Online Herbal Prescriptions

Ogirima, SanniAbubakarOmuya
Department of Computer Science & Engineering, LadokeAkintola University of Technology, Ogbomoso, Nigeria
Email: soogirima@lautech.edu.ng OR ogirima_saow@yahoo.com

--**ABSTRACT**--
Online technologies are already fully integrated into almost every domain of activity associate cognitive operations of conception to use certain online tools. Establishing herbal prescription online is to help indigent patient's access medications and to improve Care. The purpose of this research is to build a practical model of the collective architectural conception process in relation to the use of basic online tools that help in getting herbal prescription. With this patient can get herbal medication from herbal practitioners online.

Keywords -online tools, collaboration, symptoms, Prescription, electronic prescribing applications

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I. INTRODUCTION

Being that people are now very concerned about their health and most people are now using herbs to as a mean of cure to their sickness. Currently herbal medicine has found its way as an alternative to orthodox medicine, which is the oldest and most widely used system of medicine in the world as of today. When herbal practitioner uses an electronic system to collaborate, it system shapes their interaction. The research is interested in determining how online prescription can be utility use to provide an online healthcare delivery. Online collaboration tools to enable dispersed herbal practitioner to collaborate on ideas. According to [1] the developer of an online Herbal Prescriber Database, his system an online database of herbs, ailments, and the corresponding uses but no pictorial for easy identification. An enhanced was introduced to provide herbal prescriptions for a certain disease. It gives an option to the user whether to explore through selecting or searching an herb or ailment. Each herb includes a brief information, dosage and ailments treated. Each ailment on the other hand includes its description along with its treatment plan. Furthermore, it provides a list of recommended herbal remedies [2].For centuries herbal medicines were the primary methods to administer medicinally active compounds. Medication is an important aspect of human life which deals with the administration of ethical drugs on a health practitioner's advice. In Nigeria, today, the rate of poverty is so high that make impossible for people to afford modern medications [3]. According WHO report, 1996, the issues of fake drugs, drug abuse and excessive side effect of drugs are other major problems in modern medicine [4]. In recent times, herbal medicine has found its way as an alternative to orthodox medicine, it is the oldest and still the most widely used system of medicine in the world today [5]. It is mainly extracted exclusively from plant. It is used in all societies and is common to all cultures due to its affordability. Herbal medicine is increasingly being validated by scientific investigation which seeks to understand the active chemistry of the plant; many modern pharmaceuticals have been modeled on, or derived from chemicals found in plants [6]. The therapeutic activity of plant is due to its complex chemical nature with different part of the plant providing certain therapeutic effects [7]. Ancient wisdom has always known the roles herbs have played in the intricate balance of well-being of the human species. They have little or no side effect as a result of their preparation from natural herbs [8].

However, in Nigeria as at today, orthodox medicine has been widely accepted due to the fact that it is the mother of all medicine. Nevertheless, orthodox medicine has its own disadvantages, including issue of price of the medicine and the inability of people to afford it. The present economic situation has made it difficult for people to afford the cost of medication, leading to self medication. Self medication is the administration of ethical drugs by a lay-man without a health practitioner's advice [9].

Over the years herbal medicine was not recognize due that their portions are not standardized, nor are they dispensed to patients in specific dosages or in strictly regulated quantities. Inadequate information about the drugs and the herbalist may also die with the knowledge of the herbs which may lead to misinformation about the herbs in generations to come [10].

In an empirical study on medicinal herbs information system, it was concluded that it is high time for Malaysian to be able torecognize herbs as one of the beneficial ingredients to spice up their life. But most of them do not know which herb can exactly benefit them or how it looks like [11].

A web application is the fastest growing classes of software systems today. Web applications are being used to support wide range of important activities: business transaction, scientific activities like information sharing, and medical systems such as expert system-based diagnoses. Web applications have been deployed at a fast pace and have helped in fast adoption but they have also decreased the quality of software [12].

The sporadic influx of mobile phones has posed new opportunities for the proliferation of robust user-centric applications for mobile users. Therefore, people can now take care of their medical healthcare through their mobile phone according to [13].

2. REVIEW OF RELATED WORKS

A web application was classified as the fastest growing classes of software systems today. It was argued that web applications are being used to support wide range of important activities such as business transactions, scientific activities like information sharing and medical systems like expert system-based diagnosis. The authors concluded that web applications have been deployed at a fast pace and has gained fast adoption [12].

An online prescription management account on medication was done on adherence. Adherence was assessed by measuring the proportion of days covered (PDC). Propensity score matching was utilized to minimize differences in age, gender, chronic condition score, copy, household income and urban locality between the users and non-users groups. Results obtained indicate that patients who utilized an online prescription management account had higher rates of medication adherence as compared with nonusers. It was later concluded that additional studies are needed to assess which specific components of the prescription management account have the biggest impact on adherence [14]. An internet-based applications and programs may be a way to guide patients toward refilling their medications at proper intervals because the internet has shaped American society with nearly 70% of households having Internet access at home. They hypothesized that patients who use Internet-based services to fill their prescriptions will have greater rates of adherence [15]. Some researchers argued that commercially available electronic prescribing systems may differ in their effects on patients' health outcomes and on patients' ability to manage costs. They convened experts' panel to recommend specific features that would enable electronic prescribing systems to advance these goals. The panel authored sixty recommendations and rated each using a modified Delphi process. In overall, these recommendations offer a synthesis of evidence and expert opinion that can help guide the development of electronic prescribing policy and application development [16].

3. MATERIALS AND METHOD

Methodologies are comprehensive, multiple-step approaches to systems developments that will guide people's work and influence the quality of the final product. Most methodologies incorporate several development techniques. The systematic procedure by which a complex or scientific task is accomplished is called techniques. Techniques are particular processes that will follow by, to ensure that the work is well thought-out, complete and comprehensible to others.

A. Architectural Framework for prescription of herbal medicine online

This paper gives the general overview of the architectural framework for the establishment of prescription of herbal medicine on the web presented in Figure 1. The framework highlights the structure of the developed system together with the way they interactions with each other. The architecture of the system shows constraints imposed by the user requirements and the available technology.

Figure 1: Architectural of Online Framework of Herbal Prescription
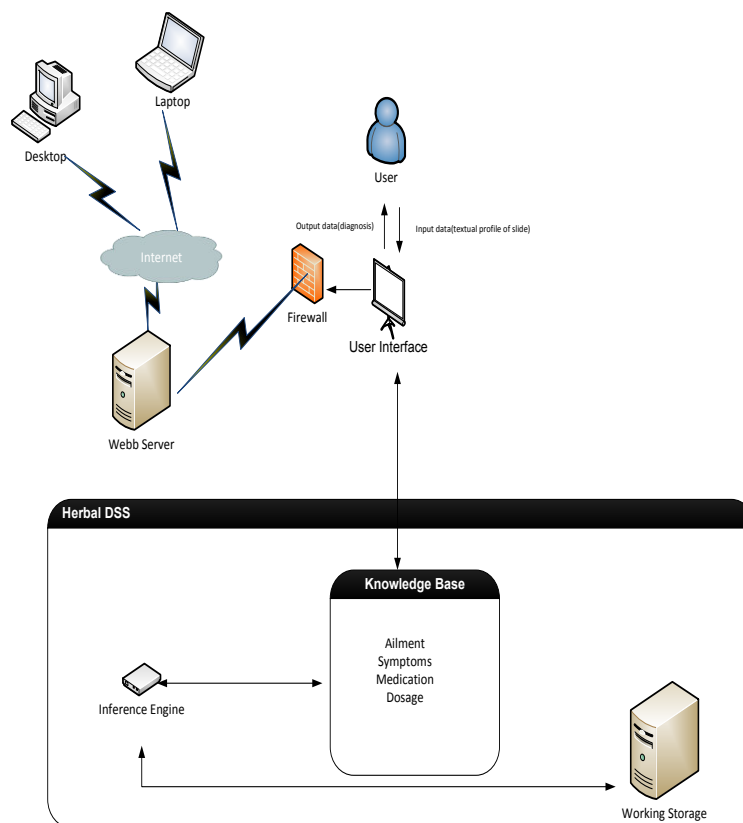
The components of the Framework are explained as follows:

Internet Terminals /Mobile Devices: Desktop send message to the dedicated internet devices connected to the server where the application resides with the help of internet protocol provided by the internet operator. The information is got from the server by using the internetprotocol; this enables the client to send information to the server and to be able to receive information back from the server.

User Interface: User input data (diagnosis request) through the user interface.

Web Server/website: Is the internet provider in which the herbal prescription resides. It serves as the gateway application that enables you and your applications to send/receive internet messages through internet devices to your computer.

Firewall: Firewall is ant-virus software that checks information coming from the internet or a network, and then either blocks it or allows it to pass through to the attempted system depending on the firewall settings.

Knowledge Base: Knowledge base consists of some encoding domain of semantic nets, procedural representations, production rules, or frames.

Inference Engine: Inference engine is the dialogue conducted by the user interface between the user and the system.

Database: It stores all important and detailed information of the Herbal and that of the administrator.

Use of Online Tools in the Architectural framework

The research paper has chosen to focus on what we call "basic online tools", such as e-mail, chat, file transfer systems, blogs and Wikipedia platforms. These tools are for the most part fully developed services that have widespread use over different populations of Internet users, in different domains, for all types of activities. This means that the tools are used within all age groups, by all genders, in all different group sizes and at various use intensities to have online herbal prescription. Basic online tools are non-specific to the architecture domain but are the subject of appropriation and adaptation to better assist the collective conception process. For this exploration we can distinguish between different uses of online tools: the basic use (mainly for which the tool was designed) and the use within the framework.

B. Database design of the Herbal Prescriptions online

This helps to manage or structure their data in a logical way. In addition, database design is a process to produce detailed data model of a data-base. The detailed data model consists of detailed value parameters, attributes, primary key, foreign key and relationship between entities. The designing of the database needs an excellent developer's understanding of two criteria which are the domain area and database development. Effective database design can assist developer to perform well from the beginning. In addition, it can reduce costs and time during development process. An excellent database development is important to get an optimal performance and high productivity. In order to achieve the quality of system, the structure Figure 2 has to be properly presented which representing information in the database design to ensure the database works properly.

C. Conceptual modeling of the Herbal Prescriptions online

The emphasis of logical database model is on logic, which is a readable method and useful for representing the knowledge. This can be done through the conceptual modeling Conceptual modeling is a process to model data of domain. Conceptual modeling is a well-known technique of data modeling. It represents domain entities, meaning of the data, concepts or terms used by domain experts, function or relationship between concepts. Conceptual model, also known as conceptual level schema as shown in Figure 2a through 2d show the flowchart and interfaces to show the flow of the interactions and also the database design which determines information needs of user.
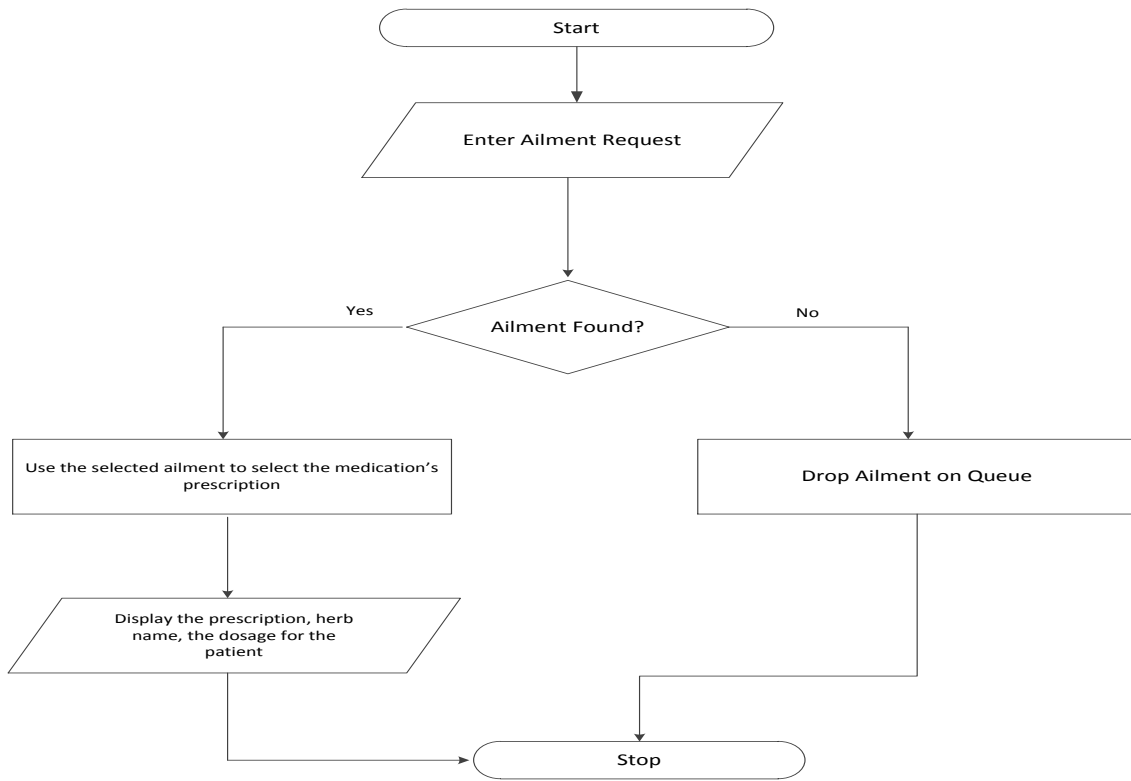
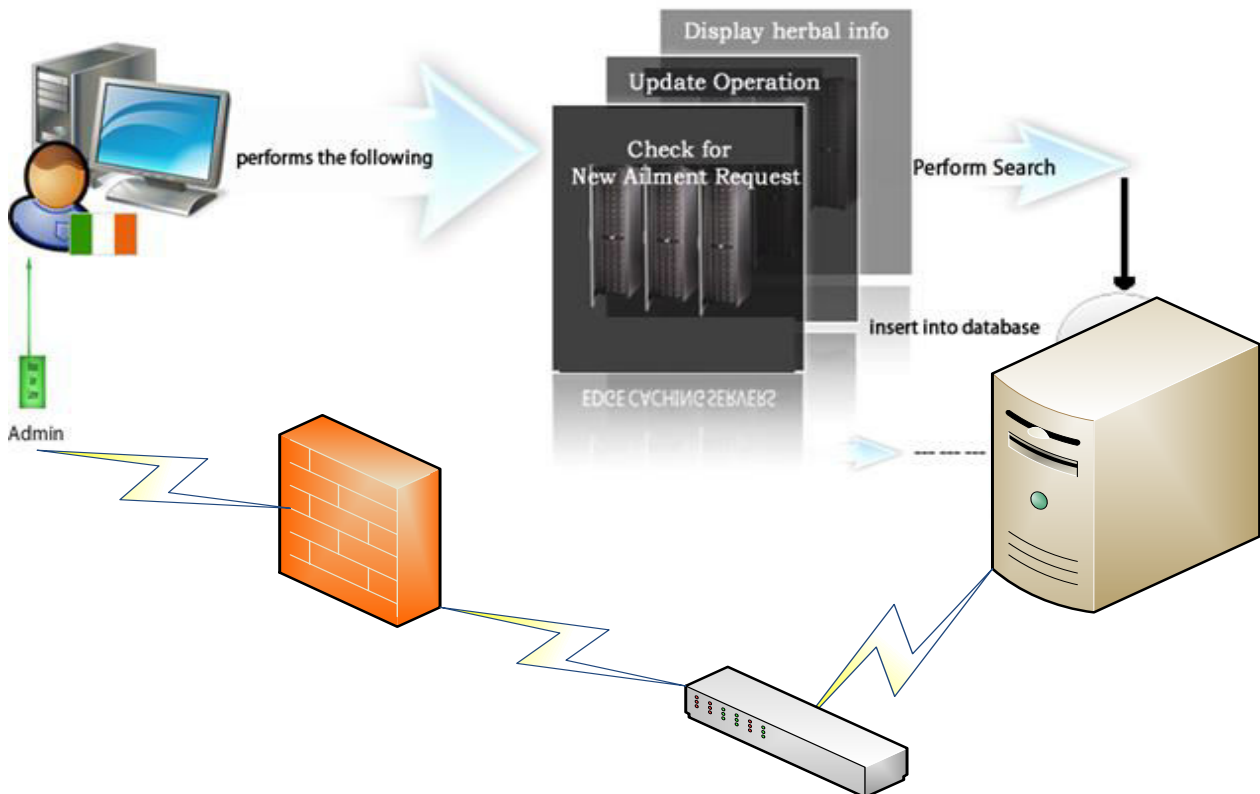Figure 2a: Client Server Flowchart of the system

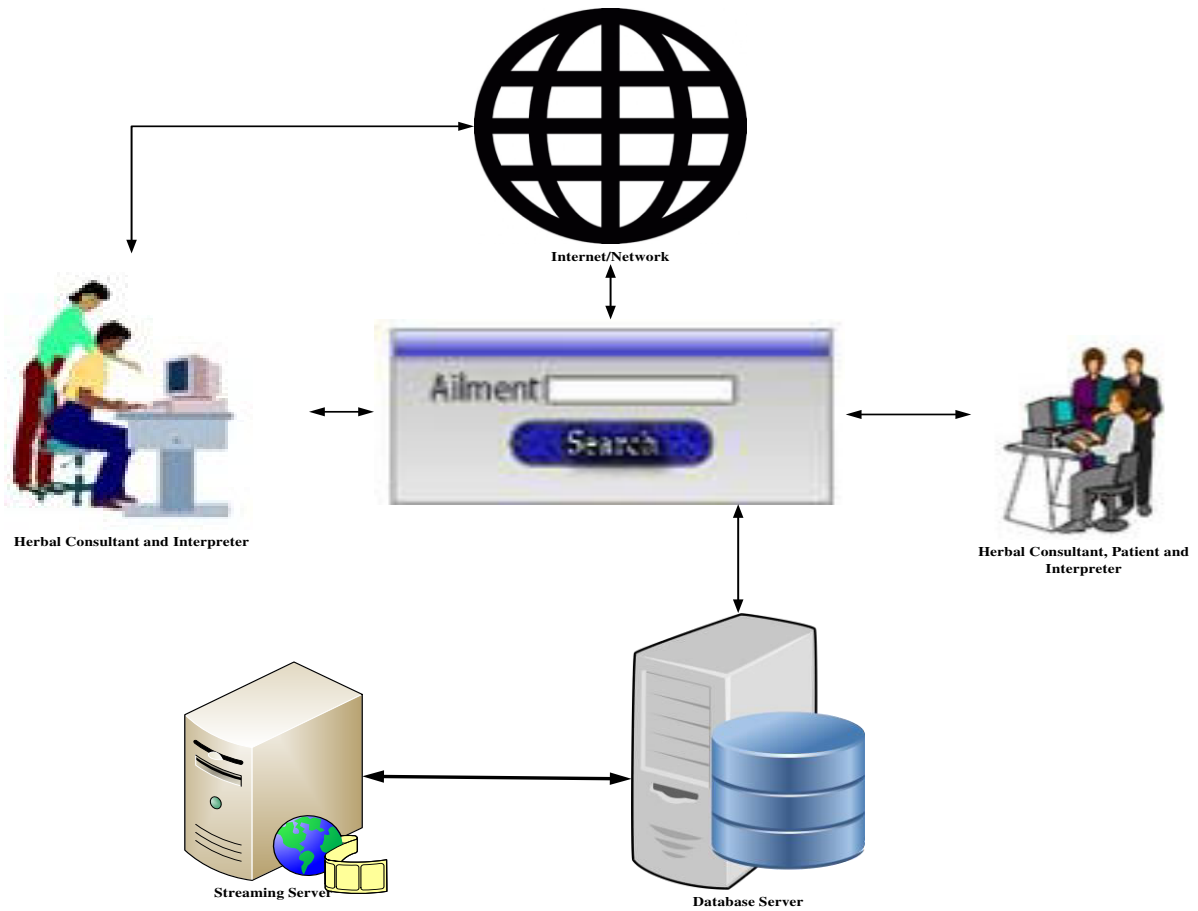Figure 2b: Admin server Interface of the system.
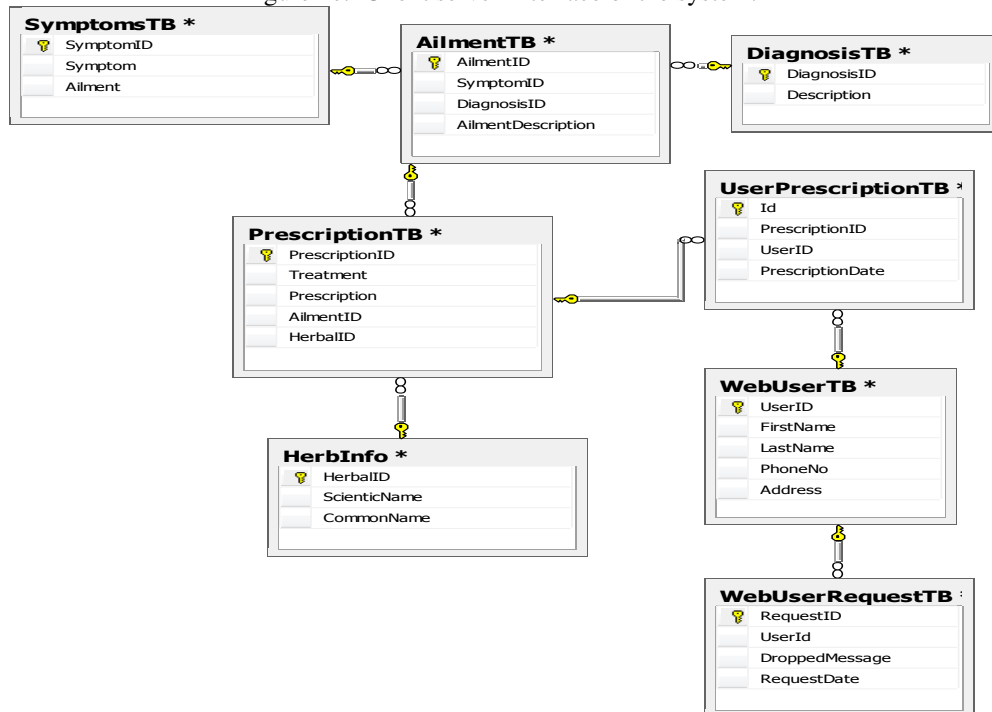
Figure 2c: Client server Interface of the system.

Figure 2d: The structure knowledge of herbs database

Table 1: Metadata of the System

Meta Data	Data Type	Literal Meaning	Length
RequestQueue			
QueueID	Int	Integer	
UserID	Uniqueidentifier	Unique Identifier	
RequestDate	Datetime	Date Time	
AilmentName	nvarchar(50)	String	50
Comment	nvarchar(50)	String	50
ChannelID	Int	Integer	
RequestChannel			
ChannelID	Int	Integer	50
Part			
PartID	Int	Integer	
Description	nvarchar(50)	String	50
Dosage			
DosageID	Int	Integer	
Description	nvarchar(50)	String	50
TreatmentID	Int	Integer	50
AdminID	Uniqueidentifier	Unique Identifier	50
HerbalPlant			
HerbID	Int	Integer	
Description	nvarchar(50)	String	50
CommonName	nvarchar(50)	String	50
LocalName	nvarchar(50)	String	50
ScientificName	nvarchar(50)	String	50
Image	nvarchar(50)	String	50

D. Preparation medicinal of Plant into herbs

Most of the herbal medications are mainly prepared by grinding, pounding, chewing, boiling, cooking, roasting and smoking. The herbs are prescribed in water, alcohol, tea, and soft drinks (7up), pap or milk. Some of these vehicles (medium or carriage) also facilitate the activity of the medicinal plants. The herbs are taken mainly through the mouth while others like topical, insects or suppository and inhalation are also used. The plants parts used include the roots, stem, leaves, stem barks, root barks, flowers, seeds, juice/sap, tubers, rhizomes, fruits and whole plants form different plant families. Herbs can be taken in the form of decoction (liquid preparation obtained by boiling medicinal plants in water and extracting it by straining the preparation, infusion steeping of medicinal plants in water to extract

its active principle) or as a poultice (applying the whole herb rather than liquid extract to the affected part). It may also be used as prophylactive (to prevent the onset of the disease) and curative [17] (Ogirima, 2015). The herbal medicines and their preparations (Concoction) have been widely used for thousands of years in many oriental countries, such as in Nigeria, China, Korea, Japan, etc. Process of manufacturing plant extracts (transforming freshly harvested medicinal plants into extract): See Figure 3. However, one of the characteristics of oriental herbal medicine preparations is that all the herbal medicines, either presenting as single herbs or as collections of herbs in composite formulae, is extracted with boiling water during the decoction process[18](Ogirima et al; 2014).
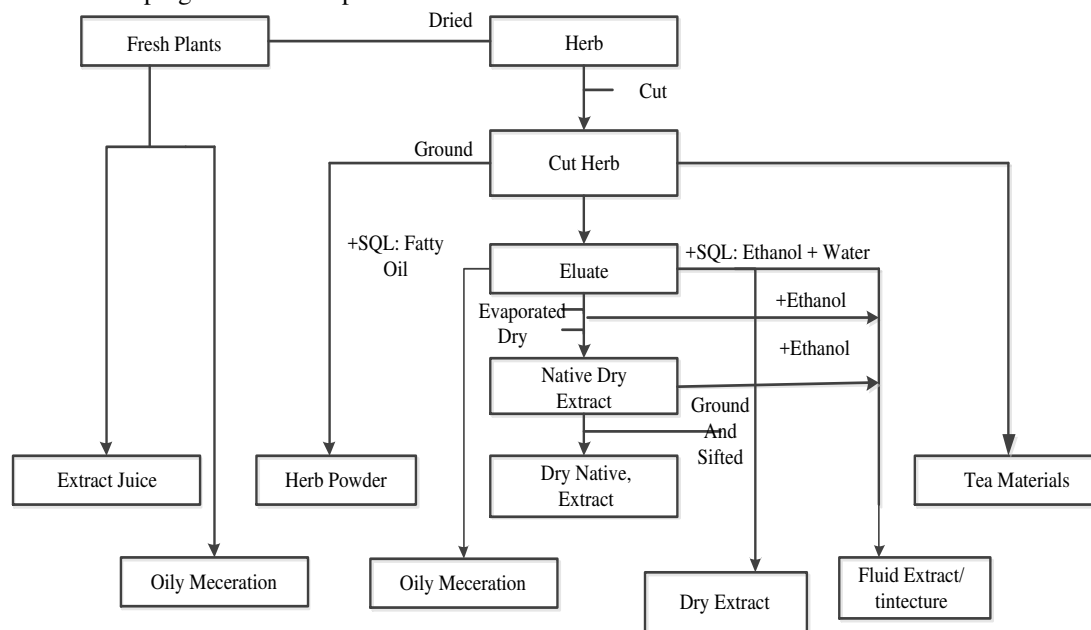

Figure 3: The process of Transforming Harvested plant into Extracts (Ogirima et al.; 2014)

E. Implementation Tools

During the implementation, C# was used under Microsoft Visual Studio 2008 integrated development environment (IDE). Visual Studio *.NET* is Microsoft's integrated development environment (IDE) for creating running and debugging programs for the development of the designed system.

4. RESULTS AND DISCUSSION

The expected result is the online tools can meet the demand of the patient seeking herbal medication. Using smartphone and desktop connected with internet facilities to links with online herbal medication provider for example, Christopher Hobbs provides Herbal Prescriber Database system, an online database of herbs, ailments, and the corresponding uses. Further discussion describes each result that has been produced by the web-based and mobile oriented herbal information system in the testing activity. Figure 4 to 7

shows the design of interface for medicinal herbs information system. To insert a new data of herb, view the entire data, and searching. The processes of inserting a new data into the system by enter the common name, and scientific name part used, and the picture of herbs. Before admin insert a new data, they need to search the herbs first to check either the herbs is exist or not. If the herb is not exists, so they can proceed to insert a new data of herb, as shown in Figure 4. However, the system is user-friendly software applications based on linked data standards are still lacking. While there are several specialized and user-friendly interfaces for accessing certain linked modules, such as a dedicated interface.

Figure 4: The interface for plant picture

SN	Disease	Request ID	Treatment	Prescription
1	Abdominal pain	Abdominal pain	Juice of aloe vera mix with honey.	Take 3times for 7days
2	Acne	Acne	Boil catnip,lemon grass,garlic,neem,ver...	Take 1 table cup 2times daily
3	Acute dysentery	Dysentery	Chew leaves of Siam weed with urine	every morning for 3days
4	Allergies	Allergies	Boil chickweed,pawpaw leaves,peppe...	Take 1cup 3times daily
5	Arthritis	Arthritis	Boil mistletoe,garlic,thorney pigweed,a...	Take 2times daily
6	Asthma	Asthma	Mix powdered thorny pigweed,garlic,tu...	Take 3times daily
7	Bad Breath (Halitosis)	Bad Breath	Mix powdered garlic,tumeric, ginger & t...	Take 3times daily
8	Baldness	Baldness	Mix Aloe vera juice,onion,horsetail,nettl...	Rubb 3time daily
9	Bedwetting	Bedwetting	Mix powdered plantain,nettle,mstletoe,...	Take 3times daily
10	Bladder Cancer	Bladder Cancer	Mix powdered garlic,tumeric,corn silk,n...	Take 3times daily
11	Breast Cancer	Breast Cancer	same treatment for bladder cancer but ...	3 times daily
12	Bronchitis(Cough)	Cough	Mix powdered garlic,ginger,thorney pig...	Take 3spoon 3times daily
13	Burns	Burns	Apply honey on affected part then che...	3times daily
14	Canker Sores (Cold Sores)	Canker Sores	Mix powdered garlic,ginger,tumeric,pe...	Take 3times daily
15	Cataract	Cataract	Apply Aloe vera juice directly until con...	Twice daily
16	Cervical Cancer	Cervical Cancer	Same treatment to breast cancer but A...	At night
17	Cholera	Cholera	Squeeze scent leaves with little quantit...	Take 3times daily
18	Chronic Obstructive Pulmonary Diseas...	COPD	Mix aloe vera juice with orange.	Take 3times daily
19	Colon Cancer	Colon Cancer	Boilgarlic,tumeric,aloe vera leaves,nettl...	Take 3times daily
20	Congestive Heart Failure (CHF)	Heart Failure	Mix powdered garlic,ginger,thorney pig...	Take 3spoon 3times daily
21	Convulsion	Convulsion	Mix powdered garlic,ginger,tumeric,pe...	Take 2times daily
22	Conjunctivitis(Apollo)	Conjunctivitis	Wash eyes with self urine then applied...	morning and night
23	Dandruff	Dandruff	Wash hair with urine then apply aloe v...	Daily after bath
24	Dehydration	Dehydration	Mix aloe vera juice with orange & nee...	Take with salt 3times daily
25	Depression	Depression	Boil neem leaves,lime,lemon grass,mis...	Take 3times daily
26	Diabetes	Diabetes	Boil onion,garlic,ginger,plantain,mistlet...	Take at night

Figure 5: Showing Ailment medication and prescription

SN	Symptom	Ailment
1	severe pain in stomach, vomitting,unable to stand well	Abdominal pain
2	Swolen gland on skin,red pimples on face & neck	Acne
3	Blood stain on stool,Pains in anus,hard stool	Acute dysentery
4	Body itching,swollen gland,red pimples on the body	Allergies
5	Pains on joints,neck,back,knees,wrist,finger etc	Arthritis
6	Persistent coughing,unable to breath well,sweating	Asthma
7	Bad odour from mouth when talking or breathing	Bad Breath (Halitosis)
8	Hair cutting, dry scalp	Baldness
9	Passing urine on bed during sleeping at night	Bedwetting
10	Severe pain in affected part, weight loss,tiredness,painful urination & bad odour	Bladder Cancer
11	severe pain in breast, weight loss,tiredness,rise in temperature	Breast Cancer
12	Coughing, chest pain,hard breath, mucus with spit	Bronchitis(Cough)
13	Swollen glands as result of fire or hot water	Burns
14	Difficult in breathing,coughing,headache,sneezing,watery eyes,fever,pains and aches	Canker Sores (Cold Sores)
15	Growth covering the eye,redish eye	Cataract
16	Bleeding from virginal,pains,pieces of wart droping on pants	Cervical Cancer
17	Vomitting, stooling, weight loss, unable to eat	Cholera
18	Difficult stools,slight stomach pain	Chronic Obstructive Pulmonary Disease (COPD)
19	Severe pain in colon, internal bleeding,stools stain wih blood,pale,rise in temperature	Colon Cancer
20	Unable to breath,headache,slight chest pain,pale,weight loss	Congestive Heart Failure (CHF)
21	Fallen down,Dizzness,Abnormal cerebral stimulation,uncontrollable contraction of muscles	Convulsion
22	Redish eyes,unable to open eyes,pains as if stones on eyes	Conjunctivitis(Apollo)

Figure 6: Showing Symptoms with its corresponding ailment

SN	ScientificName	CommonName
1	Acanthus montanus	Thorny Pigweed
2	Ageratum conyzides	Goat weed
3	Allium cepa	Onions
4	Allium sativum	Garlic
5	Aloe barbadensis	Aloevera
6	Amaranthus spinosus	Dagunro
7	Ananas comosus	Pineapple
8	Aspilia africana	African marigold
9	Azadirachta indica	Neem
10	Bryophillum pinnatum	African never die
11	Capsicum species	Cayen pepper
12	Carica papaya	Pawpaw Leavea
13	Cassia alata	Eczema plant
14	Ceiba pentandra	Silk Cotton tree
15	chrysophyllum ibidun	African Star apple
16	Citrus aurantifolia	Lime
17	Discorea alata	Water yam
18	Euphorbia hirta	Asthma plant
19	Ficus asperifolia	Sand paper tree
20	Ficus sp	Ficus
21	Fleurya ovalifolia	Stinging Nettle
22	Garcinia cola	Bitter cola
23	Lantana camara	Wild sage
24	Mentha viridis	Scent leaves
25	Mimosa pudica	Sensitive plant
26	Momordica charantia	Balsam pear
27	Morinda lucida	Brimstone Tree

Figure 7: Showing the list of medicinal plant available in the database of the website

5. CONCLUSION

The research presented here, allows us to associate basic online tools to the moments of architectural conception on how medication and prescription is made available online the collaboration of pharmacist significantly improved indigent patients' access to medications while decreasing clinic expenditures. Herbal medical care programs improved therapeutic outcomes, and clinical pharmacy services complemented the clinical activities of other health care providers in managing chronic diseases and resolving drug-related problems. With the quest for globalization, we need to have the details about herbs, their uses and the parts used and also it needs to be established on the internet for people's usage.

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Author Biographies

Ogirima, SanniAbubakarOmuya started his professional studies from Kwara State Polytechnic, Ilorin, Kwara state, Nigeria, where he obtained National Diploma and Higher National Diploma in 1988 and 1992 respecively. After completing his studies, he went for his National Youth Service Corp (NYSC) in the department of Computer Science & Engineering, LadokeAkintola University of Technology, Ogbomoso, Nigeria. Further to that he pursued his Post Graduate Diploma in Computer Science in the department. He later went to University of Ilorin, Nigeria where he obtained Bachelor of Computer Science, 2011 and later obtained Master of Technology in Computer Science from LadokeAkintola University of Technology, Ogbomoso, Nigeria, 2013.He is now on his PhD programme in the same department of the University. He is a member of Computer Professionals of Nigeria (CPN).