

Animal Health System: Pet Health Clinic

by

Afida Binti Amin

Dissertation submitted in partial fulfilment of
the requirements for the
Bachelor of Technology (Hons)
(Business Information System)

SEPTEMBER 2011

Universiti Teknologi PETRONAS
Bandar Seri Iskandar
31750 Tronoh
Perak Darul Ridzuan

CERTIFICATION OF APPROVAL

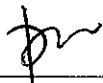
Animal Health System: Pet Health Clinic

by

Afida Binti Amin

A project dissertation submitted to the
Business Information System Programme
Universiti Teknologi PETRONAS
in partial fulfilment of the requirement for the
BACHELOR OF TECHNOLOGY (Hons)
(BUSINESS INFORMATION SYSTEM)

Approved by,



(Miss Goh Kim Nee)

UNIVERSITI TEKNOLOGI PETRONAS
TRONOH, PERAK
September 2011

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.



AFIDA BINTI AMIN

TABLE OF CONTENTS

TABLE OF CONTENTS	1
ABSTRACT	4
ACKNOWLEDGEMENT	5
CHAPTER 1: INTRODUCTION	6
1.1. Background of Study	6
1.2. Problem Statements	7
1.3. Objectives	8
1.4. Scope of Study.	8
1.5 Feasibility Study	9
CHAPTER 2: LITERATURE REVIEW	10
2.1. Introduction	10
2.2 Veterinary Industry in Malaysia- From traditional system to online system	12
2.3 Veterinary Industry in Malaysia- Database Centralization	14
2.4 Veterinary Industry in Malaysia- Internet and pet health information.	14

CHAPTER 3:	METHODOLOGY	.	.	.	.	20
3.1	Prototyping Methodology	.	.	.	.	20
3.2	Requirement Gathering	.	.	.	.	21
3.3	System Analysis	.	.	.	.	21
3.4	System Design	.	.	.	.	21
3.5	System Development and Testing	.	.	.	.	22
3.6	System Implementation	.	.	.	.	22
3.7	System Delivery	.	.	.	.	22
CHAPTER 4:	RESULT & DISCUSSION	.	.	.	.	23
4.1	System Modeling	.	.	.	.	23
	4.1.1 Activity Diagram	.	.	.	.	23
	4.1.2 Use Case Diagram	.	.	.	.	24
4.2	System Functionalities & Interface Design	.	.	.	.	25
	4.2.1 Website Main Page	.	.	.	.	25
	4.2.2 About Us Page	.	.	.	.	26
	4.2.3 Appointment Page	.	.	.	.	26
	4.2.4 Ask The Vet Page	.	.	.	.	27
	4.2.5 Appointment Form.	.	.	.	.	27

	4.2.6 Grooming Form.	28
	4.2.7 Pet Hotel Form.	29
CHAPTER 5:	CONCLUSION & RECOMMENDATIONS	30
REFERENCES	. . . . .	32
APPENDIX	. . . . .	34

ABSTRACT

Nowadays, with the advancement in the world of technology, specifically in Information and Communication Technology fields, such as the internet, wireless network, communication technology, many business parties had incorporated these technologies in their daily business conduct. They believe that the advancement of technology will surely bring good if they can appropriately be incorporated them into business conduct. As such, many business people had involved IT developer in applying IT into their businesses. The idea of creating this Animal Health System is basically from the respond that I get from other people. The problem arise if the client/customer losses or damage the vaccination card. If the card damage because it soak in water, then the date of last vaccination cannot be detected. However if the clinic has a proper system to store all the important information, then it should be no problem for everyone. Besides that, by having this system client/customer can fill up online appointment form just right from their desk. Besides giving out medical treatment, Pet Health Clinic also provides other services such as pet hotel, pet grooming and pet import and export. There are online forms available for boarding reservation and pet grooming in this website. Chapter one begins with the background of project, problem statements, objectives and the scope of study. Here the goal of this system will be stated clearly like why this system is being developed and what it can do. Chapter two contains literature review and this section refers to researches and findings related to this project from books, journals and articles. Chapter 3 is about the methodology being used to develop this system. For this system, Rapid Prototyping methodology is being chosen as it helps the system to meet the requirement faster. This chapter also includes the system requirements which show the software and hardware that are being used to develop the system. Chapter four consists of results and discussions. In this chapter, the structure of the system can be seen clearly as the use case and activity diagram are being described. Other than that, the system interfaces are being showed with their functionalities, for both clients and administrators. The last section shows the conclusion and several recommendations for the system improvement.

ACKNOWLEDGEMENT

Praise to Allah, after almost one year of hard work, this final year project and the final report are successfully completed. This project involves many people who have been contributed a lot of guidance, advice and assistance. A lot of thanks go to them for their commitment and willingness to support me and this project in ought to achieve the objectives and targets

First and foremost my grateful to Allah S.W.T for giving me the strength and health to do this project work until it was done. This project will not successfully complete without *His blessings*.

I am heartily thankful to my supervisor, Miss Goh Kim Nee whose encouragement, guidance and support from the initial to the final level enabled me to develop this project with clear direction and ensure that it is completed on time.

Not forgotten to my family for providing everything such as money to buy things that related to this project work and their advice, which is the most needed for this project. They also supported me and encouraged me to complete this task so that I will not procrastinate in doing it.

Lastly, I offer my regards and blessings to all those who supported me in any respect during the completion of the project, especially my friends who also shares their ideas with me. Thank you.

CHAPTER 1

INTRODUCTION

1.0 INTRODUCTION

1.1 Background of Study

Over the decade, the veterinary industry in Malaysia has undergone tremendous changes. People can see that they have upgraded their services. From only giving a medical care to the pets, now they have come with different types of services such are pet's hotel, pet's grooming and others. Veterinary is a concerned or connected with the medical or surgical treatment of animals, especially domestic animals.

In Malaysia, there are more than 100 veterinary clinics had been established with the objective to help animals with a health problem or physically injured. This is a way one way to show our concern as a human towards these animals. Some of these animals do not have an owner or we called them as a "homeless animals". To show our love and care to this minority society, Malaysia had established an animal non-profit organization known as Society for the Prevention of Cruelty to Animals (SPCA). The aim of the SPCA is to protect defenseless animals and to alleviate their suffering. They receive unwanted, homeless or abused animals every month. They provide an adoption program, investigation of cruelty reports, humane education, assistance to community animal caregivers and run a dedicated, low-cost spay/ neuter clinic. Over the years, the organization has gained tremendous goodwill, recognition and support from animal lovers all over Malaysia.

Veterinary industry in Malaysia is not like a retail company where usually those retailers always have a price war against each other. They compete to attract more customers and to be the low price leader. However veterinary clinic in Malaysia offers similar prices and almost the same services. Meaning to say that, you can choose to go to any of the veterinary clinic that near to your residential area regardless of the price.

One way to measure the successful of the clinic's performance is from its customer service. A customer service is the crucial element to be compared with other veterinary clinic. This will measure the level of customer satisfaction with the treatment provided to their pet and how the staff treats their clients/pet owners. Besides that, having a good system to store their client's databases is also an important thing to be noted. If they have a systematic and synchronization databases, it can increase the accuracy and therefore will avoid any overlapping or redundant information.

Therefore, I come out with the idea to create a website that is not only can be viewed by the clients or clinic management staff but also can be used to edit or update the databases of its clients and at the same time, clients can fill up an online appointment form and they also can viewed the important dates such as when is the next appointment with the veterinarian or when will be the next vaccination date for their pets.

1.2 Problem Statements

1. There is no veterinary system specifically in Kuching, Sarawak that becomes a platform for the clients and clinic management staff to communicate with.
2. There is no system that provides online appointment scheduling not only for medical treatment but for other services such as pet hotel and pet grooming.

1.3 Objectives

1. To study the elements in the current animal health system.
2. To develop a system which share useful information to the users and offers online appointment registration.
3. To develop a system that can easily organized by the client and clinic management staff.

1.4 Scope of Study

In order to complete this system, several scope of study is in need to achieve. The major scopes are discussed as follows:

1. To get information and proper procedure on handling animal health clinic database
 - There will be a research towards the current existing system.
 - The procedure should be covering all possible aspects inclusive of update, add and delete.
2. HTML as the development platform
 - HTML will be used as the main development platform.
 - There will be a study being done in connecting HTML with PHP.
3. Design of the interface to the user.
 - The good user interface should be considered in this system.
 - I will use HTML as the interface to connect the user and the clinic management staff.

4. To study on the mechanism and tools used to develop this system.
 - It will be some research towards programming used in this system.
 - The programming languages being used are such to HTML, PHP and MySQL for databases.

1.5 Feasibility Study

a) Technical Feasibility

The system was currently developed by using:

- Language: PHP, HTML, css, javascript
- Web Browser: Internet Explorer, Mozilla Firefox, Opera, Google Chrome.

b) Schedule Feasibility

The development of the system is probably going to be completed within the allowed time frame, which is 2 semesters.

c) Operational Feasibility

After the system has been fully developed and tested, it will be hosted on the free web server for the testing purposes. If the system meet the requirement and needs of the animal health clinic, it can be proposed to be used at the animal health clinic.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Animal Health System is a system which specifically developed for veterinary clinics. It is a website with various types of functionalities offers to the clients and clinic management staff. These two people are the common users of this websites. Therefore, the design and application of the website must meet the requirement needs and satisfaction. According to P.A. King (2008), he states that if we want to measure customer satisfaction we can do the survey which concentrate on client's waiting time, vet communication, reception staff friendliness and recommendation to others (pp. 30).

In the USA, they come out with the idea of creating Client Satisfaction Questionnaire (CSQ). J.B. Coe et al., (2010) explained that veterinary medicine has developed and properly validated few instruments for measuring client satisfaction known as Client Satisfaction Questionnaire (CSQ). Healthcare research recognizes that 'satisfaction' is an important health outcome of the medical encounter. Therefore we developed CSQ which comprises four main phases (pp. 201). It is also must be a user friendly since the users are comes from different types of background knowledge. Some of the user may not really well expose to the technology advancement. Perhaps they might confront a problem in understanding the contents of the website.

The human-bond is powerful. As families become more far-flung and people move frequently, sometimes great distances, pets become increasingly important members of the family unit. According to F. Walsh (2009), family chooses a wide variety of pets depending on personal preferences, past experience, allergy concerns, residential or environmental influences and cultural norms (pp. 481). In addition, according to J. C.

Casey (2009), from the research made by The American Veterinary Medical Association's 2007 U.S Pet Ownership and Demographic Sourcebook, there are few facts about ownership in America which are:

1. There are more than 300 million companion animals in the U.S, more than the total human population, and over 95% of pet owners view their pets as part of the family or as companions.
2. More American home have pets than children.
3. Both 64.1% of households with children younger than age 6 and 74.8% of households with children older than age 6 own at least one pet (pp. 481).

According to J.M.M. Adams (2010), she states that animals and pets have often played a significant role in the lives of human. Animal-assisted therapy (AAT) has touched the lives of many people experiencing stressful life transitions. It is a growing form of therapy that benefits both humans and animals involved (pp. 643). Because of extensive media coverage, it is widely believe that pet can enhance their owners' health, sense of psychological well-being and longevity. In addition, according to T.D Johnson (2011), she states that pets can reduce stress levels, tame our blood pressure, curb our depression, reduce feelings of loneliness, keep us physically fit and even help us live longer (pp. 1).

According to P.A. King (2008), he states that the veterinary industry is operating in a highly regulated environment. Up till now these regulations prevented veterinarians to freely market veterinary services, especially professional services (pp. 10). I have made a research through internet and found out that in Malaysia, there are only few veterinary clinics that have launched their own websites. This is one of the weaknesses of veterinary clinic in Malaysia. The reason why they do not have any websites is because some of this veterinary clinic is only a small operating clinic which they do not feel the necessities of having a websites. Secondly, some of the clinics do not have extra budgets/funds to launch a website. Last but not least, they do not have a confidence to give a full commitment if they have their own websites. Since website needs to be updated

regularly, they found out it would be a burden to them and eventually the website will just be neglected.

Although some of the clinic may not have a website but they are very active in promoting any promotions or special packages through distributing a pamphlet or brochure. This is one of the good alternatives to create awareness among people about the existence of their veterinary clinics. Perhaps they can increase their profits after doing a short day promotion. However in the world of technology advancement, they need to know that there are many others simplest way to bring people closer to them. And that is why I come up with the idea to have a website with various types of functions. This method is much easier as it also act as a medium for the general users or even client to get a latest update from the clinic itself.

2.2 VETERINARY INDUSTRY IN MALAYSIA-From a manual system to online system

Up until now, almost 80% of animal clinics are still using a traditional approach in storing and retrieving the data of their clients. Perhaps, they could have felt comfortable since they have applied this method from the beginning. However, as time goes by, everything is change so as the way we work. We need to upgrade our quality of work in line with the world that full with technology equipments. Thus, we can increase our speed of work and everything will be organized well.

As in veterinary clinic, they must have keep or store personal information of their clients. According to C.R. Sanders (2005) he said that most basically, clients are judged to be either “bad” or “good” largely based upon whether they facilitate or impede the flow of service encounter thereby enhancing or hindering the worker’s opportunity to draw maximum financial and/or sociopsychological rewards from the exchange (pp. 160). For a traditional approach, first the client needs to fill up the form. This form requires the personal information of the pet’s owner and the pets itself. Usually they will update the information using Microsoft Excel. After that, they will create a folio number for the client. The folio number is created to know that how many existing clients are there. The

clinic management will create one small card for the client and it can be used for another time. After that, if the client would like to go for the second time, they just need to show their folio number and the staff will look for it inside their huge cabinet. The ways of doing it is quite complicated and for me, it cannot be used anymore.

Besides changing the traditional way of registering as a new client to a new and easier approach, I also think of doing appointment through online register. This is a fastest and simplest way as the client can just sit at home and fill up the form. Usually, the veterinary clinic is using a telephone to connect with their client and vice versa. However, there are limitations as they can only call the veterinary clinic at the operation hours only which is to be the client working hour as well. They find it quite hard to make an appointment and eventually postpone for a quite long time. It is not an effective way since we are dealing with living creatures. If we postpone it, the disease may even get worse. According to J. Ladewig (2008), she explained that for many veterinarians, animal welfare is the matter of animal health. As long as an animal is healthy, it is also happy. For the past forty years, however, behaviour biologists have shown repeatedly that, whereas poor health contributes to poor welfare, the opposite is not necessarily the case. There is more to good welfare than good health (pp. 5).

Pets assuage loneliness, encourage social interaction, and provide comfort. Those famous pets that usually been brought to the veterinary clinics are cats and dogs. According to A.H. Vogt et al., (2010) in 2006, owners took their dogs to veterinarians more than twice as often as cats, averaging 2.3 times/year, compared with 1.1 times/year for cats, and significantly more dogs (58%) than cats (28%) were seen by a veterinarian one or more times/year. Cat owners often express a belief that cats 'do not need medical care'. Two reasons for this misconception are that signs of illness are often difficult to detect, and cats are perceived to be self-sufficient (pp. 43). Meanwhile, according to J. Ladewig (2008), she states that cat owners are willing to seek more veterinary care when it improves quality of life and detects illnesses earlier, thereby reducing the long term expenses associated with their cat's health care (pp. 48). With the online application for

appointment, it can increase the client's level of satisfaction and it also shows our concern of the pet's health.

2.3 VETERINARY INDUSTRY IN MALAYSIA- Database centralization

One of the purposes creating this website is to ease clinic management system in controlling the databases. The staff can easily update any information or new profile of pet's owner in the database because all the data is well organized and centralized in one data storage. By having this database, the staff can easily trace the whether the pet's owner is a new or existing client/customer. If we compare with the functionality of Microsoft Excel, it is not a proper way to store the data and could cause few problems such as data redundancy and error in key in or store the data. Database of its client/customer is the most precious items in one organization so as for Animal Health Clinic. If they are careless, then people will not trust them anymore and this could lead to a bad image and reputation of the clinic. According to Jonckheer and Edenburg, research revealed that veterinarians are regular confronted with behaviour problems in companion animals and that they are willing to refer these cases to the University. They also expressed their need for access to continuing professional development opportunities in the field of veterinary behavioural medicine (which is something that most veterinary behaviour clinics associated with veterinary faculties provide) (pp. 890).

2.4 VETERINARY INDUSTRY IN MALAYSIA- Internet and pet health information

Internet defines as a global system of interconnected computer networks that use the standard TCP/IP to serve billions of users worldwide. When it is used appropriately, it can be a useful tool to help patients and clients to be better informed, leading to better health outcomes and appropriate use of health services. According to L.R. Kogan et al., (2010), over 260,000 million (over 76%) North Americans have access to the internet with 59% of adults report accessing health information online (pp. 1). The information

online can augment the information provided by a doctor and a more informed client may be able to play a more active role in their animal's health care and have better communication with their health care provider. In this way, it has been suggested that a more informed client could make more efficient use of clinical time.

According to the studies of American Animal Hospital Association (AAHA), it has reported that lack of compliance may be partly due to the large amount of information given to clients in a limited amount of time, and the fact that these conversations often take place among many other distractions, the value of accurate information online should not be overlooked. Additionally, some clients may not be able to accurately hear information presented during a veterinary visit. This may be due to shock or denial, but regardless the ability to access information later in the comfort of their own home might help clients better understand and therefore comply.

Additionally, it has been suggested that information from the internet, when consistent with a doctor's diagnosis or recommendation it may play a role in 'priming' patients which is a way to improve behavioral responses to suggestions made by a doctor subsequent to information they read online. Internet usage actually increased the frequency of health professional contact. According to L.R. Kogan et al., (2010), online consumers were more likely to seek health information from health professionals and treatment. They found that although online information increased some patients' health knowledge, many of these patients still felt the need to seek professional help in order to understand what they read. Therefore they feel the internet can complement professional care rather than usurp it (pp. 1).

In order to give a high satisfaction to the clients, pet clinics need to provide good and professional veterinarians. According to S. Everitt (2011), veterinarian primary responsibility is to concern the welfare of their patients and also to make a wise clinical decision about the diagnosis prognosis and treatment to the animal (pp. 14). Besides having a good veterinarians, pet clinics must also have an environmental enrichment so that it can decrease patient stress, increase healing, and decreasing injury to the patients and staff. Client will also appreciate this rise in care as it lessen their own anxiety level if

their pet is resting peacefully during hospitalization. According to S. Yuschak (2011), environmental enrichment within veterinary hospital focuses on recognizing and appealing to an animal's unique senses of sight, sound, touch, taste and social proclivity (pp. 25).

Although the world realized the importance of internet, most veterinary clinics offer very limited online services. According to L.R Kogan et al., (2010), the veterinary clinics have a website that are relatively basic and less than 20% offer online appointment scheduling. Studies in human medicine have also found that patients would like more online services, yet the medical community, due to concerns about confidentiality, reimbursement and workload has been slow to offer online communication. Based from the studies, it shows that most of patients (77%) would like to be able to communicate with the physician online to ask questions. It appears that preference for online communication is higher for patients than for health care providers (pp. 1). There a few surveys have been conducted to analyze the preference of pet owners. Among the type of pet health information sought online, most of the pet owners seeking information about specific disease or medical problem. The reason most of the pet owners seek information online is because they just curious to know about pet health information and most of them trust the online information.

It is clear that the use of the internet for health information, and pet health information in particular will continue to expand rapidly. It is suggested that the field of veterinary medicine take a proactive role and help ensure clients obtain credible information and thereby positively impacting the client-veterinarian relationship and ultimately, the health of animals. On the next page, I will show examples of existing systems in Malaysia which not only the veterinary clinics but also hospital websites.



Figure 2.1: Animal Medical Centre



Figure 2.2: UPM (Veterinary Medical Faculty)

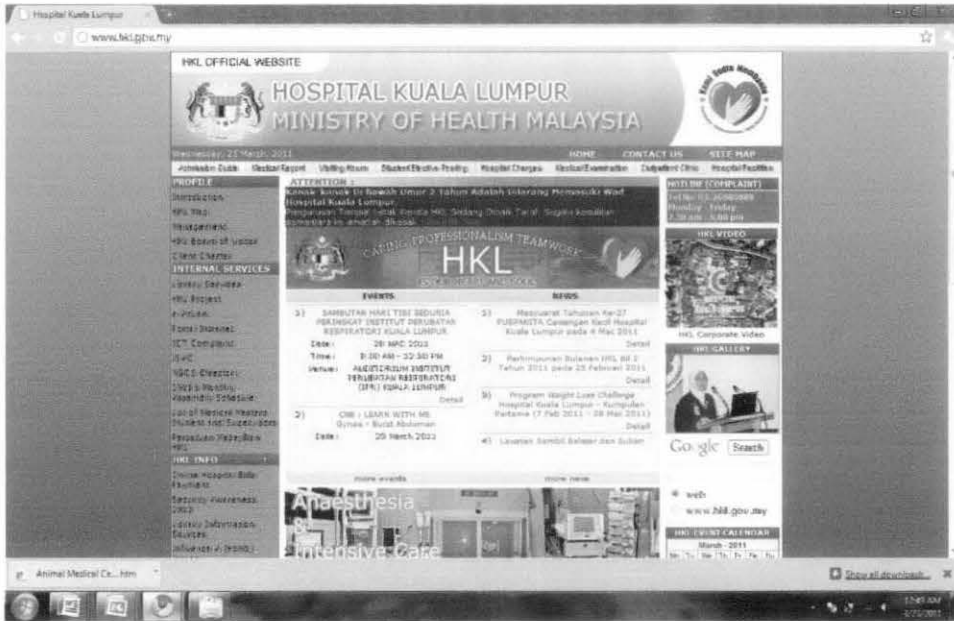


Figure 2.3: Kuala Lumpur Hospital (HKL)

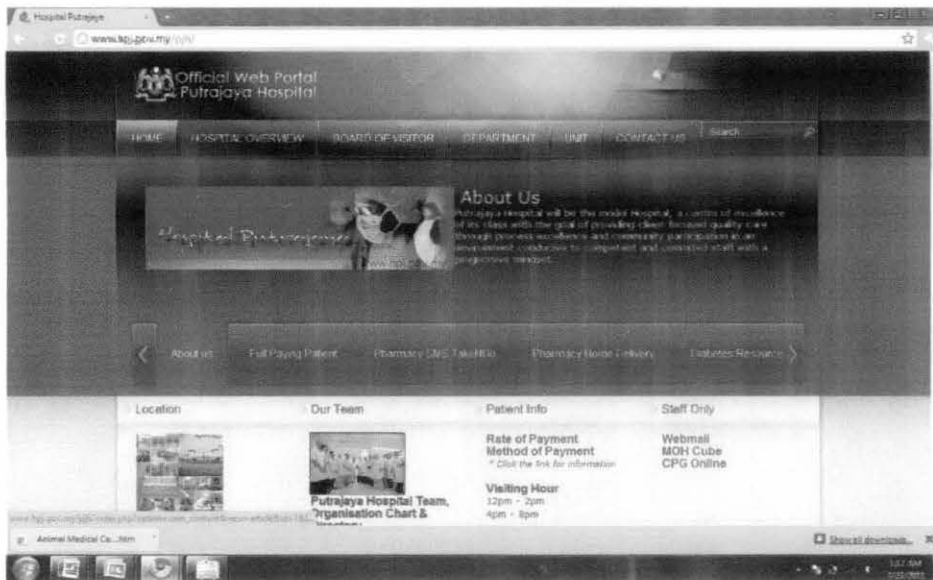


Figure 2.4: Putrajaya Hospital

Based on the example given, all the websites related for my project research. Animal Medical Centre which situated in Kuala Lumpur is the only hospital that provides online appointment scheduling. As for my project, this website is specifically focus in Kuching area. And based from my research, there are no veterinary clinics in Kuching have

websites that consists of online appointment form. They also not provide online form for boarding reservation and pet grooming. Animal Medical Centre website provides almost a similar as Animal Health System. However there are differences between these two websites. Animal Health System offers updated recent activities related to pets and the clinic at the homepage. Here it means that if there are any competitions or promotion related to pets. Besides that, Animal Health System provides search function which is link to web browser such as Yahoo and Google.

UPM Veterinary Medical Faculty website is in two languages which are Bahasa Malaysia and English. Users can choose any languages according to their preferences. This website does not offer online appointment scheduling. There is only basic information provided for the users. It also provides frequently ask questions section for users if they have enquiries.

Meanwhile Putrajaya Hospital website provides a detail departments and units available at the hospital. They also provides location map and frequently ask questions section in order to ensure users a better understanding. Besides that, the website offers pharmacy SMS Take N Go. It is service provided to Putrajaya Hospital patients with repeated prescriptions. Patients can collect their medications at Take n Go counter. It is beneficial to patients as they do not need to wait, register and queue up to collect their medication.

Kuala Lumpur Hospital (HKL) website provides a several sections. At the homepage there is a list of clinical services available at HKL. There are also lists of support services and related link to the hospital. The homepage also provides upcoming events held at the hospital and there is a search function at the sidebar. The hospitals websites gives the idea of what added features need to include in the Animal Health System. Besides that, it gives a picture of what important elements that users usually focused on when they browse the website.

CHAPTER 3

METHODOLOGY

3.0 METHODOLOGY

3.1 Prototyping Methodology Model

In this project, prototyping methodology is chosen for Animal Health System development process.

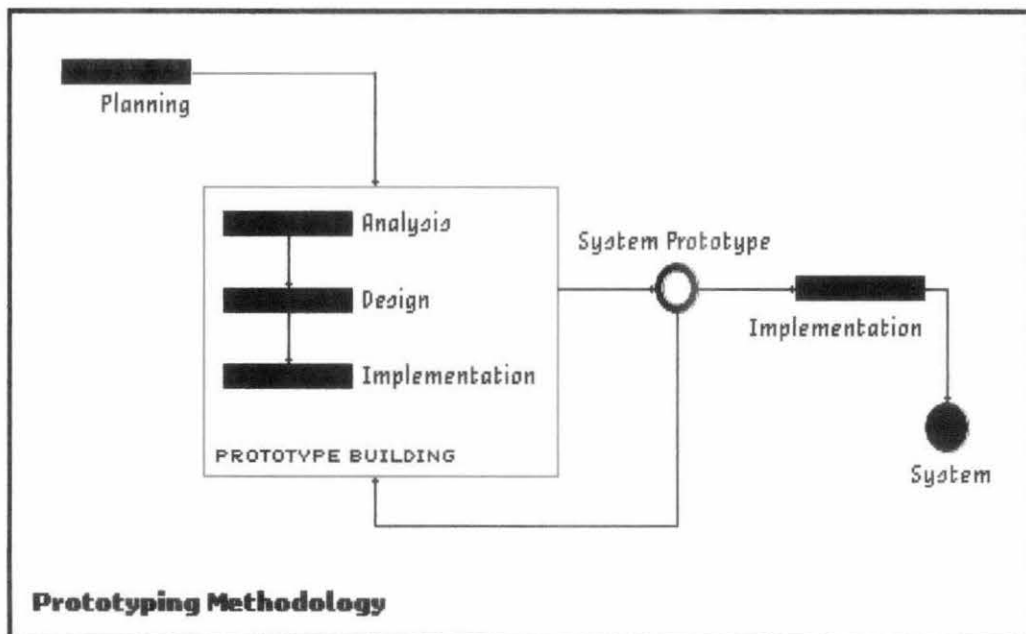


Figure 3.1: Prototyping Methodology

Prototyping methodology is used in the development process. Prototyping methodology is chosen as this methodology allows continuous improvement and development. The advantage of prototyping methodology is that, it allows rapid development processes and more quickly refines the real requirements. Due to time constraint, the development process is needed to be completed as fast as possible.

3.2 Requirement Gathering

The purposes of this phase are to study and investigate the existing manual databases for animal health clinic. In this phase also, the information and study of the Animal Health System have been done. A few different requirements gathering methods have been used:

- 1) Interviews
- 2) System analysis

I have interviewed several veterinary clinic located in Perak and also Kuching area. Basically most of them think that it is a good idea to have online appointment scheduling. It makes it easier for both clients and also clinic staff. I also ask my few colleagues to test the system whether it is user friendly or vice versa. And most of them give a positive feedback for the website. Some of my colleagues are also pet's owner and have experienced being clients. They also want the best for their pets and agreed with the idea of creating this website as it will help clients and increase customer satisfaction.

3.3 System Analysis

Before I develop the system, all possible problems need to be analyze and map in order to ensure that the animal health system meet the user requirements. The studies for the current UML diagram for this system also have been done to ensure better understanding about the whole system.

3.4 System Design

In this system design phase, I used HTML as a main programming language. I also used Cascading Style Sheets (CSS) in designing the website in order to be more attractive. The design would be user friendly and easily acceptable by everyone. I have made usability testing and invited few of people to test the system. Those people selected because they

have been experienced as a clients for veterinary clinic. They know the requirement needed and what other things that necessary to include in this website.

3.5 System Development and Testing

The system will be developing based on the needs and usability by the end users. The testing will be done after the system has fully functioned.

3.6 System Implementation

The system implementation phase will be after the system has been completely developed.

3.7 System Delivery

This is the final phase of Animal Health System development process. It will be officially launched after it satisfies the needs of the end users.

CHAPTER 4

RESULT & DISCUSSION

4.1 System Modelling

4.1.1 Activity Diagram

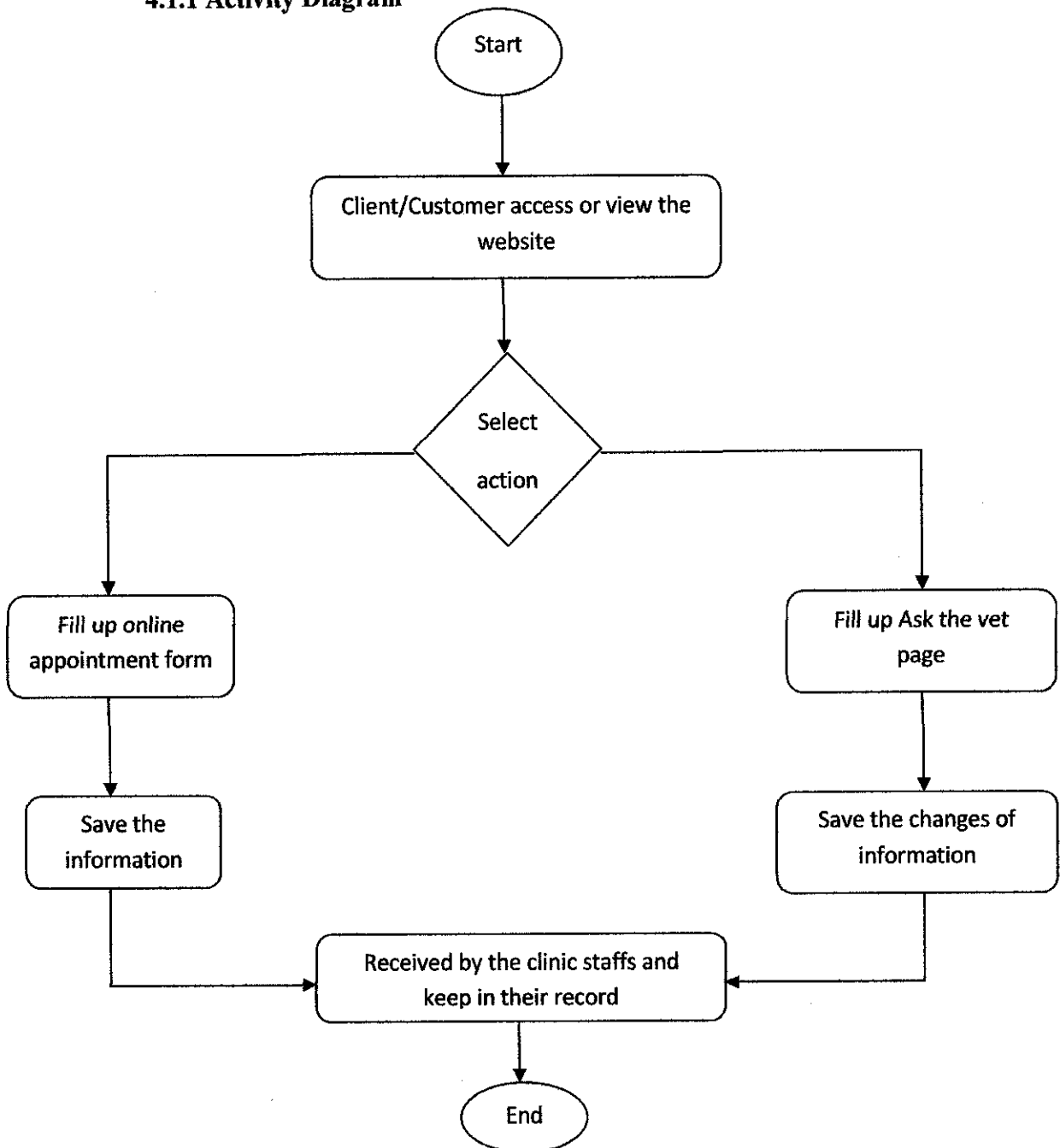


Figure 4.1.1: Activity Diagram for Pet Health Clinic

4.1.2 Use Case Diagram

Pet Health Clinic

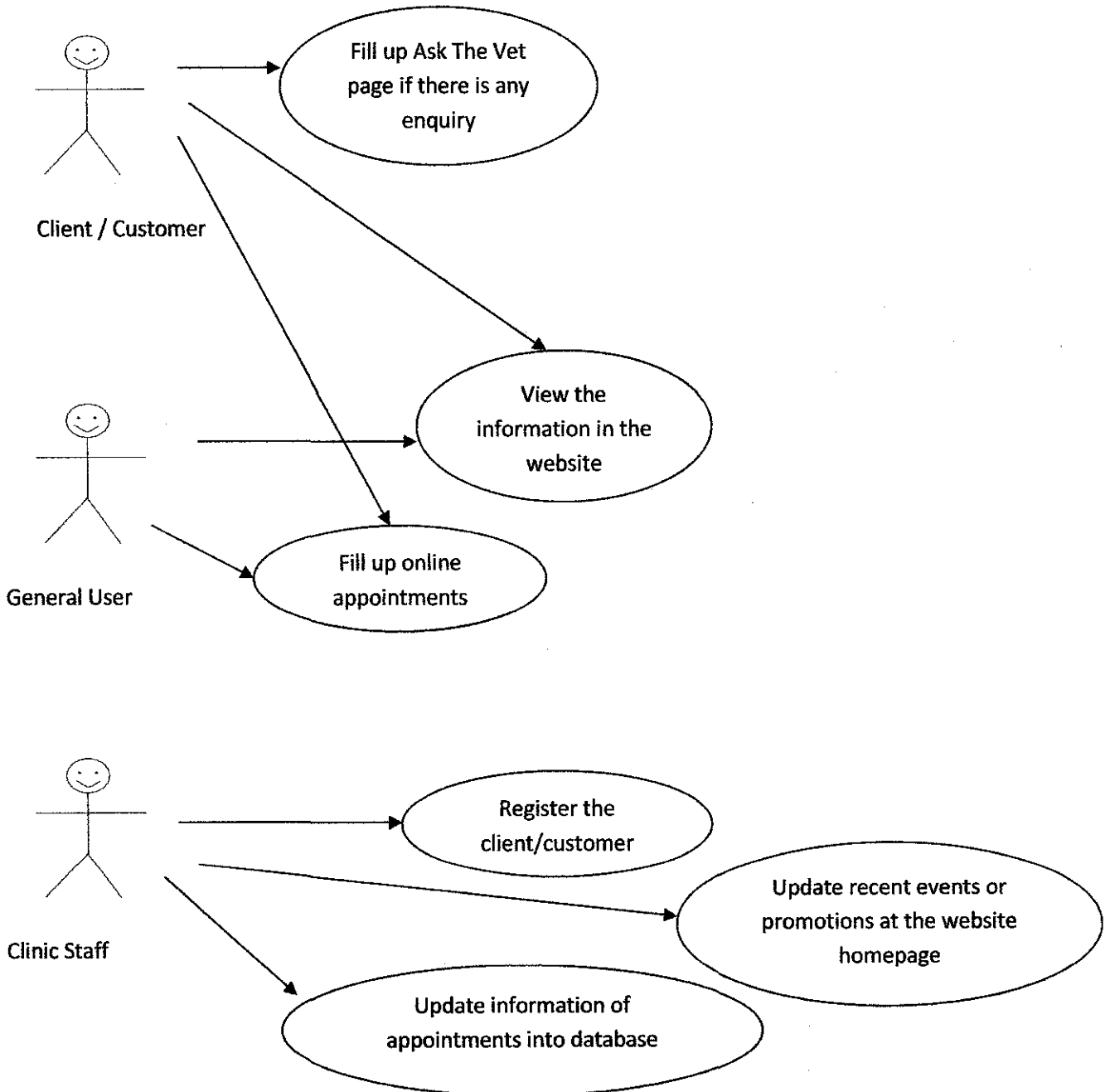


Figure 4.1.2: Use Case Diagram for Pet Health Clinic

4.2 System Functionalities and Interface Design

4.2.1 Website Main Page



Figure 4.2.1: Prototype main page for Pet Health Clinic

In the main page, it shows the name of the clinic with its slogan “*Serve for the better*”. At the header there are few pages available which are About us, Appointment, FAQ’s, Ask The Vet and Location. The sidebar of the page consists of Search function and Services Available at Pet Health Clinic. The other services are Pet Hotel, Pet Grooming and Pet Import & Export. The main content inside this page is to update any recent activities or promotion offered to the customer. It is like an advertisement of certain events that relates to pets.

4.2.2 About Us Page



Figure 4.2.2: About Us page

In this page, it tells about the brief history of Pet Health Clinic with its Statement of Purpose, Mission Statement and Wholesome Quality & Excellent services of Pet Health Clinic.

4.2.3 Appointment Page



Figure 4.2.3: Appointment page

In this page, it tells the customers what they need to bring for the medical appointment. If the customer is the first time customer, they need to do a registration. In this page there is a link provided if the customer want to make an online appointment scheduling.

4.2.4 Ask The Vet Page

Figure 4.2.4: Ask The Vet page

In this page, customers can ask any questions that related to their pets. It can be general questions or related to any medical problems. The question will be stored in the database and viewed by veterinarian.

4.2.5 Appointment Form

Figure 4.2.5: Online appointment form

This is the main highlight in this website. Pet Health Clinic website provides an online appointment scheduling for clients. Sometimes, there are people who are very busy and have limited time to bring their pet to the veterinary clinic. By having this online appointment, it can help pet's owners to easily fill up the form and the details will be updated to the clinic staff immediately. If veterinarian is busy or unable on the date for appointment request, staff will immediately inform the pet's owners regarding this matter.

4.2.6 Grooming Form



The image shows a web form titled "Grooming Appointment Request" on a light green background. The form includes the following fields and options:

- Your Name:** A text input field.
- Phone:** A text input field.
- Tel:** Two dropdown menus labeled "Office" and "Mobile".
- E-mail:** A text input field.
- Pet's name:** A text input field.
- Species:** A dropdown menu with "Dog" selected.
- Breed:** A text input field.
- Age:** A text input field.
- Vaccination (provide date if yes):** A dropdown menu with "Yes" selected, followed by a "Date" input field.
- Date:** Two input fields labeled "From" and "Time". Below "From" is a hint "(eg. 28/12/2010 or dd/mm/yy)". Below "Time" is a hint "(eg. 9.00AM or hh:mm am/pm)".

At the bottom of the form, there is a thank-you message: "Thank you for making the appointment online and our staff should be in touch by the next working day. If we have failed to contact you, do call us to check on your appointment. Thank you." Below the message are two buttons: "Submit" and "Reset".

Figure 4.2.6: Grooming Form

Besides providing medical treatment, Pet Health Clinic also has other services and one of them is pet grooming. To make it easier for pet's owners, this website provides an online grooming appointment request. If there are any problems or changes, the staff will immediately inform the pet's owners.

4.2.7 Pet Hotel Form

The image shows a web form titled "Boarding Reservation" on a light green background. The form is organized into several sections:

- Contact Information:** Fields for "Your Name:", "Home Tel:" (with sub-fields for "Office:" and "Mobile:"), and "E-mail:".
- Pet Information:** Two rows of fields for "Pet's name:", "Species:" (with a dropdown menu), "Breed:", "Age:", and "Vaccination (provide date if yes)". The "Vaccination" field includes radio buttons for "Yes" and "No" and a "Date:" field.
- Appointment Details:** Fields for "Date:" (with sub-fields for "From:" and "Time:") and example text below: "(eg. 12/22/2010 or dd/mm/yy)" and "(eg. 8.00AM or hh:mm am/pm)".
- Footer:** A thank-you message: "Thank you for making the appointment online and our staff should be in touch by the next working day. If we have failed to contact you, do call us to check on your appointment. Thank you." and two buttons: "Submit" and "Reset".

Figure 4.2.7: Pet Hotel Form

Pet hotel is also one of the services available at Pet Health Clinic. Pet's owners can make a reservation for their lovely ones by fill up the boarding form. The link is given in the Pet Hotel page. Clinic staff will inform its clients if there are any problems with the reservation.

CHAPTER 5

CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

This Final Year Project has been successfully achieved its target and on schedule. Indeed, full co-operation from the supervisor and fellow colleagues was a major contribution to the success of the project.

Animal Health System is a website that provides useful information to the users. Users can be a pet owner or vice versa. Pet's owner can ask the veterinarian any questions that related to the pets at Ask the Vet page. They can also fill up online appointment form through the website. Not only that, the website also provides online boarding reservation form and pet grooming form. It make it easier for pet's owner to fill it right in front of their computer. This project was expected to be one of the most useful systems for veterinary clinic because clients can avoid wasting their time, energy and money. With the existence of this website, it will act as a medium of interaction between the client and the clinic management staff. Clinic administrators can update any recent activities related to pets on the website front page.

5.2 Recommendation

Despite on its benefit and advantages to the clients and all the users, this system has its limitation too.

5.2.1 Add attractive features and functions in the website

Limitation: The website is basically provides useful information and filling up forms through online for the users. There are not so much interesting pictures related to animal in the website.

Recommendation: The author recommends using flash for the next innovation or improvement of this system so that the website will be more interesting and cheerful.

5.2.2 Add veterinarian schedule in the website

Limitation: The website provides online appointment scheduling for pets medical treatment. However if veterinarian is busy on the date choose by the pet owner, then clinic staff need to inform the clients and ask them to pick another date. This will cause troublesome for pet owner because they do not know when the veterinarian is available. Sometimes, it happens vice versa when the clients are not available on the date pick by the clinic staff.

Recommendation: The author recommends put the veterinarian schedule in the website so that the clients can view when the veterinarian is available. The schedule either can be viewed online or downloaded.

5.2.3 Build log in functions for clients

Limitation: The website does not provide the clients of the previous medical appointment date. If the clients want to know about it, they need to ask the clinic staff by calling them through phone.

Recommendation: The author recommends building a sign up functions so that later the clients can log in to know the previous appointment date not only for medical appointment but for the other two services which are boarding reservation and pet hotel.

REFERENCES

J.B. Coe, C.L Adams, K. Eva, S. Desmarais, B.N. Bonnett (2010). Development and validation of an instrument for measuring appointment-specific client satisfaction in companion-animal practice: *Preventive Veterinary Prevention*, Vol. 93, pp. 201-210.

A.H. Vogt, I. Rodan, M. Brown, S. Brown (2010). Feline lifestage guidelines: *Journal of Feline Medicine and Surgery*, Vol. 12, pp. 43-54.

P. A. King (2008). How to utilize marketing opportunities in a highly regulated environment: *The veterinary industry*. Vol. 3, pp. 10-40.

J. Ladewig (2008). The role of veterinarian in animal welfare: *Acta Veterinaria Scandinavica*, Vol. 50, pp. 5.

C.R. Sanders (2005). Annoying owners: Routine interaction with problematic clients I a general veterinary practice: *Qualitative Sociology*, Vol. 17, pp. 159-170.

J. C. Casey (2009). Family versus business during a disaster: *Veterinary Disaster Response*, pp. 481–486.

Jonckheer-Sheehy V., Edenburg N. (2009). Research reveals a market for a veterinary behaviour clinic. Vol. 134, No. 21, pp. 890-892.

L.R. Kogan, R. Schoenfeld-Tacher, A.A. Simon & A.R. Viera (2010). The Internet and Pet Health Information: Perceptions and Behaviors of Pet Owners and Veterinarians: *The Internet Journal of Veterinary Medicine*, Vol 8, No. 1.

J.M.M. Adams (2010). The role of animals and animal-assisted therapy in stressful life transition: *Handbook of Stressful Transitions Across The Lifespan*, Vol. 7, pp. 643-651.

F. Walsh (2009). Human-animal bonds II: The role pets in family systems and family therapy: *Family Process*, Vol. 48, No. 4, pp. 481-499.

T.D Johnson (2011). Pet can be prescription for happier, healthier life: *The Nation's Health*, pp.1.

S. Yuschak (2011). Environmental enrichment for veterinary patient: *Veterinary Behavior Symposium*, pp. 25

Animal Medical Centre. Retrieved from <http://www.animalhospital.com.my/>

Learn To Create Websites. Retrieved from <http://www.w3schools.com>

Hospital Kuala Lumpur. Retrieved from <http://www.hkl.gov.my/>

Pet Health Care Library. Retrieved from <http://www.veterinarypartner.com/>

Putrajaya Hospital. Retrieved from <http://www.hpj.gov.my/pjh/>

Fakulti Perubatan Veterinar. Retrieved from <http://www.vet.upm.edu.my/>

Society for the Prevention of Cruelty to Animals (SPCA).

Retrieved from <http://www.spca.org.my/>

American Animal Hospital Association (AAHA). Retrieved from <http://www.aahanet.org/>

APPENDIX

Gantt Chart

No	Activities	2011											
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1	Planning												
	Choose topic												
	Preliminary research on topic												
	Specify scope												
	Feasibility analysis												
2	Analysis												
	Requirements gathering												
	System Analysis												
	System Design												
4	Development												
5	Testing												
6	Implementation												
7	System Delivery												