Scammed Posting Detector: A Case Study of Pet Scammed Posting

by

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Dissertation report submitted in partial fulfillment of
the requirements for the
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CERTIFICATION OF APPROVAL

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UNIVERSITI TEKNOLOGI PETRONAS

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May 2013

CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

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ABSTRACT

Nowadays, there are many people are being victims of the internet scam. Scammer performs the scam in order to gain money from the victims. Pet scam is one of the scams that contribute to the increase of the internet scam cases. Pet scam starts from the pet scammed posting which is the fake posting about pet sales or adoptions in the online auction site. Due to the unawareness of online buyer on the pet scamming activities and the current pet scam applications are not able to notify the user on the potential pet scam, the pet scam detector which used to detect and alert the user on the potential pet scam must be developed. Usually, the victims of the pet scam are the pet lovers and online buyers. Therefore, they are the target user for this application. Besides, the research on the previous pet scammed emails, the interview of the experienced pet scam victim, and the survey on the public awareness regarding pet scam had been conduct to support the method applied. The results of these pilot studies help to derived the pet scammed email patterns which is useful in the development of the projects.

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

Scam is not the new issues in the current world. There are various types of scams which are face to face, internet, and telephone scam. The victim of the scammed been approached via email, SMS and mobile phone. According to Free Internet Security (n.d.), "scam is a quick-profit scheme where person cheats another individual or group out of money by presenting them with false information during a deal or offer" [1].

However, the increases of the online buyers lead to the increases of the internet scammed cases. Internet scam is one of the famous scams because nowadays most of the people cannot live without internet and many things been done by using internet but internet are not free from scams. Many of the internet users are becoming the victim of internet scam without noticing that they are the victim. Australian Federal Police (n.d.) defines that, "Online scam refers to any type of fraud scheme that uses email, websites, chat rooms or message boards to present fraudulent solicitations to prospective victims, to conduct fraudulent transactions or to transmit the proceeds of fraud to financial institutions or to others connected with the scheme" [2].

There are many different types of internet scam but pet scammed posting is belongs to online auction and shopping scams. Pet scammed posting is the fake posting about pet sales or adoptions in the online auction site. The pet sales or adoptions involve rare pets such as Bengal cats, Beagle and Pekingese Puppies. Usually, the people are

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[1] http://www.securitysupervisor.com/security-q-a/online-security/263-what-is-scam
[2] http://www.afp.gov.au/policing/cybercrime/internet-fraud-and-scams.aspx

being the victim of the pet scammed posting because of pet's offering that is difficult to resist such as scammer post the adorable little pet in auction site and they give it for free. The victims of this scam deal with the scammer through email because the scammers always want to deal with the victim outside the auction site. The cases reported on the pet scammed posting are dealing via email in order to avoid the auction site claims the sellers which are scammers on fraud cases.

1.2 Problem Statement

The proposed research is looking into the pet scammed as a case study. People nowadays love to purchase exotic pets through online business. This is because the online business offers flexibility, give convenience to the user and user can save costs such as transportation and time. However, most of online buyers lack of knowledge on the scamming activities and unaware on the scam possibility of the posting online. Due to that, there is high possibility for them to be the victim of scammed posting when they are online. They tend to believe the offers that are difficult to resist. Besides, the current pet scam detectors only provide the guideline on how to detect scam but not to notify the user when they involve in pet scam. The current scam detector and also an award-winning smartphone and web-based app that expose over 700 of the world's most fraudulent activities is Scam Detector App. However, this app only provides the guideline to the users and the users need to learn the scam in order to protect themselves from scam. The Scam Detector™ (2013) also supports aforementioned statement, "The Scam Detector App exposes in detail hundreds of the most popular scams in the world. Learn how they work and protect yourself"[3]. Therefore, the application of notifying the online buyer about the pet scammed posting must be developed to make them aware all the threats.

1.3 Objectives and Scope of Study

In the online world, it is difficult to detect the scammed posting without gaining a lot of information through reading and experience. Due to these facts, the application

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[3] http://scam-detector.com/

with the objective to detect and alert the potential pet scammed email must be developed.

In this study, the supervised learning will be used in order to allow the application to learn from previous scammed cases. The application is only focusing on pet scam and it is fully automatic pet scam detector. It can detect and alert the potential scam by matching words in the sender's email (pet scammer) with the existence words in pet scammed email. It is only detect the scam threat in the first level of communication of both parties (user and scammer). The first level of communication is referring to the initial email that user received from the scammer.

Even though, there are many different types of scam but the pet scammed posting has been chosen because usually the people that being the victim for pet scam is the pet lover and they are people that are really obsessed on pet and willing to pay even the deal is irrelevant not to mention the deal which is difficult to resist. In addition, the online business website is the common medium used by the scammers to advertise the fraud information about pet sales. The examples of online business website for pet are as shown in Table 1.

Table 1: Online Business Website for Pet

Website	Description	Domain
PetFinder.my	This website provides the listing of dogs and cats for adoption and sale[4].	Malaysia
adpost.com/my	This website provides free Malaysia classified for Malaysian[5].	Malaysia
mudah.my	This website is used for buy and finds jobs, cars for sale, houses for sale, mobile phones for sale, computers for sale, properties for sale and others in specific region conveniently[6].	Malaysia

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[4] http://www.petfinder.my/listings.htm
[5] http://www.adpost.com/my/pets/
[6] http://www.mudah.my/

Thus, the target users for this application are pet lovers and also online buyers. Pet lovers are the potential of the pet scam's victim due to they are fanatic to own the rare pets no matter what without thinking the risks. Online buyers are also the potential victim because pet scam is an online auction scam which targeted online buyers only. In the market currently, there is no application that used to detect and alert the potential scam automatically and the only applications that exist in the market are the applications that provide guideline and information related to scam. Therefore, the information related to pet scammed posting will be collected from the previous pet scammed cases, the guideline on detecting scammed posting and current scam detector applications.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The project is implementing the theory of Artificial Intelligent (AI). According to Negnevitsky (2005), "Artificial Intelligence is a science that has defined its goal as making machines do things that would require intelligence if done by human". Shapiro (n.d.) also explains that, "Artificial Intelligence is a field of science and engineering concerned with the computational understanding of what is commonly called intelligent behavior, and with the creation of artifacts that exhibit such behavior"[7]. Based on the definition, both authors agreed that AI is the ability of the machine to act and behave intelligently as human. Human is intelligent because they are able to think and learn by themselves. Therefore, what AI systems are doing is trying to mimic and inherit human intelligence. That is why AI can help the user to detect fraudulent cases because it is able to think whether there is any potential fraud threat and learn the previous fraud cases in order to act and behave intelligently toward the fraudulent.

2.2 Existing Approach

One of the techniques that applied for AI is Natural Language Processing (NLP). Chowdhury (n.d.) defines that, "NLP is an area of research and application that explores how computers can be used to understand and manipulate natural language text or speech to do useful things"[8]. NLP can be used to detect pet scams because

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[7] http://www.cse.buffalo.edu/~shapiro/Papers/ai.pdf
[8] http://www.cis.strath.ac.uk/cis/research/publications/papers/strath_cis_publication_320.pdf

NLP can detect and understand scammed keyword in the email. Email is the communication medium that been used by scammer and buyer to communicate. NLP consists of several systems or applications such as Information Extraction (IE), Information Retrieval, and Summarization. The NLP application that can be used to detect fraud threat is Information Extraction technique. Riloff et al. (1994) claims that, Information Extraction is one of the approaches use a NLP and it is as a basic for high precision text classification[9]. In details, Chowdhury (n.d.) states that, with some pre-define categories, text items can be classified using IE technique. The pre-define categories to extract the useful information from e-mail messages are using the backpropagation (BP) learning algorithm and applying NLP technology. BP learning algorithm is used to train the event detector while NLP technology been applied to aid the selection of nouns as feature words. Those categories are supposed to characterize documents appropriately[10].

Xu, Sung, and Liu (n.d.) propose that, the algorithm that well known to detect fraud are Naïve Bayesian (NB) and BP[11]. However, BP is not as effective as NB algorithm. This is because BP algorithm need long training times, extensive testing and retraining of parameters. Both algorithms is rely on supervised learning and due to that, they have common disadvantage. The disadvantage is both algorithms need human intervention to prepare training cases and test cases to optimized parameters. However, in the cases of scam posting, it is not really a disadvantage because there are lots of previous scam posting that can be set as training cases and test cases.

Though NB algorithm can be used to perform text classification and it is most commonly used but it is not suitable to do text classification on detecting scam. This is because according Mokhtari et al. (2008), NB algorithms is used for static text classification[12]. Scam detector is not a static text classification because it is not binary as 'scam' or 'not scam' but text used in scamming is always change. The scammer will change the stories part by part in order to grab user intention and sometimes the stories might be change totally. Therefore, the right approach on

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[9] Ellen Riloff, W. L. (1994). Information Extraction as a Basis for High-Precision Text Classification. *ACM Transactions on Information Systems* , 296-333.

[10] http://www.cis.strath.ac.uk/cis/research/publications/papers/strath_cis_publication_320.pdf

[11] http://ws.acs.org.au/jrpit/JRPITVolumes/JRPIT39/JRPIT39.1.3.pdf

[12] http://usir.salford.ac.uk/18932/1/DMC08_Saraee_Mokhtari_E.pdf

detecting scam is K-Nearest Neighbor (KNN) algorithms. Mokhtari et al. (2008) say that, there is a message label in KNN named 'Scam-Score Label' which use an integer number between 0 and 100 in order to detect scam by representing 0 as surely not scam and 100 is surely scam. The details values of the Scam-Score as below:

- If Scam-Score is more than 80 it is transferred to a folder named "Scams".
- If Scam-Score is between 50 and 80 an alert is sent to receiver like this: "Be Careful! This email appears to be a fraudulent message."
- If Scam-Score is between 30 and 50 a lower level message is sent, like this: "Do you know the sender? Be Careful!"[13].

2.3 Scam Overview

The aforementioned approach only can be detected if the application can learn from the previous scam cases. However, there are various types of scam and each type of scam have different stories that been created by scammers and the way to recognize it also different. According to AnsonAlex.com (2012), the internet scam complaints rose from 100,000 per year to nearly 300,000 per year from 2005 to 2009 and the monetary loss of scam complaints easily exceeds $300 million per year[14]. Based on this figure, the numbers of scam victims keep raising and lot of monetary loss happened from year to year. This situation need to be prevented and action need to be taken to reduce the internet scam cases. However, there is the top internet crime that involves scam which is non-delivery of merchandise. Non-delivery of merchandise is an incident in which the buyer bought items (non-auction) but it never arrived. Internet Crime Complaint Center (IC3) reports (2009) that, the number one crime complaints referred in 2009 is the non-delivery of merchandise which is about 19.9%[15] as shows in Figure 1.

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[13] http://usir.salford.ac.uk/18932/1/DMC08_Saraee_Mokhtari_E.pdf
[14] http://ansonalex.com/infographics/internet-scam-statistics-2012-infographic/
[15] http://www.ic3.gov/media/annualreport/2009_IC3Report.pdf
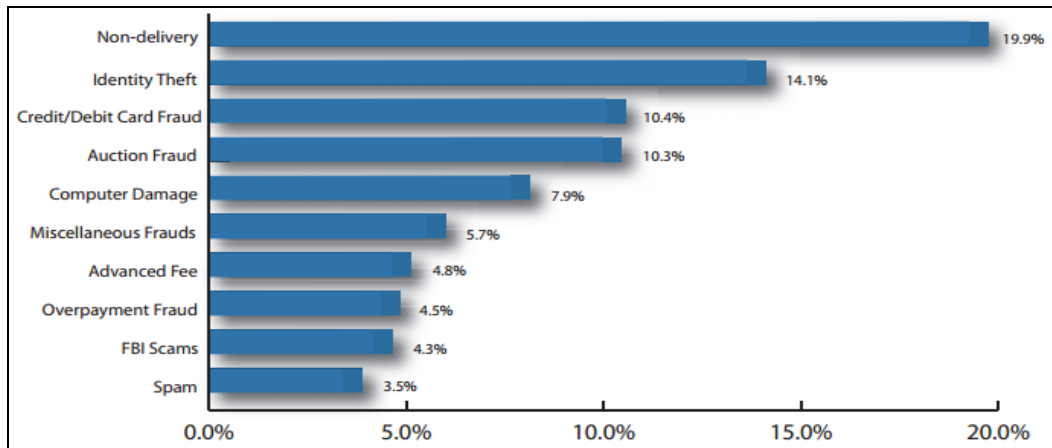
Figure 1: 2009 Top 10 Most Referred IC3 Complaint Categories (Percent of Total Complaints Referred)

It (2010) also states that, non-delivery of merchandise is the top one of crime based on crime complaint referred for the year 2010 which is about 14.4%[16] as shown in Table 2.

Table 2: Top 10 Crime Type

Type	Percent
1. Non-delivery Payment/Merchandise	14.4%
2. FBI-Related Scams	13.2%
3. Identity Theft	9.8%
4. Computer Crimes	9.1%
5. Miscellaneous Fraud	8.6%
6. Advance Fee Fraud	7.6%
7. Spam	6.9%
8. Auction Fraud	5.9%
9. Credit Card Fraud	5.3%
10. Overpayment Fraud	5.3%

However, IC3 (2011) proved that, non-delivery of merchandise is one of the top reported crime type for the year 2011 which about 22,404 victims involved in this crime[17] as shown in Figure 2. Therefore, one of the scam that leads to non-delivery of merchandise is pet scam. This is because the pet buyer agreed to buy the pet and had settled the shipping fees but the pet does not received.

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[16] http://www.ic3.gov/media/annualreport/2010_IC3Report.pdf
[17] http://www.ic3.gov/media/annualreport/2011_IC3Report.pdf
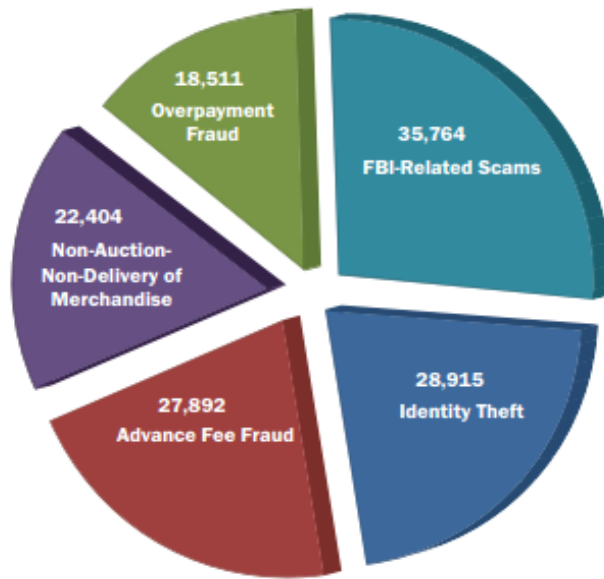
Figure 2: Top five reported crime types

2.4 Pet Scam Research

According to Hotscam (2010), "ministry receives between 30 and 50 complaints about pet scams each month and only 2 % are reported". This shows that the online users are not aware on pet scam and where to make the report regarding pet scam. Therefore, by detecting the potential of the pet scam, pet scam cases and non-delivery of merchandise crimes can be reduce. According to International Pet and Animal Transportation Association (IPATA) (2013), "the way to detect pet scam are the scammer is giving the animal up because of a hardship in the family, someone died, they've relocated and the climate is not good for the puppy, or something similar"[18]. Usually, the scammer will mention one of these statements in the initial email communication which is the first email that been sent to the buyer. The example of pet scam in the email is as shown in Figure 3. The detail of pet scam conversation is attached in Appendix A.

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[18] http://www.ipata.org/useruploads/files/scams/Scams_Report_April-30-2013.pdf
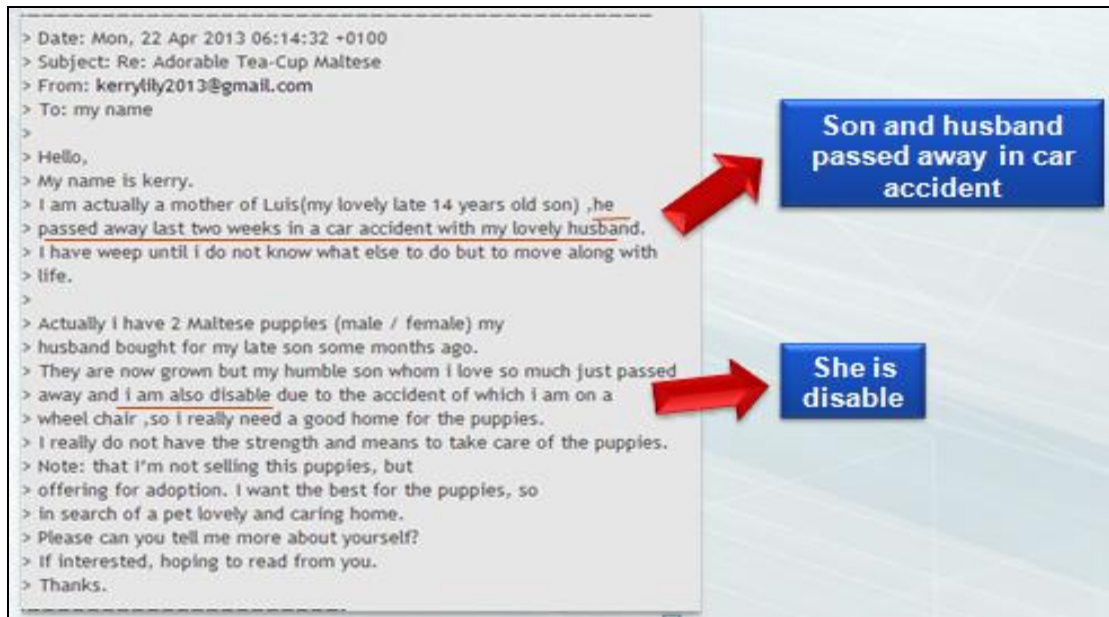
Figure 3: Example of pet scam and keyword to detect pet scam[19]

The users are being the victim of the pet scammed posting because of pet's offering that is difficult to resist such as scammer post the adorable little pet in auction site and they give it for free. IPATA (2013) supports that, "If you see an offer that is too good to be true, it probably is. It probably is a scam!"[20]. Figure 4 and Figure 5 shows the example of the pet's offering in different auction site. Both auction sites display same cute puppies' pictures but different price and seller's location. The price in the first and second pet's offering is free and $250 respectively. The seller's location in the first and second pet's offering is New York, USA and Canada respectively.

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[19] http://www.scamwarners.com/forum/viewtopic.php?f=36&t=71329
[20] http://www.ipata.org/pet-scams/

Figure 4: Example of pet's offering[21]

Figure 5: Example of pet's offering[22]

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[21] http://www.puppiessale.org/Cute-Maltese-Puppies-Availab100265_DCL.aspx

[22] http://www.classified-ads-us.com/961-cute-maltese-puppies-available-/details.html

2.5 Other scam research

Furthermore, one of the scam which can consider as major fraud in 2011 is love scam. U.S. According to IC3 (2011), "IC3 received over 5,600 complaints of love scam which scammers target individual who search for companionship or romance online"[23]. The example of love scam is as shown in Figure 6.
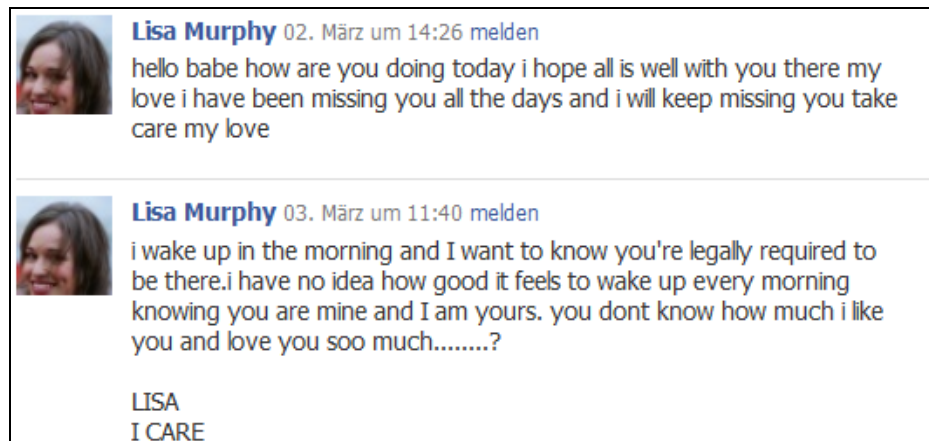
Figure 6: Love scam example[24]

Department of State (2007) explains that, "the scammer has incredibly bad luck, often getting into car crashes, arrested, mugged, beaten, or hospitalized and usually all within the course of a couple of months. They often claim that their key family members (parents and siblings) are dead. Sometimes, the scammer claims to have an accompanying child overseas who is very sick or has been in an accident"[25]. Dating 'n More (n.d.) adds that, "after they establish some lovely correspondence with you, fall in love and maybe even send a couple of cheap presents, they will be almost on their way to meet you, but something will happen to them. They will get robbed, beaten, get into the hospital, or other misfortune will happen and of course you will be their only contact to ask for financial help"[26]. These show that, the scammer is playing with the receivers' emotion in order to make the receiver give their money without any doubt. The author believes that, the victims of the love scam are

[23] http://www.ic3.gov/media/annualreport/2011_IC3Report.pdf
[24] http://freakysteini.de/scam-scammer/internet-love-scam-betrug/ghana-connection-auf-facebook/1084/
[25] http://travel.state.gov/pdf/international_financial_scams_brochure.pdf
[26] http://www.datingnmore.com/fraud/scam_database.htm

communicating with the scammer more than a day because trust can be built in a day. The example of the love scam is:

"My love, thank you for your letter. As always I was very happy to see your news. I'm always interested to know what's going on with you. I'm always interested in your thoughts. Because I really love you. That's why I want to meet you soon. I want to be around you, that we could spend time together. I wish that we could talk to each other about everything. You're going to tell me something. I'll talk to you as well. We will spend days and nights. We will love each other a lot. Do you want this?

We are and will always do together. You're going to show me various interesting places in your town. I really want to be with you soon. I believe that we communicate with you for a long time, you know I love you. And when I read your letters, I feel that you answer me in return. This is the most beautiful feeling - love. Do you agree with me? But my love, why do not you say anything about our meeting? You know what I really want to come to you soon. But you ignore all my letters about the meeting.

Of course, I love you get from romantic letters. But now I want to meet you in person. Letters can never replace a real meeting. Letters will not be able to show you all the power of my love for you. Only meet in real life could do it. Or do you think differently? Please answer me!

I want to see a concrete answer to my question. Write me your thoughts. Do not ignore my questions! You promised me that we will soon meet again. And I signed a contract with a travel agency. Now I'm not doing this deal. Because I cannot get from you a specific answer. Do you still want our meeting? You're going to help me? I need the exact date when you can pay for my trip to you? And I'll tell it to the agency. If payment is not effected in the near future, then I'll have to pay fines. Since I do not fulfill the contract. Do you understand that? It's all very seriously. Please

*answer me all of my questions. I should receive a response. I love you. I
want to be with you soon. I miss you"[27].*

The scammers will use picture of other people in order to hide their identity and
attract the people to communicate with them. Figure 7 shows the real faces of
scammer.

Figure 7: The real picture of love scammers[28]

2.6 Conclusion

Pet scammed posting been chosen for this research because there are many pet
lover is being the victim for the pet scam. Based on the research conducted, most
of the victim does not complaint and make report on the pet scam. Therefore, it
is important to detect potential scam in order to alert the users on the scam treat.
The scammed posting detector needs to be developed.

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[27] http://www.dogbreedinfo.com/internetfraud/scamemailexamples.htm
[28] http://www.romancescam.com/scammers4real.htm

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter discusses the method apply in this study. The purpose of this study is to identify the medium that been used by the pet scammer and the statement that consider as pet scam, to get the patterns of the pet scam conversation and to create the keywords from those patterns to detect pet scam . The methodology consists of research method, data collection and data analysis for pet scam study.

3.2 Development Methodology

This study was applied the case study methodology. According to Johansson (n.d.), "the case study is the ability to act within professional practice is based on knowledge of a repertoire of cases. These cases are based either personal experience or are model cases established within the profession[29]. The data collection for the pet scam case needs the data gathering from the previous and existence cases and the source from the experienced respondent toward this case. This type of method is the qualitative method because it based on experience. Therefore, this methodology is high appropriate to be used because this study is related to real cases rather than rely on numbers and frequencies of the data. However, qualitative method also been applied in order to know the public awareness about the pet scam.

The system development life cycle that been applied in this research methodology is extreme programming (XP) methodology as shown in Figure 8.

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[29] http://www.infra.kth.se/bba/IAPS%20PDF/paper%20Rolf%20Johansson%20ver%202.pdf
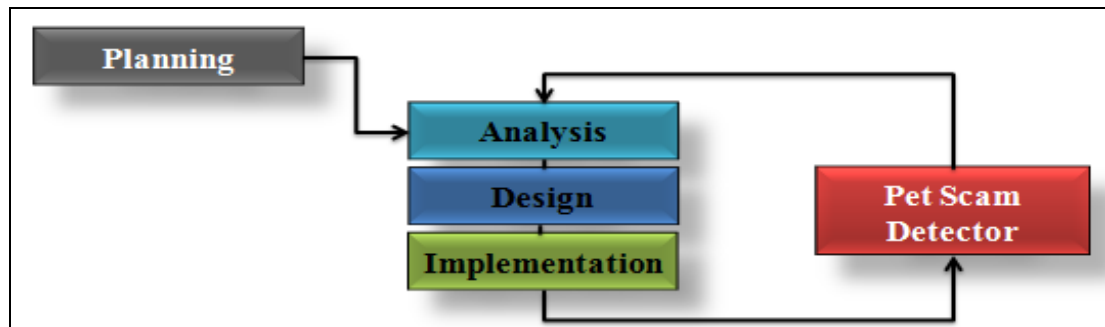
Figure 8: Extreme Programming Methodology

This methodology been used based on technology used, the complexity and time schedule of developing the application. The application is use familiar technology which is standard client PC, developer software such as C++ or Microsoft Visual Basic and database such as Microsoft Access or Excel. This application is a simple application that used to alert the user on potential scam. The time schedule for this application is short (28 weeks).

3.2.1   Project Activities and Deliverable

The project activities for scammed posting detector consist of four main phase which are planning, analysis, design and implementation phase.

3.2.1.1   Planning

The data been gathered in order to identify the problem and draft the initial background of study. These activities were documented in Final Year Project (FYP) title proposal. The FYP title proposal was approved and supervisor been assigned. Gantt chart and key milestone were drawn in order to monitor the project progress. The Gantt chart and key milestone of scammed posting detector is as shown in Figure 9 and 10 to 11 respectively.

Detail Week	FYP 1														FYP 2													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Planning Phase																												
Problem Identification	■	■																										
Initial Background Study			■																									
Project Approval				■																								
Literature Review					■	■																						
Submission of Extended Proposal						■	■																					
Analysis Phase																												
Interview				■																								
Documentation					■	■	■	■	■																			
Design Phase																												
User Interface Design											■																	
System Simulation																												
Proposal Defence											■																	
Submission of Interim Report													■															
Database Design												■	■															
Implemenation Phase																												
System Development															■	■	■	■										
System Deployment																			■									
Testing																				■	■							
Progress Report Submission																												
Improvement of prototype																						■	■	■				
Pre-Sedex																												
Viva																									■			
Project Dissertation Submission																											■	■

Figure 9: Gantt chart for scammed posting detector
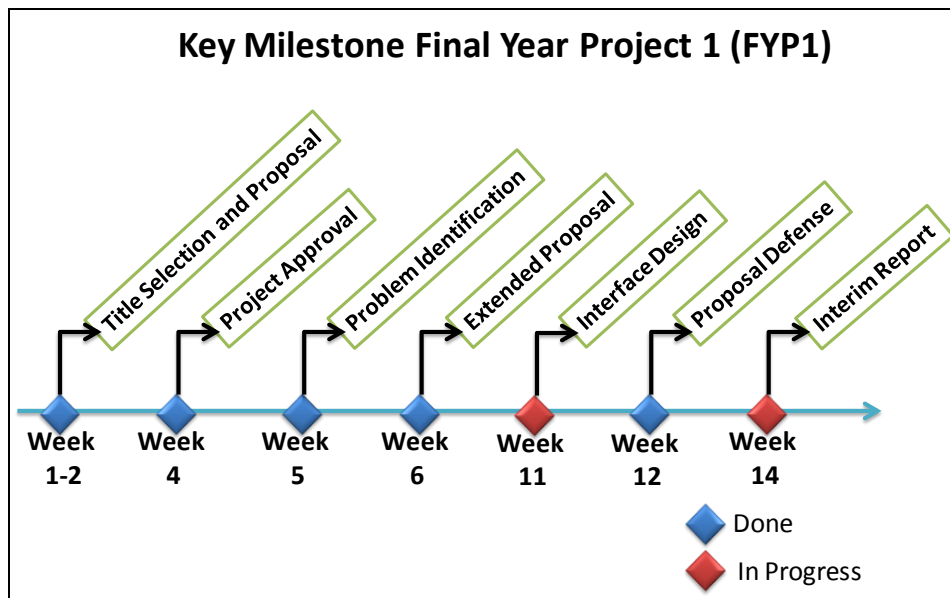
Figure 10: Key Milestones for FYP1
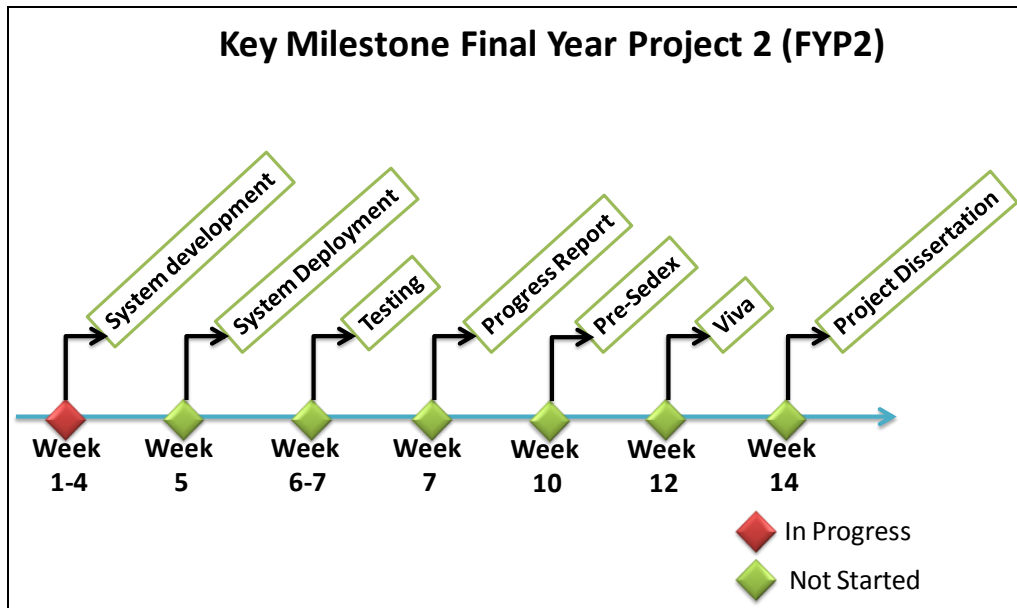
Figure 11: Key Milestones for FYP2

3.2.1.2   Analysis

The data and information related to detecting pet scammed been gathered. The methods used to gather the data are interviewing, conducting survey and documentation of previous cases. The details of data gathering will further explain in section 3.3 which is data collection section.

3.2.1.3   Design

Design phase is focusing on how the system will operated in term of hardware, software, user interface, forms and the functionalities. Project requirement been identified in this phase. In addition, user interface had been designed and system simulation had been developed in order to illustrate the functionalities of scammed posting detector. In addition, the proposal defense will be presented and interim report will be submitted. The database is design in this phase.

3.2.1.4   Implementation

The actual project is built in the implementation phase. The construction of this application involved programming and testing. The soft code will be developed using

C++ or Visual Basic (VB) language. The application will be tested in the implementation phase after programming tasks was completed. The details of the test will be explained in section 3.4 which is data analysis section. After prototype testing, improvement of the prototype will be implemented and the application will going through the analysis, design and implementation phase again until the application free from error and the application will be deployed. The other activities involves in this phase are progress report submission, involving in pre-Sedex, viva and project dissertation submission.

3.3 Research Methodology

3.3.1 Data collection

The types of data collection method for the pet scam are forum and pet scammed templates, and interview source which is template of the previous pet scam cases and interview with an experienced user that has communicate directly with the scammer respectively.

3.3.1.1 Forum and pet scammed templates

Forum and pet scammed template s had been selected as the source of evidence in this methodology is because there are the existence cases on pet scam before this case study been conducted. The tool used to collect the forum and pet scammed templates are the internet. The author was used internet to gather the previous and existence cases on pet scam. The participant for this method is the scam experienced user. Many scam experienced user share their conversation email in the online forum and website. The duration for this data collection is throughout the research. The author was gathered all the conversation and analyze the pattern and common issues from the conversation. The site that been used to collect the data are as shown in table 4.

Table 3: Site to collect data

Site	Description
Dog Breed Info Center	The website is all about the dog breed information such as understanding dog behavior, care training, dog for sale and adopt, scam warning and etc.[30]
Scam Warners	The website is the anti-internet scam and internet fraud information center. It used to increase awareness of internet scams, identify individuals or groups who may be vulnerable to scams, provide accurate and reliable information to victims and potential victims, advice and support those who have been scammed, warn people about fraud on the internet and help people protect themselves against scammers [31]
blogg-erton	The blog is created to give awareness on identify and avoiding the Cameroon pet scammer[32]

3.3.1.2 Interview

Interview as source of evidence because the user has an experience on the medium and the statement used by scammers. The type of interview used is unstructured interview. Paul (2008) explains that, "unstructured interview may simply start with an opening question such as 'Can you tell me about your experience of visiting the dentist?' and will then progress based, primarily, upon the initial response[33]. So, the opening question for this study is on the experience communicated with pet scammer. The participant for the interview is the experienced user that had deal directly with scammer. The duration for the interview is for about 2 hours. The result of the interview will be analyzed to determine the medium and the statement used by pet scammer during conversation.

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[30] http://www.dogbreedinfo.com/scam.htm
[31] http://www.scamwarners.com/forum/viewforum.php?f=36&sid=0bed2ba615d16511e0b7de7e040 40384
[32] http://blogg-erton.blogspot.com/
[33] http://academia.edu/746649/Methods_of_data_collection_in_qualitative_research_interviews_an d_focus_groups

3.3.1.3 Survey

The survey is been conducted to know the public awareness and knowledge regarding pet scam. Awareness and knowledge is very important in order to detect pet scam. Without the knowledge and awareness, the public are unable to determine the pet scammed emails and they are easy to be influenced by pet scammers. The respondents of the survey are the internet users the survey is created by using spreadsheet application in Google document. The survey been distributed through email and social networking which is Facebook. 53 respondents give their response through this survey. The results of the survey are gathers for data analyzing and interpretation. The result received will be interpreted in the form of pie chart and table. The discussion will be design according to the result posed and the conclusion will be drawn.

3.3.2 Data Analysis

The qualitative data been analyzed manually in order to get the patterns of the pet scammer conversation with the users based on the medium and the statement used by scammer from the documentation and interview source. The keywords to detect pet scam will be created by referring to the pet scam conversation pattern. The qualitative data, which is the result from the survey, is been interpreted into the graphic designs and analyzed to know the public awareness on pet scam. These results of the finding are provided in Chapter 4. Besides, the application will be test using human evaluator. This is because there is no automatic detector for pet scam in order to compare the result of this application with result of current scam detector. Therefore, human evaluator been used in order to compare the result of this application with human result.

3.3.3   Process Flow

The process flow of the project is as shown in Figure 12. Based on the process flow, the pet scam detector is detect the scam in the received email in inbox. However, it is only extract the initial email to be scanned and not the whole email in the inbox. The

application will match the keywords in the initial email with the pet scam keywords (based on previous pet scammed emails) in the database. The application will perform scam detection and display that results to alert the user on potential pet scam. The result will be applied the teori of 'Scam-Score Label' in K-Nearest Neighbor (KNN). The 'Scam-Score Label' is a use of an integer number between 0 and 100 in order to detect scam by representing 0 as surely not scam and 100 is surely scam. However, the detection of pet scammed posting will use a percentage between 0 and 100 and will be displayed the result as follows:

- If Scam-Score is more than 83%, the result will be "Surely Scams".
- If Scam-Score is between 60% and 82%, the pet scam result will be "Scam".
- If Scam-Score is between 39% and 59%, the user will get the result of "Potential Scam"
- If Scam-Score is less than 39%, the result of the scam will be "Not Scam"
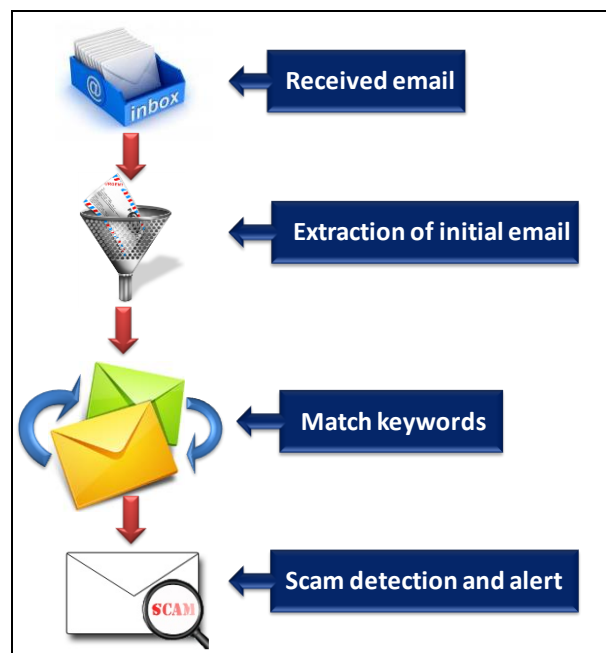
Figure 12: Process Flow

However, it is the responsibility of the users to protect themselves by stopping their conversation with the scammer. The pet scam detector is only used to detect and alert them on the potential pet scam.

3.3.4   System Architecture

The main system architecture for this application is as shown in Figure13. However, this system architecture is only focusing on the main user for this application which is the user itself. The pet scam detector has two users which are user and administrator. The administrator function is only an additional function in the pet scam detector. The system architecture of the administrator is as shown in Figure 14.
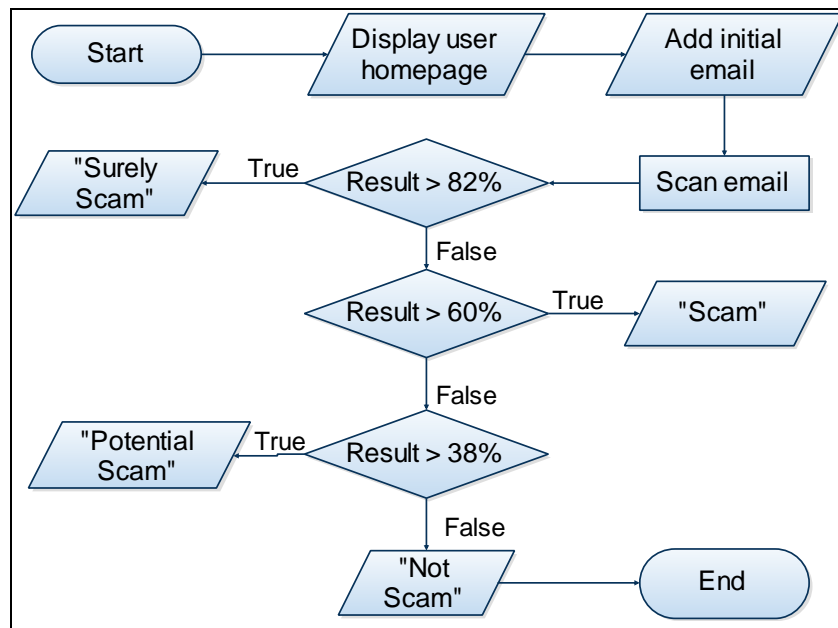
Figure 13: Main system Architecture (User)
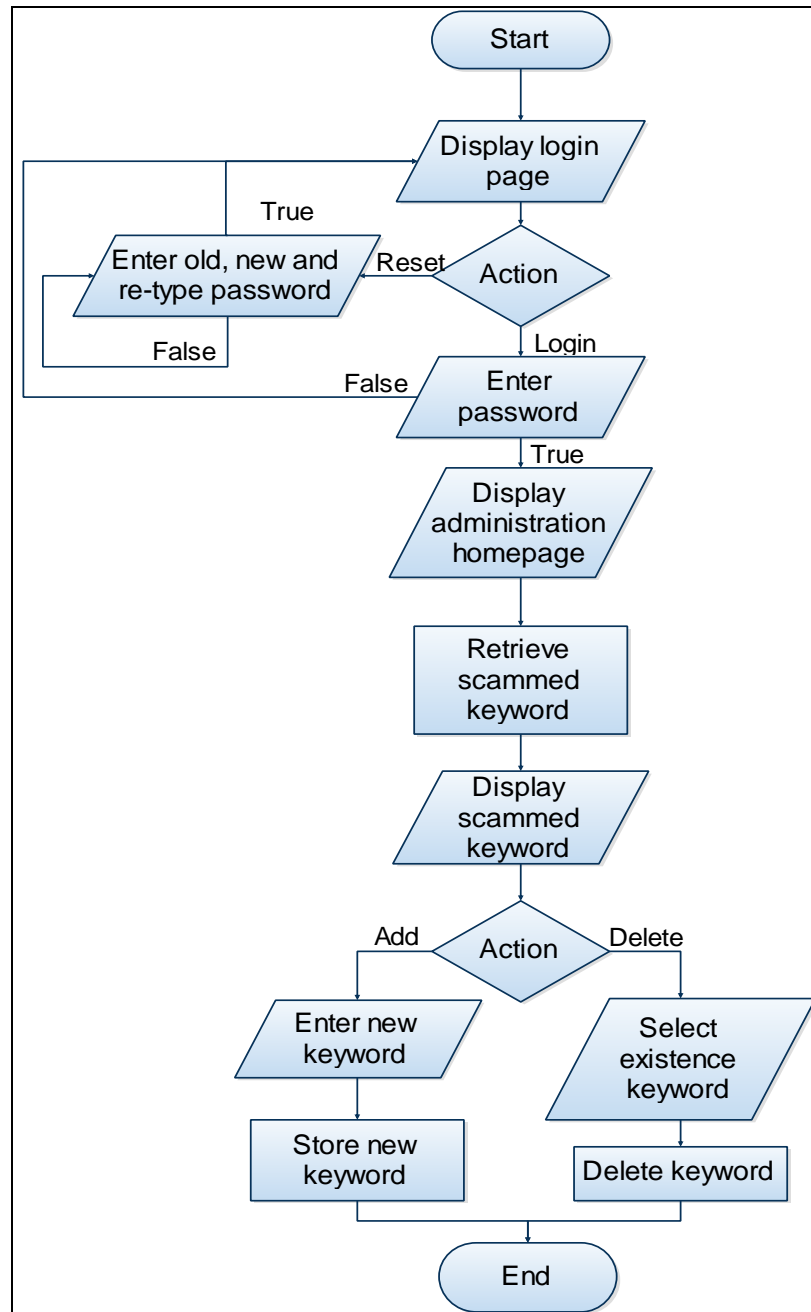
Figure 14: The system architecture for administrator

3.3.5   System Requirement

The project is targeting the pet lover and online user due to they are the potential victim of the pet scam. This application is used to help the target users to detect and alert the potential pet scam which can avoid them to be one of pet scam's victims.

The one of system requirements in these projects are the hardware and software. The details of the requirements are shown in Table 3.

Table 4: System requirement for pet scam detector

REQUIREMENT	TOOLS
HARDWARE	
Standard Client	Desktop / Personal Computer / Laptop with Standard Hardware
SOFTWARE	
Operating System	Window XP and up
Application Development Tools	C++ / Microsoft Visual Basic
Application Output and Data Reader	C++ / Microsoft Visual Basic
Application for Database	Microsoft Excel / Microsoft Access
Application for Documentation	Microsoft Word 2007

This application is only focusing on detecting pet scam through email. It is able to detect pet scam's keywords and alert the users on the potential pet scammed email based on those keywords. It is only comparing the words with the existing words in the existing pet scammed emails. However, there are the limitations on the pet scam detector. It is only able to detect potential pet scam and alert the users but it is not used to detect the real pet scam and block the purchasing processes. Furthermore, the pet scam detector is only able to detect the pet scammed emails that have similar keywords with the existing scammed email. The new keywords used are not able to be detected.

CHAPTER 4

RESULT AND DISCUSSION

4.1 Introduction

This chapter discusses on the research's result and finding. The discussion in this chapter consists of the prototype design, pet scam awareness survey, interview, forum and pet scammed templates.

4.2 Prototype

The prototype for this application had been designed by using Microsoft Visual Basic 2010 Express.

4.2.1 Interfaces

The interfaces for the prototype are as shown in Figure 15,16,17,18 and 19.

Figure 15: Main Interface
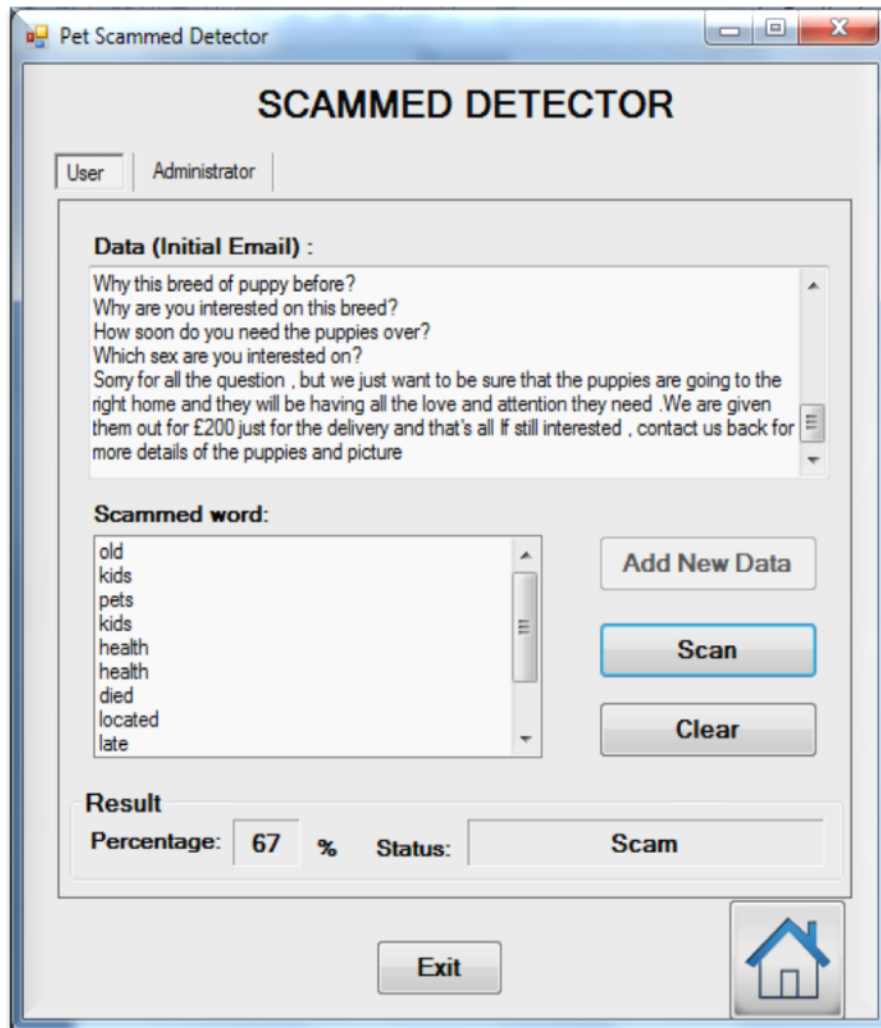
Figure 16: User interface
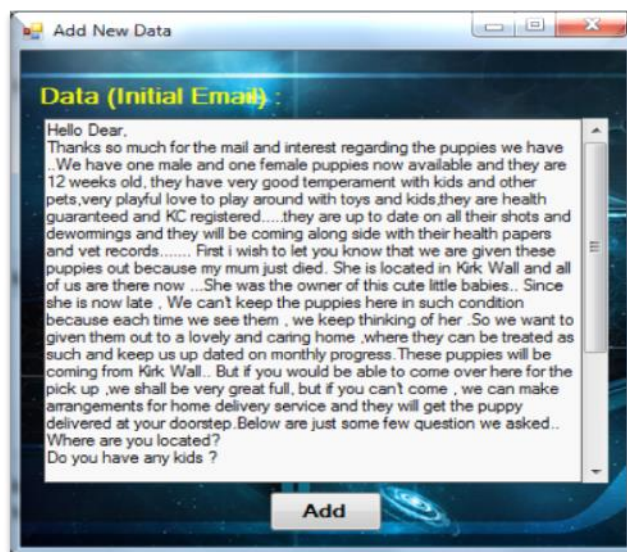
Figure 17: Scan Interface

Figure 18: Password Interface for Administrator
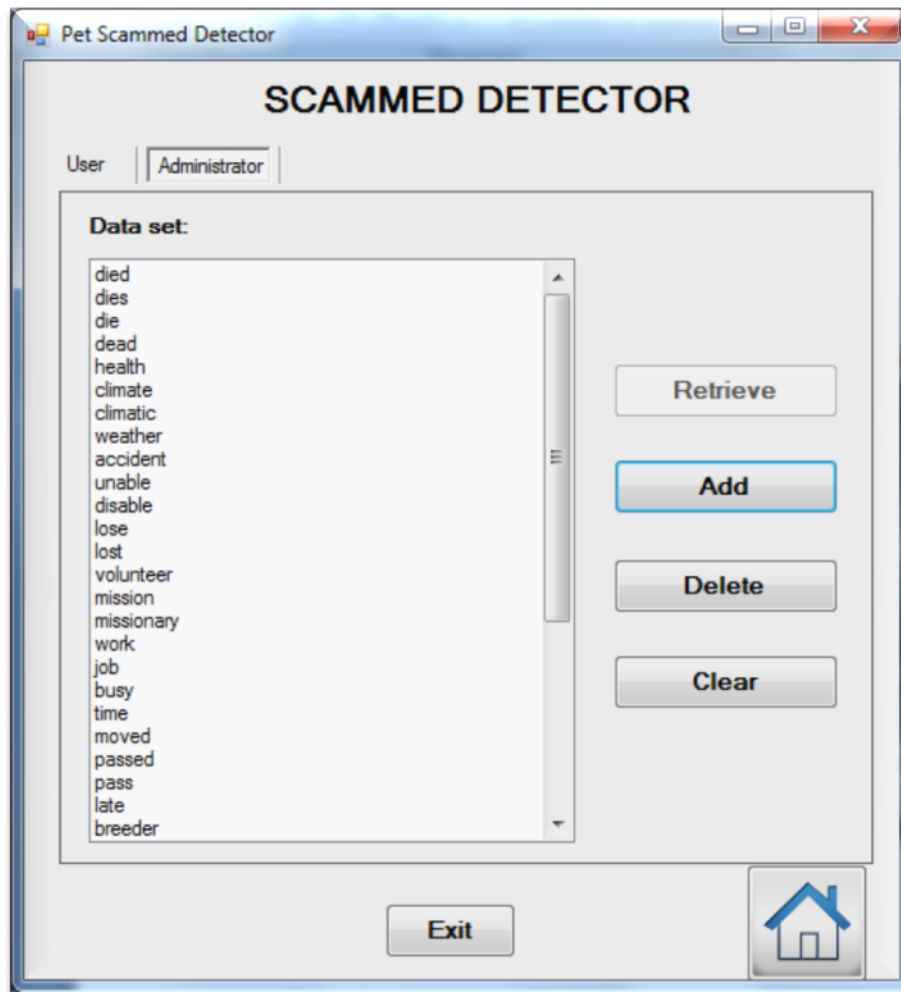
Figure 19: Administrator Interface

4.2.2 Coding

The main coding of the application as below:

```vbnet
Imports System.Text.RegularExpressions
Imports System.IO
Public Class frmMain

    Private Sub btnAdd_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles btnAdd.Click
        frmAdd.Show()
    End Sub

    Private Sub btnScan_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles btnScan.Click
        Dim strtdata As String 'ori
        Dim strtdata1 As String  'ori with no symbols
        Dim strtdata2() As String 'ori into array
        Dim strtdata3() As String = {} 'common words filtered
```

```vbnet
        txtData.ReadOnly = False
        frmTemp.Show()
        frmTemp.txtTrain.ReadOnly = False
        txtData.SelectAll()
        txtData.Copy()
        frmTemp.txtTrain.Paste()
        strtdata = frmTemp.txtTrain.Text

        strtdata1 = Regex.Replace(strtdata, "[^A-Za-z]", " ")
        Dim cleaned As String = Regex.Replace(strtdata1, "\s{2,}", " ")
        cleaned = LCase(cleaned)
        frmTemp.txtTrain.Text = cleaned
        strtdata2 = Split(cleaned)

        Dim i As Integer = 0

        For i = 0 To UBound(strtdata2)
            lstTemp.Items.Add(strtdata2(i))
        Next

        For k As Integer = lstTemp.Items.Count - 1 To 0 Step -1
            If Not lstData.Items.Contains(lstTemp.Items(k)) Then
                lstTemp.Items.RemoveAt(k)
            End If
        Next

        Dim count As Integer
        Dim number As Integer
        count = lstTemp.Items.Count
        number = count * 100 / 18

        If number >= 83 Then
            lblStatus.Text = "Surely Scam"
        ElseIf number >= 61 Then
            lblStatus.Text = "Scam"
        ElseIf number >= 39 Then
            lblStatus.Text = "Potential Scam"
        Else
            lblStatus.Text = "Not Scam"
        End If

        If number > 100 Then
            lblPer.Text = "100"
        Else
            lblPer.Text = number
        End If

        frmTemp.txtTrain.ReadOnly = True
        txtData.ReadOnly = True
        frmTemp.SendToBack()
    End Sub

    Private Sub btnClear_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles btnClear.Click
        txtData.Clear()
        frmTemp.txtTrain.Clear()
        lstData.Items.Clear()
        lstTemp.Items.Clear()
        txtData.ReadOnly = True
```

```vb
            btnAdd.Enabled = True
            btnClear.Enabled = False
            btnScan.Enabled = False
            frmTemp.Close()
            lblPer.Text = " "
            lblStatus.Text = " "
        End Sub

    Private Sub btnGet_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles btnGet.Click
            Dim DetailFile As System.IO.StreamReader
            Dim Temp, strDetail() As String
            DetailFile = New System.IO.StreamReader("D:\keywordnew.txt")

            'Add the detail from text file tfo list box
            Do Until DetailFile.Peek = -1
                Temp = DetailFile.ReadLine
                strDetail = Temp.Split("/")
                lstData.Items.Add(strDetail(0))
            Loop

            btnInsert.Enabled = True
            btnDelete.Enabled = True
            btnCle.Enabled = True
            btnGet.Enabled = False
        End Sub

    Private Sub btnInsert_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles btnInsert.Click
            frmInsert.Show()
        End Sub

    Private Sub btnDelete_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles btnDelete.Click
            If lstData.SelectedItem = Nothing Then
                MsgBox("Please select the item from listbox")
            Else
                Dim result = MessageBox.Show("Are you sure want to delete this
item?", "Message", MessageBoxButtons.YesNo)
                If result = DialogResult.Yes Then
                    lstData.Items.Remove(lstData.SelectedItem)
                End If
            End If
        End Sub

    Private Sub btnExit_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles btnExit.Click
            Me.Close()
            frmHome.Close()
            frmTemp.Close()
        End Sub


    Private Sub tbAdmin_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles tbAdmin.Click

        End Sub
```

```vbnet
    Private Sub btnCle_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles btnCle.Click
        btnGet.Enabled = True
        btnInsert.Enabled = False
        btnDelete.Enabled = False
        btnCle.Enabled = False
        lstData.Items.Clear()
    End Sub

    Private Sub Button2_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button2.Click
        Me.Close()
        frmHome.Show()
        frmTemp.Close()
    End Sub
End Class
```

4.3 Pet Scam Awareness Survey

Currently, most of the active internet users are the person between ages of 19-32 year old which is the people in Generation Y. Our initial survey was conducted on 53 respondents of Generation Y. Generation Y been selected as the respondents because according to Grasse (n.d), "Gen Y also spends more time online than adults do"[34]. Consumer Goods Technology (CGT) (n.d), adds that "Despite being far more tech-savvy than previous generations, Generation Y, the 80-million strong cohort of Americans between the ages of 18 and 35, has not forsaken shopping in stores for online purchasing"[35]. The objective of the survey is to understand the level of awareness among users again pet scamming. The subsections in the section will discuss on the result of the survey questions.

4.3.1 The awareness of the existence of pet scammed activities.
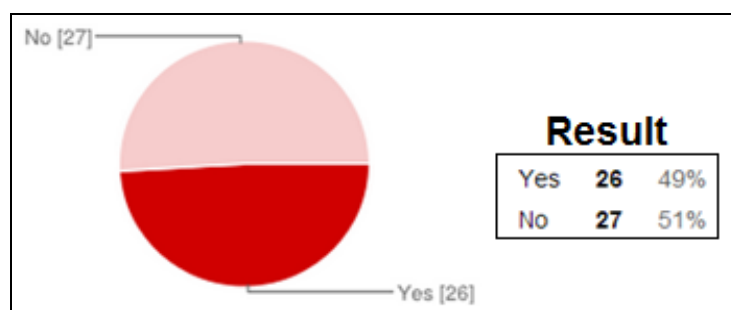
Figure 20: The result of question #1 in the survey

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[34] http://srdc.msstate.edu/ecommerce/curricula/electronic_retailing/images/generation_y_shoppers.pdf

[35] http://consumergoods.edgl.com/trends/New-Gen-Y-Shopping-Preferences-Revealed86477

Figure 20 shows the awareness of the respondents on the existence of pet scam. The result shows that, the number of respondents which are aware and not aware on the existence of the pet scam is quite balance. 27 respondents, 51%, are not aware on the existence of the pet scam before and 26 respondents, 49%, are aware about this matter. Therefore, the application to alert the user on the pet scam need to develop because half of the online user are not aware about pet scam and do not even know the existence of pet scam.

4.3.2 Communication between pet scammers and potential victims.
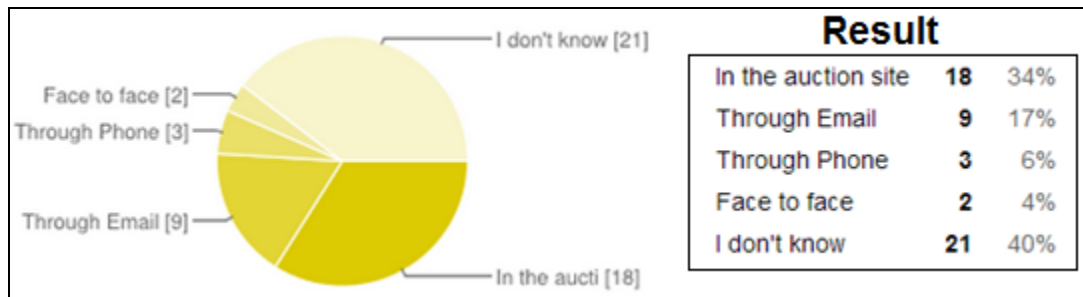
Figure 21: The result of question #2 in the survey
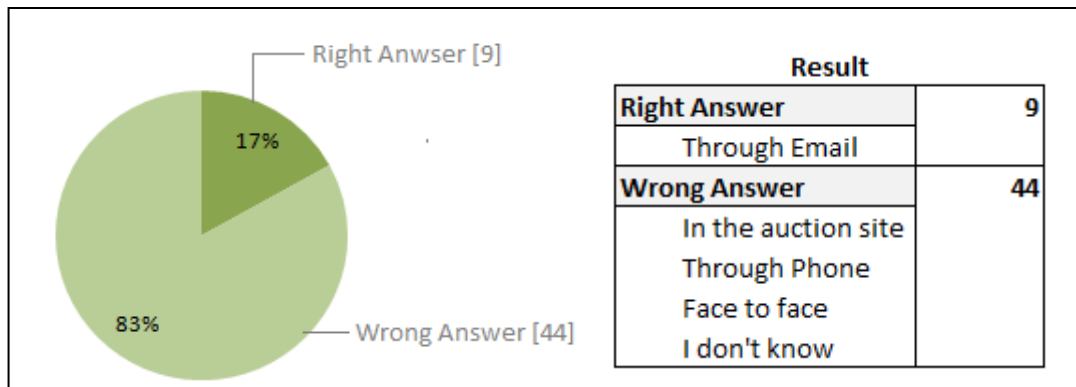
Figure 22: The result of right answer from the survey

Knowing the type of communication medium that been used by pet scammer is important. This is because they only use one of the communication medium which is email. This question is asked to gain the knowledge and the awareness of the online user about the medium of the communication of pet scam. Pet scammer will communicate with the potential victim through email and not in the auction site, where the fake picture of pet been posted. This is because they do not want the

auction site to take action toward their fraud cases. Besides, based on observations in the forum, the author found that, pet scammer only communicate with the potential victim through email.

Based on figure 21, only 17% of the respondents were aware that the conversations between pet scammer and potential victim is done through the email but 44 respondents which contribute 83% of the respondents are not aware of the communication medium that been used by pet scammers. The communication medium that been choose by 83% respondents are as shown in Figure 22. This percentage shows that, the online users are still lack of knowledge and do not aware on how to detect pet scam via communication. If the online users know the communication medium used, which is email, they will be more careful to deal with strangers through email especially when it is involves payment. Thus, pet scam can be avoided.

4.3.3 Understanding the aim of pet scammed.

Result		
Just for fun	3	6%
To get money	29	55%
To get the details of the victim	4	8%
To challenge the technology	3	6%
To know the effectiveness of cybercrime law	1	2%
I don't know	13	25%

Figure 23: The result of question #3 in the survey
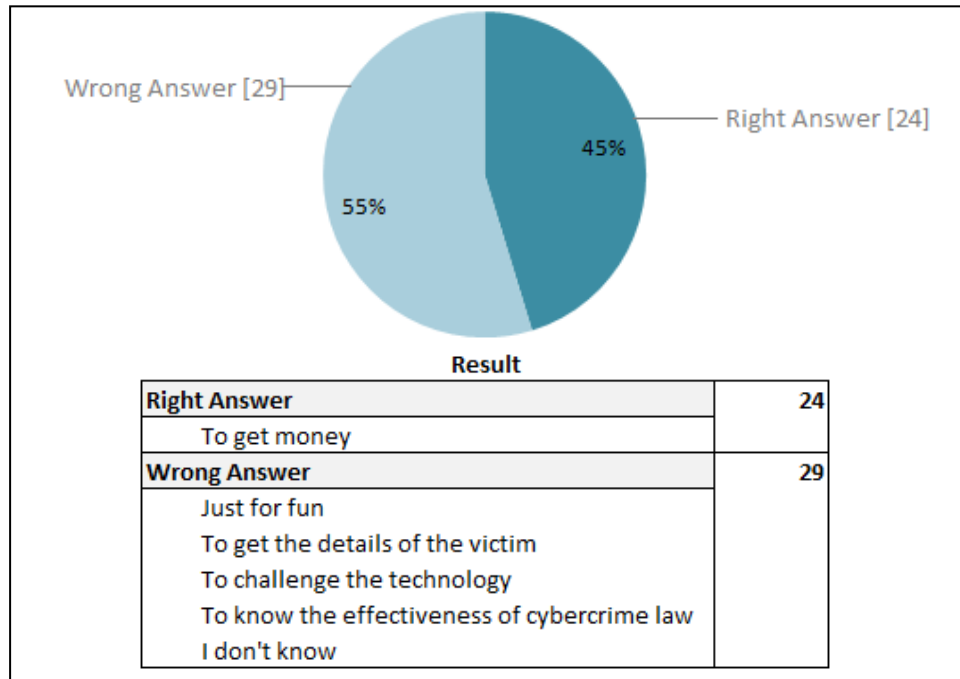
Figure 24: The result of the right answer from the survey

This particular survey is to identify whether the respondents aware of the aim of pet scammed activities. According to Free Internet Security (n.d), "pet scam is quick-profit scheme where a person cheats another individual or group out of money by presenting them with false information during a deal or offer". Based on this definition, the main purpose of the pet scam been clearly mentioned which is to get money.

In figure 24 shows that, 24 respondents, 45%, know the main purpose of pet scam while 55% of the respondents choose the other purpose which is less important. By referring to these figures, for about half of the respondents are able to alert on any potential pet scam by being more cautious when dealing with money as they know the main purpose of pet scam. However, the other half might be influenced by the offer of the pet which is difficult to resist. They might tend to give their money if they do not aware on the main purpose of pet scam. They might not doubt with the transaction that they made for the pet. Therefore, it is difficult to detect and aware about potential pet scam without understand the main purpose of pet scam.

4.3.4   Awareness on techniques that pet scammers used.

Result

Yes. To make their plan success.	**33**	62%
No. Waste time.	**5**	9%
I don't know	**15**	28%

Figure 25: The result of question #4 in the survey

Result

Right Answer	**5**
No. Waste Time	
Wrong Answer	**48**
Yes. To make their plan success.	
I don't know	
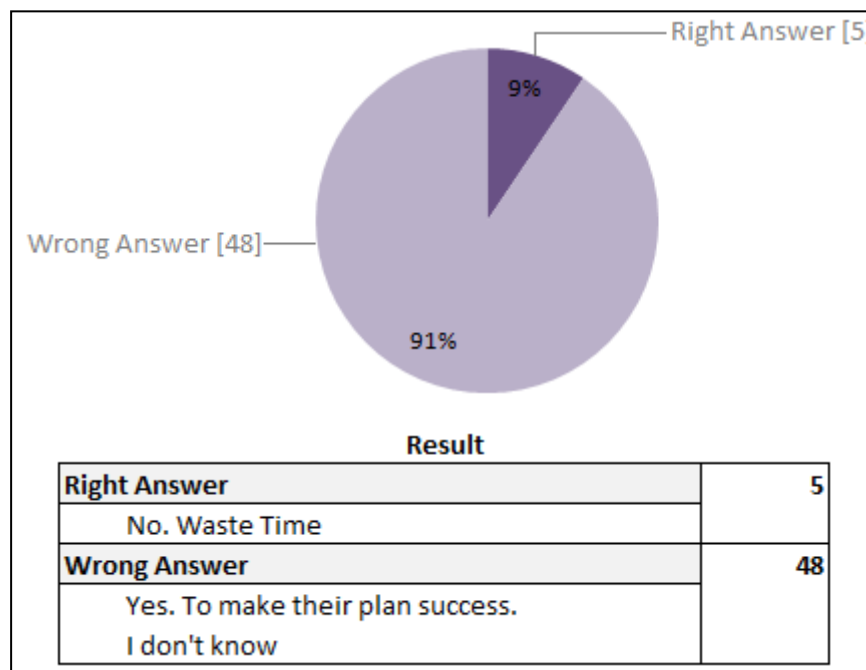
Figure 26: The result of the right answer from the survey

Based on observation found that, most of the scammer will create a story about the hardship of the family, someone died, they will be relocated or the climate is not good for the pet as the reason to give away the pet. This survey looks into the opinion of the respondents whether the scammer will always used the same method or adopt new story lines. As shown in figure 25, the highest percentage of the respondents, which is 62% of respondents, think that the pet scammer will create different story for different individual in order to make their plan success. However, it is not true for the pet scammer to create different story for different individual. They will only change their name, location and country only. Scammer has good

geographical knowledge about certain places. This knowledge is essential for them to gain shipping fees from the victims. The minimum percentage of the respondents which is 9%, think that the pet scammer will not change their story for different individual due to wasting of time. 28% of the respondents do not know the answers. The online user need to know the story created by the pet scammer because that story is used to grab the online users' action by making the users feel sympathy toward them. The pet scammers are not targeting few people but many people around the world at the same time. So, it is quite difficult for them and time wasting to create different story to different individual. The online users need to know about this matter in order to make them alert on potential pet scam and detect it. Besides, the online users can compare the pet scammer's story with the available pet scam cases in the internet in order to detect the potential scam.

However, based on figure 26, only 9% of the respondents are aware about the story created by the pet scammer. This shows that, only 9% have potential to search about the story used by the pet scammer as they aware and another 91% of the respondents might not search the existence cases in the internet due to they think that the pet scammer will only create unique stories. Parts of that 91%, 28% of the respondents do not even aware on the existence of this matter. Therefore, the online users are difficult to detect the pet scam due to their inability to validate their communication with the existing pet scam cases.

4.3.5   Knowledge on detecting the pet scammed.
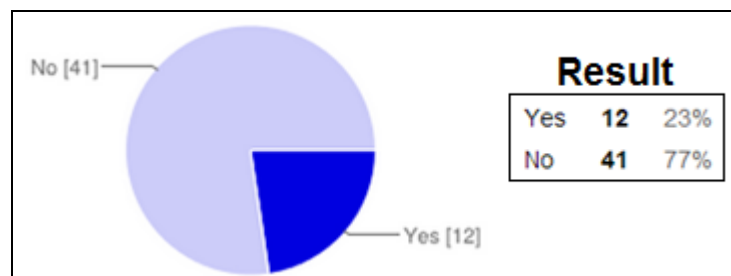
Figure 27: The result of question #5 in the survey

The previous three survey question is used to identify the knowledge and the awareness of the online users toward pet scam. This question particularly used to

identify whether they are able to self-identify the potential pet scam. The conclusion that can be drawn up from the previous three survey answers is the online user are not able to detect the potential pet scam by themselves due to lack of knowledge on pet scam. However, the result in figure 27 supports the aforementioned conclusion. This is because 77% of the respondents admit that they are not able to detect pet scam if they want to purchase pet online. Only 23% of the respondents which is about 12 respondents are able to detect pet scam online.

4.3.6   Summary of the survey

Result	
No correct answer (0%)	22
One of the answer is correct (33%)	20
Two of the answers are correct (67%)	10
All answers is correct (100%)	1
Grand Total	**53**
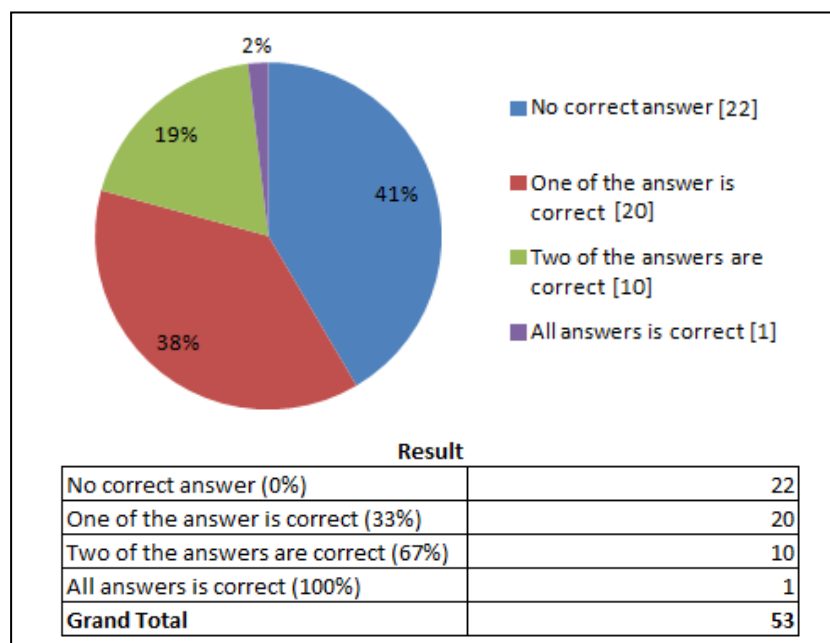
Figure 28: The result of the right answer from the survey

Figure 28 is been drawn based on the answers of three basic questions to detect pet scam. Those questions are in subsection 4.3.2, 4.3.3 and 4.3.4 which are related to types of communication medium, main purpose of pet scam and the stories created by pet scammer. Based on 28, only 1 of the respondents, 2%, gets all of the answers are correct. 19%, 38% and 41% of the respondents gets 67%, 33% and 0% of correct answers respectively. The highest numbers of respondents are 22 respondents, 41%, which get all wrong answers. Those figures show that, most of the respondents are not fully aware on pet scam and how to detect it. This is because the online users need to do research on pet scam to have that knowledge to detect potential pet scam and that knowledge is not part of general knowledge. Therefore, many people are not

able to detect the potential of pet scam by themselves due to lack of pet scam knowledge.

4.4 Interview

As been mentioned in Chapter 3, the research will collect the data from the interview of the experienced user that had deal directly with the pet scammer. The objective of the interview is to understand the process involved in and patterns of the pet scam. The interview had been conducted for about 2 hour and with an internet user and also pet lover who wanted to be remained anonymous in the data collection. The author will refer the respondent as Ms. X. The results of the interview are as follows:

4.4.1   Posting of pet's picture

Ms.X is interested to buy a Bengal kitten and she searches it in the internet. She found the attractive offers of Bengal kitten in an auction site which is oxl.com. The offer is difficult to resist due to the Bengal kitten in the picture is so cute and it is free. The communication started when she sent an email to pet scammer.

4.4.2   Initial email communication

In the initial email communication, the pet scammer pretended to be a lady. She has two Bengal kitten and she tell brief information about the kittens. She wants to give the kittens out due to the dies of her son. Before this, the kittens is belongs to her son. She want to give the kittens due to the kittens reminds her to her late son. She asked Ms.X to provide her the details as shown in Figure 29. However, in Ms.X case, the questions are referred to kitten not a puppy.

```
Are you married?,,,,,,,,,,,,,,,,,
Do you have kids?,,,,,,,,,,,,,,
Have you ever kept a puppy?,,,,,
Where are you located?,,,,,,,,,,
What do you do for a living?,,,,
How soon do you want these puppies?,
```

Figure 29: The example of details that been asked by pet scammer[36]

As been told by Ms.X, the pet scammer would like to have the victim details in order to pick the location far from Ms.X's place. She gives the details to the pet scammer and the details include the location of Ms.X's house which is at Perak state. Ms.X also asked the location of the lady (pet scammer).

4.4.3   Further communication

The lady (pet scammer) gets the details of Ms.X and she tells to Ms.X that she located in Sarawak. She is foreigner and stay several years in Malaysia. The pet scammers picked Sarawak as her location because she wants to avoid Ms.X to pick up the kitten by herself. Therefore, she is able to charge on the shipping fees of the kittens and the fee needs to been paid by using Western Union. Ms.X agreed to pay for shipping fees.

4.4.4   Pet scam

Ms.X gives late respond to the lady's email. The lady call her cell phone and the language that used by the lady is difficult to understand because the lady used broken English. The cell phone conversation makes her doubt toward the lady. The other matters that make her doubt is the lady forget to change the word 'puppies' to the word 'kitten' in one of the email. This is happened due to the lady copy the existence pet scam email template. She is able to detect the pet scam after she conducted several researches on pet scam.

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[36] http://blogg-erton.blogspot.com/

4.4.5 Flow of pet scam from the interview

The processes take place in pet scam is the pet scammer posting fake picture in the online auction site and the offer is difficult to resist. The potential victims will contact the pet scammed through email. The email address of the pet scammer has been posted in auction site. All the communication of pet scam involve in email. After that, the initial email communication from pet scammer took place. Pet scammer provides and asks several details to and from the victim respectively. The pet scammer will get the money from shipping fees which been transfer via Western Union.

The patterns of initial email communication are the pet scammer will share the hardship of the family, the brief information about the pets and the reason of giving the pets out. Besides, the pet scammer will asked the victim to provide their details and the details of the information needed is listed by the pet scammer. From the interview, the shipping fee does not been informed in the initial email communication. Therefore, the patterns of the initial email communication are important in order to detect the potential pet scams.

4.5 Forum and Pet scammed template

The author has compiled some existence cases on pet scam to perform analysis the pattern of the document. The type of the documents the author dealt with is emails. The patterns are used to detect the potential of pet scam. The pattern is only focus on the initial email communication because the application that will be developed is only detecting the potential pet scam from the initial email communication. The previous and existence cases been gathered from website and blog such as scamwarner and blogg-erton. Figure 30 to 32 shows the example of pet scammers' initial email communication.

```
Hello,
My name is kerry.
I am actually a mother of Luis(my lovely late 14 years old son) ,he
passed away last two weeks in a car accident with my lovely husband.
I have weep until i do not know what else to do but to move along with
life.

Actually i have 2 Maltese puppies (male / female) my
husband bought for my late son some months ago.
They are now grown but my humble son whom i love so much just passed
away and i am also disable due to the accident of which i am on a
wheel chair ,so i really need a good home for the puppies.
I really do not have the strength and means to take care of the puppies.
Note: that I'm not selling this puppies, but
offering for adoption. I want the best for the puppies, so
in search of a pet lovely and caring home.
Please can you tell me more about yourself?
If interested, hoping to read from you.
Thanks.
```

Figure 30: The example of pet scam cases[37]

Based on figure 30, the initial conversation of the pet scammers was took place in the email. In this case, the pet scammer pretended to be the mother named Kerry. Kerry tells her story to the victim about the car accident tragedy which causes her husband and son dies, and she is disables. She does not have strength to take care of the puppies. In addition, she shares brief information about her puppies. Lastly, she wants to know the information about the victim.

---

[37] http://www.scamwarners.com/forum/viewtopic.php?f=36&t=71329

Hello Dear,

Thanks so much for the mail and interest regarding the puppies we have ..We have one male and one female puppies now available and they are 12 weeks old, they have very good temperament with kids and other pets,very playful love to play around with toys and kids,they are health guaranteed and KC registered.....they are up to date on all their shots and dewormings and they will be coming along side with their health papers and vet records....... First i wish to let you know that we are given these puppies out because my mum just died. She is located in Kirk Wall and all of us are there now ...She was the owner of this cute little babies.. Since she is now late , We can't keep the puppies here in such condition because each time we see them , we keep thinking of her .So we want to given them out to a lovely and caring home ,where they can be treated as such and keep us up dated on monthly progress.These puppies will be coming from Kirk Wall.. But if you would be able to come over here for the pick up ,we shall be very great full, but if you can't come , we can make arrangements for home delivery service and they will get the puppy delivered at your doorstep.Below are just some few question we asked..

Where are you located?

Do you have any kids ?

Have you ever own a pet before ?

Why this breed of puppy before?

Why are you interested on this breed?

How soon do you need the puppies over?

Which sex are you interested on?

Sorry for all the question , but we just want to be sure that the puppies are going to the right home and they will be having all the love and attention they need .We are given them out for £200 just for the delivery and that's all If still interested , contact us back for more details of the puppies and picture

Figure 31: The example of pet scam cases[38]

Referring to figure 31, the communication between pet scammer and victim took place in the email. The pet scammers give brief information about the pets to the victims in the start of the email. The pet scammer give the reason of giving the pet out which is because of the dies of her mother. Keep the pets can remain her to her mother. She wants to know the details of the victims as the reason of giving out the pets to the right person. There is no charge for the pets but only charge on delivery fees.

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[38] http://blogg-erton.blogspot.com/

Thanks for your mail regarding my puppies........I have two still available to any one prepared to provide them with enough care and love, where they will be well spoil with all their need..........they are now 11 weeks old and they have very good temperament with kids and other pets,very playful love to play around with toys and kids,they are health guaranteed and AKC registered........they are up to date on all their shots and they will be coming along side with their health papers and vet records.......They are called Lilian and Alan and i am actually giving them out because they were always cared and looked after by my husband(smith) but with a heavy heart i lost smith and he was all I got ,i work with a global,broad-based health care company devoted to discovering new medicines, new technologies and n e w ways to manage health.smith died in an accident last months on his way back from work and i have very bad memories when i see these puppies around me,because they were always together with him since i am always busy in the laboratory.i really need to give them to someone who can really care and love them just the way smith used to.These puppies have been very lonely since smith passed away so the best thing i decided on as my colleague advised me was to send them to a loving home ...i really count on you if you can be there for them..I am located in Victoria Island in Cameroon and i am only asking $110 for one and $220 for both to flight them to you......

Please may I also ask you a few questions?

1).....Where are you located?

2)...Are you a breeder?

3)...do you have kids?

4)...Can you also promise that you will take good care of them?

4)...How soon are you ready to have them home?

At least with this information,i will get to know better where they will be going to.......See their pictures below.Lilian is the female puppy while Alan is the male puppy.i just hope you will love them........I will also like you to promise me that you will always send their pictures to me monthly so that i can see how they are doing in your home.......Below is an attachment of their most recent pictures for you to see.i will be waiting for your mail asap.. thanks and God bless

Figure 32: The example of pet scam cases[39]

In figure 32, the conversation took place in the email and the pet scammer pretended to be a lady. The pet scammer starts the email by introducing the pets. The pet scammer give the reason of giving the pet out is because of her husband was died in accident on his way back from work. She is busy and has bad memory if she keeps the pets. So, she does not manage to take care of the pets. The pet scammers give the pets for free but charges on shipping fees. She requested the details of the victim as a reason to know where the pets will to be transferred.

Based on three compiled document, the patterns of the pet scammed emails are quite similar with one another. The communication of pet scammer and victim is take place in the email. There are few patterns that can be trace in the initial email communication. One of the pattern is the pet scammer will share brief story about the pets to shows the pets is lovely and cute. Besides, he or she will tell the story about the hardship of his or her family such as someone died to grab victim's attention and sympathy. The pet scammer will give the reason of why he or she does not manage to take care of the pets. The example of the reasons are pet remains her or him to the person which is dies, she or he is disable or busy. The hardship of the family and the

pet scammer does not manages to take care of pets are being the reason of giving the pets out. The pet scammers will request the details of the victims and create a reason of why he or she wants the details. The pet scammers want the victim details in order to pick the location that far from the victims which may allow them to charge the victim on shipping or delivery fees. Some of the pet scammers will inform to the victim to pay for shipping or delivery fees but no charges for pets in the initial email communication. However, some of them will tell about the fee after few conversations. The pet scammer will gain the money from the shipping or delivery fees. Therefore, the online user need to know the patterns of the pet scammers stories, the communication medium used, and how the pet scammer gain money in order to detect the potential scam.

4.7 System Evaluation

The application been evaluated by using 50 existence pet scammed emails. The result is as shown in Figure

STATUS	NUMBER OF SCAMMED EMAIL
Not Scam	6
Potential Scam	15
Scam	19
Surely Scam	10
TOTAL	50
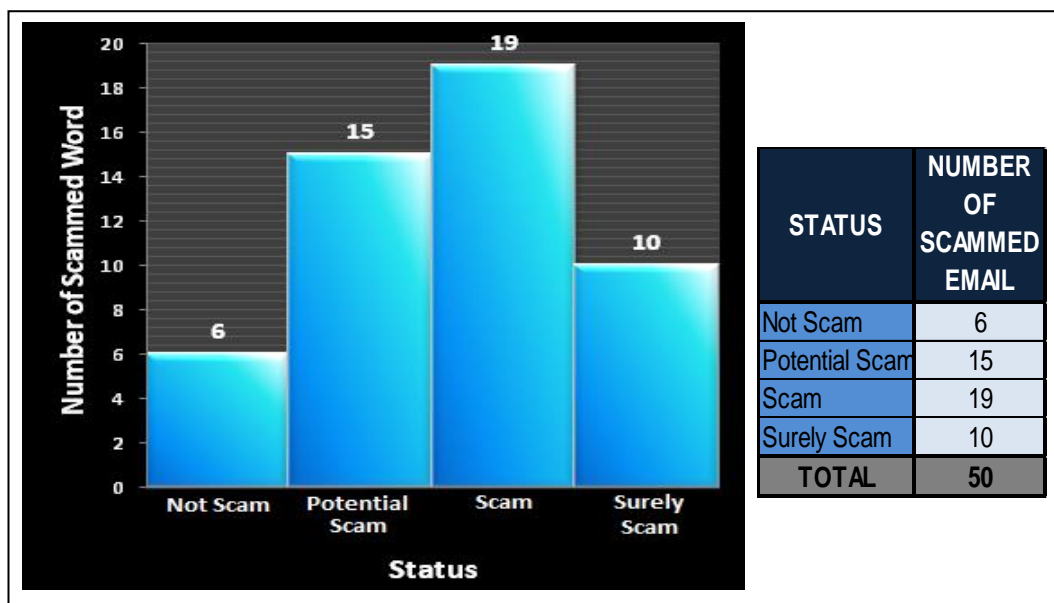
Figure 33: The result of the existence pet scammed email

This application is used to alert the user on the potential of pet scam. The users are advised for not to precede the conversation or transaction with the scammer if the result of the pet scammed detector is displaying 'potential scam', 'scam' and 'surely scam'. So, based on Figure 33, 6 existence pet scammed emails had been detected as

'Not Scam' by using scammed detector. The other 44 existence pet scammed emails had been detected as 'potential scam', 'scam' and 'surely scam'. Therefore, the application is able to alert the user on the potential pet scam due to there is only 6 out of 50 existence pet scammed emails is not scam and allowing the users to precede the transaction or conversation with pet sellers.

CHAPTER 5

CONCLUSION

Nowadays, online shopping is one of the famous hobbies among generation Y. However, they are forget about one of the important matter when deal with online shopping which is scam. They are exposed to potential of scam without having sufficient knowledge to protect them from the scam. Therefore, pet scam detector must be created as one of the way to protect online buyer from one of the potential scam which is pet scam. Detect and alert the online buyer on the potential pet scam can save part of the scam's victim. This is part of supporting the mission of Cyber Security Malaysia which is to create and sustain a safer cyberspace to promote National Sustainability, Social Well-Being and Wealth Creation (Cyber Security Malaysia, 2013)[40]. The recommendation of the system is to automatically extract the initial email. The pet scam detector that been develop is semi-automatic because it need the user to input the email in the textbox provided. Furthermore, the documentation of the complete project also needs to be done which is the project dissertation.

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[40] http://www.cybersecurity.my/en/about_us/vission_mission/main/detail/2064/index.html

REFERENCES

2009 Internet Crime Report. (2009). Retrieved July 16, 2013, from Internet Crime
    Complaint Center:
    http://www.ic3.gov/media/annualreport/2009_IC3Report.pdf

Alexander, A. (2012, June 12). Internet Scam Statistics 2012 [Infographic].
    Retrieved July 10, 2013, from AnsonAlex.com:
    http://ansonalex.com/infographics/internet-scam-statistics-2012-infographic/

Birch, S. (n.d.). International Private Investigators & Global Background Checks.
    Retrieved July 12, 2013, from
    http://globalinvestigations.blogspot.com/2013/02/china-investigators-warn-
    internet-users.html

G.Chowdhur, G. (n.d.). Natural Language Processing. Retrieved July 10, 2013, from
    http://www.cis.strath.ac.uk/cis/research/publications/papers/strath_cis_publicat
    ion_320.pdf

International Puppy Scam Hits New Zealand. (2012, February 23). Retrieved July 12,
    2013, from HotScam: http://www.hotscams.com/articles/international-puppy-
    scam-hits-new-zealand/

Jianyun Xu, A. H. (2007). Behaviour Mining for Fraud Detection. Journal of
    Research and Practice in Information Technology.

Looking for a pet online? Don't Get Scammed. (n.d.). Retrieved July 11, 2013, from
    International Pet and Animal Transportation Association:
    http://www.ipata.org/pet-scams/

Maryam Mokhtari, M. S. (2008). A Novel Method in Scam Detection and Prevention
  using Data Mining Approaches.

Negnevitsky, M. (2005). Artificial Intelligence - A Guide to Intelligence Systems.
  New Jersey: Addison Wesley Educational Publisher Inc.

Scam Report. (n.d.). Retrieved July 11, 2013, from International Pet and Animal
  Transportation Association:
  http://www.ipata.org/useruploads/files/scams/Scams_Report_April-30-
  2013.pdf

APPENDICES

Appendix A:

```
————————————————————————————————————————
>> Date: Mon, 22 Apr 2013 06:14:32 +0100
>> Subject: Re: Adorable Tea-Cup Maltese
>> From: kerrylily2013@gmail.com
>> To: my name
>>
>> Hello,
>> My name is kerry.
>> I am actually a mother of Luis(my lovely late 14 years old son) ,he
>> passed away last two weeks in a car accident with my lovely husband.
>> I have weep until i do not know what else to do but to move along with
>> life.
>>
>> Actually i have 2 Maltese puppies (male / female) my
>> husband bought for my late son some months ago.
>> They are now grown but my humble son whom i love so much just passed
>> away and i am also disable due to the accident of which i am on a
>> wheel chair ,so i really need a good home for the puppies.
>> I really do not have the strength and means to take care of the puppies.
>> Note: that I'm not selling this puppies, but
>> offering for adoption. I want the best for the puppies, so
>> in search of a pet lovely and caring home.
>> Please can you tell me more about yourself?
>> If interested, hoping to read from you.
>> Thanks.
————————————————————————————
after i send all the information , the pet scam pattern come again...

Thanks for the love, you have for my puppies.
I have a very busy schedule with my Doctor at the
moment,so i truly need a lovely home for the puppies.
```

The present situation is that, you are located a little far away from
me, but i can send you the puppies, via a pets delivery agency, and you
pay for the delivery cost.
From my inquires, the delivery cost from Thailand, to your home address
for the puppies is RM850 and RM450 for one of the puppy.
The puppies will be delivered, directly at your home address.
The data, i will need from you are:

The puppies will be delivered, with all vet check certificate,pedigree
papers, microchip and all other necessary documents.

————————————————————————

im tellin tat i do not wan ord cos i tot her is stay at shah alam...
she keep email me so i jux think tat she is reli pity...

she say - she located at thailand with critical situation tat she found herself n being referred to a doctor tat
can easily can make her to b release from the wheel chair so she hope tat can find someone can adopt her
pups..
n oneday she wil bck kl n c her pups....
she keep ask me to send all my delivery info to her n to proceed woth the registration...n i tel her tat i didnt
want to pay any fee...
she said n keep said - pls u jux need pay the delivery charge cost n nothin else...y ar u trin to do tis to a
widow women??

i ignore her many times ... after she say she pay half then i pay half...
i oso ignore..at the end she ask me pay RM100 (western union)
then i accept...

after all register paper come out , send all the detail to me... like very real...
i feel happy when show it....i think tats is done...jux wait for the pup...
THE story coming again .....
tis msg is after i go n pay the delivery change than the pet scam send mail to me....need wat insurance fee
$&@$&@$@@$@@.... rm2000...
i tot KERRY dunno so i told her... she act like (huh,,,,! insurance change...........) n ask me to send mail to
her....after tat she keep n keep askin me go n pay ASAP.... i jux told her i dunt hv much money ....n she ask
me to borrow with someone n do not tel them tis kind of thing bcos they wont borrow me the money.... she
keep askin me go n borrow it...
after while i jux tel her i juc borrow rm100 n i hv rm300 in my acc... i ord try my best ... i cant make it ord...
she say tat she wan to discuss wif her laywer, n her laywer juc can borrow her rm1000 oly...another half need
i go n pay ....she keep askin n askin ... n tat time i oso didnt hv transport so jux told her tat tomorrow can?
she mad n say i wont let my pups alone at agency there... its so pity u noe...
oso keep sayin tat....
i get mad tooooooo...... cos she keep forced me....i say tat if u wan me to pay u should wait til tomorrow
otherwise u pay full payment by urself n i wil refund bck the money when the pups reach here..
she sudden calm down n say OK.. tomorrow mux go n pay early...we ead the chat...
i thinkin tat is a wrong way n weird... hv many no logical thing ....
so i start to find the web... i saw many tis kind of case .. i feel nervous in the moment...
hv to tks gods tat let me find it b4 i transfer the rm1000 to them......

all the thing i comfirm tat is pet scam..
n i write msg to her through the FB private msg....
i tell her if tat u wan me take care ur pups or u worry about them u jux pay full payment on it, if the ppl tat
refund to me i wil western union to u bck.. u can bliv me cos u hv my information ...n tis is the good
experience u giv me.. tks
—————————-

tis morning , she said-

please i am very worried about what you are trying to say
you should go through the delivery agency information and they said their webpage is under auditing due to
too much fraud so they want to audit their webpage
why are you looking at the webpage of other people??
please just stay focus and do what they ask you to do

please as i earlier said they are people that are trying to use thier webpage as they explain to me
that is why they are auditing thier webpage
so do not worry
so jsut go and make the payment and do not get worry about what is happening
but be worried about the pups at the agency
they are humans try and know that we have to treat them with much love an care.
—————-
i google there n copy tat FAKE WORLDWIDE ANIMAL TRANSPORT CAMAROON..
tat all ppl write the comment n the example..
i tols her tat the story the steps all same wif u....

she said -
please that is not me
i think we do not need tp be scare anymore
because the pups are on pending delivery
so why you being scare...
it can b refund to u, do not worry...
please i do not have like i caould have paid
becasue i was not happy seing my pups sleeping at the delivery agency
AS I SAID IF I HAD ALL THE MONEY I WILL PAY
BECAUSE I DO HAVE SO MUCH AFFECTION FOR THE PUPS
please lets put our head together as one and try to do something good for ourself rather looking at other
peoples problems
you know i have only RM100
please try all your possible best and borrow to complete the amount that you told me that you had
please we are creating an everlasting relationship
so jsut try and make me happy
please just trust them and go and make the payment
you will enjoy thier services
the lawyer can only come into place if the pups are death and not trying to settle issues like this
hv u gone to go n make the payment
i wil die with heart attack
pls they ar at the agency
but you should know that there are so many fraud going on aroung the world
but why are you relating this message to me

Im askin she asj her lawyer to settle the agency...BUT...
she said -
he has refuse saying that he can charge you for pet abandonmen
he caid he has carryon all the paper works and you do want to abandon the pups
pls u jus makin me to b annoyed
OK
i was just pleading with my lawyer for him not to take any legal action
my lawyer is trying to file in a letter convocation to the headquater of worldwide animal transport
so their lawyers can face this problem for pet abandonmen
i have being pleading on your behave that you are going to make the payment but you do not seems to understand.
he said you will be taken to court as stated by the insurance department
so he said your local police will get incontact with you
PLEASE MY LAWYER IS ONLY INSISTING THAT
HE DO HAVE ALL YOU INFORMATION YOU CANNOT RUN
he wants to persue you to court
just go and make the payment because they are saying they do want to forward all you delivery information to thier headquater in UNITED STATE OF AMERICA
were u wil b judge for pet abandonment .
please thy are very angry with you because they explain to you clearly that they do not keep pets at the agency but you are delaying them.
they explain to u tat due to the much fraud
people trying to use thier website in doing manything they have decided to place thier web page for under auditing
they said they have already send your full delivery information to thier headquater

so they said they have given you less than an hour to go and make the payment like they will contact your local police and you will be held and taken to court
i think you saw the jail terms and the fine in the insurance mail that they send to you
please just go and make the payment since they have given you an hour.

———
im start to scare tat ...
i ask her giv me noe the malaysia agency office num...

then she said tat-
they do assign pet councelors world wide so they have someone that carry the pups from thailand to malaysia
so they have persons that travel from one place to the other in depositing pets
so once rexie and lilly will commence thier flight there will be a particular person that will take them from thailand to malaysia assign by the agency to go deliver the pups

please you need to know that the more the delay the you will start receiving calls from the headquarter of the delivery agency...........................

Figure 34: The details conversation between pet scammer and victim[41]

[41] http://www.scamwarners.com/forum/viewtopic.php?f=36&t=71329