

# Alternative medicine (Herbalism) Web System for Diabetes

By

## **MUHAMMAD FIRDAUS BIN SAMSUDDIN**

SID: 9847

NRIC: 880808-14-5885

# BACHELOR (HONS) BUSINESS INFORMATION SYSTEM Universiti Teknologi PETRONAS JAN2012

# Alternative medicine (Herbalism) Web System for Diabetes

By

Muhammad Firdaus bin Samsuddin

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

JAN 2012

Universiti Teknologi PETRONAS

Bandar Seri Iskandar

31750 Tronoh

Perak Darul Ridzuan

## **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 of persons.

(Muhammad Firdaus bin Samsuddin)

## CERTIFICATION OF APPROVAL

Alternative medicine (Herbalism) Web System for Diabetes

By

Muhammad Firdaus bin Samsuddin

A project dissertation submitted to the

Computer & Information Science Programme

Universiti Teknologi PETRONAS

in partial fulfillment of the requirements for the

Bachelor of Technology (Hons)

(Business Information System)

Approved by,

(FAIZAL BIN AHMAD FADZIL)

UNIVERSITI TEKNOLOGI PETRONAS JAN 2012

#### **ACKNOWLEDGEMENT**

In the name of Allah, the Most Gracious and the Most Merciful

Alhamdulillah, all praises to Allah for the strengths and His blessing in completing this final year project.

Special appreciation goes to my supervisor, Mr.Faizal bin Ahmad Fadzil, for supervision, constant support, enthusiastic guidance, invaluable help, encouragement and patience for all aspect from this final year project progress. His numerous comments, criticisms and suggestion during the preparation of this project are gratefully praised. Mostly for his patience on any problem that occurred during the project is invaluable and appreciated. Without him, it would be impossible for me to start and finished the project.

Sincere thanks to all my friends and other individuals for their kindness, moral support and warm heart co-operation during my study in Universiti Teknologi Petronas. Their support and help always give motivation and energy for me to finish the project. Thanks for the friendship and memories.

Heartfelt acknowledgement is expressed to my beloved family especially my parents for their endless love and prayers. Without their guidance, support, encouragement and advises, I may never have overcome this long journey in my studies. When I felt demotivated, their love will always give me strength to face all the problem and complication that happened along the way.

Last but not least my deepest gratitude goes to those who indirectly contributed in this final year project, your kindness means a lot to me.

Thank you.

#### ABSTRACT

Diabetes is a very common disease involving old and young people in Malaysia. Using herbs as a method of alternative medicine has been practiced for centuries and proven to cure diabetic patients. However, there is no proper website promoting it so that people are more exposed and convinced. As for the existing herbal products in market, there are too many brands to choose from thus making people feel uneasy to use herbs as a way to cure this disease. This project focuses on developing a website that promotes trusted research on herbs as well as an add on web application for users to choose the correct herbal medicine in the market. The aim of this project is to expose and convince people especially to those who are diabetic towards herbs as an alternative and effective way of medication. The second aim is to help people spend on the right herbs product that will give satisfied outcome. This project is motivated because alternative medicine is still not widely used even though the rate of healing is high compared to modern medicine that only slows down the effect of diabetes. In order to do so, building and interactive yet effective and user friendly website is essential to achieve the aim for this project. The website is developed based on respondents' preferences that is collected from the surveys and interviews that have been conducted. Adding to that, the development of the website is focusing on Human Computer Interaction (HCI) for the website's design and architecture. The website's effectiveness will be based on user's responses and will be improved from time to time.

# TABLE OF CONTENT

			Page	
ABST	TRACT		v	
СНА	PTER 1			
1.0	INTRODUCTION			
	1.1	PROJECT BACKGROUND	1	
	1.2	PROBLEM STATEMENT	3	
	1.3	OBJECTIVES	3	
	1.4	SCOPE OF THE STUDY	4	
СНА	PTER 2			
2.0	LITE	RATURE REVIEW		
	2.1	DIABETES FACTS	5	
	2.2	ALTERNATIVE MEDICINE IN TREATING DIABETES	7	
	2.3	CHOOSING THE RIGHT HERBAL MEDICINE	9	
	2.4	WEBSITE: A TOOL FOR KNOWLEDGE SHARING	10	
		AND DISSEMINATION		
	2.5	THE INTELLIGENT WEB: WEB 2.0 AND SEMANTIC	11	
		WEB		
CHA	APTER	3		
3.0	мет	METHODOLOGY		
	3.1	PLANNING	14	
	3.2	ANALYSIS	14	
	3.3	DESIGN	15	
	3.4	IMPLEMENTATION	15	
	3.5	TOOLS AND EQUIPMENT REQUIRED	15	

# TABLE OF CONTENT

			Page	
СНА	PTER	4		
4.0	RESULT AND DISCUSSION			
	4.1	DATA GATHERING	16	
	4.2	DATA ANALYZING	17	
	4.3	SURVEY RESULTS	18	
	4.4	WORK PROGRESS (WEB DEVELOPMENT)	23	
CHA	APTER	5		
5.0	CON			
	5.1	CONCLUSION AND RECOMENDATION	34	
	5.2	PROJECT MILESTONES	35	
REI	FEREN	CES	37	
ADI	DENIDIO	CIEC	30	

# LIST OF FIGURES

	Page
Figure 1: National formulary seal on HIMALAYA products	9
Figure 2: Throw-away prototype based Methodology	13
Figure 3: Are you suffering from diabetes?	18
Figure 4: Do you know anybody who suffers from diabetes (family, friends etc)?	18
Figure 5: Are you aware that according to modern/conventional	19
medication, Diabetes CANNOT heal?	
Figure 6: Where do you normally get knowledge about diabetes?	20
Figure 7: Do you know any website that focuses on Herbalism	20
(use of herbs for medication) to treat Diabetes?	
Figure 8: Do you think website is a good platform to disseminate/deliver knowledge?	20
Figure 9: How do you rate current websites that promotes Herbalism to treat Diabetes?	21
Figure 10: What do you think about current websites who sells and promotes	21
Herbal products?	
Figure 11: How do you feel about those websites? Are they effective	22
and convincing enough?	
Figure 12: Two column layout grid	23
Figure 13: Two column layout grid in website interface	24
Figure 14: Navigational cues of website interface	25
Figure 15: Navigational cues of website interface	26

# LIST OF FIGURES

	Page
Figure 16: Navigational cues of website interface	26
Figure 17: Other navigational cues of website interface	27
Figure 18: Label links	28
Figure 19: Font and Font size	30
Figure 20: Date stamping	33
Figure 21: Project milestones	35
Figure 22: Project milestones	36

#### **CHAPTER 1**

#### INTRODUCTION

## 1.1 Project Background

Herbalism which is one of the methods for alternative medication has been used for centuries and is proven to cure diabetic patients all around the world. After conducting a research on it, I've found out that it is still not being widely used especially in this modern era. This is different from the fifteenth; sixteenth; and seventeenth era whereby herbalism is very popular and it is proven to cure diabetes.

In modern medication, it has been said that Diabetes can't be cured and modern medicines can only slow down the effects from the disease. This is when herbal medicines take place as accredited pharmacologists have approved that correct use of herbs in medicine will result in a satisfactory level of recovery.

This project is focusing on developing an effective website to expose and convince people especially to those who are suffering from diabetes about the effectiveness of herbalism as a way of alternative medication. Approved facts regarding herbalism is being put into the website for readers to read and understand that by using herbalism, there will be chances of healing from diabetes. Besides, a platform is included into the website for users to choose the trusted and correct herbal medicine in the market. The final product of this project will be an interesting yet effective website to promote people about Herbalism in treating diabetes. In order to so, researches are to be done to get an insight on the existing websites. Problems from the current websites are identified and solutions to overcome them are suggested. Data collections from future user's perspectives are being put into consideration.

## 1.2 Problem Statement

Diabetes is a major problem nowadays effecting citizens in Malaysia and all around the world. The number of patients keep on increasing year by year and modern medication has not find a solution to overcome it or in other words to heal the patients suffering from it. According to Dr.Schulze's who is one of the foremost popular authorities in Natural Healing and Herbal Medicines with 30 years of experience, he quoted that 'What I am saying is that I know that I have the power to make things happen—that I have the power to manifest things to happen in my life and to me, and that I have the power to alter my future!' [3]. This means that there are experts out there that are very convinced about herbal treatments and is strongly supported by thousands testimonials of recovered patients.

Diabetes is like other common disease and all sickness has a cure accept for death. As for this matter, herbalism as a way to cure diabetes is not being conveyed to the public well enough. There are websites promoting herbal products but normally there is no foundation whereby people will be convinced to purchase them. Mostly websites selling those products will only put the image, the price and what is the product for without any certified information. This results in doubtfulness among people to purchase them even though it is a safe product. On the other hand, people now need more understanding and information on what herbalism in medicine is all about. Due to the lacking on these matters, people are not exposed thus making them feel afraid to change towards alternative medicine (herbalism).

Another thing that is websites nowadays are very dull especially if it is regarding health matters. Thus creating active promotion such as encouraging certified herbalists to advertise their product through my website and participate in the discussion section is hoped to contribute to the objectives set for this project. Considering suggestions given from my previous survey such as having more graphic and not too much words, a forum section and so on is being looked upon in order for my system to deliver the message.

# 1.3 Objectives

- To create an attractive and effective web application that exposes people to Herbalism as an alternative medication for diabetes
- To provide certified information for choosing the right herbal product for Diabetes in market
- To build a web-based application that is suitable for all types of people and age (targeted age is 20 and above)
- To create active promotion that can grab user's attention on Herbalism to treat Diabetes

# 1.4 Scope of study

This project covers studies on Herbalism which is one of the alternative medication methods and herbal products that are already in the markets. The project is focusing on delivering and conveying approved information on Herbalism through the web and will guide users in order to choose the right herbal medicine for diabetes. As for that, it is essential to attract user's attention towards the website. Study on creating attractive user interface is conducted and this is where Human Computer Interaction (HCI) takes place. This HCI will be contributing to an effective website as it specifies in detail on what is the suitable interface to be used for informative websites, how to make a website that fulfills standard requirements, the content arrangements and so on. Matters such as navigation menus arrangement, color being used, the font type and size, pictures and videos arrangement are being looked upon as it relates to the HCI. All of these subjects are important as they attract readers towards a particular website and create a curiosity within themselves to explore more on the content available in the website. Furthermore, a study on relevant content is done. This is to ensure that only useful and important information is delivered throughout the project. Any ambiguous in the website is to be removed in order to create an effective website that has the desired interface as well as important information thus achieving the objective set for this project. The audience has been identified and they will be the public but it is more focused on those who are Diabetic. A thorough research within the topic of this project is conducted. Surveys and benchmarking is conducted to create a web that will make people convinced and at the end, the project is evaluated, tested and validated.

## CHAPTER 2

## LITERATURE REVIEW

This section will provide an overview on the relevant theories, hypothesis, facts and data of written materials. These findings provide a base for creating the system and achieving the objectives set for my research area. Areas that I will cover for this section are Diabetes facts and issues as well as Herbalism facts and issues. It will also be covering on Knowledge Management and research on effectiveness of the Intelligent Web which are two important elements in conducting this project.

#### 2.1 Diabetes facts

Diabetes is one of the most common diseases among Malaysians and is very easy to get when we do not pay proper attention on our food intake. What actually is diabetes? Diabetes is a group of metabolic disease in which a person has high blood sugar. This happens either when the body does not produce enough insulin or because cells do not respond to the insulin produced by body. Both conditions are chronic conditions that usually cannot be cured according to the modern medication. Below are the consequences of diabetes [1]:

- Diabetes increases the risk of heart disease and stroke. 50% of people with diabetes die of cardiovascular disease (primarily heart disease and stroke).
- Combined with reduced blood flow, neuropathy in the feet increases the chance of foot ulcers and eventual limb amputation.
- Diabetic retinopathy is an important cause of blindness, and occurs as a result of long-term accumulated damage to the small blood vessels in the retina. After 15 years of diabetes, approximately 2% of people become blind, and about 10% develop severe visual impairment.
- Diabetes is among the leading causes of kidney failure. 10-20% of people with diabetes die of kidney failure.
- Diabetic neuropathy is damage to the nerves as a result of diabetes, and affects up to 50% of people with diabetes. Although many different problems can occur as a result of

- diabetic neuropathy, common symptoms are tingling, pain, numbness, or weakness in the feet and hands.
- The overall risk of dying among people with diabetes is at least double the risk of their peers without diabetes.

# 2.1.1 Malaysian Diabetes Statistical Data

According to Persatuan Diabetes Malaysia, from 1996 to 2006, diabetes patients had gone from 8.3% to a staggering 14.9%. If we estimate the population of people in Malaysia to be approximately 21 million in 1996, the total number of diabetic patients would be approximately be 1.7 million [1]. When we take a look at the percentage of people suffering from diabetes from 1996 until now, it has never been lesser than the year before. This shows that diabetes is very common among Malaysians and this is not good news. From the observation made, we will not be shocked if the number of people affected by diabetes may double from 2006 in 4 to 5 years to come. With industrialization and modernization growing rapidly, people tend to ignore their health thus resulting in this particular sickness. World Health Organization (WHO) recommends that normal human being should only take an amount of 50g sugar daily. However, a result from a conducted survey by the Consumers Association of Penang found that Malaysians consume an average of 26 teaspoons of sugar a day and that is 80g more than the maximum amount of sugar required by a person per day.

## 2.2 Alternative medicine in treating Diabetes

Alternative medicine is any healing practice, that does not fall within the realm of conventional medicine. It is based on historical or cultural traditions, rather than on scientific evidence. It is actually used in conjunction with or to complement conventional medical treatments. It is also include a broad range of practices and is not compatible with conventional medicine.

A fact about the population of people using alternative medicine is that in certain Asian and African countries, it is estimated about 80% of the population are using alternative or complementary and alternative medicine (CAM) for their primary healthcare. As for the developed countries, World Health Organization (WHO) estimated about 70% to 80% of the population has been using this type of medication. From a study to evaluate CAM use among Malaysia diabetic patients at Hospital Tuanku Jaa'far,Seremban,Malaysia,almost half of the patients (49.6%,114/230) were using CAM together with conventional medicine to treat diabetes. From these figures, I can conclude that alternative medicine are being used by quite a number of people and is contributing to a highly lucrative marketplace [5]. What matters is that, there are still many people in certain regions and countries that are not convinced enough even though alternative medicine has proven to be effective. This is due to the lacking of mediums to convey the message to those who are still not convinced and worried regarding alternative medicine.

#### 2.2.1 Herbalism

Herbalism is one from the many types of Alternative medications. It is known by various different names such as botanical medicine, medical herbalism, herbal medicine, herbology, herblore and phytotherapy. Herbalism is the use of plants as a form of medicine to treat diseases and promote health and well-being. According to the archeologists, people have been using plants for herbalism aspect since 30,000 to 600,000 years before or maybe even more. From my research, the use of herbs as medicine varies from culture to culture. As for example, in India, they call Ayuverda that has used many kinds of herbs like turmeric. And in China, the Shennong Bencao Jing which is the first Chinese herbal book lists 365 medicinal plants and their uses including ma-Huang which is a type of plant that contributed the ephedrine drug to modern medicine [6]. And as for today the World Health Organization estimates that 80% of the world's population are now using herbal medicine for certain aspect of primary healthcare.

## 2.2.1.1 National Policy and Regulation in Herbalism

As I said before in section 2.2.1, herbal medicines have been used for centuries. However, there are harms involved if the medicine is taken inappropriately or if users are just buying it without proper knowledge about which product is safe and effective. What happens today is that in certain countries such as the United States, herbal remedies do not have to meet quality control standards thus creating possibilities of harmful adverse reactions. In Malaysia, the practice of herbal medicine has not been fully regulated by the government. However, an action has been taken whereby the Ministry of Health is now in collaboration with the Malaysian Society of Complementary Therapies to come out with guidelines in order to implement the regulation for this type of healthcare industry. Other actions that have been taken are that in 2004, the National Center for Complementary and Alternative Medicine started to fund clinical trials into the effectiveness of herbal medicine. As a result, the curative effects of many herbs have now been scientifically proven.

# 2.2.1.2 Health Insurance for using Alternative Medicine

From the research that I made, most health insurance does not provide any kind of coverage for alternative medicine of any kind. This is due to most governments are not approving the use of alternative practices in their countries. In Malaysia for instance, complementary and alternative medicines (CAM) to be covered under insurance has not been regulated. However things may change as there is awareness in Malaysian government where they are now incorporating (CAM) therapies into conventional healthcare. As for this, users and patients should be extra careful especially in selecting the herbal medicine and it is to be reminded to select the qualified herbal practitioner as there will be no guarantee or any sorts of insurance for the time being.

# 2.3 Choosing the right Herbal medicine

It has been stated before in section 2.2.1.2 that use of herbal medicine or any type of alternative medication is not covered under insurance. Thus people should be alerted in purchasing the herbal remedies because such remedies are not regulated to be covered. Below are some steps in choosing the right herbal product and herbal practitioner [2]:

- Check with your doctor before taking any herbal remedy. Herbal remedies can interact with prescription medications and have adverse outcomes for you.
- Choose remedies that have a National Formulary seal. This seal indicates that the herbs were prepared according to standards that are established.
- Read the label carefully, especially if you have allergies. Check with your doctor about ingredients that are unfamiliar.
- When choosing a herbal practitioner, make sure he/she is qualified to be one and not to simply trust the idea where herbs are being used in a time-honored fashion which is the way our ancestors have done for thousands of years

  Nowadays, people are doing big mistakes in assuming that herbs are natural, thus they are completely harmless. Nevertheless, a hidden fact is that many herbal products out there in the market are not meeting the quality control standards. For instance, the US Food and Drug Administration (FDA) do not regulate the production and the manufacture of herbal products [3]. They are free from FDA's approval before they are being marketed. Nevertheless, most herbs are less harmful than drugs. As a result, it makes herbs safer to take or in other words, herbs reduced the risk of side effects and that is why herbal remedies is slowly regaining its popularity in the modern era.



Figure 1: National formulary seal on HIMALAYA products

# 2.4 Website: A tool for Knowledge sharing and dissemination

As the technology is growing rapidly, the network which is internet is being more preferable as a mean to move activities into virtual spaces. Issues that always arise relating to this matter are how to deliver all these activities using internet as a tool. It is to be ensured that knowledge is being shared and disseminate effectively using this medium of concept. The knowledge that we are going to use is different from the conventional knowledge-based system because the web gives an opportunity to access a big amount of various information on global networks. This makes it essential to have proper knowledge to handle that information. The proper use of knowledge management will give significant benefits to organization that are willing to adopt it. Regarding to this matter, for knowledge sharing to happen, it requires a website to have the foundation for interactions. Besides that, finding suitable and relevant information that separates unwanted materials is important for an effective knowledge sharing and dissemination to occur. Website is a new phenomenon for knowledge sharing rather than the traditional method. This is because it is easier, faster and more effective to deliver knowledge sharing activities such as adding to the sum total of knowledge for research projects, sharing industry and product knowledge, capturing and disseminating news from outside of an organization as well as contributing valuable insight on specific subjects. Adding to that, website has contributed a lot in higher education level as it gives many advantages in terms of how education is made easy yet effective nowadays.

# 2.5 The intelligent Web: Web 2.0 and Semantic Web

Recently, there has been some enhancement to the World Wide Web which is a transformation from the traditional web to a better web called the intelligent web. What made this change is that a new concept of communication model emerges thus affecting on how people use and interact with the knowledge as well as information provided in the web. By looking on the other side of the web, a trend which involves new languages and formalisms to represent information in a more semantic way. What is meant by semantic is the study about meanings of words, phrases, signs and symbols. Intelligent web emerges when the strength of Semantic Web and Web 2.0 is combined thus resulting in the revolution of web. Applications on Web 2.0 such as social networks, blogs and wikis have allowed users to give their contributions to the web content. Those social networks also promote participation and information sharing. This relates to the Semantic Web where it promotes web formalisms such as RDF, RDFS, OWL and SPARQL, in order to create a web of data. Due to the synergy of Semantic Web and Web 2.0, the intelligent web is born and caters the need for tools to support knowledge formalization and sharing [11].

#### 2.5.1 Web 2.0

Web 2.0 is always been referred as the evolution of the World Wide Web where it provides a foundation for users to become active participants and interact with each other to allow vast information sharing. It also provides interoperability or in other words Web 2.0 is a 'user-centered design. Technical specifications and basic infrastructure of the web are maintained but Web 2.0 offers an updated way of using the current technology. In technical terms, it upgrades the "front-end" and user-experience of the Web. Nowadays, we are very familiar with the use of social networks such as Facebook, Twitter and so on where the social and technical features represent a rich source of business innovation as well as rich user experience. As compared to web 1.0, it is focusing on presenting information and knowledge but not creating them. This is when user generated content takes place and it is not available in web 1.0. User generated content covers a range of media content available in a range of modern communications technologies [17]. For instance, the current web 2.0 provides improved browsers with the advanced flash application platforms as well as widgetizations (Flickr and Youtube badges). This is due to the change of behavior for those who are using the World Wide Web nowadays.

#### 2.5.2 Semantic Web

What is meant by Semantic Web is it represents a Web of Data that enables computer programs to do the same job on the web content as what human being does. To explain in a simpler way, Semantic Web combines and reasons data that comes from different sources and are available in different formats and languages. In technical term, Semantic Web works on the "back-end" of the web where it introduces new languages and specification to transform data into knowledge that can interpreted and processed. Semantic Web makes it easy since complexity of languages is a barrier for a widespread use. Semantic Web gives advantages in terms of knowledge formalization, integration and query. However, it is lacking in a user friendly environment application to create rich user experiences.

#### **CHAPTER 3**

## **METHODOLOGY**

This project will be using Throwaway Prototyping that is under the rapid application development (RAD) based methodology. Throwaway prototyping works and will be done at different phase of system development life cycle (SDLC). This methodology involves developing a prototype informing the final solution. Sometimes, it is referred as mock-ups or click dummies as the prototype will not have the full function until the final product [8]. This is important in order to ensure whether the prototype could be produced and established or not. The main reason for using throw-away prototype for this project is because of the speed and all the steps involve in completing the project could be generated and modified anytime along the line. Throw-away prototyping involves 4 phases which are planning, analysis, design and implementation.

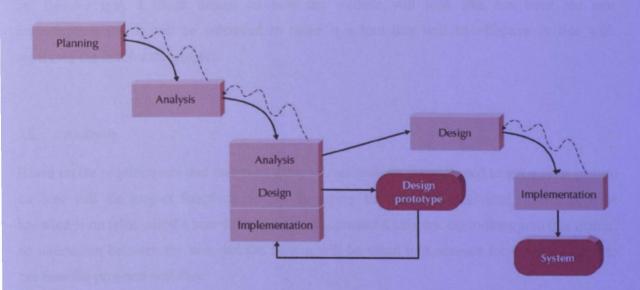


Figure 2: Throw-away prototype based Methodology

The advantage of using this type of methodology for the project is that a system can be developed rapidly and it is a useful way of exploring ideas, and gaining feedback from the enduser. They tend to be used to answer questions. They are then discarded. Along the way, the developed website will be evaluated and if there is a need for some enhancements, it could be done straight away. Furthermore, by using throw-away prototyping, the speed of development and the potential to catch misinterpretations or missing features at an early stage can help to make the throw-away prototype a cost effective approach.

## 3.1 Planning

During the planning phase, a detailed background study is conducted in order to identify the major problem statement for this project. Important data are collected to gather as much information related to this project. As for the current phase, lots of readings has been made from materials provided by surfing the internet and are recorded for future actions. A survey will be conducted regarding this project and will be involving a targeted group that will be decided later on. Besides that, a rough design on how the website will look like has been put into consideration and it will be enhanced to make it a tool that will be effective in line with achieving the aim for the project.

# 3.2 Analysis

Based on the requirements and materials gathered, an analysis is conducted to get a clear picture on how will the project functions. From the survey that will be conducted, it will provide knowledge on what will the user want to make this project a success. By looking into this matter, an interaction between the user and the system will be taken into account for feedbacks and to see how the program will flow.

## 3.3 Design

After conducting a serious analysis, the prototype will be built and tested. This is when all the gathered information and data will play an important role in developing the prototype. The website will basically involve some menus and it's a very user friendly website. As for this project, the important thing is the deliverables and the content in the website. After a series of testing and enhancement, the final module will be developed. This is when the testing phase is involved where the prototype will be distributed to targeted audience and any improvements that are needed will be considered and will be carried forward to the implementation phase.

# 3.4 Implementation

Once the website which is the working prototype done, it will be tested to ensure that the website follows all the requirements gathered earlier during this project. During the testing stage, the prototype website will be published on the server to see whether it can be accessed or not. If the prototype can be accessed normally, it will be given out to certain targeted people to receive their feedbacks. The results and outcome will be recorded for future enhancement. These steps will be repeated until the desired expectation for the website is met.

# 3.5 Tools and Equipment Required

Basically the tools and the software that usually been use for website development are related with HTML language and PHP

- Dreamweaver
- CSS Photoshop
- XAMPP

# Equipments:

- Personal Computer
- Any platform for online survey (<a href="http://www.surveymonkey.com">http://www.surveymonkey.com</a>)

## **CHAPTER 4: RESULT AND DISCUSSION**

## 4.1 Data Gathering

Before starting to develop the website, basic problems relating to the project need to be identified. Researches have been conducted to identify how to make a website a place to convey the message and objectives. From the research, I found out that by creating an attractive and user friendly as well as a simple website will be an effective platform to disseminate knowledge. People are now changing towards digitalized reading material. So my early hypothesis is that knowledge is the most effective to be disseminated through a well built website that meets user's requirement.

My research is narrowed down to find out whether a website is an effective platform to promote Herbalism as an alternative medicine to treat Diabetes. I found out that there is no specific study been made to promote this type of alternative medicine to treat diabetic patients. This means that the public is not aware of Herbalism as a medicine that can cure Diabetes. To prove this fact, I conducted a quick survey with some targeted respondents that are not suffering from Diabetes and also a HPA agent which is a company that sells approved herbal products. I asked them whether they are aware that Diabetes cannot heal according to the conventional medication point of view. What I got was a majority of the respondents aren't aware about the fact and they are also not aware that Herbalism as an alternative medicine that can cure Diabetes. Next I furthered my research by asking whether they know any websites that focuses on Herbalism to treat Diabetes and I received the same answer as about the awareness of conventional medicine point of view as well as Herbalism to treat Diabetes. Few respondents that have encountered or visited websites promoting Herbalism said that the websites are not convincing and there are too many facts and is presented in an unattractive way.

From the research, I can conclude that the level of promotion and awareness on Herbalism is very poor and need a tool that is a website to disseminate the knowledge. There are few existing websites promoting Herbalism but none of them are focusing on Herbalism itself to treat Diabetes. This is the reason that creates confusion among people who are seeking this type of medicine for treating Diabetes. Moreover, those existing websites does not meet user's

expectation where they (existing websites) have poor interface, no forum feature for discussion, little graphics and multimedia, too much unconvincing facts and is normally focusing on selling doubtful herbal products. These are the main reason why an effective website that considers the entire user's expectation should be created in achieving the objectives.

After completing my preliminary research and observation, I realized that the data collected is not satisfying as my respondents are too few (only UTP students and 1 Herbal product agent). As for that, I decided to broaden my scope of research by posting my survey through the social networking application such as the Facebook, Yahoo Messenger and others. I also managed to reach those who are working class citizens. I managed to get 30 respondents from my survey. As for the next step, I will analyze the data that I've collected and will be followed by the results.

## 4.2 Data Analyzing

I prepared 10 questions for my survey. The first two questions are demographic questions where I ask them whether they are having Diabetes and whether they know anybody suffering from it. For the next two questions, I asked them about their awareness on Diabetes and where usually they get information regarding Diabetes. As for the next 5 questions, I asked the respondents about Herbalism as an alternative way of medication to treat Diabetes. Questions also include whether current existing websites are convincing enough and provides sufficient information to buy approved herbal products. And as for the last question, I asked the respondents opinions and expectations towards the website that I will be creating to promote Herbalism. This is important for me in order to know what are the user's level of expectation and preferences of the particular website. From the data that I've collected and analyzed, it is hope that I can develop an effective website that promotes and helps users to get the important facts about Herbalism as well as being able to choose the right Herbal remedies to treat Diabetes. User's level of satisfaction is being highly stressed in order to make a successful system.

## 4.3 Survey results

Regarding the demographic questions, I asked whether the respondents are having Diabetes or not and whether they know anybody (family, friends, etc) that is suffering from Diabetes. As the scopes of my respondents are limited to the students and friends who are working (including a Herbal Remedy distributor). For the 2<sup>nd</sup> question (Figure 4) that asks the respondent whether they know anybody who suffers from Diabetes, it came out to be more than half (60.7%) of the respondents replied yes indicating they know someone who is suffering from the disease and this shows that how many people are suffering from this disease. The graphs (Figure 3) and (Figure 4) of the stated questions are shown below:

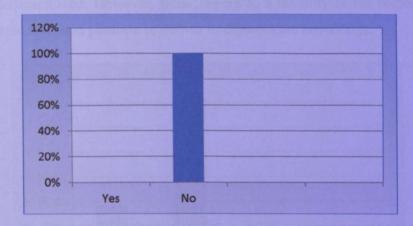


Figure 3: Are you suffering from diabetes?

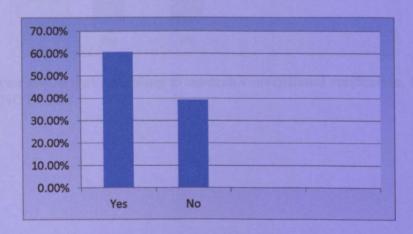


Figure 4: Do you know anybody who suffers from diabetes (family, friends etc)?

For question number three, four, five, and six they are regarding the familiarity and the behavior of users towards the website. It also studies on how the users acquire knowledge for Diabetes. The questions generated are important in order for me to understand and identify what are the user's interests when they are surfing the website thus making it effective to deliver my project. From the graph (Figure 5) below, we can see that 71.4% of the respondents aren't aware that modern/conventional medication cannot cure Diabetes. This is due to conventional medication which is always hiding the true fact behind this disease. For the next question (Figure 6) under this scope of research, I found out that website is not a popular medium where users always gets information about Diabetes and Herbalism as a way to cure it. This is important evidence showing websites explaining this type of disease and Herbalism as a curable alternative medicine are not being delivered well. However, from (Figure 8) a majority of the respondents (85.7%) agreed that website is a good platform to deliver or disseminate knowledge.

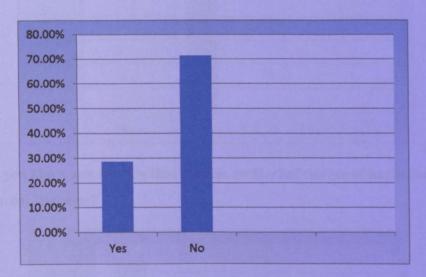


Figure 5: Are you aware that according to modern/conventional medication, Diabetes CANNOT heal?

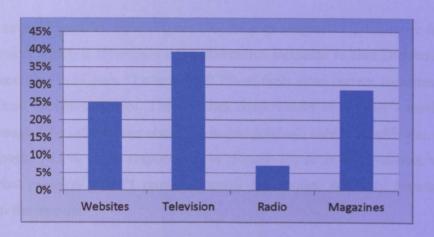


Figure 6: Where do you normally get knowledge about diabetes?

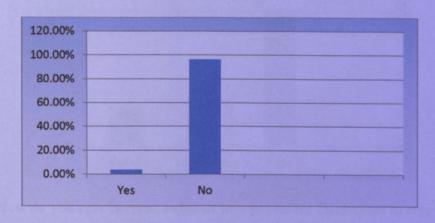


Figure 7: Do you know any website that focuses on Herbalism(use of herbs for medication) to treat Diabetes?

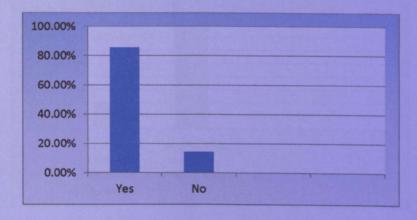


Figure 8: Do you think website is a good platform to disseminate/deliver knowledge?

For questions seven (Figure 9), eight (Figure 10) and nine (Figure 11), it is more focused on the topic of my project which is Herbalism as an alternative medicine to cure Diabetes. Most of the respondents according to (Figure 9) which is 60.7% of them rated current websites that promote Herbalism to treat Diabetes as poor. The websites doesn't cater to the user's needs and are not convincing enough. The information about the herbal products sold is insufficient, not approved and is not enough. 78.6% of the respondents in (Figure 10) feels that websites who sells and promotes Herbal products doesn't provide enough information but only focuses on making money through the internet.

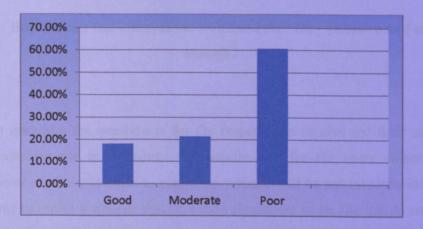


Figure 9: How do you rate current websites that promotes Herbalism to treat Diabetes?

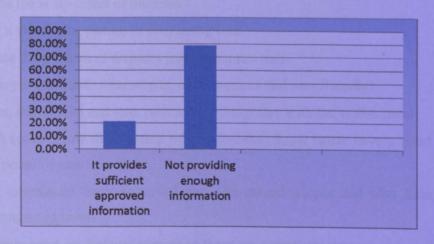


Figure 10: What do you think about current websites who sells and promotes Herbal products?

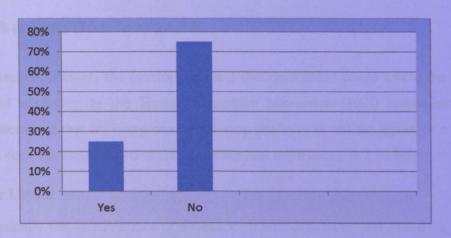


Figure 11: How do you feel about those websites? Are they effective and convincing enough?

As for the last question, the question is for the respondents to give out their suggestions and opinions in order for me to determine the requirement for the users. What is best from respondent's point of views in order to create my website will be put into consideration. This is important for me to create a website that promotes Herbalism as an alternative medicine to cure Diabetes as well as to guide the users to choose the right herbal remedies in treating Diabetes. Below are some of the ideas and expectation from the respondents regarding my project:

- Provide the scary effect of diabetes
- Using a visual ads, picture or interesting flash.
- Increase the pictures of diabetes patients on the web.
- Simple yet attractive. Less words, more pictures and user friendly!
- Videos, testimonial and interview attached together with the web content
- I don't really know the existing of this website. So, it better have a good promotion to make people aware of it first
- More testimonial from approved and recognized people and also linked with some government approval
- · Add daily news on diabetes section so there are something new when revisiting the site

# 4.4 Work progress (Web development)

As for this section, it enters the development and implementation phase where the website will be developed according to the Human Computer Interaction (HCI) principles. The main principles discovered that are being used to develop the website are the layout of a website, the navigational cues, the content awareness, aesthetics and consistency in a website.

# a) Generic Layout

Layout is basically the user interface of a website. It will determine how exactly a website will appear or how it looks like. A professional website which abides to this principle of HCI is normally divided into 3 sections which are the navigation area, the status area and the working area. The navigation area is normally on the top of the page, the status will be on the bottom and the work area will reside in the middle of the website page. All the particulars that are in the same group should be in the same area in order to create a professional website that meets the standards. By looking into this matter, it is important to decide on the layout grid that will be used for the design of a website where it acts as a framework. A layout grid will ensure that the page of a website is uniform and each single object is aligned. As for this project, a two column layout grid as shown in Figure 12 is being used

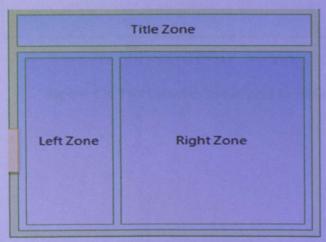


Figure 12: Two column layout grid

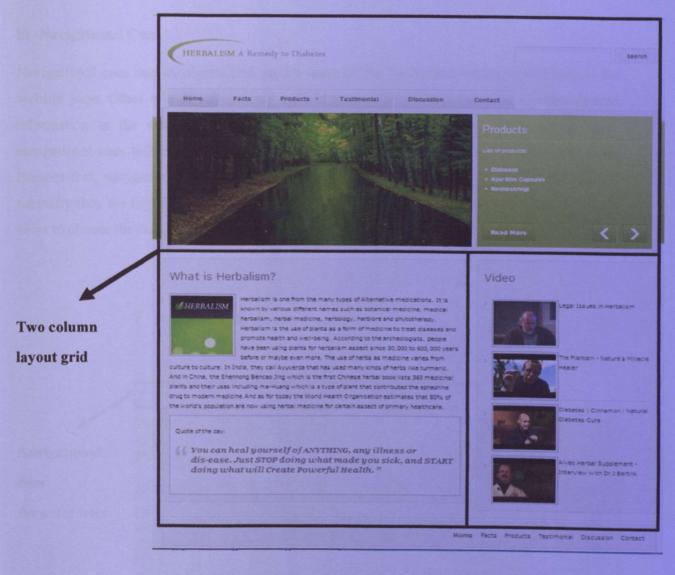


Figure 13: Two column layout grid in website interface

# b) Navigational Cues

Navigational cues acts as objects that guides users to use the system which in this case is the website page. Other role of navigational cues is to provide a direct attention towards desired information in the website. For instance, when there are many posts on a certain page, navigational cues will make it easy for the user to choose a topic that interests them the most. Besides that, navigational cues can also help users by linking them to related materials and normally they are highlighted, labeled or tagged. In this website, the navigational cues will help users to choose the categories, topics and tabs in the website.

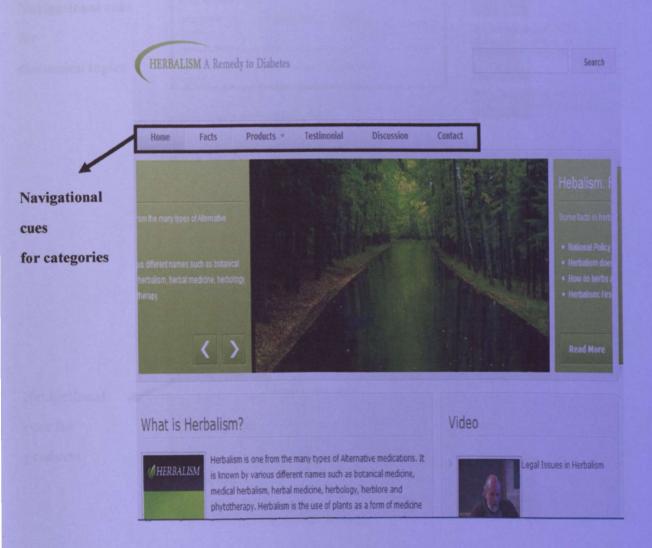


Figure 14: Navigational cues of website interface

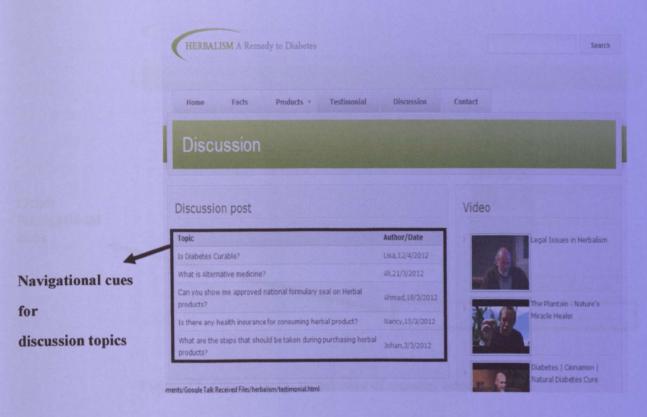


Figure 15: Navigational cues of website interface

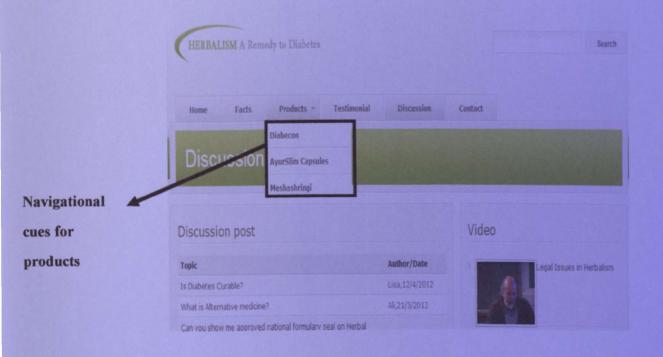


Figure 16: Navigational cues of website interface

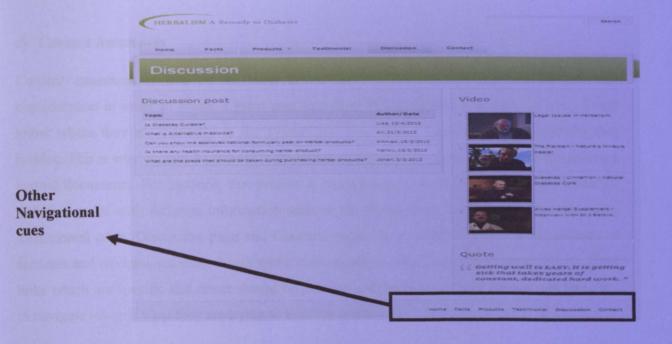


Figure 17: Other navigational cues of website interface

# c) Content Awareness

Content awareness is one of the most crucial HCI principles that need to be put into consideration in order to create a great user interface. When visiting a website, a user should know where they are currently in the system and is aware of what are the information that resides. This is why content awareness is important to describe, organize and file all the relevant textual documents. For instance, this project is having a system where there are a number of different pages with different information such as the Home page, Facts page, Products page, Testimonial page, Discussion page and Contacts page. As a result of proper arrangements of contents and navigational cues, it will make users aware of which page they are at. Proper label links which are specific and direct should be put into a website which will make users feel easy to navigate towards what they are trying to look for in the web.

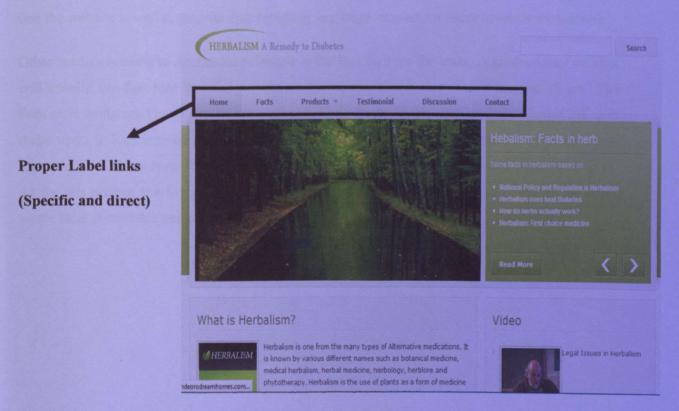


Figure 18: Label links

# d) Aesthetics

Aesthetics is one of the HCI principles that highlights a website that caters to the science and study of beauty, art and taste. In simple words, an interface of a website should please the eye of the users. As the information technology grows, it creates a requirement where all aspects of information technology should be at the most user-friendly environment. This has made the study of HCI to get deeper and deeper and creates a better and more effective websites nowadays. For this project, the aesthetics principle takes its place to make the website attractive and please the future users. In order to achieve them, matters such as squeezing all the information regarding the subject into one page is to be avoided. For instance, the Facts page should only contain facts and issues regarding Diabetes and Herbalism. Other section such as the Products page should only provide information about the herbal product to treat Diabetes and not involving other unrelated matters. By implementing this, it will surely give a good impression that the website is well organized thus resulting in a huge interest for users towards the website.

Other matters relating to Aesthetics principle is the font size for the texts. A professional website will usually use font size that follows the universal size that is between 8 pts and 10 pts. The Font style being used must also be easy to read. Complicated fonts such as Brush Script MT will make users to lose interest in the website as they will be having a hard time to read the texts. Fonts such as Times New Roman and Arial are the most appropriate fonts that are easy to read. As for this project, the fonts being used is Arial and the font size is 10 pts to ensure that every single texts is readable and retains user's interest.

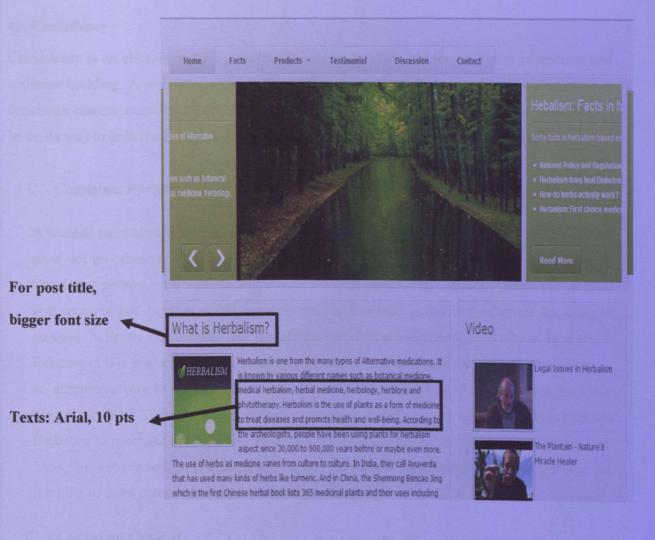


Figure 19: Font and Font size

# e) Consistency

Consistency is an element in HCI principle that plays a major role for a website promotion and audience building. A website satisfying this HCI principle should have a consistent purpose, a consistent content, consistent links and publishing. With these elements fulfilled, the website will be on its way to gain increasing number of users and encourage loyalty towards the website.

# i. Consistent Purpose

A website must always have a consistent purpose and it is shown in its content. The contents must not go other ways but stays and appeals to the reason of why the website is created. Consistent purpose of a website will ensure whether people who already visited the website will return or not. In other words, a consistent purpose will be the first judgment for users to conclude whether the website has the clarity and follows the reason of why it is created. Relating to this project, the purpose of this project is to expose people towards Herbalism as an alternative way to cure Diabetes and convince the public that Herbalism does heal this kind of sickness. The other purpose of this website is to help people especially those who are Diabetics to purchase the right and approved herbal medicine to treat Diabetes in the market. Thus, the website will be providing only approved information regarding the subject and not jumping to other matters that are not relating to herbalism.

### ii. Consistent Content

A website with a consistent content will be having related and consistent keywords in the content. This explains that the content will be supporting the consistent purpose of a website. Off-topics or contents that are considered as 'noise' in the website should be avoided as this will only make the website to follow a different course without meeting its own goal. Sometimes, topics that are unrelated in website draws unwanted attention as sometimes off topics are quite catchy towards the users. As a result, a page ranking will fall because it runs off course and people will not be interested on the main content of the website. In order for a website to be popular, it must have a consistent content that will make its ranking higher in the search page result. This will surely attract more readers as the website is always at the top of a search page result.

# iii. Consistent links and publishing

Each and every single links must serve as useful navigational cues for the user to know exactly where they are in a website. It must be made easy for users to choose their desired topics or sections whenever they want to. Links must not lead to an off topic content but to stay within the context of the website's subject. Links that leads to quality content gives an impression that a website is properly organized and is focusing on whatever it is trying to achieve. A consistent link also means that it is able to attract users towards the posts in a website and make them aware of their current location or website section.

Consistent publishing also plays a vital role for creating an effective website. Fresh and new materials are the thing that users expect and that is what makes them to return. It is to be remembered that consistent publishing doesn't mean that many new material has to be posted in the website. The right thing about consistent publishing is to do scheduled postings of fresh materials for the website. By looking into this matter, it is important for the content to have time and date stamping. This will make users to keep track on the contents of a website and will also makes a website to appear as a living e-timeline. Posts will be from top to down based on its date stamping. Latest posts will be at the top to show that a website is frequently updating and publishing consistent contents. Consistent publishing will gain people's trust in the website as it shows that a website is really serious in the message that it is trying to convey.



Figure 20: Date stamping

# **CHAPTER 5: CONCLUSION AND RECOMMENDATION**

As a conclusion, after all the objectives are met, I believe that this project is relevant to what I am trying to achieve as the system is working accordingly and is completed successfully. In order to achieve the aim of this project, lots of homework has been done to acquire as much knowledge to be included in the system. Human Computer Interaction (HCI) played an important role throughout creating this project. It has helped me to come out with a system that suites user's preferences thus making the purpose of the website to clear and well delivered. From the data collected during system testing stage, most of the respondents are satisfied with what the Herbalism website is trying to achieve. This makes me to conclude that all of my objectives are met. As for the first objective which is to create an attractive and effective web application that exposes people to Herbalism as an alternative medication for diabetes, all of the respondents gave a positive comment and they totally agree that this website does provide an exposure towards Herbalism in an attractive and effective way. All of the information being put are certified thus making people to be more convinced regarding my subject of this project. As for the last objective which is to create active promotion that can grab user's attention on Herbalism to treat Diabetes, I managed to create a foundation where people could interact with each other and give brilliant opinions and suggestions relating to Herbalism where this will make Herbalism to be more popular among the public as it has the ability to cure Diabetes.

Finally, I hope that with this project, it can help those who are suffering from Diabetes to have an opportunity to heal by offering an alternative towards their conventional medication that is currently just slowing down the effects created by this kind of sickness. In addition, I also hope that this project can reach a big number of people especially those with Diabetes and this project will be a contribution towards the society.

2.8 - Submission of technical report	2.7 - Designing the interface of the system	2.6 - Identifying the functions of the system	2.5 - Submission of interim report	2.4 - Feedback amendments on project	2.3 - Proposal defense – Oral presentation	2.2 - Obtaining information and resources	2.1 - Gathering the requirement for the project	STAGE 2 - Analysis	1.5 - Submission of extended proposal	1.4 - Identifying the methodology of the project	1.3 - Identifying the requirements of project	1.2 - Submission of proposal	1.1 - Topic selection and proposal preparation	STAGE 1 - Planning	Task
															Start Date
															End Date
21/12			7/12		23/11				2/11			5/10			Milestone
															W1
												×			W2
															W3
															W4
															W5
									×						W6
															W7
	T												T		W8
					×										8 W9
															W10
			×												) W11
															1 W12
×															2 W13
															3 W14

×		Legend
Milestone	Task Duration	

Figure 21: Project milestones

4.5 - Oral presentation 4.4 - Submission of dissertation report (soft bound) 4.2 - Further work on the system 4.3 - Poster exhibition 4.1 - Pre-testing the system function STAGE 4 - Testing 3.6 - Further work on the system 3.5 - Connecting system with the database 3.4 - Configuring database for the system 4.6 - Submission of dissertation report (hard bound) 3.3 - Submission of progress report 1 3.2 - Developing the function of the system 3.1 - Developing the system interface STAGE 3 - Design Task × × 12/4 4/4 7/3 Milestone WI W2 W3 W4 W5 W6 W7 × MID-SEMESTER BREAK W8 W9 Legend W10 W11 W12 W13 W14 × ×

Figure 22: Project milestones

Task Duration
Milestone

# REFERENCES

[1] Persatuan diabetes malaysia (PDM) - malaysian diabetes association Retrieved 12/6/2011, 2011, from <a href="http://www.diabetes.org.my/article.php?aid=110">http://www.diabetes.org.my/article.php?aid=110</a>

[2] Using complementary therapy Retrieved 11/10/2011, 2011, from <a href="http://www.nationalpainfoundation.org/articles/89/using-complementary-therapy">http://www.nationalpainfoundation.org/articles/89/using-complementary-therapy</a>

[3] What is alternative medicine? Retrieved 11/10/2011, 2011, from

http://www.wisegeek.com/what-is-alternative-medicine.htm

[4] Healing affirmations: Dr. richard schulze BLOG Retrieved 11/10/2011, 2011, from

https://herbdocblog.com/healing-affirmations/

[5]WHO | traditional medicine Retrieved 11/10/2011, 2011, from

http://www.who.int/mediacentre/factsheets/fs134/en/

[6] Wikipedia contributors. Herbalism, 2011, from

http://en.wikipedia.org/wiki/Herbalism

[7] Welcome to herbal origins - centre for natural & holistic therapis Retrieved 11/10/2011, 2011, from

http://www.herbal-origins.com/principles.htm

[8] Throw away / rapid prototyping Retrieved 11/10/2011, 2011, from

http://www.sqa.org.uk/e-learning/IMAuthoring01CD/page\_08.htm

- [9] Fakhreddine Karray, Milad Alemzadeh, Jamil Abou Saleh, Mo Nours Arab, (2008). *Human-Computer Interaction: Overview on State of the Art*, University of Waterloo, Waterloo, Canada.
- [10] Amir Ahmad Nasr, Mazeyanti M. Ariffin, Blogging as a Means of Knowledge Sharing: Blog Communities and Informal Learning in the Blogosphere, Universiti Teknologi PETRONAS
- [11] Lorenzo Sommaruga, Nadia Catenazzi, Luca Canetta, *The Intelligent web: tools for knowledge management and sharing*, University of Applied Sciences of Southern Switzerland
- [12] Catherine McLoughlin, Mark J.W. Lee, (2007), Social software and participatory learning: Pedagogical choices withtechnology affordances in the Web 2.0 era, Australian Catholic University, Charles Stuart University
- [13] Geraldine Lefoe, Wendy Meyers, (2006). Modelling blended learning environments: Designing an academic development blog, CEDIR University of Wollongong.
- [14] Ping.Zhang, Jane.Carey, Dov.Te'eni, & Marilyn.Tremaine. (2005). INTEGRATING HUMAN-COMPUTER INTERACTION DEVELOPMENT INTO THE SYSTEMS DEVELOPMENT LIFE CYCLE: A METHODOLOGY.15, 512.
- [15] Graham Cormode, Balachander Krishnamurthy. (2008). Key Differences between Web1.0 and Web2.0, AT&T Labs-Research
- [16] Web 1.0 Retrieved 8/5/2012, 2012, from

http://en.wikipedia.org/wiki/Web 1.0

[17] User-generated content Retrieved 8/5/2012, 2012, from

http://en.wikipedia.org/wiki/User-generated\_content

# **APPENDICES**

HERBALISM A Remedy to Diabetes

Bearon

Home

Facts

Products \*

Testimonial

Discussion

Contact



# Herbalisn

Helbellsm is one from the many types of Alternative medications.

It is known by various different names such as locanical medicine, medical herbalism, herbal medicine, herbology herbiore and phytorherapy



# What is Herbalism?



Herbelism is one from the many types of Alternative medications. It is known by various different names such as botanical medicine, medical herbelism, herbel medicine, herbelogy, herbiore and phytotherapy. Herbelism is the use of plants as a form of medicine to treat diseases and promote health and well-beling. According to the archeologists, people have been using plants for herbelism aspect since 30,000 to 600,000 years before or maybe even more. The use of herbs as medicine varies from

culture to culture. In India, they call Ayuverda that has used many kinds of herbs like turmenic. And in China, the Shennong Bencao Jing which is the first Chinese herbal book lists 365 medicinal plants and their uses including ma-Huang which is a type of plant that contributed the ephedrine drug to modern medicine. And as for today the World Health Organization estimates that 80% of the world's population are now using herbal medicine for certain aspect of primary healthcare.

Quote of the day:

Wou can heal yourself of ANYTHING, any illness or dis-ease. Just STOP doing what made you sick, and START doing what will Create Powerful Health."

# Video



Legal Issues in Herbalism



The Plantain - Nature's Miraci Healer



Diabetes | Cinnamon | Natura Diabetes Cure



Alveo Herbal Supplement -Interview with Dr J Bertille

Home Facts Products Testimonial Discussion Contact

Home page

# National Policy and Regulation in Herbalism

erbal medianes have been used for conturies. Mowever, then are harms involved if the medicine is taken inappropriately or if users are just buying it without proper knowledge about which product is safe and effective. What hopeons today is that in certain countries such as the United States, herbal remedies do not have to most quality control standards thus creating sessibilities of harmful adverse reactions. In Malaysia, the practice of herbal



mediane has not been fully regulated by the government, newever, an action has bee taken whereby the Ministry of realth is now in collaboration with the Malaysian Socie of Complementary Therapies to come out with guidelines in order to implement the regulation for this type of healthcare industry. Other actions that have been taken are that in 2004, the Nebenal Center for Complementary and Alternative been taken are fund dimental trials into the effectiveness of herbal medicine. As a result, the curetive offects of many herba have now been spentifically proven.

### Herbalism DOES HEAL Diabetes



A fact about the population of people using alternative media Sets of five appulation are using afternative or complementary and afternative medicine (CAM) for their primary healthcare. As for the developed countries, World Health Greansation (WHO) extended about 10% to 50% of the opulation has been using this

type of medication, from a study to evaluate CAM use among layers distribute patients at messical Tuanku Jos for Seremban Malayers almost half of the patients (49.8%, 114/230) were using CAM together with conventional medicine to

### Video









There are NO incarable diseases NONE. Take RESPONSIBILITY and be willing to CHANGE, and you can heal yourself of anything

# Facts page

HERBALISM A Remedy to Diabetes

Home

Facts Products \* Testimonial Discussion

# **Products**

# Diabecon



Diabecon increases the peripheral utilization of glucose. Diabecon increases the hepatic and muscle glycogen content. Diabecon promotes β-cell repair/regeneration and increases the C-peptide level. As it has antioxidant properties, Diabecon protects the β-cells from oxidative stress. Diabecon exerts an insulin-like action. By reducing the glycated hemoglobin level, normalizing the microalbuminuria and modulating the lipid profile, Diabecon minimizes the long-term diabetic complications.

# List of products

- AvurSlim Capsules
- Meshashringi

# Quote

STOP focusing on your disease, and START focusing on Creating Powerful Health! Your disease is not

Products page

Products \*

**Testimonial** 

Discussion

Contact

We received a great review on Diabecon from Mr. Gopi in Canada.

Diabecon tablets worked wonders on my Type 2 condition. I am free from Metformin which I was on for some 2 1/2 years. And these results showed itself just after 2 weeks of Diabecon consumption; it's now some 5 weeks since I started on Diabecon although Metformin worked pretty well, Diabecon worked that much better and I am completely free from Metformin, a prescription medication in most parts of the world."

A 30 year old woman presenting with sugar addiction

I was suffering from a sugar addiction. It may sound mild, but I found it very corrosive to my wellbeing, affecting my mood, energy, concentration and skin. At the beginning of the year my enrodreamhomes.com... were at their strongest, distracting me almost

# Video



Legal Issues in Herbalism



The Plantain - Nature's



Diabetes | Cinnamon |



Alveo Herbal Supplement Interview with Dr ) Bertlik

# Testimonial page

Products \*

# Discussion

## Question

Is Diabetes Curable?

Lisa, 12/4/2012

# Answers

According to conventional medicine, it is not but herbalism has been proven to cure both type 1 and type 2 Diabetes

Every sickness always has a way to cure them deorodreamhomes.com...

# Video





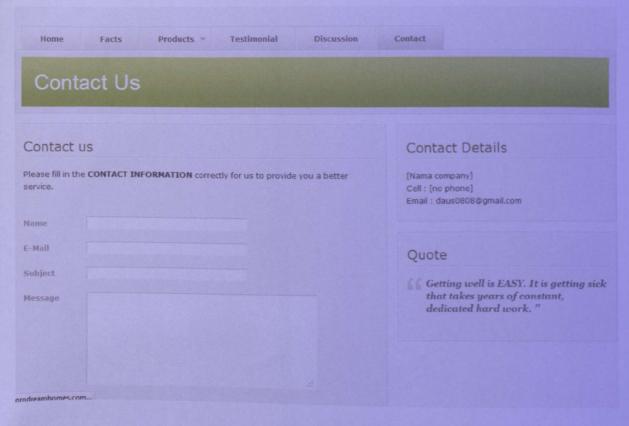


Natural Diabetes Cure



Alveo Herbal Supplement Interview with Dr J Bertlik

Discussion page



Contacts page