

Universiti Teknologi MARA

**Vet4Cat: Cat Health and Illness
Symptom Checker using Rule Based**

Siti Nurfateha Binti Abd Jalil

**Thesis submitted in fulfillment of the requirements
for
Bachelor of Computer Science (Hons.)
Netcentric Computing
Faculty of Computer and Mathematical
Sciences**

January 2019

STUDENT DECLARATION

I certify that this project report to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

.....
SITI NURFATEHA BINTI ABD JALIL
2016577431

JANUARY 25, 2019

ABSTRACT

Keeping cats is a growing trend in Malaysia. Learning more about cat diseases and their treatment is one of the best investments a cat owner can do for the pet's health and comfort. However, one of the main reason that the cat falls sick is because of the poor awareness among the cat owners about the health requirements of their cat. This includes lack of knowledge and understanding about the cat health, expensive cost of the vet visits and time constraints to bring the cat to the clinic. In order to reduce these problems, a mobile application on cat illness symptom checker is developed to assist the owner to determine the possible diseases and provide alternative treatments based on the information provided by the expert. Thus, the objective of this application is to develop a mobile application that provides information as well as suggesting suitable treatment on how to treat a sick cat, and to evaluate the accuracy of the cat illness symptom checker using rule based expert system. The methodology use in this project is Waterfall model while the technique applied in this project is rule based expert system. The outcome of this mobile application is that user will be able to identify the best treatment for every disease that may suffered by their cat. Furthermore, other features included in this mobile application is ability for the cat owner to locate the nearest veterinary clinic based on their current location and a reminder function where cat owner can use to add reminders for their cat such as appointment or vaccination. For future works, other disease problems can be added into the application as for now it only focuses on the most common cat health issues in Malaysia.

TABLE OF CONTENT

CONTENTS	PAGE
SUPERVISOR APPROVAL	i
STUDENT DECLARATION	ii
ACKNOWLEDGEMENT	iii
ABSTRACT	iv
TABLE OF CONTENT	v
LIST OF FIGURES	viii
LIST OF TABLES	x
LIST OF ABBREVIATIONS	xi
CHAPTER ONE: INTRODUCTION	1
1.1 Project Background	1
1.2 Problem Statement	2
1.3 Aim	3
1.4 Objectives	3
1.5 Significance	3
1.6 Scope	4
1.6.1 User	4
1.6.2 Device	4
1.6.3 Functionality	4
CHAPTER TWO: LITERATURE REVIEW	6
2.1 Cat Health	6
2.1.1 Common Cat Illnesses	6
2.1.2 Treatment	7
2.2 Illness Symptom Checker	8
2.3 Mobile Application	9
2.3.1 Mobile Web Application	9
2.3.2 Native Application	10

2.3.3	Hybrid Application	11
2.3.4	Comparison between Native, Mobile-web and Hybrid Application	12
2.4	Expert System	13
2.4.1	Components of Expert System	14
2.4.2	Rule Based Expert System	15
2.4.3	Case Based Reasoning	17
2.5	Global Positioning System (GPS)	18
2.5.1	How it works	18
2.5.2	Advantages and Disadvantage of GPS	19
2.6	Related Works	20
2.6.1	A Rule Based Expert System for Diagnosis of Fever	20
2.6.2	Design and Development of Online Dog Disease Diagnosing System	22
2.6.3	Expert System for Diagnosis Neurodegenerative Diseases	23
2.7	Summary	24

CHAPTER THREE: METHODOLOGY **26**

3.1	Project Methodology	26
3.1.1	Waterfall Model	26
3.2	Requirement Gathering	29
3.3	Analysis	29
3.4	Design	30
3.4.1	Use Case Diagram	30
3.4.2	Use Case Description	31
3.4.3	Activity Diagram	33
3.4.4	Entity Relationship Diagram	34
3.4.5	Initial System Interface	35
3.5	Development	38
3.5.1	Vet4Cat Modules	38
3.5.2	Hardware and Software Requirement	39
3.6	Testing	40
3.6.1	Accuracy Testing	40
3.6.2	Usability Testing	48
3.7	Project Timeline	49
3.7.1	Gantt Chart	50
3.7.2	Project Milestones	50