

TABLE OF CONTENT

APPROVAL PAGE	iii
STATEMENT	iv
FOREWORD	vi
ABSTRACT	vii
TABLE OF CONTENT	viii
TABLE OF FIGURES	x
TABLE OF TABLES	xi
 CHAPTER I	 1
1.1 Research Background	1
1.2 Research Problem	4
1.3 Research Scope	5
1.4 Research Objective	5
1.5 Research Advantage	6
 CHAPTER II	 7
 CHAPTER III	 12
3.1 First Aid for Pets	12
3.2 Proper Care for Pets	12
3.3 Veterinarian-Client-Patient Relationship	13
3.4 Telemedicine	13
3.5 Unified Modeling Language (UML)	21
3.6 Challenge Based Learning (CBL)	22
3.7 Decision Support System	24
3.7.1 Programmed Decision	25
3.7.2 Non-Programmed Decision	26
3.8 Mobile Applications	26
3.9 iPhone Operating System (iOS)	29

CHAPTER IV	30
4.1 Research Overview	30
4.2 Decision Support System	30
4.3 Minimum Viable Product	32
4.4 User Flow and Diagram Context	32
4.5 Testing and Evaluation	33
4.6 Expected Results	34
CHAPTER V	36
5.1 Implementation of Programmed Decision in Decision Support System	36
5.2 System Analysis	40
5.2.1 Application Flow	40
5.2.2 Application Coding	45
CHAPTER VI	52
6.1 Comparing the Decision Support System Recommendation with Veterinary Recommendation	52
6.2 Blackbox testing result	54
6.3 Final Targeted Survey Result	55
CHAPTER VII	57
7.1 Conclusion	57
7.2 Suggestions	58
REFERENCES	59
APPENDIX	61

TABLE OF FIGURES

Figure 1 Number of health apps available on the app store (app annie, 2020)	2
Figure 3.1 Telemedicine general structure	15
Figure 3.2 Asynchronous system	16
Figure 3.3 Patient treatment	16
Figure 3.4 Remote patient monitoring system	17
Figure 3.5 UML Diagram	22
Figure 3.6 Challenge based learning	23
Figure 3.7 Mobile Support Infrastructure	28
Figure 4.2 Context diagram	33
Figure 5.1 Home screen	41
Figure 5.2 Diarrhea type of question	42
Figure 5.3 Multiple question type	43
Figure 5.4 Emergency category	44
Figure 5.5 Fetching the type of disease variable	45
Figure 5.6 Conditional statement for which disease that user click	46
Figure 5.7 User interface function for 'Feces Score' question	47
Figure 5.8 Function after the user click answer button	48
Figure 5.9 Function to fetching the question based on the selected disease	49
Figure 5.10 Function to add the score based on the user answer	50
Figure 5.11 Function to give which recommendation that suitable based on the user score	51
Figure 6.1 Result of the survey felt help in the emergency situation	55
Figure 6.2 Survey result for facilitating user needs on emergency situation	56

TABLE OF TABLES

Table 1.1 Comparison of relevant works	10
Table 4.1 Expected result of the application	35
Table 5.1 Scoring of the question and answer	37
Table 5.2 Recommendation by system	39
Table 6.1 Blackbox testing	54