciful and Most Gracious for endowing me with complete health, strengths, opportunities and loves in completion of this final year project report.

Alhamdulillah, praises and thanks to Allah because of His Almighty andHis utmost blessings, I was able to finish this research within the time duration given. Firstly, my special thanks goes to my supervisor, Pn Norzaidah Bt Md Noh.

Special appreciation also goes to my parents, Tun Mohammad B Tun Sulong and

Last but not least, I would like to give my gratitude to all my dearest friends for giving me suggestions in my project. Without helps of them that mentioned above, I would face many difficulties while doing this. Upon completing of this project, I have learnt so many things regarding the knowledge of Artificial Intelligent and I would love to learn more in improving myself in my future undertakings.

Thank you very much.

ABSTRACT

Nowadays, there are many people have pets such as cats, dogs and rabbits. Refering to the statistics from the American Pet Products Associations 2011-2012 National Pet Owner Survey shown that rabbit is the least popular pet compared to dogs and cats, so that not much is known about the disease that afflicts the rabbit. The aim of this project are to identify the technique used in disease diagnosis system and to design and develop a fuzzy expert system in disease diagnosis for rabbits. Furthermore, the purpose of this project is to evaluate and verify the proposed system. The method used in this project are fuzzy expert system and rule-based system. The fuzzy inference that have been selected is sugeno method. There are five variables that required to diagnose the diseases such as age, stress, temperature, food and water. The collected data and the generated rules were checked and validated by the veterinarians that act as an expert. As a result of this project, the developed system is able to detect diseases based on symptoms. In the future undertakings, it would be great if this project can be developed with other methods. The next endorsement would be, considering the system to perform in other platform for example mobile web platform. Hopefully the system can be further enhanced to give more valuable values to the users.

TABLE OF CONTENTS

CONTENT **PAGE**

SUPERVISOR'S APPROVAL ii

STUDENT'S DECLARATION iii

ACKNOWLEDGEMENT iv

ABSTRACT v

LIST OF FIGURES ix

LIST OF TABLES x

LIST OF ABBREVIATIONS xi

CHAPTER ONE: INTRODUCTION

1.1 Background of Study 1

1.2 Problem Statement 3

1.3 Research Question 3

1.4 Research Objectives 3

1.5 Project Scope 4

1.6 Project Significance 4

1.7 Summary 4

CHAPTER TWO : LITERATURE REVIEW

2.1 Pet Ownerships 5

2.2 Disease And Treatment Issues 6

CHAPTER 1

INTRODUCTION

This introduction will discuss on the project entitled Rabbit Disease Diagnosis (RDD) using Fuzzy Expert System. This introduction part will discuss about the research background, problem statements, research question, research objectives, significance, scope, overview of methodology, and expected outcome of the project.

1.1Background of Study

Rabbits are the category of small mammals that have found in several part in this world. Besides rabbits, small mammals consists of rats, beavers, squirrels, and others. There are eight species of rabbits such as European rabbit, cottontail rabbit and Amami rabbit. The male rabbit is called buck, while the female is called doe, and the young rabbit is a kitten or kit(Smith et al., 2009). Rabbit breeds are divided into three namely broiler breed, breedfeathers and breed ornamental.

Rabbits are regional creatures which live in approximately composed social gatherings. Most species of rabbits live in burrows or underground tunnels that are entered through a hole with different entrance and exits (Craig, n.d.). Rabbits habitat are meadows, woods, forests, grasslands, deserts and wetlands based on what species they belong to.

The statistics from the American Pet Products Associations (APPA) 2011-2012 National Pet Owner Survey (NPOS) shown that rabbit is least popular compared to dogs and cats, so that not much is known about the disease that afflicts the rabbit. It also happen in Malaysia, when people more prefer cats than rabbits.But lately, the rabbits are become more popular to many people and countries because of the discovery on rabbit's meat, which can provide high protein. Thus, it can provide good income to those who make rabbit husbandry. People who